

**UNIVERSITY OF NAIROBI**  
**SCHOOL OF ECONOMICS**

I FACTORS EXPLAINING FEMALE LABOUR  
PARTICIPATION ACROSS DIFFERENT SECTORS IN KENYA

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## DECLARATION

This is my original work and has never been presented for any degree in any other university.

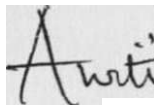
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## **DEDICATION**

I dedicate this work to all sincere friends and in particular my immediate family for encouraging me and always projecting a smile even when the going got tough.

## ACKNOWLEDGEMENTS

Am grateful to God for the gift of life and energy that has enabled me accomplish this study. My sincere appreciation to my supervisors whose comments and suggestions formed the basis of this study Thank you

## ABSTRACT

The general view of the informal sector is that it comprises of activities primarily of petty traders involved in such activities as selling second hand clothes, shoe shining, food selling and repair etc. Most of the informal sector workers operate mainly from streets of main urban centres. These activities generate income and profits though on small scale, uses simple skills and are dynamics and not tied to regulation of the activities. They have fewer employees (especially home based enterprises), they operate for a shorter period and have poor access to water and electricity (World Bank, 2006 P.32).

In Kenya, married women enter into informal sector probably to help husbands in boosting the family's income. The husband provides in most cases the capital for starting the business. However, sometimes the husband may feel threatened by the success of such businesses and withdraw the financial support or bar women from operating the business.

The labour market in Kenya has undergone several changes since the country's independence in 1963. For instance, owing to a rapid expansion of its education system, the supply of educated labour has increased over time. Furthermore, since the 1970s real wages have dropped steeply and the implementation of structural adjustment reforms (SAP) in 1980s has been accompanied by changes in the structure of employment, incomes and poverty. The economy has performed poorly as evident from low GDP growth and declining real earnings and standard of living. Both unemployment and informal sector employment have increased (informal sector employment has increased

from 20% in 1988 to 79.1 % in 2007) while formal sector or modern wage employment has declined (from 77.5 % in 1988 to 20.2 % in 2007).

This paper analysis what drives women to respond to different sectors of the labour force in Kenya in particular the informal sector especially given the renewed interest by the government and the private sector in Kenya today.

# CHAPTER 1

## 1.0 Introduction

The Kenya employment mission, through its fieldwork and in its official report, recognized that the traditional sector had not just persisted but had expanded to include profitable and efficient enterprises as well as marginal activities (ELO, 1972). To highlight this fact, the mission chose to use the term 'informal sector' rather than 'traditional sector' for the range of small-scale and unregistered economic activities. Informal employment tends to expand during periods of economic adjustment or transition because:

- When private firms or public enterprises are downsized or closed, retrenched workers who do not find alternative formal jobs have to turn to the informal economy for work because they cannot afford to be unemployed; and
- In response to inflation or cutbacks in public services, households often need to supplement formal sector incomes with informal earnings.

As Atieno (2010) noted in her analysis of female informal labour force, there is always a general inequality in access to opportunities between men and women spilling over to female employment. Inequalities between men and women in assets, earnings, education and employment still dominate the work place in Kenya. In addition, men largely control decision making on household expenditure thus constraining women's ability to make strategic investments. These affect women's ability to improve their human capital status and hence their access to employment (ILO 2004).



Further, Atieno (2010) observes that women given their limitations start small, grow slowly, and end smaller than the men owned enterprises (McCormick and Mitullah 1995, Atieno 2007). They locate more in the home, rely more on less skilled and unpaid workers, and are less likely to diversify into other activities. In addition, women's activities tend to be less remunerative than the men's. Women face a number of obstacles in entering business, which mostly condemn them to low income occupations. As a result, female labour participation in the informal sector compels any government to rethink and incorporate viable policies in both its short and long term policies.

The government of Kenya has initially engaged in direct employment creation, regulation of wages, operation of employment exchange programmes, improvement of labour market information systems and to re-orientation of education and training systems to vocational and technical training areas as a means of promoting employment creation. Other measures also implemented to address the country's employment problem included promotion of growth and development of the informal and jua kali sector, adoption of fiscal and short-term measures such as tripartite agreements, among others (Republic of Kenya, 1969; 1973). The tripartite agreements were particularly entered into by government, employers and organised labour (trade unions) in 1964, 1970 and 1979. Under the agreement, employers were to increase their employment levels by at least 10 percent per annum. In return, workers were to observe a wage freeze and strike free environment during the period.

Immediately after the 2002 general election and the defeat of KANU government, the new regime formulated a five year policy of Economic Recovery Strategy for Wealth and Employment Creation from 2003 to 2007. This strategy was anchored on the principles of democracy and empowerment (Republic of Kenya, 2003). The strategy put a case for empowerment of the people through creation of employment and other income earning opportunities. As observed in various other studies, for the last 20 the informal sector has seen its share in total employment rise from 16% in 1980, to 64% in 1997 and 70% in 2000. Sectorally, the informal sector is the second largest source of employment after small-scale agriculture (Ministry of Finance and Planning, 2000).

According to the 1999 national survey of micro and small scale enterprises (MSEs), about 26% of the total households in the country were engaged in some form of SME activity (CBS KREP and ICEG, 1999). In the year 2005 informal sector's share in total employment stood at 77% (Kenya 2005). As per 2009 census, Kenyan population was reported as 38.6 million in 2009, compared to 28.7 million in 1999, 21.4 million in 1989 and 15.3 million 1979,<sup>111</sup> an increase by a factor of 2.5 over 30 years, or an average growth of more than 3% per year.

The percentage of Women to Men was reported to be 50.3% and 49.7% respectively as shown below:-

Table 1

PROVINCE	MALE	FEMALE
NAIROBI	1,601,020	1,530,142
COAST	1,656,679	1,668,628
NORTH EASTERN	1,312,939	1,101,617
EASTERN	2,730,186	2,836,859
RIFTVALLEY	5,026,376	4,980,331
CENTRAL	2,151,203	2,229,207
NYANZA	2,617,734	2,824,977
WESTERN	2,089,722	2,243,997
%	49.7	50.3

Kenya 2009 Census Data - Source: Kenya National Bureau of Statistics.

According to the government Medium Term Expenditure Framework Projections for both employment and growth, on average over a period 2008-2012, employment was to grow by 8.2% whereas output was to grow by 8.1%. The vision 2030 also envisions that the informal sector will largely have been formalized. Currently formal sector comprises

approximately 13% of labour force. The 50% of the labour force is in the smaller holder agricultural sector and the rest constitute the informal sector (SID, 2010).

The following shows the total recorded employment between year 2006 and 2009 and how the employment is apportioned across:-

Table 2: Total Recorded Employment 2006-2009 (In Millions of Kshs.)

	2006	2007	2008	2009
Wage employees	1,857.6	1,909.8	1,943.9	1,999.3
Self Employed & Unpaid Family Workers	67.2	67.5	67.4	67.5
Informal sector	7,068.6	7,501.6	7,942.3	8,332.7
Totals	8,993.40	9,478.90	9,953.6	10,399.50

Source: *Economic Survey 2010, Kenya National Bureau of Statistics.*

From the above table it is clear that the informal sector has consistently been growing which means that if sustained growth path is to be achieved, the government must adopt sustained employment driven policies which will create more jobs within the formal and informal sector. Under the Millennium Development Goals (MDG), which were adopted in September 2000, one of its key goals was to promote gender equality and empowerment of women. Female representation has since increased from 4.1% in 2002 to 9.9% in 2009 and with the new constitution the proportion of women in the public service is expected to increase to at least 30%.

In the informal sector, female owned enterprises have been found to employ fewer workers, and less capital compared to the male owned. It is also estimated that about 57% of the total informal sector labour force is generated by male owned enterprises while 43% is generated by female owned enterprises ones (CBS, KREP and ICEG 1999).

Using data from Kenya Integrated Household Budget Survey (KIHBS) 2005/2006 (Revised version) and various Kenya National Bureau of Statistics Economic Surveys, this paper analyses factors that motivate women to participate in different sectors of the Kenyan labour market today and in particular the informal sector. The paper shall assume a multiple activity choices exist in the labour market mainly the informal sector, public and private sector.

## 1.2 Objectives of the study

The objectives of the study are>

1. To establish the extent of female labour participation in the informal sector and how it compares to other available sectors.
2. To analyze some of the factors determining female labour participation in different sectors and in particular the informal sector in Kenya today.
3. **Suggest policy recommendations based on the findings thereof.**

## 1.3 Statement of the problem

The 2030 vision for the wholesale and retail trade is to raise earnings by giving the large informal sectors to transform itself into part of the formal sector that is efficient, diversified in product range and innovative. This is to be realized through:-

1. Training and credit
2. Improve efficiency by reducing the number of players between the producer and consumer
3. Creating formal outlets for small scale operators who will then graduate from informal sector
4. Encourage more investments in retail trade.
5. Developing an outreach programme to expand retail trade.
6. Developing training programmes to improve retail skills.

Informal businesses account for 35-50% of GDP in many developing countries. This signifies its importance as a major contributor to economic activity and development in any economy. The informal sector comprises economic activities not regulated by law such as environmental, labour or taxation, but is subject to the regulations of the local authorities for orderly business operation. Generally, the informal sector is not monitored for inclusion in the Gross Domestic Product (GDP) estimates but it is usually covered in Household Income and Expenditure Surveys.

There is need for tax policy debates and research on the potential of this sector towards expanding Kenya's tax base. Contextually speaking this is timely especially given that the new constitution dispensation establishes devolved system of government and the issue of unlocking revenue potential is paramount for bigger picture on revenue allocation from national to county governments.

According to a study carried out by Institute of Economic Affairs and Parliamentary Budget Office, the taxman is said to have lost Sh200 billion to the informal sector in the

past three years due to government's inability to tax the informal sector. The government lost Sh63.5 billion, Sh69.73 billion and Sh79.27 billion in 2006, 2007 and 2008 respectively to the informal sector. According to the report, revenue authorities tend to focus on the formal sector, which is easier to tax, encouraging taxpayers to shift to the informal sector to avoid the taxman. As more taxpayers escape the tax net, they leave the burden of financing the national budget to the few workers in formal employment.

There has also been renewed interest both by the private sector players and the government. In February, 2012 the National Hospital Insurance Fund (NHIF) through its Chief Executive Officer Richard Kerich in an interview with Capital News indicated that they were roll out yet another comprehensive health scheme, this time targeting the informal sector. The aim of the strategy was to make sure that the almost estimated 14 million Kenyans in the informal sector also get access to a comprehensive cover. Hence establishing factors that restrict women's access to formal employment would inform the policy makers adequately in the short-term and which shall in turn enable realisation of Vision 2030. In Kenya, the informal sector is managed under different ministries a situation which causes delays in the process of formalizing this highly potential sector. Probably it's high time the government thought of creating one ministry to act as the focal point instead of being managed under different ministries.

## **CHAPTER 2**

### 2.0 Literature Review

Studies show that women tend to work in the informal sector (Sookram, et al 2006) and that wage discrimination exists in the informal sector (setthuraman, 1998) as it does in the formal sector (Oslo and coppin, 2001). The gender dimension is yet another aspect of the link between the informal sector and poverty, especially if informal sector serves as the primary source of household income.

Labour market segmentation is claimed to be the major contributor to poverty and equality. It depicts that workers with identical human capital characteristics such as education and experience are rewarded differently depending on the segment of the labour market in which they happen to be located. The endogenous variables are public and private employment and the firm. Labour supply studies show that labour force participation for women has risen over time. However, in some studies on female labour supply in developing countries, the bulk of women's work is considered to take place in the "non-market" economy, either at home or in the informal economy (World Bank 1995).

It has been noted that although no direct link exists between economic development and women's labour force participation, rapid development is often accompanied by higher female participation, higher levels of schooling for girls, and lower fertility rates (Sackey 2001). The willingness by married women to participate in the labour force stems from a desire to provide their family with a higher standard of living, underscoring the welfare



improvement rationale for female labour market participation. Demography is also inextricably linked to labour force participation, since what happens to fertility affects women's labour force participation. Empirical evidence shows that women, especially the heads of households will utilise all opportunities for employment or income. Women are less likely to discriminate in their choice of activities due to the need to cater for their families.

Among the many factors, traditional factors like access to factors of production, credit, information technology and training, the international economic environment and introduction of new technologies as well as changes in the political and social landscape still hold women back (ILO 1994). Maglad (1998) identifies a number of factors responsible for women entering the labour market. Maglad (1998) emphasises the importance of human capital in increasing female labour force participation and shows that expected own wage, spouse's earnings, the number of children and age were important in determining participation in the labour market.

McCormick and Pederson (1996) in their analysis of small enterprise have noted that many third world countries have focused on developing an entrepreneurial capacity because of poor economic performance. They also noted that importance of informal sector has potential for employment generation in Kenya and much of the developing world. However, the dominance of large farms in Kenya's economy and the weaknesses of the small firms themselves may be perceived to hinder rapid economic growth. Empirical studies have consistently found that investors in informal sector have been

using own funds to finance their activities because of the traditional financial institutions stringent credit requirements (Bendera, 1997). The high risk of default among small micro-enterprises is the main reason for such conditions set by financial institutions.

As observed by Atieno (2010) in her analysis of female labour there is increasing proportion of women involved in entrepreneurial activities, and argues that the share of women in informal employment has increased mainly due to factors like the limited absorptive capacity of the formal sector, difficulty in entry to the formal sector by women, changes in household gender norms, and macroeconomic dislocations and adjustments. Job tenure and experience have also been found to influence labour force participation. Makonnen (1993) argues that experience and the nature of the labour market itself lead to differences in labour market participation by gender.

Lack of assets leads to lower participation by women, but Appleton et al. (1990) also argue that asset incomes have a negative impact on work decisions and participation rates. Lanot and Muller (1997) describe the participation process for the different activities and find that married women participate less in different activities. Age and education of husbands are important for participation by women, while the presence of children lowers participation in the formal sector.

Fretwell and Colombano, (2000) on vocational education and training in developing countries shows that entry to the informal sector requires very few skills that can easily be learned on the job. Ganghnon (1997) shows in his study in Chad that the perception of

training needs differs considerably between the informal entrepreneurs and the outside observers. While most informal sector workers are able to explain what they need to do, they are uncertain about what they need to know in order to accomplish the task efficiently. The process of completing a task is carried out more often by trial and error rather than any conceptual or technical mastery.

Baden (1997) found in her study on employment, income generating activities and skills training in post-conflict Mozambique that the women interviewees, mostly traders, expressed a willingness to participate in training, but did not know what kind of training they should take or of what benefit it would be to them. Kent and Mushi (1995) found in their study on the education and training of artisans in Tanzania that only 13 percent of the young male respondents considered education and training important for achieving their work related goals. Both male and female respondents identified access to credit as the principal requisite for fulfilling their ambitions.

According to Lanot and Muller (1997), labour markets in developing countries are characterised by dualism and imperfections as opposed to perfect competition. According to this line of argument, this dualism is characterised by the existence of activities with diminishing returns to labour in the traditional sector, and entry costs in the modern sector. Unlike the formal sector, which is characterised by high wages, high returns to education and on the job training, the informal sector is characterised by low wages, low returns to education and decreasing returns to labour. The resulting dichotomy is characterised by a wage gap between the two sectors. However, not all the people in the

informal sector are rationed out since they may have preferred it if their productivity is higher there.

Mwabu and Evenson (1997) studied occupational patterns in rural Kenya using cross-section farm households survey data for selected regions. They used data from a 1981-1982 cross-section rural household survey in Kenya. Assuming a fixed set of occupational categories, as self-employment and non-market occupations, they model the occupational choice process of individuals and find that education and proximity to market centres are the key factors in the transformation of occupational structures in rural Kenya.

Krishnan, Sellasie and Dercon (1998) modelled the factors explaining the allocation into work in Ethiopia for the period 1990-1997. He assumed multiple choices in the labour market and estimated the multinomial logit model of selection into work in the public and private sectors, self-employment, unemployment, and being out of the labour force. The explanatory variables were taken as personal characteristics, parental characteristics, human capital variables and variables related to assets. They tested whether the regression could be pooled over time to test for changes in the factors determining labour market allocation. Their results showed that the allocation into work especially in the public sector had changed over time, with education having a substantial effect on allocation. Other studies had also assumed the existence of multiple choices in the labour market.

## 2.1 Overview of the literature review

The above literature review reveals that there always exist factors which determine the participation in different categories of the labour force. However it is expected that different factors would respond differently given the government of the day and the circumstances thereof. For a long time the government has regarded the informal sector as a black market or an underground economy and most of the times it was informal sector players longing for the government support rather than the government relying on them. In most cases banks found it difficult to determine the risk profile of business owners who had no financial statements, credit history and collateral. However, recently and as an example more than five Banks moved to Gikomba market ready to tap the potential of the existing market whose main participants are women. The Banks no longer require the Collaterals and instead have innovated different tailored made Bank products.

The recent related studies in Kenya that exist have been carried out by Mariara (2003), Atieno(2010) and Wamuthenya(2010) all of whom used 1994,1997 and 1998 Welfare Monitoring Household Survey data respectively. In the face of the population 2009 census report and given the aspirations of Vision 2030,1 intend to use the most recent data from Kenya Integrated Household Budget Survey (KIHBS) 2005/2006 (revised version) to contribute to the existing findings and also bridge the time gap by analyzing different factors that influence labour participation in private, public and informal sectors.

## CHAPTER 3

### 3.0 Methodology

#### 3.1 Theoretical framework

As employed by Atieno (2010) in her study of female labour participation in Kenya's informal sector, multinomial logit model has been used and analysis done using the most recent data to reflect the realities today. Probability estimation has been used depicting a scenario where individual, participating in sector<sub>7</sub> given a set of explanatory variables.

It is used to model nominal outcome variables, in which the log odds of the outcomes are modeled as a linear combination of the predictor variables. The multinomial logit model is developed on the axiom of utility maximisation. It is assumed that an individual associates some level of utility with the choice to participate in any of the available activity choices. The model estimates the effect of explanatory variables on a dependent variable with unordered response categories, or a choice problem with multiple alternatives.

The model has been preferred in this study because it easily identifies with the social demographic and economic characteristics of the female participants in the across different sectors. It is a generalised logit model, used on unordered categories and used for discrete choices with more than two choices comparing a number of dichotomies across the board. It allows effects of explanatory variables to be assessed across all logit models and provides estimates of the overall significance.

As employed by Atieno (2010), any individual female is assumed to attach some level of utility  $U$ , to any possible alternative choice. She will then choose the activity type or sector that offers the highest utility. An individual  $i$ , faced with the decision to choose among  $d$  alternatives can be described using the utility function:

$$U_{iy} = U_{iy}(Y_j) + \epsilon_{ij} \quad (1)$$

where:  $U_{iy}$  is the utility that individual  $i$  derives from participating in sector  $y$

$Y_j$  is a vector of characteristics of individual  $i$ .

$\epsilon_{ij}$  is disturbance term.

An individual will choose sector  $y$  if and only if the utility derived from it is greater than that for all the other sectors that can be chosen. This can be written as:

$U_{iy} > U_{i*} = U_{iy}(Y_j) + \epsilon_{ij} > U_{i*}(Y_j) + \epsilon_{i*}$ . This can be rearranged to:

$$U_{iy}(Y_j) - U_{i*}(Y_j) > \epsilon_{i*} - \epsilon_{ij} \quad (2)$$

This can then be generalised as:

$$U_{ij} = \rho_0 + \rho_1 Z_{i1} + \dots + \rho_n Z_{in} + \epsilon_{ij} \quad (3)$$

where  $Z, Z_{j,t}$  are the transformations of the characteristics.

Equation (3) can be written as:

$$(4)$$

This can be transformed into an inequality reflecting the choice of the individual  $i$ , as follows:

$$B(Z_{j,t} - Z_{i,t}) > \epsilon_{j,t} - \epsilon_{i,t} \quad \text{where } \epsilon_{j,t} = \epsilon_{j,t}^* - \epsilon_{i,t} \quad \text{(see equation 2)} \quad (5)$$

Assuming normal distribution in  $\epsilon_{j,t}$ , the probability of activity  $j$  being chosen is represented by a cumulative normal probability density function. To simplify the econometric problem, the study uses the logistic distribution function, with a linear logistic regression (Judge et. al, 1988).

Assume that individual  $i$  prefers  $j$  to  $i^*$  and other alternatives in a case of multiple choices, then the probability that she will choose it can be written as:

$$\text{Prob. } (Z_{j,t} + \epsilon_{j,t} > Z_{i,t} + \epsilon_{i,t}) \quad (6)$$

This probability can be given as the utility of the preferred sector weighted by the total utility of the alternative sectors as follows:



(7)

N

H

Equation (7) is the multinomial logit model representing a choice problem with multiple alternatives.

### 3.2 Empirical estimation

The empirical problem is probability of individual female / choosing to participate in sector  $s$ . Given that there are several possibilities of alternative activity choices, the study uses the multinomial logit model, which allows for the identification of factors determining the participation in various sectors.

Specifying the logistic regression model from equation (7) leads to:

$$P_{ij} = \frac{e^{\beta_j x_i}}{\sum_{j=1}^J e^{\beta_j x_i}} \quad (8)$$

$$\sum_{j=1}^J e^{\beta_j x_i}$$

where  $P(ij)$  is the probability that sector  $j$  will be chosen,  $j$  is the index of sectors,  $X_i$  a vector of regressors.

The dependent variables in the logit model are grouped into four categories namely public sector, private sector, informal sector and agricultural sector.

The following shall be the explanatory variables:-

- Age,
- Marital status,
- Level of education,
- Household headship,
- Household size,

### 3.3 Data Types and Sources

The paper employs secondary data obtained from the Kenya Integrated Household Budget Survey (KIHBS) 2005/2006 (revised version). The overarching goal for KIHBS 2005/06 was to collect a wide spectrum of socio-economic indicators required to measure, monitor and analyse the progress made in improving living standards in a single integrated household survey. The survey was also aimed at providing data on socio-economic aspects of the Kenyan population including education, health, energy, housing, water and sanitation. The data was further cleaned up before regressions were done.

According to the survey Central Province, Nyanza and Eastern Province recorded the highest rates of employment (about 72%), of 65.7% and 65.6%, respectively. The lowest employment rates were found in North Eastern, Coast and Western provinces. North Eastern and Western provinces reported the highest proportions of their workforce not working.

Table 3: Spatial distribution of working age population (15-64)

Region	Working(Mil lions)		Not working(Millions)	
	Observations	Percentage (%)	Observation	Percentage(%)
Province				
Nairobi	1,112	59.90	296	16
Central	1,896	72	223	12.10
Coast	1,065	57.10	218	11.70
Eastern	2,130	65.60	229	12.30
North Eastern	146	29	110	6
Nyanza	1,846	65.70	154	8.30
Rift Valley	3,075	63.70	444	23.90
Western	1,434	62.50	178	9.6

*Source: KIHBS 2005/06 data. Calculations by author.*

The table below shows that the distribution of the employed persons by region indicates that the rural areas absorbed 73.6 per cent of the employed persons. Gender analysis showed that the proportion of working females in the rural areas was higher than that of the males recording 77.1 per cent respectively. The provinces had proportions of the employed persons relative to their total population sizes.

Table 4: Spartial distribution of employed persons by gender

Region	Male	Female	Total
Rural	4,623,944	4,726,647	9,350,591
Urban	1,952,921	1,404,523	3,357,445
Province			
Nairobi	689,877	422,497	1,112,374
Central	934,886	961,853	1,896,739
Coast	559,704	505,342	1,065,046
Eastern	1,060,954	1,069,838	2,130,793
North Eastern	113,254	33,232	146,486
Nyanza	890,238	956,443	1,846,681
Rift Valley	1,643,991	1,431,434	3,075,426
Western	683,961	750,530	1,434,491

. KIHBS 2005/06 data. Calculations by author.

Table 5: Distribution of working population aged 15-64 by gender and sectors

Sector	Gender		Total( 000)
	Male( *000)	Female(000)	
Public	2352	2820	5172
Informal	3020	2764	5784
Private	1204	545	1750

Source: KIHBS 2005/06 data. Calculations by author.

Table 6: Mean wage earnings of paid employees

Variable	Public sector	Private sector	Informal sector	Total
Females	6534	5449	2985	14,968
Males	7800	9630	3675	21,105
No education	4215	4332	3524	12,071
Primary	7186	6869	5675	19,730
Secondary	9964	10133	10470	30,567
University	31866	32660	33433	97,959
Postgraduate	35346	70768	40987	147,101

Source: KIHBS 2005/06 data. Calculations by author.

Table 7: Proportion of households that sought Credit by region

Region	Observation('OOO)	Percentage
Rural	5095	31.2
Urban	1693	29.0
Province		
Nairobi	684	28.0
Coast	576	25.3
Eastern	1038	30.6
Central	976	30.0
Nyanza	985	51.6
; Rift Valley	1619	24.7
Western	738	29.7
North Eastern	169	3.5

Source: KIHBS 2005/06 data. Calculations by author.

Table 8: Distribution of households size and gender of household head

Household size	Household		Region		Total	
	Male	Female	Rural	Urban	Number('OOO)	%
				100	7502	100
land 2	17.9	24.4	14.6	31.1	1481	19.8
3 and 4	26.5	29.3	24.1	34.2	2046	27.3
5 and 6	27.3	25.8	29.8	20.2	2013	26.8
7 and 8	17.3	12.7	18.9	9.4	1197	16
9 and 10	7.4	5.6	8.4	3.5	513	6.8
11+	3.7	2.3	4.1	1.6	246	3.3

Source: KIHBS 2005/06 data. Calculations by author.

Table 9: Percentage Distribution of employed persons aged 15-64 by sectors

Sectors	Gender		Total	
	Male	Female	Observations('000)	%
Private	20.8	20.5	4000	31.5
Public	41.4	35.4	4140	32.6
Informal	30.0	27.0	3024	23.8

Source: KIHBS 2005/06 data. Calculations by author.

Table 10: Summary statistics

Variable	Informal sector		Public sector		Private sector		N
	Mean	SD	Mean	SD	Mean	SD	
.							1208
Age	2192	918.512	2043	1297.61	4235.33	2174.005	1208
Gender	25.63	7.47	30.733	10.31	25.98	4.81	1208
Headship	26.3	6.7	51.6	3.5	29.8	11.54	1208
Married	27.3	10.3	28.36	0.67	22.9	8.7	1208
No education	28.8	10.9	15.9	0.22	7.9	0.1	1208
Primary	29.6	11.7	20	5.8	17.6	4.3	1208
Secondary	30.6	12.1	24	7.1	14.9	2.1	1208
University	34.2	12.7	43.9	16.9	41.2	13.9	1208
Household size	16.65	9.62	11.37	4.1	14.009	5.6	1208
Access to credit	6.12	1.6	14.683	9.62	15.1	9.65	1208

Source: KIHBS 2005/06 data. Calculations by author.

## CHAPTER 4

### 4.0 Results as indicated from Multinomial Logit Model

Multinomial logit regression estimates of labour participation by sectors is presented in Table 11 and 12 below.

**Table 11: Multinomial logit and marginal effects for the whole sample**

Variable	Public Sector		Private Sector		Informal Sector	
	Coefficient	Marginal effects	Coefficient	Marginal effects	Coefficient	Marginal effects
Age	0.39*** (9.91)	0.022	0.102*** (3.75)	0.032	0.091*** (4.780)	0.010
Age squared	-0.004*** (-9.88)	0.000	-0.0018 (-4.210)	0.000	-0.0013 (-4.670)	0.000
Gender	0.290*** (2.20)	0.009	0.642*** (6.012)	0.058	0.027*** (0.478)	-0.017
Headship	1.133*** (9.36)	0.021	1.090*** (10.001)	0.037	1.375*** (17.870)	0.200
Primary	1.928** (6.82)	0.0862	0.854*** (6.38)	0.053	0.381*** (4.012)	0.012
Secondary	4.221*** (17.99)	0.295	2.003*** (13.002)	0.213	0.721*** (7.611)	-0.115
University	6.640*** (10.11)	0.712	4.365*** (3.841)	0.075	2.004***	-0.107
Married	0.387*** (2.06)	0.009 (1.152)	0.302*** (2.915)	0.026	0.206***	0.048
Household Size	-0.059*** (-4.01)	-0.003	-0.172*** (-7.025)	-0.021	-0.077*** (-6.690)	-0.17



Constant	-9.660 (3.10)		-8.620 (-2.026)		3.087 (-3.08)	
Wald Chi (D.F)	3,402					
Log likelihood	-13819					
Pseudo	0.1592					

NB. \*\*\* Significant at 1% level: \*\* Significant at 5% level: \* Significant at 10% level; z is indicated in parentheses. N is 1208

Source: Computations by the author using KIHBS 2005/06 data.

Table 12: Marginal effects on probabilities for labour market participation

Variable	Public Sector	Private Sector	Informal Sector
Age	0.046*** (10.02)	0.012*** (151)	-0.009*** (5.01)
Age squared	-0.0002*** (8.84)	-0.001*** (109)	0.00009 (6.98)
Gender	-0.010 (2.83)	-0.059*** (6.812)	-0.0687*** (6.89)
Education	0.0301*** (15.02)	0.020*** (11-05)	0.0019*** (3.61)
Household size	-0.00117 (0.571)	-0.0017 (0.69)	-0.00018 (0.108)

NB: \*\*\* Significant at 1%; Significant at 5%; Significant at 10%; The z is in parentheses. Agriculture is the base category.

Sources: Computations by the author using KIHBS 2005/06 data..

Wald tests of the hypothesis that all coefficients except intercepts with each employment sectors are zero hence testing if the sectors could be combined which in this case is rejected. A critical property of the multinomial logit model is that of Independence of Irrelevant Alternatives (IIA). This was tested using the Hausman tests of the null hypothesis that the employment sectors are independent were computed and the data do

not reject it. This supported the use of Multinomial Logit Model in this study as shown by the test statistics. The agricultural sector is the omitted or the base category so as to compare it with the other sectors meaning that the coefficients of other remaining sectors are explained as the effect of the associated explanatory variable on the log of odds of the particular employment sector relative to the omitted sector.

Age squared has a negative coefficient for all sectors showing that at a certain point in time females have lower chances of participating in the labour market. A person living in rural areas is less likely to choose the private sector probably because very few private sector firms are located in the rural areas. This can be explained with the private sector's reliance on the government infrastructural network like roads which requires a lot of capital to lay out.

Household size has a negative coefficient across all sectors though a female with bigger household size is likely to participate in the informal and public sector than in private sector. The family with a bigger household size may have appetite to participate in the informal sector partly because of the flexibility of working hours and the element of easy entry and exit. A female with bigger household size has to offer more family/child care hence more hours are spent at home although another reason why a family with big house size may prefer to commence their own businesses in the informal sector because the same family can offer affordable workforce.

Household headship is likely to increase participation by far in the informal sector than in public and private sector respectively. As explained under the household size, a female head given the limitations offered by other sectors may solely prefer the informal sector than any other sector. A female head may also prefer a public sector though with less weight simply because of job security and the flexibility of the working hours offered by the public sector.

The married females prefer most participating in the informal sector than in any other sector closely followed by private sector. This can be explained by the fact that females who stay with their husbands and committed to the marriage have ample time to do business under the informal sector. Given the support of the husbands, married females can be able to further their education which enables them to be employed in the private sector which pays better and offers job security. Married females prefer investing the excess monies in business of their choice and can better be operated under the informal sector.

Even though some other studies have found out that married female prefer public sector by reason of favourable government policy on work transfers to preferable places by married females the perception has gradually changed since women are furthering their education and want to be more financially independent. Other benefits initially enjoyed by participating in public sector like maternity leaves and compensations are now being enjoyed across almost all sectors through the intervention of the Ministry of Labour and other civil society groups. The government's interventions like through Women

Enterprise Fund has enabled married female to participate more in the informal sector either individually or in a group set up.

Female workers with at least university education are especially well rewarded in the public and private sector. Participation of women with secondary and university education in the informal sector is rather insignificant. The private sector would most of the time engage female participants who have upgraded their secondary education through university or other tertiary schools. The observations explain the importance of education attainment for women across the employment sectors since attainment of the same is rewarded by high salaries which enhances financial freedom and independence.

## CHAPTER 5

### 5.0 Conclusions and policy recommendations.

The findings are generally consistent with the findings of earlier studies. The results from the multinomial logit model suggest that education is important in allocating female workers across the sectors with less impact on informal sectors. At lower and higher levels education discourages entry into these sectors as compared to entry in the private sector. This may be because education gives access to better opportunities in wage employment that are relatively secure and have stable income.

Married females are less likely to participate in the private sectors than in any other sector. An important observation is that in this sector job security is not assured as compared to the other sectors under study. Females who are household heads are more likely to choose the informal and public sector than the private sector. This may be because of the flexibility of easy entry and exit to the informal sector and also because the public sector offers job security.

The results indicate that for any government to grow and develop economically it has to craft and put in place a very clear policy on education especially for the marginalised communities with more focus on girl child education. Education enhances financial independence and raises the quality of human capital which is critical especially in the third world countries whose population is yet to get the necessary education threshold.

The government should put in place infrastructural network especially in the rural areas to act as an incentives for private investors to put up their businesses which in turn offer employment opportunities to the rural population. This is informed by the fact that some investments like roads, communication and security are so expensive to put up and only the government of the day can be able to carry out such heavy investments.

Needless to say, even the informal sectors are still concentrated in the urban areas where the infrastructural network is available leaving the agricultural sector the only readily available option which most of the time is still let down by lack of good roads, marketing and lack of sufficient knowledge of the modern farming techniques. In Kenyan context today, the informal sector does not have a specific government ministry which can formally handle the challenges facing the informal sector. The government should facilitate graduation of informal sector into a formalized sector over time which in turn helps achieve the vision 2030 economic goals.

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