DETERMINANTS OF YOUTH LABOR FORCE PARTICIPATION IN KENYA

RESEARCH PROJECT

Kyalo Richard

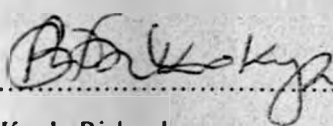**C50/7814/2005**

SCHOOL OF ECONOMICS

UNIVERSITY OF NAIROBI

RESEARCH PAPER SUBMITTED TO THE SCHOOL OF ECONOMICS, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN ECONOMICS
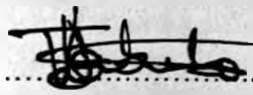
August 2007

Declaration

This research project is my original work and has not been submitted for a degree in any other university.

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This research project has been submitted for examination with our approval as supervisors:

Signed...... _(signature)_ ...... Date...... 3 | 09 | 2007

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Dedication

I dedicate this paper to my late dear father Richard Kyumu Kalui, who gave the best during his lifetime; and to my children, Judith Ndinda and Richard Kyumu Kyalo, the ones to conquer the future.

Acknowledgement

My foremost thanks and gratitude go to the Almighty God for His blessings and protection which enabled me to successfully go through these challenging two years of my master's studies. I greatly appreciate the numerous selfless teachers who set me on this continuous journey starting from primary school to secondary school through to undergraduate studies. Many thanks go to Dr. Kiptui (Central Bank of Kenya) and Mr. Waruingi (Cooperative College of Kenya) for supporting my application for admission to the School of Economics, University of Nairobi in pursuance of a Master's degree in Economics. I am sincerely grateful to the management of Cooperative College of Kenya for granting my request for reduced workload since January 2006, so as to accommodate both office duties and the master's course. I thank the entire staff of the School of Economics for their role and contribution to my graduate training in economics. My gratitude to Dr. Nyangena, Prof. Mwega, Dr. Nyandemo, Prof. Mureithi, Dr. Kulundu, Dr. Samanta, Prof. Masai, Dr Wawire and Mr. Walter Ochoro for giving me solid graduate training in Economics at the University of Nairobi. I'm also thankful to the African Economic Research Consortium (AERC) Joint Facility of Electives (JFE) Corporate Finance & Investments and Labor Economics lecturers (July-October 2006) for imparting modern techniques on interpreting and explaining current economic issues.

I extend special gratitude to my supervisors, Dr. Jane Kabubo-Mariara and Mr. Moses Muriithi, for the numerous hours they spent instructing and insightfully commenting my research project. Similarly, I thank Prof. Mwabu and Dr. Kulundu for sharing with me insightful comments on my work. More so, I appreciate my Labor Economics lecturers – Dr. Wambugu (Kenyatta University) and Dr. Namfosso (Cameroon) – for rekindling and exciting my interest in labor related issues, which bore the initial ideas of this research project.

Many thanks are extended to my family for their unconditional love, support and understanding. My father, Richard Kyumu Kalui (deceased), always had faith in me and forever, he remains a burning candle in the wind. My mother, Elizabeth Nduki, has been a beacon of hope. My siblings Muthini, Mutiso, Ngina, Mutuku, Ndanu and Mwikali have remained my special friends. I must mention my wife, Tina, and the children – Judith Ndinda

and Richard Kyumu – for their undying love and hanging on during my many hours of absence.

It is also worthy extending my hearty thanks to my class mates (MA Economics, 2005-2007) for the inter-personal coexistence and strong integration manifested by every member of the class thereby leading to the attainment of holistic success. I also recognize my social friends for their immense moral and spiritual support.

Irrespective of the numerous aforementioned recognitions, I take full responsibility for any shortcomings in the formulation of this paper.

Abstract

The Kenyan youth form the largest source of human resource, yet face numerous challenges in their efforts to participate in the labor market. It is therefore essential to understand their circumstances through comprehensive research so as to institute proactive strategies for helping them. This study, whose objectives were to identify and analyze the factors that influence youth labor force participation in Kenya, provides information on relevant factors that a youth considers while making the choice. Secondary data from the ILFS 1998/99 were utilized. Probit techniques were used to explain the determinants of youth labor force participation. The results indicate that education and other socio-economic characteristics are important determinants of youth labor force participation. The study recommends investment in instruments to reduce family size and increase household income, government policies that minimize favoritism towards men, supporting girl's education, reducing government expenditure on higher education and supporting technical/vocational training. An economic policy environment that is favorable for low skill labor-intensive techniques of production (especially in the informal and agricultural sectors) would help absorb the new entrants into the labor market, which would be favorable for the unemployed youth.

List of Abbreviations and Acronyms

AIDS	Acquired Immuno Deficiency Syndrome
FDI	Foreign Direct Investments
HIV	Human Immunodeficiency Virus
ILFS	Integrated Labor Force Survey
ILO	International Labor Organization
LDCs	Less Developed Countries
MNL	Multinomial Logit
MNP	Multinomial Probit
MOYA	Ministry of Youth Affairs (Kenya)
RoK	Republic of Kenya
UNICEF	United Nations Children's Fund

CHAPTER ONE: INTRODUCTION

1.1 Background

Perfectly functioning labor markets play a central role in determining the macroeconomic success of stabilization and structural adjustment policies as well as mediating the impact of these policies on a population's standard of living, particularly the poor. However, labor market inefficiencies such as unemployment, underemployment, low labor productivity and the growth in the informal sector have been identified in numerous studies in developing countries (Strobl and Thornton, 2001; Gorg and Strobl, 2002). In many countries, labor supply has outstripped labor demand. In Kenya, these inefficiencies are largely attributable to poor performance of the economy and various labor market reforms since the 1970's that suppressed growth in new jobs and led to major formal sector layoffs (Manda, 2004). Some important economic reforms that also affected the labor market included trade reforms and price decontrols as envisioned in the Structural Adjustment Programmes (SAPs). The segment of population that has borne most the brunt of these inefficiencies in Less Developed Countries (LDCs) has been the youth.

Ministry of Youth Affairs, Kenya (2006) defines the youth as both men and women in the age bracket of 15 – 30 years (against International Labor Organization's definition 15–24). Worldwide, they constitute the biggest proportion of not only the population but also the productive labor force. In spite of their huge command in numbers, they have remained in the periphery of country and world affairs (ILO, 2000). Their status has not received due recognition. As such, many of the youth who are productive and energetic face numerous challenges such as unemployment, underemployment, poor health and lack of support especially those with special needs that require immediate attention including those living in the streets, living with HIV/AIDS, young women and those with disabilities. The best way to address these challenges is to get this vulnerable group into gainful employment.

Questions relating to the integration of young people into decent work have in recent times begun to occupy a central role in government policy issues (O'Higgins, 2003). Recently, coordinated efforts at the international level have begun to make themselves felt. More specifically, on the initiative of Kofi Annan, the immediate former United Nations Secretary General, the YES (Youth Employment Summit) Summit and the Youth Employment

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Network (YEN) were established at the turn of the 21st century. This is a joint effort of the United Nations, World Bank and the ILO and has provided a focus for work of these organizations on problems related to youth employment, unemployment and underemployment. However, youth unemployment is an outcome of economic transition, becoming ever more worrisome with time passing (Pastore, 2005).

Kenya witnessed an erratic output growth in the 1990's with numerous shocks resulting from SAPs. The population has also grown rapidly over the decades increasing from 15.3 million in 1979 to 21.4 million in 1989 and 29.6 million in 1999 (RoK, Kenya 1999 Population and Housing Census, 2002). This rapid population growth has resulted in large parallel growth in labor force. The total labor force is projected to double in the next 25 years, which will place a huge strain on the labor market even under the most optimistic growth scenario. The structure of employment in Kenya has the majority of population dependent on rural small scale farming and pastoralist activities. Other jobs are available in modern establishments and the informal sector. Under the modern establishments, we have wage employees and self employed or unpaid family workers. Wage employment grew from 1,688,700 persons in 1999 to 1,727,600 persons in 2003, an increase of 2.3%. This same period saw employment in the informal sector growing from 3,738,800 persons to 5,545,200, representing a 48.3% increase. Again, the modern sector is divided into private and public sector, with the private sector employing 1,068,600 persons while public sector had 659,100 persons employed in 2003, a difference of 23%. The youth constituted 23 percent of the total wage employment in 2003 (Economic Survey, RoK, 2003).

1.1.1 Youth Labor Force and Youth Employment

Available statistics from the RoK Economic Surveys show that the absolute size of the youth population and the proportion of young people as a percentage of the total population has been growing over the past decades. The first national population census conducted in 1979 revealed that the total youth population was 3 million people and increased considerably over the following ten years before the 1989 Population and Housing Census at an average rate of 2.3 per cent per annum. By 1999, the Kenyan youth population aged 15-30 reached nearly 7 million and is projected to be about 13 million people in 2010. These statistics show a significant increase in the size of the Kenyan youth population over the last 25 years. Between 1979 and 2006, the youth population increased by about 7.8 per cent per year while

the share of the youth population also increased significantly from 20.7 per cent in 1979 to about 23.2 per cent of the total population in 2006. (RoK, Economic Survey, 2006)

A summary of the Kenya's population by labor force status and participation rates are given in Tables 1 and 2 respectively. The figures show that more youth are not participating in the labor force and youth unemployment rates were high. About two-thirds of youth participated in the labor force in 1999. However, data for the 10-year period from 1989 to 1999 indicate a decline in the youth labor force participation rate.

Table 1: Distribution of Population Aged 15 - 64 by Activity Status

Age	Employed		Unemployed		Inactive		Total	
	1989	1999	1989	1999	1989	1999	1989	1999
15-19	402,327	843,909	163,224	270,217	1,472,945	2,349,270	1,794,308	3,463,396
20-24	631,908	1,435,405	278142	533,078	265,857	485,067	1,456,984	2,453,550
25-29	649,672	1,584,271	156,190	291,679	83,896	165,931	1,276,968	2,041,881
30-34	783,455	1,541,604	90,258	185,927	51,785	94,668	978,563	1,822,199
35-39	791,979	1,533,196	72,165	140,147	48,895	91,739	927,856	1,765,082
40-44	547,134	1,128,190	67,268	113,165	36,684	68,964	756,946	1,310,319
45-49	481,342	992,261	46,784	88,596	32,786	67,260	654,975	1,148,117
50-54	342,158	702,199	35,896	66,839	42,896	82,769	496,564	851,807
55-59	201,389	412,639	34,676	64,235	45,879	87,107	345,786	563,981
60-64	178,933	351,936	31,094	46,739	58,902	106,457	274,396	505,132
Total	5,325,108	10,525,609	980,993	1,800,623	1,789,493	3,599,231	9,391,483	15,925,463

Source: Report of Labor force Surveys, Kenya (1991 and 2003)

Table 1 above estimates that 77.4 percent of the Kenyan populations aged 15–64 years are economically active comprising 10.5 million employed persons and 1.8 million unemployed persons. A majority 58.8 percent of the active population was in the age bracket 15–30 years. The economically inactive population who could not work because they were either full time students, incapacitated, retired or did not need to work for unspecified reasons represented 22.6 percent (3.6 million) of the population aged 15 – 64 years.

An analysis of labor force participation rates by age group, computed as the proportion of the economically active population to the working age population (15–64 years) is shown in table 2 below. The overall labor force participation rate stood at 73.6 per cent of the population aged 15–64 years. The age distribution shows that participation rates are lowest for 15-19 age

group but increase along the spectrum before starting to fall for age group 45-49 years. As a whole, as Table 2 shows, labor force participation rates for youth decreased by 14 percentage points between 1989 and 1999, probably as a result of an increasing number of young people attending school. Although this data do not show whether employment is decent or productive, it is likely that during the 1990's, young people stayed longer in the educational system. However, the figures could also suggest the difficulties of finding work and some might have dropped out of the labor force because they were discouraged about the possibility of finding jobs since employment opportunities are usually limited for young people.

Table 2: Labor Force Participation Rates by Age

Age	1989	1999
15 - 19	87.3	29.3
20 - 24	92.2	68.3
25 - 29	96.0	89.4
30 - 34	97.9	94.1
35 – 39	98.0	94.8
40 - 44	97.4	95.2
45 – 49	97.3	93.4
50 – 54	96.3	90.3
55 - 59	97.9	85.1
60 - 64	95.7	80.9
Total	89.1	73.6

Source: Report of Labor force Surveys, Kenya (1991 and 2003)

In contrast, the activity rate of the adult population has increased. The labor force participation rate of adults aged 30+ was higher in 1999 than previous years. Just under four-fifths of the adult populations (76 per cent) were in the labor force. In recent years the labor force participation rate of adults exceeded that of youth. In recent years, fewer youth are in the labor force. Many are attending school and others may be discouraged workers.

1.1.2   Youth Unemployment during Economic Reforms

Kenya, while reforming her economy is experiencing substantial structural change (shift into capital intensive techniques of production) and high unemployment rates. She adopted a 'big bang' approach to the reform process, by introducing simultaneously price and trade liberalization, together with privatization and macroeconomic stabilization in the early 1990s.

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A massive flow of Foreign Direct Investments (FDI) triggered the process of technological change, on one hand, and generated the need for skill upgrading of the workforce, especially of the youngest segments, on the other. Over the years, the share of individuals with high education attainment has increased in Kenya with young teenagers (15-19) in education increasing from about 45 to 62 percent, while that of young adults (20-24) increased from 20 to 31 percent (RoK, Economic Survey, 2003).

As a consequence also of this, unemployment rates of the under-25 are twice as high as or even higher than the national average. According to the 1998/99 Integrated Labor Force Survey (ILFS) data, a person is considered unemployed if he or she had actively looked for work and was not employed during the last seven days although he or she was available. Table 3 below shows that in 1999 the ratio of the youth to adult unemployment rate was 7.1. During the ten year period, the adult unemployment rate went up only slowly, but in contrast, the youth unemployment rate increased from 1.7 per cent to 5.7 per cent, or 3.4 times. This could be because of the hurdles associated with obtaining the first job and a lack of skills and experience as well as the growing number of new entrants to the labor force.

Table 3: Unemployment Rates by Age Group Aged 15 - 64

Age	1978*	1986*	1999*	1999**
15 - 19	26.6	36.2	47.0	24.3
20 - 24	18.5	29.2	47.3	27.1
25 - 29	4.8	8.6	25.1	15.5
30 - 34	2.0	2.7	14.3	10.8
35 – 39	1.8	2.1	12.0	8.4
40 - 44	0.7	0.7	11.2	9.1
45 – 49	1.1	2.0	14.7	8.2
50 – 54	1.4	0.9	18.9	8.7
55 - 59	1.5	4.1	40.6	13.5
60 - 64	3.2	---	45.2	11.7
Total	6.7	9.7	25.1	14.6

Source: Vandermoortele (1991) and Labor Force Survey Report (2003)

Key

* - *Urban unemployment rates*

** - *Total unemployment rates (urban + rural)*

Another youth employment situation of interest is the share of youth unemployment in the youth population. The share was 1.3 per cent in 1978*, then increased to 1.9 per cent in 1986* and 3.7 per cent in 1999*. Thus, the proportion of youth who are unemployed has increased sharply over the decade between 1978 and 1999, pointing to the increasing lack of decent employment opportunities for today's youth. The unemployment rates are computed as the proportion of unemployed persons to the total labor force. The age analysis shows that the proportion of unemployed youth in the labor force was not only high but showed an increasing trend over the years as shown in Table 3 above.

It is also important to look at youth unemployment as a percentage of total unemployment of the work force aged 15+. In 1999, it represented about 72 per cent of total unemployment in Kenya. This increase is a result of a change in unemployed adults relative to jobless youth as aforementioned. Finally, youth with disabilities face special difficulties. According to 1998/99 ILFS data, the rate of disabled youth doubled over the decade from 0.4 per cent in 1989 to 0.9 per cent in 1999.

The overall performance of the economy has an impact on demand for labor, and thereby, on the degree and structure of youth labor force participation. The ILO (1986) long argued that the fundamental causes of urban and rural unemployment and low incomes in Kenya are structural and related to the resource base and limited industrial development opportunities available. These economic factors, lead to a lack of employment opportunities. It has been argued that youth unemployment rates are more sensitive to changes in aggregate demand than adult rates for a number of reasons. Firstly, it is less costly for firms to fire young workers when aggregate demand falls, since young workers are likely to be less skilled and experienced than their prime age co-workers, embody lower levels of investment by firms in training, and are less likely to be subject to employment protection legislation. Moreover, during economic slumps, the first measure firms are likely to take is to stop recruiting new employees. Since youth are disproportionately affected by unemployment as new entrants to the labor market, this age cohort will be disproportionately affected.

Creating decent employment opportunities for youth requires appropriate macroeconomic policies. Any poverty reduction strategy requires an embedded macroeconomic policy as well as a clearly focused employment growth strategy so as to enhance youth labor force participation.

1.2   Problem Statement

The Kenyan youth constitutes 32% of the total population and forms the largest source of human resource. They number 9.1million with 57% being females. The youth form 60% of the total labor force (RoK, Economic Survey, 2006). However, due to high levels of unemployment, majority of them have not been absorbed in the job market. This challenge necessitated the government to create a full Ministry to address youth affairs (Ministry of Youth Affairs). The country also had the honor to host the 3rd Global YES Summit in September, 2006 with 2000 delegates in attendance from over 50 countries worldwide to strategize on ways of increasing youth employability and reducing youth unemployment.

The scenario in Kenya depicts the youthfulness of unemployment phenomenon. This gives support to the employability-gap hypothesis which considers the youth to be more vulnerable to unemployment because they lack sufficient work experience, social contacts and maturity to be competitive in the labor market. Unemployment is seen as part of their normal socialization. A bigger concern is the high and rising unemployment rates. Furthermore, some of those absorbed in the labor market have jobs that do not match their qualifications and personal development goals. This negates the importance for youth of investing in human capital accumulation for the future of the country in becoming a competitive and dynamic knowledge-based economy that is capable of sustainable economic growth with more and better jobs and greater social cohesion. The youth in Kenya have to face a tradeoff between continuing to invest in their own education, as such reducing the household's budget, on one hand, and accessing immediately the labor market, therefore contributing to household income, but reducing their own chance to find gainful employment in the future, on the other hand.

The motivation of this study is to contribute to the debate on better educational and employment policy in Kenya. The case for Kenyan economy is interesting not only because of high youth unemployment rate but also because of the recent evolution of the market for human capital with several demand and supply side factors at work. The rapid rate of technical change emanating from the need to make production more competitive both locally and in the international market as well as the inflow of Foreign Direct Investments (FDI), has increased the demand for skilled labor in some technical areas. On the supply side, the relatively high human capital endowment of the population has not been able to easily adapt

to the needs of the market economy and thus partly displaced by market mechanisms and private initiative. Again, there has been an increase in investments in secondary, tertiary and university education in response to increased payoff for skills both in terms of earnings and employment opportunities (RoK, Economic Survey, 2003).

Young people generally face difficulties finding jobs in Kenya. Different groups of youth have different labor market characteristics based on key traits such as gender, age, marital status, ethnicity, family background and place of residence. Examining a mix of youth employment indicators together makes it possible to highlight the employment situation of young people including disadvantaged groups. It is therefore important to analyze the situation of youth employment by looking at different groups categorized according to the above mentioned traits.

Youth employment and unemployment has not received much attention, save for a few studies done mainly in European (transition economies) countries (Pastore, 2005; Domadenik and Pastore, 2006). Although there is recognition of the seriousness of youth unemployment and underemployment problems, there is no information about determinants associated with Kenyan youth unemployment, youth employment and the labor market. To fill this gap, the proposed study will innovate on existing literature to analyze the determinants of youth labor force participation in Kenya.

Hence, this paper attempts to answer some of the following questions:
1. What are the determinants of youth labor force participation?
2. How does education specifically affect youth labor force participation?
3. Other than education, are there other important factors at play?
4. What policy issues would be essential for improving youth labor force participation?

1.3   Objectives

The general objective of this study is to empirically investigate the factors that determine youth labor force participation in Kenya. The specific objectives of this study are to:
   a. Identify the factors that influence youth labor force participation in Kenya.
   b. Analyze the factors that influence youth labor force participation in Kenya.
   c. Outline policy implications in the light of findings (a) and (b).

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1.4   Significance of the Study

The study is undertaken based on the expectation that certain socio-economic characteristics of the youth in Kenya can be important determinants of whether this group will participate in labor force to meet their basic needs. An understanding of the labor supply characteristics of the youth would help formulate and implement policies to meet their specific requirements, hence enabling the youth to take up their deserved position in building the nation. This will contribute towards better employment policy for Kenya. Moreover, the study advances existing literature on labor force participation in Kenya by specifically focusing on the youth.

1.5   Organization of the Study

The paper is organized in five chapters. In chapter one, an introduction of the study is provided giving background of youth labor force participation in Kenya, problem statement, objectives and significance of the study. Chapter two explores theoretical and empirical literature as well as an overview of literature. Chapter three presents the theoretical framework, econometric model specification, data and variable selection, and how data is analyzed. Chapter four presents descriptive statistics as well as empirical results and interpretation of sample statistics. The final chapter provides summary, findings and policy recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.0   Introduction

This chapter reviews literature on labor force participation mainly focusing on studies about the choices made by the youth. It reviews the theoretical and empirical contributions to the area of study.

2.1   Theoretical Literature

The youth's decision to be a participant or non-participant in labor force is determined by a number of factors. The youth have two possible uses of their time – to supply labor or supply to other non-labor activity. Their objective is to maximize utility for the chosen alternative. The prevailing wage income and non-labor income act as tradeoffs for youth labor supply decision (Ehrenberg and Smith, 1996).

The married youth will have their labor supply decision being determined under the male chauvinist model (Manser and Brown, 1980). Here, a wife's decision to participate in labor force is mainly influenced by the husbands wage income since it is considered as part of her non-labor income.

The family labor supply model (Becker, 1965) considers the family as a single decision making unit. Since there exists a family utility function, the family pools all their income and consumption. Any change in wage rate will have three effects namely own wage substitution effect, cross substitution effect and income effect. However, a weakness with this model is that it not only ignores intra-household allocation of consumption, but also does not explain how family preferences are generated. A modification to overcome these criticisms gives support to the individual utility family budget model and the bargaining model (McElroy and Horney, 1981; Manser and Brown, 1980).

In the household production model (as presented by Ehrenberg and Smith, 1996), the household is considered as a producing unit. Utility is directly derived from market goods and services. The consumer is faced by two constraints: budget constraint and time constraint. Gerry Becker (1965) extended this model by considering the household as both a

consumer and producer. Thus, the household will choose a combination of market goods and inputs (time) that optimizes his or her utility.

Gronau (1977) time allocation model is a static household model where work is divided into market work and home work. Market work and home work are considered perfect substitutes implying that home produced goods are perfect substitutes for market goods. A change in wage rate has an ambiguous effect because of both substitution and income effects.

Theoretical issues arise where both labor supply and demand factors are important in shaping the relationship between education and participation. The quantity of labor supplied by individuals tends to increase with education because higher educational attainment is associated with better wages, more enjoyable jobs and with tasks that involve a lower risk of acquiring a disability. This is notwithstanding the fact that, as wages rise, some people may opt for having more leisure, rather than more income. Based on signaling theory in the demand side, the reason employers offer higher wages to more highly educated employees is because their productivity is usually considered to be higher than that of workers with lower education (Varian, 1992). Economic processes that increase the productivity gap between the two groups of workers, such as some forms of technical change, serve to accentuate the labor force participation effects of education (Laplagne et al. 2001).

2.2   Empirical Literature

Vandermoortele (1991) in his 'employability-gap' hypothesis identified the youthfulness of unemployment phenomenon while studying the employment characteristics of youth in Sub-Saharan Africa. According to his study, the youth are more vulnerable to unemployment because they lack sufficient work experience, social contacts and maturity to be more competitive in the labor market. He also found a high and rising unemployment rates for educated youth in Africa contrary to situation in developed countries where lack of education and training constitutes the major characteristic of unemployed youth. Similar findings were gotten by Assaad et al. (2000) while investigating the determinants of employment status in Egypt.

The seminal contributions of Blinder and Weiss (1976) and Heckman (1976) adopted a simultaneous approach to the study of labor supply and educational decisions of young people. Both found out that the impact of education is not only on earnings but on employment opportunities too. Keane and Wolpin (1997) used longitudinal data sets to simulate the initial career choice of a sample of young men subject to maximizing utility coming from different states: attending school, working and choosing a given occupation. They found that a suitably extended human capital investment model can in fact do an excellent job of fitting observed data on school attendance, work, occupational choices, and wages in the National Longitudinal Survey data on young men and also produces reasonable forecasts of future work decisions and wage patterns.

Domadenik and Pastore (2006) apply MNL analysis to the study of the determinants of labor market participation and education of young people in Poland and Slovenia in 1997 and 2002. They considered six choices: permanent employment, temporary employment, self-employment, unemployment, education, training and inactivity. Their findings point to tertiary education as an important buffer against the risk of unemployment. Participation into training programmes reduces the risk of being unemployed, but not of being inactive. Gender differences among young people in the probability to be employed on a permanent basis were found to be important, but showed a diminishing trend over the proceeding years. Also, family break-ups were found to lower the probability to find employment in both countries.

Pastore (2005) used an innovative (checks for selection bias) HeckmanPROBIT procedure while studying the Polish youth. The expected lifetime earnings as measured for high school diploma and university degree gave a negative sign, since the higher the expected earnings of further education, the higher is the probability that a young person prefers to attend school or university programmes rather than being in search (successfully or not) for a job. This study also found that the product of the average hourly wage and the probability to find employment by age measure the opportunity cost of studying. The expected sign is positive, since the higher the opportunity cost of studying, the higher is the probability to leave the educational system and to be in search for a job.

Atieno (2006) and Kabubo-Mariara (2003) are studies done in Kenya that found education to be an important factor in determining participation in the different categories of the labor market. As such, both studies concludes that efforts to address the problem of access to the

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labor market would focus more on improving access to education as one of the important factors for improving their human capital. This is a policy prescription to address the demand side of the Kenyan labor market in addition to the factors expected to explain labor market participation. Maglad (1998) emphasizes the importance of human capital in increasing labor force participation and shows that expected own wage, spouse's earnings, the number of children, and age were important in determining participation in the labor market. Assets, however, affected work decisions and hours negatively. Spouse's expected wages affected both participation and labor supply negatively.

Important also, are post-schooling experience, wage of the household head, household head and presence of school going children (Maglad, 1998 and Nyambok, 2006). This conforms to other studies showing that income and experience are significant for female participation but not for that of males. The income of other household members is significant for males, however, showing that pressure to work for males reduces if other household members earn income, while for females, participation depends more on rewards they get in the labor market (Bigsten and Horton, 1997). These studies also show that household heads are more likely to participate in the labor market than non-heads.

Labor market conditions have also been found to be important for labor force participation, with the participation in the labor force increasing with incomes (World Bank, 1995). Addison (1993), however, argues that female labor force participation is lower than that of males because of women's lower opportunity cost of non-participation when their wages are low. Experience has also been found to influence labor force participation. Makonnen (1993) argues that experience and the nature of the labor market itself lead to differences in labor market participation by gender. Demographic and social barriers affect women's participation in the labor market, while differences in labor supply usually arise from differences in productivity endowments, including demographic variables like age, sex and marital status. 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.

Another important factor in labor market participation is the characteristics of the labor markets. Lanot and Muller (1997) say that labor markets in developing countries are characterized by dualism and imperfections as opposed to perfect competition. According to this line of argument, this dualism is marked by the existence of activities with diminishing

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returns to labor in the traditional sector and entry costs in the modern sector. This is especially true where agriculture or the informal sector is involved. Unlike the formal sector, which is characterized by high wages, high returns to education and on-the-job training, the informal sector is characterized by low wages, low returns to education and decreasing returns to labor. The resulting dichotomy is manifested in the wage gap between the two sectors.

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. The years of education are also important. These authors conclude that labor supply and activity choices are likely to be distorted by the existence of labor market imperfections. They note that because of the importance of the informal sector, the labor market displays typical dualistic features.

Mwabu and Evenson (1997) studied occupational patterns in rural Kenya using cross-section data from a 1981/82 survey of farm households in selected regions. Assuming a fixed set of occupational categories, as self-employment and non-market occupations, they model the occupational choice process of individuals and found that education and proximity to market centres are the key factors in the transformation of occupational structures in rural Kenya. People with some schooling expect to benefit relatively more by not choosing the general labor occupation, and benefit more from professional occupations. Education is therefore a key factor in determining occupational choice in Kenya. These results conform to earlier work, which showed that education is the most important determinant of labor market participation.

Urban and rural areas have different unemployment rates. Available literature is ambiguous as to the impact of local unemployment on educational participation. On the one hand, some authors find that the proportion of the age cohort remaining in full-time education following completion of compulsory schooling is counter-cyclical and, therefore, positively correlated with the rate of unemployment over the long-run (McVicar and Rice, 2001). The argument is that the higher is the local unemployment rate, taken as a proxy of local labor market conditions, the lower is the opportunity cost of investing in education: as a consequence one would expect high unemployment regions to have a relatively bigger number of people

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enrolled into education, all other things being equal. This is sometimes called the "parking theory", since it implies that young people "park" themselves at the university while waiting for a job offer to come. Nonetheless, the evidence based on individual level data is mixed on this variable: while some studies (Giannelli and Monfardini, 2003) confirm the results of studies based on aggregate data, others studies (Micklewright, 1990) instead either do not find any significant effect or find a negative relationship. The overall impact of the two variables considered until now cannot be predicted ex ante and is matter of empirical investigation.

Projecting gains to participation from increasing the years of education undertaken is therefore problematic. In that situation, Card and Krueger's (1996) finding that the estimated payoff of an additional year of education increases with school quality becomes important. That is, the benefits of education are enhanced if each year of education results in a larger increase in the stock of skills, and hence of human capital.

The positive response of labor market outcomes to increased education may also be diluted by the effects of 'screening', that is, employers using educational attainment to rank potential employees, when they have imperfect information about the candidates' productivity. Candidates with the highest educational qualifications are then matched to jobs with the highest productivity or wage, because high qualifications are regarded by employers as a signal that a potential employee has the required qualities for this type of job. In this scenario, an across-the-board increase in the educational attainment of the population would not necessarily raise individual job prospects or incentives to participate.

Another issue is the regional unemployment differences, which according to some authors depend, and are also fostered, by dramatic differences in the human capital endowment of a region. Usually, human capital concentration in urbanized regions is an important factor to attract FDI in advanced sectors and reduce the cost of restructuring (Lehman and Walsh, 1999). This may reinforce migration flows from depressed rural areas to urban centres.

Nguyen *et al.* (2005) used a logistic multivariate analysis to study youth employment in Vietnam and observed the following: the higher the education, the less likely that the youth is working; probability of work is higher for males than females which increases significantly with age; economic status of household was negatively associated with probability to work;

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migrants were more likely to be working; number of siblings was positively related to employment; marital status was statistically insignificant but single youth were more likely to be looking for a job. These findings could be very relevant to Kenyan situation since Vietnam is a developing country implementing economic reforms.

Guarcello, *et al.* (2006) used probit model to estimate youth employment in Ethiopia. The results indicated that probability of employment increases with both age and level of education; high employment in urban than rural areas; more male youth likely to be in employment than females; family income or wealth on employment is positive but becomes insignificant as level of education of the youth increases.

2.3   Overview of Literature

Theoretical literature on labor force participation has been based on time allocation models. The models postulate that individuals will always strive to achieve an optimal utility maximizing combination of their 24 hour day. The empirical labor force participation studies surveyed seem to identify several socio-economic characteristics that influence the choice made by the youth. These factors include education, age, marital status, gender, work experience, vocational training, wages and place of residence. Other factors include house hold income, household assets, migration, change in Gross Domestic Product (GDP) per capita, change in predicted wages of household head, demand for family labor and level of education of household head.

The study contributes to literature by testing the effect of the above factors on youth labor force participation using 1998/99 Kenyan ILFS data. The variables considered relevant for determining youth labor force participation is grouped into categories of individual characteristics, household characteristics, and assets (non human capital) and human capital variables. To the best of my knowledge, no attempt has been made to analyze labor force participation choices of the youth in Kenya. The study addresses this research gap.

CHAPTER THREE: METHODOLOGY

3.1 Theoretical Framework

Based on the seminal works of Becker (1965) which were later extended by Gronau (1977), the youth's expected lifetime utility (U_t) is a function of consumption of market goods and services (C_t), and leisure (L_t).

$$U_t = U_t(C_t, L_t) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

The youth is assumed to maximize a well behaved twice differentiable utility function (equation 1) subject to an income budget constraint and time allocation constraint (Becker, 1965; Gronau, 1977; Strauss and Thomas, 1995). The constraints vary according to the joint alternatives of employment and unemployment.

Generally, the essence of the choice of the framework period depends on how much past behavior as well as expected or future developments are envisaged to influence youth labor force participation. In this study, like earlier studies (Sackey, 2005), we adopt a one-period static model.

The decision to participate reflects a comparison of utility between gains from market earnings and the opportunity costs in terms of non-labor activities for a given level of household income from all other sources. The possibility of increased income from other sources has a tendency to induce the relative gains from market participation (Heckman, 1976). A youth's decision to participate in the labor force is basically related to his or her expected market wage and shadow price of time (Gronau, 1977 and Becker, 1965). Human capital models and related theory suggest that youth labor force participation is influenced by exogenous variables such as youth's productive opportunities as reflected by their level of education, their non human capital assets, the presence of children, and their social environment.

3.2   Econometric Model Specification

There are several existing analytical approaches which have been used to investigate the issue under consideration. Probit and Logit analysis/regression models are used to analyze data with binary response variables emanating from discrete choice. The methodology adopted for the study involves estimation of reduced form specifications for youth labor force participation. We assume that the covariates are exogenous and also that the error term, which captures all unobserved variables, is uncorrelated with any of the right-hand-side variables. Since reduced form equations have no inherent simultaneity, they do not violate the classical assumption of non-correlation between explanatory variables and the stochastic term. This typifies a probit model.

A Probit technique has been used to estimate youth labor force participation (see Guarcello *et al.* 2006, Nyambok 2006 and Sackey 2005). Probit model is more of a baseline model estimation and it ignores all occupational differences. The major interest here is to find out in a more generic sense what factors explain youth's decision to participate in the labor market. Of major interest is the role played by school completion.

Since a binary response variable takes on only two discrete values 1 and 0, an ideal situation calls for an endogenous variable Y_i^* which is continuous. This continuous variable is known as a latent variable assumed to be normally distributed and lying between $-\infty < Y_i^* < \infty$. The latent variable Y_i^* is assumed to be a linear function of the observed explanatory variables through the structural model given as equation (2) below.

$$Y_i^* = X_i\beta + \varepsilon_i, \quad i = 1,\dots,n \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Where X_i is a row vector of explanatory variables, while β is a vector of unknown parameters to be estimated and ε_i is a vector of random terms with mean zero.

$Y_i = 1$ if $Y_i^* > 0$, the youth participates in labor force.

$Y_i = 0$ if $Y_i^* \leq 0$, the youth does not participate in labor force.

Y_i is a binary response indicator of the ith individual determined by the underlying latent variable Y_i^*. Y_i^* is assumed to be normally distributed but Y_i is not.

The probability of a youth's utility from participation being higher than the utility of not participating in the labor force is given by:

Prob $(Y_i = 1)$ = Prob $(Y_i^* > 0)$

Given $Y_i^* = \beta X_i + \varepsilon_i$, this can be restated as:

$$= \text{Prob}\,(\beta X_i + \varepsilon_i > 0)$$

$$= \text{Prob}\,(\varepsilon_i > -\beta X_i)$$

$$= \text{Prob}\,\left(\frac{\varepsilon_i}{\sigma} > -\frac{\beta X_i}{\sigma}\right)$$

$$= \Phi\left(\frac{\beta X_i}{\sigma}\right)$$

Where:

σ^2 is the variance of error term.

ε and $\dfrac{\varepsilon}{\sigma}$ are distributed as standardadised normal.

Since Y_i^* is assumed to be normally distributed, Φ is the cumulative normal probability density function.

The standardadized cumulative normal function is given as:

$$P_i = F\,(Z_i) = \frac{1}{\sqrt{2\Pi}} \int_{-\infty}^{i} e^{\frac{-t^2}{2}}\, \partial t \quad\text{..} \quad (3)$$

Where t is a random variable which is normally distributed with mean zero and unit variance.

By construction, P_i lies in the range $(0,1)$ and it represents the probability that an event occurs. Estimation of this model is by Maximum Likelihood Estimation (MLE). Therefore, the parameters β are obtained by maximizing the following likelihood function:

$$L = \prod_{i=1}^{n} \Phi \left[\frac{\beta X_i}{\sigma} \right]^{y_i} \left[1 - \Phi \left(\frac{\beta X_i}{\sigma} \right)^{1-y_i} \right] \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4)$$

It is however much more convenient to estimate the log-likelihood function than the likelihood function. The log-likelihood function is given as:

$$\text{Ln}\,(L) = \sum \left\{ y_i Ln \left(\frac{\beta X_i}{\sigma} \right) \right\} + (1 - y_i) Ln \left[1 - \Phi \left(\frac{\beta X_i}{\sigma} \right) \right] \quad \dots\dots\dots\dots\dots\dots\dots (5)$$

Parameter β and variance σ always appear as ratios and are not separately identified. When we normalize σ to be equal to one, we obtain β. The estimated dependent variable is no longer a dichotomous variable but a conditional probability which is continuous.

3.3 Model Specification

In the empirical implementation, labor force participation (L) will take the form:

$$L = l\,(A, A^2, MS, G, YE, R, HH, IH, SH, DU) \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (6)$$

Where $A, A^2, MS, G, YE, R, HH, IH, PS, SH$ and DU are youth's age, age squared (to capture non-linear effects), marital status, gender, level of education, region, household headship, household income, household size and type of dwelling unit, respectively. We acknowledge that potentially endogenous variables, like education and household income in the labor force participation model, would lead to simultaneity bias by virtue of the fact that theoretical models on labor force participation emphasize that these outcomes are jointly determined by the family. Moreover, in pure reduced-form models such endogenous outcomes are excluded from the right-hand-side variables. The available data made it impossible to find instruments (such as expected lifetime earnings of further education, local unemployment rate,

opportunity cost of studying) since they were not collected by the survey, and therefore such an approach has not been pursued. Therefore, we first estimate our model without any education or household income variables (i.e. in a pure reduced form sense). However, because we are interested in the effects of education and household income on youth's participation we include such variables and re-estimate a second model. By estimating both true reduced form models on youth labor force participation and models with income and education, we are able to assess the robustness of coefficients to the modified specifications.

It is important to note the contribution of Strauss and Thomas (1995), who have pointed out that in a reduced form model with no measures of household resources, part of the effect of education will reflect the role of income. This notwithstanding, empirical literature supports the notion that even after controlling for resources, parental education in particular has persistent effects. We therefore incorporate an asset variable (type of dwelling unit) to capture household resources to see the difference this makes in terms of both the sign and the magnitude of education coefficients in our separate models.

The unemployed and inactive individuals have been pooled together because in the case of the youth, such labor market states are often very similar. In the seminal paper by Clark and Summers (1982), young people have a high degree of turnover and the transitions from unemployment to employment are not less sizeable than those from inactivity to employment. Also, the transitions from unemployment to inactivity are high. Poterba and Summers (1995) find that the differences between unemployment and inactivity are weak, causing serious classification errors. This is likely to occur especially among the youngest segment of the population. This assumption is of course to be taken with the due caveats, if we keep in mind the contribution by Flinn and Heckman (1983). They suggest that the behavior of individuals who are inactive because they are disabled, retired or otherwise unable to work is different. For this reason, those who do not work because they are unable to work have been excluded from the analysis, whereas the disabled who do not declare to be unable to work have been included in the analysis.

The coefficients obtained in our probit estimation or results only serve to provide a sense of the direction of the effects of the covariates on participation in the labor market, and cannot be used for magnitude of impact analysis. To examine the magnitude of impact, we have calculated the marginal impact of these right-hand-side variables on the probability of

participation. Most variables are dummies. Results of some dummies such as semi-permanent dwelling and Rift Valley are not presented because they are used as reference variables.

3.4 Data

The analysis is based on the 1998/1999 Kenya Integrated Labor Force Survey (ILFS), a nationally representative micro-data set providing detailed information on various aspects of labor force of the Kenyan population, informal sector and child labor conducted by Central Bureau of Statistics during the months of December 1998 and January 1999. The survey covered all administrative districts as constituted in 1989; excluding Samburu, Turkana and Marsabit. It utilized the National Sample Survey and Evaluation Programme (NASSEP) frame which was created after the 1989 Population and Housing Census. The Enumeration Areas of the 1989 Census were the Primary Sampling Units (PSU's) which were selected using the Probability Proportional to Size (PPS) and were then segmented into smaller units of about 100 households constituting one measure of size. One segment from each PSU was selected randomly for the creation of a cluster. The frame had 1,139 clusters of which 930 were rural and 209 urban. A response rate of 86.2 percent was recorded on randomly selected interview of 12,814 households. This ILFS adopted the ILO definition of employment and unemployment.

This study considers a sample of individuals aged 18-30, comprising young teenagers (18-21), young adults as well as older individuals (22-30). Decomposition along these two age dimensions serves two purposes. First, the two age groups are separated to avoid bias because the younger teenagers in contrast to the older age group are not only usually in school but may also lack national identity cards that enable them to participate in formal employment. Second, the last category is included to take into account the high share of long term unemployment and the possibility that the impact of university education was overestimated, since only the most skilled and motivated find employment shortly after obtaining their degree.

3.5   Variables

Table 4 presents the independent variables used in the analysis.

Table 4: Variable Identification and Definition

VARIABLE SYMBOL	VARIABLE DEFINATION	MEASURE
L	Labor Force Participation Status	Dummy 1 = Employed 0 = Unemployed
A	Individual youth age	Age in years
A^2	Age squared	Square of the age in years
MS	Marital Status	Dummy 1 = Married 0 = Otherwise
G	Gender of Individual	Dummy 1 = Male 0 = Female
YE	Level of Education	Dummy 1 = Pre-Secondary 0 = Otherwise
R	Region where Individual Lives	Dummy 1 = Rural 0 = Urban
HH	Household Headship	Dummy 1 = Youth Headed Household 0 = Otherwise
IH	Total Household Income	Mean Monthly Wage
SH	Household Size	Total number of persons in household
DU 1	Permanent Dwelling Unit	Dummy 1 = Permanent 0 = Otherwise
DU 2	Semi-permanent Dwelling Unit	Dummy 1 = Semi-permanent 0 = Otherwise
DU 3	Temporary Dwelling Unit	Dummy 1 = Temporary 0 = Otherwise

We discuss both the dependent and explanatory variables used in estimation as well as the expected signs.

Labor Force Participation Status

In this study, youth labor force participation is used as the dependent variable. The sample has been restricted to young people, grouped into either employed or jobless. These states are treated as mutually exclusive. Following the ILO definitions, employed individuals have been identified as all those persons declaring to have some type of paid work during the reference week. This is synchronized with the ILFS report (2003) which considers a youth to be in labor force if during the past one week's reference period, he or she reported to have undertaken or sought to undertake some economic activity. The rest are considered jobless (includes the unemployed and inactive youth). The category of youth not participating in the labor force because they are unable to work is a small number and has been dropped from the sample. Therefore, the dependent variable is a dummy which takes the value of 1 if youth is in labor force and takes the value of 0 if youth is not in the labor force.

Age and Age Squared

Age is assumed to be positively related to youth labor force participation. In their early years, the youth participate less in work force because of their dependence on parents and being in school. As they progress in age, they are forced to become more independent, hence need to participate more in labor force. Again, they gain the necessary experience as well as getting mature social contacts to be competitive in the job market. This implies that coefficients of age (Atieno, 2006) and age squared variables will be positive.

Marital Status

This variable for married youth may be insignificant (Atieno, 2006; Nguyen *et al.* 2005). However, a positive relationship is assumed to exist as the youth graduate from single hood to marriage life. An expectation of increase in a family size from getting children, forces them to participate more in labor force.

Gender

A positive relationship is expected for males but ambiguous for female youth. Females may not consistently participate in labor force because they sometimes stay away either to have

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children or forced out by their husbands once they marry. Also, females have lower opportunity cost of non-participation (Addison, 1993).

Highest Educational Level attained

Education attainment is expected to be strongly positively related to youth labor force participation (Appleton *et al.* 1990; Atieno, 2006; Kabubo-Mariara, 2003; Pastore, 2005; Sackey, 2005). As the level of education increases, the more resources an individual has expended and the higher the stock of human capital accumulated. The opportunity cost of not working therefore becomes bigger and increases the incentive for the individual to seek employment. The dummy variables have been preferred to the continuous variable, following the argument that macro-variables generate bias when included in estimates based on individual level data (Moulton, 1991).

Region

The effects of the youth's social environment, as proxied by his or her residence, on labor participation could be ambiguous. However, urban residence is believed to be associated with various factors that help in decreasing participation rate. It must be noted, nevertheless, that a two-way effect could emerge from urbanization. There is a tendency for urbanization to increase youth's opportunity cost of time by providing better earning possibilities. Therefore, the overall effect of urban locality on youth labor participation could be said to be more of an empirical issue (Giannelli and Monfardini, 2003; Micklewright, 1990)

Household Headship

Household heads are expected to participate more in labor force. As breadwinners of their household, they bear the full burden of household upkeep and demand. Youth living with parents or relatives will have less motivation to participate in labor force (Atieno, 2006; Maglad, 1998).

Total Household Income

This may not be predicted appriori. However, the higher the household income, the more education a youth aspires to have, hence a non participant in labor force. Lack of motivation (sometimes) may also reduce youth labor force participation. In other cases, the opposite applies where the youth wish to enter the labor force to please and compete with parents (Guarcello *et al.* 2006; Nguyen *et al.*, 2005; Nyambok, 2006)

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Household Size

Labor force participation and household size will have a negative relationship. The income of other household members is significant, thus reducing pressure to work for a youth (Bigsten and Horton, 1997; Nyambok, 2006)

Type of Main Dwelling Unit

This acts as proxy for household assets. The expected sign cannot be predicted ex ante. The direction of impact of a youth's non-human capital (such as assets) on participation is somewhat uncertain (Appleton *et al.*, 1990; Sackey, 2005)

3.6   Data Selection

The ILFS 1998/99 had 52,016 respondents with varying characteristics. However, the total number of records had to be modified to conform to requirements of our research. The selection of relevant sample was arrived as shown in Table 5 below.

Table 5: Data Selection

Total number of observations	52,016
less observations Age 0 – 17 years	26,975
less observations Age 31 – 99 years	12,336
less observations Age 18 – 30 years at school fulltime	1,365
less Unstated observations	263
Selected Sample observations Age 18 – 30 years	**11,077**

3.7   Data Analysis

Before embarking on data analysis, descriptive statistics of all the variables is done to examine the trends in the data. This is followed by a linear regression in order to establish the relationship between the dependent variable and independent variables. To achieve this, coefficient and marginal effect estimation was done using Stata software. Both econometric theory and earlier empirical findings are employed to interpret the analyzed data in order to achieve the study objectives.

3.8 Limitations of the Study

From the point of view of this study, the main shortcoming of ILFS data is the lack of information on family background, which has been found to be an important determinant of the labor force participation of the youth, together with expected incomes of high education and unemployment (Rice, 1999; Giannelli and Monfardini, 2003). However, since the ILFS got response to a specific question on the main source of household income, this allows detecting at least one important aspect of the family background able to affect, according, for instance, to Rice (1999) the decision of young men, if not women, to invest in post-compulsory education in the UK. Again, the data to be used reveals the conditions some nine years ago, hence a big concern that major changes may have occurred to current socio-economic conditions. Thirdly, the usual shortcomings of survey data (sampling and non-sampling errors) which have been substantially reduced through data cleaning. Also, due to data limitations, issues of employment and unemployment for the disabled youth population have not been considered in the present study. However, it would be useful to conduct new studies on youth with disabilities and carry out an in-depth analysis of this particular group.

CHAPTER FOUR: DESCRIPTIVE STATISTICS AND EMPIRICAL RESULTS

4.0   Introduction

This chapter has two sections. Section 1 gives descriptive statistics of the data. Section 2
presents and discusses the regression and marginal effect results.

4.1   Descriptive Statistics

Table 6 provides summary statistics for some of the variables in our data sets. Our focus is on
the youth segment of a sample aged 18 – 30 years, and as such the descriptive statistics
provide such measures as the mean and standard deviation values of our key covariates.

Table 6: Descriptive Statistics for Youth Sample Aged 18 years and 30 years

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Participant	11077	.63934	.4802	0	1
Age (years)	11077	23.5696	3.9166	18	30
Agesquared	11077	570.8639	187.4723	324	900
Household head	11077	.1561	.3630	0	1
Males (1=male)	11077	.4661	.4989	0	1
Females	11077	.5339	.4989	0	1
Married (1=married)	11077	.4078	.4914	0	1
Other Marital Status	11077	.5922	.4914	0	1
Permanent House	11077	.2309	.4214	0	1
Semi-permanent House	11077	.4528	.4978	0	1
Temporary House	11077	.3125	.4635	0	1
Rural (1=rural)	11077	.8357	.3706	0	1
Urban	11077	.1643	.3706	0	1
Pre-secondary (1=Ps)	11077	.7295	.4442	0	1
Post-primary	11077	.2705	.4442	0	1
Household Size (Log)	11077	1.6630	.5503	0	3.4012
Mean Income (Log)	10725	8.3449	1.0547	3.6889	12.5062
Nairobi	11077	.0227	.1491	0	1
Central	11077	.1308	.3372	0	1
Coast	11077	.1246	.3302	0	1
Eastern	11077	.1561	.3630	0	1
North-eastern	11077	.0047	.0684	0	1
Nyanza	11077	.1640	.3703	0	1
Rift Valley	11077	.2992	.4580	0	1
Western	11077	.0979	.2971	0	1

Key

Ps   Pre-secondary

The descriptive statistics show that 64 per cent of respondents participated in the labor force. In this same sample, 15 per cent were heads of household. When we consider gender, males made up about 47 per cent and the rest are females. The married respondents, who include both monogamous and polygamous marriages, accounts for about 40 per cent. The type of dwelling unit for each respondent, taken as a proxy for household assets, is identified in three categories viz: permanent (23 per cent), semi-permanent (45 per cent) and temporary (31 per cent). Majority of the respondents (84 per cent) live in the rural areas with the rest living in urban areas. Education level is considered at the highest level completed. In this study, those with no education, nursery and primary education are aggregated to make a reasonably significant variable – pre-secondary – who accounts for 73 per cent of the sample. Both the household size and mean monthly income are transformed into log so as to normalize the distribution (see appendices A.1a, A.1b, A.2a and A.2b).

From our sample of 11,077 youth, 7,082 participated in the labor force as opposed to 3,985 who were non-participants. This is the basis of our cross-tabulation tables below, where we present the relationships in labor force participation of the youth in Kenya.

Table 7: Youth Labor Force Participation by Gender

Gender	Frequency	Percent
Males	3,488	49.25
Females	3,594	50.75
Total	7,082	100.00

From our sample, labor force participation as distributed along gender is presented in table 7. The table shows that there are no major gender disparities in labor force participation between men and women, at 49.25 per cent and 50.75 per cent respectively, during the period under investigation. It is important to note that on average, female youth participate more than male youth. This scenario can be explained from two view points. First is the higher ratio of females to males for any age group and second, the numerous economic activities that women have traditionally performed better than men such as farm work and small and micro enterprises. Female youth are always busy. Overall, labor force participation was relatively high at 64.47 per cent compared to non-participation at 35.53 per cent (Table 6).

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Distribution of the respondents by marital status is presented in table 8a and 8b. The married respondents' participation in the labor force is relatively lower compared to any other marital status as depicted by 46.2 per cent and 53.8 per cent respectively. This suggests that Kenyan youth marry late, especially after getting into gainful work. However, male youth (36.8 per cent) are less likely to be married than their female counterparts (63.2 per cent). Sociological reasons do explain this situation, because males become immediate bread winners in a new marital union. Women will get married even without an independent source of own income since they can rely on their husband's unfailing support and upkeep.

Table 8a: Youth Labor Force Participation by Marital Status

Marital Status	Frequency	Percent
Other Marital Status	3,810	53.80
Married	3,272	46.20
Total	7,082	100.00

Table 8b: Youth Labor Force Participation by Marital Status and Sex

Marital Status	Male	Female	Total
Other Marital Status	2,284	1,526	3,810
Married	1,204	2,068	3,272
Total	3,488	3,594	7,082

The main type of dwelling unit was used as proxy for household assets. Poor households are expected to live mostly in temporary and semi-permanent dwellings while their rich counterparts are expected to live in permanent dwellings. Table 9 presents a tabulation of labor force participation by type of dwelling units. The results show that most of the youths participating in the labor force live in temporary (31 per cent) and semi-permanent (46 per cent) dwellings with only 24 per cent living in permanent dwellings. These results suggest that youth from rich households are likely to be in school accumulating more human capital because they can afford further education, and also there is no pressure on them to become financially independent. This may not be the case for those from poorer family backgrounds. They will be forced to look for gainful work to support their siblings and parents especially in a country where extended family system is very common.

Table 9: Youth Labor Force Participation by Dwelling Unit

Type of Main Dwelling Unit	Frequency	Percent	Cumulative
Permanent Dwelling Unit	1,656	23.78	23.78
Semi-permanent Dwelling Unit	3,278	45.61	68.99
Temporary Dwelling Unit	2,168	30.61	100.00
Total	7,082	100.00	

Education level and labor force participation is shown in table 10a and 10b. Majority of the youth in labor force participation had less than secondary education (no education, nursery and primary education) at 70.94 per cent. A smaller 29.06 per cent with secondary and post-secondary education participated in the labor force. The data further suggests that the youth mostly live in rural areas (85 per cent – see table 11a) where participation in labor force requires little human skill. Again, youth with low levels of education are less likely to choose the nature and decency of work available, than those with high levels of education. Education is also an expensive investment with a smaller number of households capable of sending their children to higher levels of education. It is estimated that 56 per cent of Kenyan population live below the poverty line (RoK, Economic review, 2000).

Table 10a: Youth Labor Force Participation by Educational Level

Education Level	Frequency	Percent
Post-primary education	2,058	29.06
Pre-secondary education	5,024	70.94
Total	7,082	100.00

Table 10b: Education Level of Respondents Participating in the Labor Force

Education Level	Frequency	Percent	Cumulative
None/nursery education	551	7.78	7.78
Primary education	4,473	63.16	70.94
Secondary education	2,007	28.34	99.28
Post secondary education	51	0.72	100.00
Total	7,082	100.00	

When we consider region of residence (table 11a), the youth in rural areas participated more in labor force than those in urban areas, at 84.86 per cent and 15.14 per cent respectively. Kenya is a less developed country with most of her population living in rural areas. The predominance of agricultural and pastoral activities in rural areas implies higher demand for the more active and energetic youthful labor. This will be in sharp contrast to urban areas where skilled manpower especially in the service sector is in more demand implying that the youth, who usually have little or no experience and social contacts, will 'park' in institutions of higher education so as to enhance their employability capacity. Whereas a majority (77.5 per cent) of youth with less than secondary education participated in the rural labor force, a smaller number (49.9 per cent) participated in the urban areas (table 11b). Rural-urban migration of educated youth may explain this situation.

Table 11a: Youth Labor Force Participation by Region of Residence

Residence	Frequency	Percent
Rural	6,010	84.86
Urban	1,072	15.14
Total	7,082	100.00

Table 11b: Youth Labor Force Participation by Region and Educational Level

Educational Level	Rural	Urban	Total
Pre-secondary	4,526 (77.53%)	498 (49.12%)	5,024
Post-primary	1,484 (22.47%)	574 (50.88%)	2,058
Total	6,010 (100%)	1,072 (100%)	7,082

The tabulation of youth's relationship in a household is given in table 12. A smaller number of household heads participated in the labor force compared to any other household member as indicated by 21.6 per cent and 78.4 per cent, respectively. Strong rural/urban duality characterizes the status of young people in the labor market. This is explained by demographic and social proportions where Kenyans live as a family unit. The extended family is very common in Kenya where relatives live together for long periods, pooling together their incomes to survive the hard economic times.

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Table 12: Youth Labor Force Participation by Household Headship

	Frequency	Percent
Other Relation	5,552	78.40
Household Head	1,530	21.60
Total	7,082	100.00

Table 13a: Youth Labor Force Participation by Sector of Employment

Sector of employment	Frequency	Percent	Cumulative
Modern sector-public institution	319	4.50	4.50
Modern sector-private institution	615	8.68	13.18
Informal sector	1,671	23.58	36.76
Small scale farming / pastoralist activities	4,296	60.55	97.30
Other	191	2.70	100.00
Total	7,082	100.00	

Table 13b: Youth Labor Force Participation by Sector of Employment and Sex

Sector of employment	Male	Female	Total
Modern sector-public	178 *(5.1%)*	141 *(3.9%)*	319
Modern sector-private	423 *(12.1%)*	192 *(5.3%)*	615
Informal sector	884 *(25.3%)*	787 *(21.9%)*	1,671
Small scale farming / pastoralist activities	1,957 *(56%)*	2,334 *(65%)*	4,296
Other	50 *(1.4%)*	141 *(3.9%)*	191
Total	3,492 *(100%)*	3,590 *(100%)*	7,082

Table 13c: Youth Labor Force Participation by Sector and Education level

Sector of employment	None/nursery	Primary	Secondary	Post-secondary	Total
Modern sector-public	1	49	242	27	319
Modern sector-private	17	290	295	12	615
Informal sector	102	1,086	479	3	1,671
Small scale farming / pastoralist activities	415	2,920	947	8	4,296
Other	17	130	43	1	191
Total	552	4,473	2,006	51	7,082

The distribution across sectors is presented in table 13a, 13b and 13c. Table 13a shows that majority of the youth are working in the informal sector (24 per cent) and small scale farming and pastoralist activities (61 per cent). The tabulation further shows that a paltry 13 per cent of youth are participating in the more decent modern (private and private) sector. Table 13b

brings in the gender dimension and shows that more male youth than females are participating in the relatively decent and lucrative modern sector. Female youth's participation in the small scale farming and pastoralist activities is higher (65 percent) compared to males (56 percent). Again, majority of the youth with pre-secondary education work in the informal sector and small scale farming / pastoralist activities as shown in table 13c.

Generally, the above descriptive statistics show that youth labor force participation rates are quite high in the Kenyan economy. There are only marginal differences to youth's participation in labor force when we consider their gender and marital status. Majority of the youth reside in rural areas, living in semi-permanent and temporary dwellings with pre-secondary education. The type of sector youth find themselves in tends to be associated with their level of education, with a small number employed in the modern sector. By far, small scale farming / pastoralist activities are the dominant sector absorbing the youth labor force. This is not surprising since Kenya is a predominantly agricultural economy with the bulk of the populace in rural areas. These descriptive statistics have identified several relationships which will be tested in the next section by carrying out a multivariate regression analysis.

4.2   Empirical Results and Interpretation

This section presents the results and interpretation from probit regression as well as marginal effects of the correlates of labor force participation. These include age, household headship, gender, marital status, type of dwelling unit, education level, household size, mean income, place and region of residence.

4.2.1   Probit Regression Results

Participation in the labor force was estimated using a probit model. A close look at the correlation matrix (appendix A.1) shows that multicollinearity is not a serious issue. White's method is used to correct standard errors for heteroscedasticity. We investigate the impact of the parameter estimates as presented in Table 14.

Table 14: Probit Results for Participation in Labor Market

Variable	Coefficient	Marginal Effects	Robust Standard Error
Age	.2093*	.1430	.0405
Agesquared	.0016*	.0005	.0001
Household head	.6711*	.2133	.0540
Male	.1475 *	.0628	.0280
Married	-.0414	-.0190	.0334
Permanent	-.0013	-.0292	.0350
Temporary	-.0455	-.0070	.0304
Rural	.6113*	.1728	.0413
Pre-secondary	.0708*	.0241	.0314
Household size	-.1411*	-.0468	.0294
Mean income	.1639*	.0557	.0139
Central	.3518*	.1151	.0426
Coast	-.2689*	-.0946	.0405
Eastern	.3188*	.1442	.0398
North-eastern	-.2312	-.0725	.1759
Nyanza	-.1756*	-.0552	.0371
Nairobi	-.0733	-.0177	.0833
Western	-.3971*	-.1590	.0441
Constant	-2.3883		.1403

Number of observations	11077
Wald chi2 (18)	1249.96
Log pseudo likelihood	-6431.0509
Pseudo R^2	0.1477

*   *Significant at 1 per cent level*

Age and agesquared are both positive and significant. The age profile of labor market participation is steep and convex. This implies that the older the youth, the higher the probability that he or she is participating in the labor force. Again, such a probability exhibits increasing returns in labor force participation since the advantage tends to increase with age as shown by a positive agesquared coefficient. Transitory unemployment is usually prevalent among teenagers but decreases with age. There could be a substantial group that is unemployed in the earlier years, but find a job later. Thus, for young adults as well as for the overall labor force, both transitory and structural unemployment occur as Guarcello *et al.* (2006) discovered in Ethiopia.

The coefficient of household headship is significantly positive. The marginal effects indicate that relative to other categories, being a household head increases labor market participation by 21.33 per cent. A household head will be forced to fend for his or her family. As bread winners, they have less choice in providing for their families, hence more likely to be in the labor force. Being a household head reduces the reservation wage and increases the probability of employment. The case for Kenyan youth who are household heads is not different. The results support findings in the literature (Atieno, 2006; Maglad, 1998)

The male gender coefficient is positive and significant as earlier anticipated. Gender biases are large, with the marginal effects showing that being a male youth, relative to females, increases labor force participation by 6.28 per cent. Sociological interpretation can be easily applied here. This result is supported by our social norms where the male gender is usually involved in major economic activities in a family. The males are also likely to benefit more in education opportunities than females, which increases their ability to participate in the labor force. In a marriage where spouses are alive, men are the traditional household heads and this too will necessitate them to provide for their families (although, this is largely changing in African societies). Females are also significantly overrepresented among inactive youth, a category that includes household chores and other forms of non-economic work typically assigned to females such as water fetching and firewood collection. Studies cited earlier do agree with these findings (Addison, 1993).

The coefficient of marital status is negative but insignificant. This supports other similar findings by Atieno, 2006 and Nguyen *et al.* 2005. The independence of decision to allocate time between labor force participation and other non-labor activities for single women makes

them have a higher probability to find employment than married women, but the opposite applies to single male youth who have no dependants. Most Kenyans marry just above their twenties immediately after securing a job, and soon after have children who demand parental material support. Again, single individuals prefer to continue to invest in education rather than searching for a job.

Main type of dwelling unit is insignificant. The semi-permanent dwelling unit was used as the reference variable. Relative to the youth living in semi-permanent dwellings, those living in permanent and temporary dwellings are less likely to participate in labor force as indicated by the negative coefficients. The poor are usually to be found living in temporary dwellings and the rich live in permanent dwellings. Youth from poor family backgrounds lack employment opportunities due to low levels of human capital as well as ill health and will usually participate in casual labor making them unemployed most of the time. Rich families will support their youthful members to enhance their human capital in institutions of higher learning.

The rural residence coefficient is positive and significant as expected. This variable's marginal effects indicate that being a rural resident increases the probability of labor force participation by 17.28 per cent relative to that of participation of an urban resident. Given the high poverty levels in rural Kenya, many youth are simply too poor to be unemployed and must take up work regardless of its quality, decency, or level of remuneration. This will support the fact that there may be a lot of disguised unemployment in rural areas. Another major factor that explains these facts is educational participation; with relatively little opportunities for education in rural areas, the rural youth are more likely to become active in the labor force. Again, the high level of poverty in rural areas leads rural youth to participate more in the labor force. Like the entire population, the majority of youth live in rural areas where voluntary unemployment is typically not an option. Youth in rural areas find employment more quickly than their counterparts in urban areas, suggesting labor entry problems are especially relevant in urban areas. The school to work transition starts later in urban than rural areas, suggesting that urban youth are advantaged with respect to rural youth in terms of educational attainment. However, the results for rural areas are more attenuated because of the dominating presence of agricultural self-employment and agricultural underemployment. This is consistent with studies by Guarcello et al. (2006), Nguyen et al. (2005) and Assaad et al. (2000). These result should however be taken with caution since in

rural areas there appear to be much less of a market for labor with respect to urban areas. Self-employment (often subsistence–oriented) in agriculture and, hence, underemployment, insulate this section of the economy from the working of a competitive labor market.

The aggregated education variable coefficient for those with no education, nursery and primary education is positive and significant. The results show that a youth with pre-secondary education is 2.41 per cent more likely to participate in the labor force than if he or she has post primary education. These results negate earlier expectation but are similar to findings by Nguyen *et al.* (2005), Assaad *et al.* (2000) and Vandermoortele (1991). Labor force participation is likely to decrease with education level, being the lowest among those with higher education. This is partially the product of the fact that less educated young people by definition begin their transition to work at an earlier age and therefore have had a greater length of exposure to the labor market and more time to secure employment. In addition, as the reservation wage is likely to rise with skill level, search time might increase with the level of human capital of the individual.

An initial period of unemployment following schooling is not unusual as young people spend time looking for the best job match, but the length of this jobless period in the Kenyan context extends well beyond what could plausibly be considered "wait" unemployment. Generally, long periods of initial joblessness can translate into permanently reduced productive potential and job prospects—and therefore constitute a particular policy concern. Actually, educated youth expect to get regular full-time salaried work and are therefore willing to wait for it. Less educated workers are much less likely to ever find such work. They either do not search for such work, hence end up in casual wage work or self-employment, where they are much more likely to experience underemployment rather than unemployment. However, this finding says little about links between human capital levels and success in the labor market. Again, those with post-secondary education may also be pursuing other forms of (especially technical) training and so may not be too actively looking for work. It is important to note that a relatively low proportion of youth with post-primary education may be responsible for this result.

Household size is negatively related to labor force participation to support our prior expectation. A unit change in household size reduces labor force participation by 4.68 per cent. The extended family system and social relationships in the Kenyan society requires

incomes from all household members to be pooled together and spent by the family unit. As such, there is reduced pressure on the youth to join the labor market as the number of siblings increase. It is also likely that the bigger the household size, the poorer they are, leading to less social contacts and poor health which reduces the probability of participating in the labor market.

Household income is positively related to labor force participation. The corresponding marginal effects indicate that a unit change in household income increases probability of labor force participation by 5.57 per cent. Household resources as proxied by mean monthly income are important for finding a job. Credit rationing or social networking might be important elements in determining youth employment and consequent labor force participation. However, this result should also be taken with care. The data do not allow us to exclude from household income the income generated by the employed youth (the data on incomes are only categorical), and hence reverse causation cannot be excluded. In poor household where we expect to find relatively less-educated youth, an additional employment of one household member might alter substantially the income and expenditure level of the household.

Coefficients for regional dummies show mixed results. However, most coefficients are negative and significant, implying that relative to Rift valley province, the youth in other provinces are less likely to participate in the labor force. This could be explained by the fact that these other provinces have lower agricultural potential and are thus relatively poorer than Rift Valley. Agriculture is the mainstay of Kenyan economy and absorbs 70 per cent of total labor force (RoK, Economic Survey, 2003). Central and Eastern provinces have high agricultural activity – a sector we have noted as absorbing majority of the youth labor force – hence the high positive marginal effects. The coefficients for Nairobi and North-eastern province are insignificant.

CHAPTER FIVE: CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1   Conclusions

The role of youth in the development of the Kenyan economy cannot be overemphasized. In virtually all spheres of life, the youth – both male and female - are seen contributing to the overall output of the economy. Indeed, their ability to blend education demands with labor market activities has been a remarkable phenomenon, one that has attracted the attention of an emerging literature on age dynamics mainly in developed countries and transition economies. This study, in an attempt to add to this growing literature, sought to model determinants of youth labor force participation in Kenya with a focus on the role of education and socio-economic characteristics using the 1998/99 Integrated Labor Force Survey data. Fine targeting reforms on the youth would enhance their effectiveness, in a time of hard state budget constraint emanating from the implementation of Structural Adjustment Programmes (SAPs) started way back in 1990. To reach this aim, we use probit estimates of the probability to participate in the labor market.

Descriptive statistics show that there is high youth labor force participation rates in Kenya, with majority of the youth having less than secondary education working in the informal sector as well as practicing small scale farming and pastoralist activities. A big proportion of the youth live in rural areas with their main household dwelling units being either temporary or semi-permanent. Labor force participation along gender and marital status indicates some degree of equality.

Our analysis indicates that a number of individual characteristics, household characteristics and human capital variables are important determinants of youth labor force participation in Kenya. Age, household relations, gender, region, education, household size and mean monthly household income seems to have a major influence on youth's decision to participate in the labor force. Whereas older youth, household heads, males, pre-secondary education and household income increase the probability of labor force participation, a big family size has the opposite effect.

These results suggests that Kenyan young people enter the labor market with very low levels of human capital, especially in the rural areas where the youth are overwhelmingly involved

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in the agriculture sector (largely subsistence) whose labor income is low, and there is evidence of large underemployment and disguised unemployment. This supports results from rural dummy and provincial dummies which prove higher youth labor force participation in agriculturally productive Central, Eastern and Rift Valley provinces. Differences by sex are large with male youth more likely than their female counterparts to be labor force participants. Household background characteristics, and in particular the level of household income, seem to affect the probability of labor force participation, especially of the youth entering the labor market with low levels of human capital indicating that parental support are important determinants of labor force participation.

These results suggest that youth labor force participation may appear to respond to the demand for labor and to the relative supply of young individuals. Macroeconomic revolution on labor demand is hence likely to be relevant for solving the relative disadvantage of youth.

5.2   Policy Recommendations

Main policy issues emerging from the study on determinants of youth labor force participation in Kenya include the following:

A big number of provinces show low youth labor force participation with only a few success stories from Central, Eastern and Rift valley. The government should do regional targeting by identifying the policies that enhanced youth labor force participation in the three provinces and duplicating the same in other provinces especially support for agriculture and the informal sector. These provinces are however heterogeneous and hence, each would require unique solutions.

Family size happens to reduce youth labor force participation. To minimize its impact, the government could come up with incentives for smaller family sizes especially provision of subsidized further education for girls in school.   This would be a first step towards encouraging youth labor force participation in the very long run.

The results suggest gender differentials in favor of male youth labor force participation. There is a need for deliberate government efforts towards policies that minimize employer

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preferences/favoritism towards men. Girls should also be encouraged to acquire skills required in all occupations if employers are to minimize nepotism.

Household income seems to support youth labor force participation. The Kenyan government urgently needs to come up with proactive measures that reduce poverty and increase disposable personal (and consequently household) income. Reduced direct taxes and indirect taxes on essential commodities is a case in point. Macro economic stability will do the trick.

Since low levels of human capital have a positive relationship with youth labor force participation, the government should immediately reduce support for higher education in favor of other youth employment friendly initiatives such as accessible and affordable credit to micro and small enterprises as well as encouraging the development of low skill labor intensive techniques of production. Unfortunately, there is no information available to assess the impact of such strategies.

There is a large number of youth already in the labor market with very low human capital. Even if the general education enrollment situation has improved, especially with the introduction of free public primary education in 2003, the current generation of young people will have few chances to see a real change in their circumstances. Further investment in special training and skill formation activities is therefore needed in parallel with broader education expansion efforts, to improve the labor force participation prospects - of this stock of low or uneducated youth – in well paying and more decent jobs usually meant for the most educated people. Labor market effects are particularly strong for the less-educated labor force and hence a need to introduce risk reduction policies.

5.3   Areas of Further Research

A number of labor market surveys have been carried out in Kenya, but information gaps persist, preventing a complete picture of the youth labor market situation from being drawn. Cross sectional data analysis has predominantly been employed in this respect. It would be useful to introduce minor changes in the current survey instruments to fill these gaps. For example, a few retrospective questions could go a long way in helping the analysis in absence of panel data. In addition, further investigation is required to establish the links between human capital levels and success for youths in the labor market.

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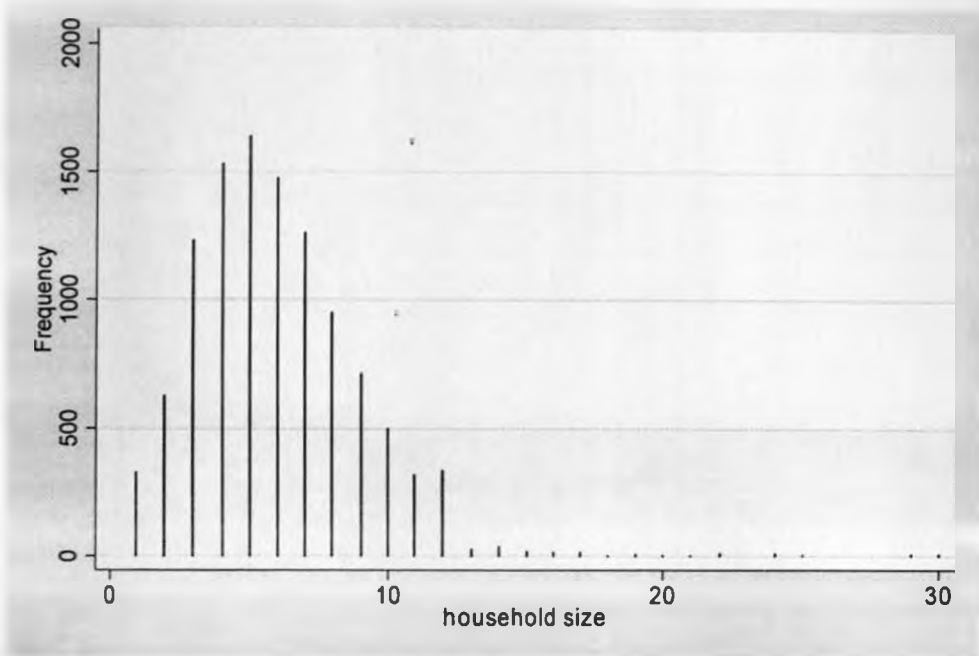
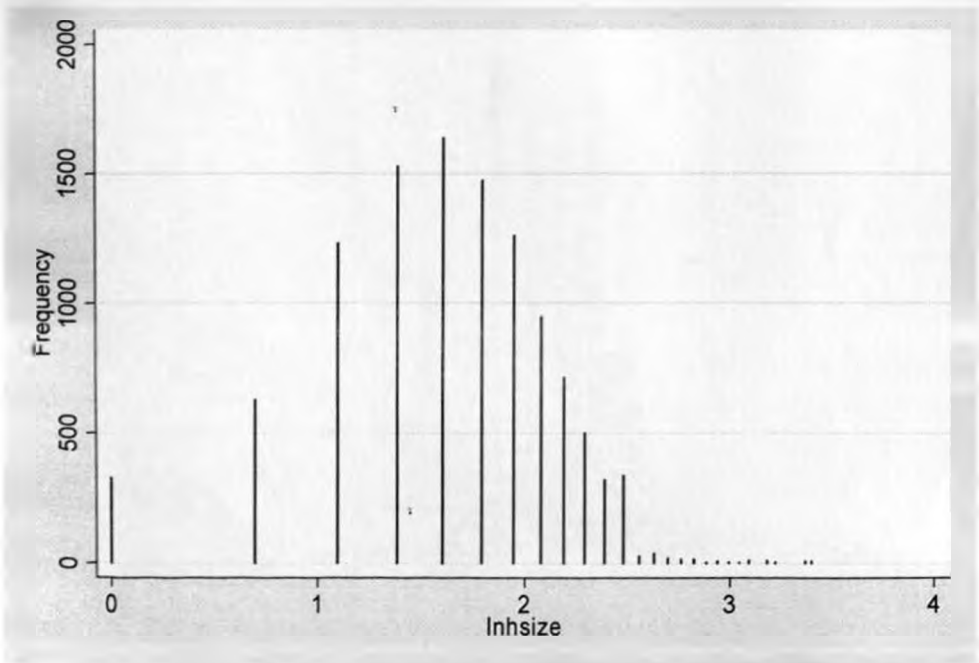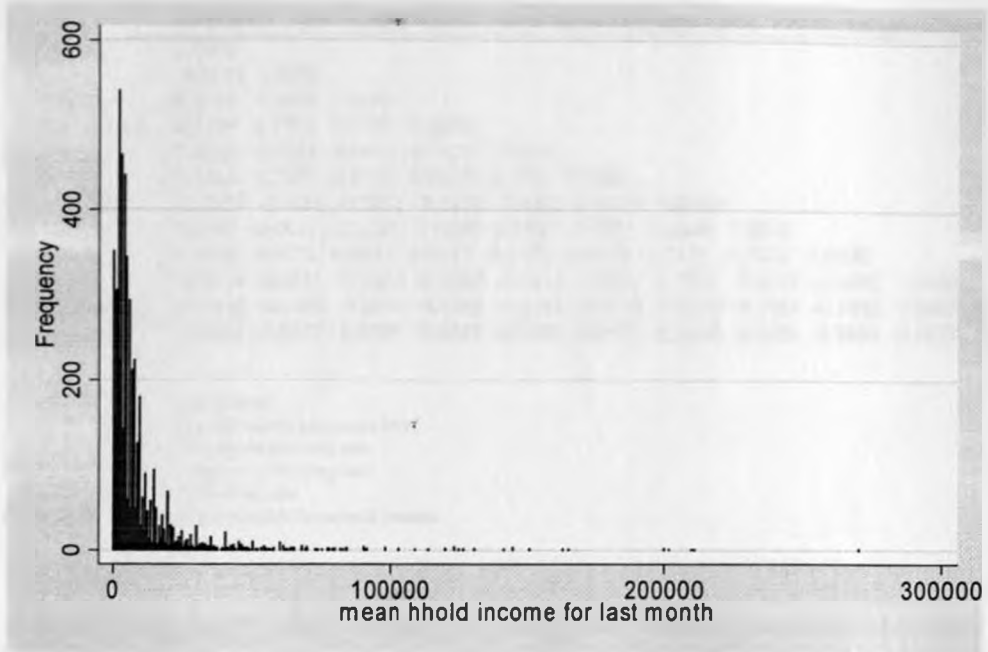**Figure A.1a: Frequency Distribution Test of Household size**
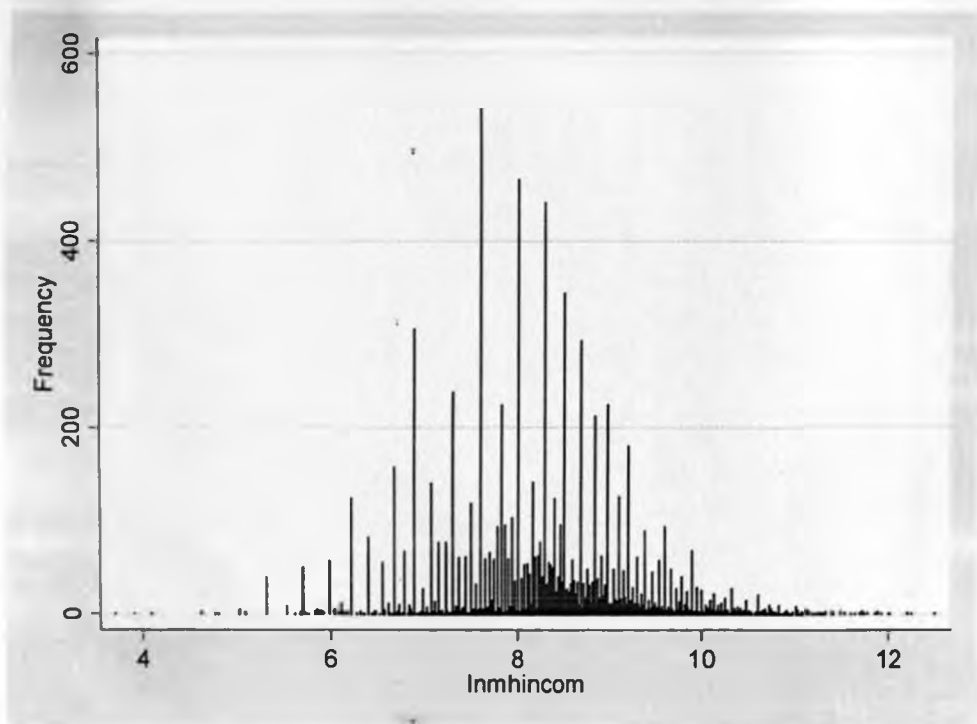

Figure A.1b: Frequency Distribution Test of log Household Size

Key
lnhsize — log of household size

Figure A.2a: Frequency Distribution Test of Mean Household Income

Figure A.2b: Frequency Distribution Test of log of Mean Monthly Household Income

Table A.1: Variable Correlation Test

	Employed	Age	Agesq	Head	Male	Married	Pre-seco	Rural	Perma	Tempo	HHsize	Mincome
Employed	1.0000											
Age	0.2415	1.0000										
Age squared	0.3125	0.5399	1.0000									
Household Head	0.2199	0.1701	0.3933	1.0000								
Male	0.0705	-0.0354	-0.0616	0.2125	1.0000							
Married	0.1469	0.2923	0.5155	0.2839	-0.2594	1.0000						
Pre-secondary	-0.0603	-0.1481	-0.2052	-0.1200	-0.0292	-0.0179	1.0000					
Rural	0.0465	-0.0810	-0.1220	-0.1939	0.0505	-0.1085	0.2286	1.0000				
Permanent	0.0092	0.0323	0.0519	0.0547	-0.0186	-0.0153	-0.2176	-0.3432	1.0000			
Temporary	-0.0184	-0.0231	-0.0205	-0.0093	-0.0014	0.0639	0.1922	0.2054	-0.3695	1.0000		
Household size	-0.1086	-0.1408	-0.2070	-0.4765	-0.0201	-0.2119	0.1270	0.3058	-0.1016	0.0405	1.0000	
Mean Income	0.0505	-0.0307	0.0089	-0.0835	-0.0090	-0.0512	-0.2368	-0.2686	0.3164	-0.2579	0.1435	1.0000

Key
Agesq   -   *Agesquared*
Pre-seco   -   *Pre-secondary education level*
Perma   -   *Permanent dwelling unit*
Tempo   -   *Temporary dwelling unit*
HHsize   -   *Household size*
Mincome   -   *Mean monthly household income*