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THE IMPACT OF IMMIGRATION ON UNEMPLOYMENT AND ECONOMIC GROWTH IN KENYA

THESIS FOR M.A (Economics) DEGREE

By
MULATIA Charles Maingi
Under the Supervision of
AP JANKEE Kheswar

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Dedication

I dedicate this dissertation to my God, beloved Siblings, late mum Kanundu Christina and beautiful mum Mrs. Agnes Kiende.

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Name: **MULATIA CHARLES MAINGI**
Student ID: **1000292**
Programme of Studies: **MA ECONOMICS**
Module Code/Name : **SH 6000**
Title of Project/Dissertation**: THE IMPACT OF IMMIGRATION ON UNEMPLOYMENT AND ECONOMIC GROWTH IN KENYA**
Name of Supervisor(s): **ASSOC. PROF. JANKEE KHESWAR**

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Abstract

This paper employs the annual time series data spanning 1980 to 2010 to analyze the impact of immigration on unemployment and economic growth in Kenya. This is followed by the recent attacks from the Somali's insurgent group; al shabaab. The militias' invasion of Kenya's territory coupled with the fear that immigrants rob natives their jobs has raised eye brows among Kenyans. This paper seeks to allay such fears and dig on the real impact of immigrants on Kenya's economic performance via the product and hence the labour market. In the analysis, the study makes use of instrumental variable (IV), a special case of GMM, due to the problem of data limitation and endogeneity amongst the variables. The results indicate that on obtainable evidence, fear of large gloomy employment and economic growth are not justified. The perception that immigrants steal jobs away from existing population, thus contributing to large increases in unemployment do not find verification in the analysis of data.

Key words: Immigration, Unemployment, Economic Growth, Endogeneity, instrumental Variable and GMM

List of Acronyms and Abbreviations

ADF - Augmented Dickey Fuller test

CIA – Central Intelligence Agency

COMESA - Common Market for Eastern and Southern Africa

EAC - Eastern African Community

E/P - Employment to Population ratio

GDP – Gross Domestic Product

GMM - Generalized Method of Moments

GNP - Gross National Product

IDPs - Internally Displaced Persons

ILO - International Labor Organization

IOM - International Organization for Migration

IV - Instrumental Variable

JB - Jarque Bera Statistic

KNBS - Kenya National Bureau of Statistics

OECD - Organization for Economic Co-operation and Development

TUC - Trade Union Confederation

UK – United Kingdom

UNDP - United Nations Development Programme

UNHCR - United Nations High Commissioner for Refugees

US – United Stated of America

CHAPTER ONE

1.0 Introduction

Universal Declaration of Human Rights states that “everyone has a right to freedom of movement and residence within the borders of each state” and that “everyone has the right to leave any country including his own.” Migration of persons has been on the scene since a long time. The international Organization for Migration estimated that there were 214 million migrants worldwide in 2010 representing a huge increase from the 2000 figure of 155 million migrants. Migration is attributed to be caused by either pull or push factors within a given locality.

There is always a public uproar about the existence of immigrants in any host country. Its coupled with the fear that immigrants ‘take away’ jobs from natives since they readily accept low wages; wages that native don’t anticipate. However, Dustman et.al (2006) refuted the claim that immigrants ‘take away’ jobs from the existing population thus contributing to large increases in unemployment. They also nullified the claim that immigrants depress wages of existing workers. But, they however, acknowledged that fear associated with large and negative employment and wage effects are not valid.

It is empirically proven that the long run effects of immigration will depend on a country’s openness to trade and flexibility of the economy to adjust in respect other than wages particularly through the mix of output produced. Borjas (1991) emphasized that unemployment rate is an important determinant of immigrant quality: the higher the unemployment rate at the moment of migration, the better the quality of the migrant pool. Thus unemployment has an advantage of sifting quality migrant in any country. He also argued that an increase in unemployment rate will worsen the opportunities for persons in the lower end of the income distribution and hence lead to reduced incentives for these persons to migrate.

Economic performance of a country is a pulling factor in determining immigration and unemployment also. Immigrants are attracted to those countries that are currently enjoying economic success. It is also argued that immigrants spend 87 percent of their earnings in the host countries. However, Borjas (2006) concluded that net gains from immigration to native population are relatively small. On causality, Mede (2007) uncovered that there is a long run bi directional causality between immigration and GDP per capita. However, the results did not support the hypothesis that immigration causes unemployment. On the contrary, his evidence suggested that unemployment causes immigration.

The study employs annual time series data spanning the period 1980 – 2010 as estimated by the World Bank. Many analysts including Ortega et.al (2009) established that the most significant limitation of their estimation is that immigration flows are endogenous. Thus, apart from data limitation, the analysis suffers from endogeneity or simultaneity bias. To avoid the problem, the method of instrumental variable (IV) is used. But, IV is a special case of Generalized Method of Moments (GMM). Therefore, GMM is used since it allows for endogeneity and use of valid instruments.

The results of this study are in tandem with Sibanda (2008) assertion that a country receiving immigrants benefits from increased growth, employment creation and increased labour force. The results also affirm Ortega et.al (2009) findings that immigration increases employment with no evidence of crowding – out of natives. That is, immigration shocks leads to an increase in total employment and a proportional response of GDP.

1.1 Statement of the Problem

Kenya's land boundaries total 3477 kilometers. Kenya is bounded by Ethiopia, Somalia, Sudan, Tanzania and Uganda. The country is regarded as the hub of Eastern Africa region. It is an attractive destination country and amongst the main traditional countries of immigration in Africa, (Adepoju, 2007). IOM estimated that there were 19.3 million international migrants in Africa in the year 2010. This represented a 1.9 percent of the population in the African continent. On the other hand, UNHCR estimated that the number of refugees in Africa was 2.3 million at the end of 2010. Countries in the continent with most refugees were Kenya (403,000), Chad (348,000) and Sudan (178,000).

Human rights watchdog also estimated that at least 80,000 Somalis entered Kenya between the end of 2007 and early 2009. But, not all the refugees have remained in the refugee camps, most leave for greener pastures in the urban areas. It is estimated that at least 46,000 refugees are in Nairobi alone, (Pavanello et.al, 2010). The rise in the number of refugees has been due to civil unrest that rocked neighboring countries. The unrest includes; the prolonged Sudanese conflict (1983 – 2005); the Ugandan conflict from 1987 – 2007; the Somali rift that began in 1991 to date; the Burundian civil war of 1993 – 2005; the Rwandese genocide of 1994; and the ogaden war in Ethiopia that ensued in 1994. World Bank sources show an increased rate of international migrants within the period 1960 – 2010. The migrants stock observed a 3.4% rise in 2010 from the 2005 total of 790,071 to register 817,747 immigrants in Kenya.

Conversely the estimated labour force was 18,660,884 in 2009 compared to a total of 18,112,733 in 2008 implying that a total of 548,551 laborers joined the labour force within a year. But, in Kenya, agriculture remains the population's main occupation and source of income. It employs at most 75 percent of all Kenyan labourers. Many people are engaged in self employment, that is, mainly in agriculture but also increasingly in non – agricultural self employment, the informal sector and the formal sector. However, the formal sector has expanded slowly and that employment in urban areas covers a small fraction of the labour force. Equally, the period 2005 – 2010 recorded job creation rate of 2.54 percent annually. In 2010, total wage employment or the formal sector employment was 2,060,000 compared to 1,811,600 in 2005 representing 248,000 jobs created within the period or 41,400 jobs annually. In consequence, official statistics record unemployment rate to be at least 40 percent. Thus, the study seeks to uncover the mystery of public upheaval pertaining immigrants in Kenya with respect to unemployment and economic growth.

1.2 Objectives

The main objectives of the proposed study are to establish;

- ✓ The relationship between immigration and unemployment given that an increase in labor supply increases competition for the available jobs.
- ✓ The relationship between immigration and economic growth since an increase in demand for locally produced products is bound to increase economic growth.
- ✓ The relationship between unemployment and economic growth given that unemployment and growth are inversely related via the Okun's law.

1.3 Organization of the study

The rest of the study is organized as follows; chapter two reviews the previous theoretical and empirical literature on the subject matter. Chapter three focuses on the descriptive analysis of the key variables, that is, immigration, unemployment and economic growth. Econometric methodology and analysis of data are covered in Chapter four of the study. Chapter five gives the conclusion of the study and recommended policy that need to be implemented to allay fears pertaining immigrants in Kenya.

CHAPTER 2

2.0 Introduction

Universal Declaration of Human Rights states that “everyone has a right to freedom of movement and residence within the borders of each state” and that “Everyone has the right to leave any country including his own and to return to his own country.” The migration phenomenon has been here with us since a long time. In this age of globalization, economic or labor migration is on the rise. The International Organization for Migration (IOM) estimated that there were 214 million migrants worldwide in 2010 representing a huge increase from the 2000 figure of 155 million migrants.

According to United Nation Convention on the protection of the Rights of all migrant workers, a migrant worker is a person who is to be engaged, is engaged or has been engaged in a remunerated activity in a state of which he or she is not a citizen. A migrant in the International Labor Organization (ILO) instrument is a person who migrates from one country to another with a view to being employed otherwise than on his own account, and includes any person regularly admitted as a migrant for employment. The definitions do not represent a universally accepted instrument because concepts and definitions of labor migration often reflect current national policy perspectives and varies between countries and overtime (ILO, 2010).

International migrants are organized into various groupings, that is; temporary labor migrants; illegal or undocumented migrants; highly skilled migrants; irregular migrants; refugees; asylum seekers; forced migration; return migrants and low – skilled migrants. Immigrants come into a country for the purpose of employment or permanent residence whereas emigrants leave their countries or region to settle in another country. Labor outflow provides relief from unemployment and poverty. Therefore, emigration reduces the supply - demand gap for skilled workers in developing countries and ensures optimal allocation of unutilized human resources.

There is enough empirical evidence asserting that opening an economy to the migration of its skilled workers when there is skilled unemployment at home could help remedy a wasteful underutilization of human capital. Immigration on the other hand is seen as a rich resource for a country facing labor shortage but for a country that already faces unemployment, immigration implies additional supply side pressure in the labor market. It’s theoretically postulated that large influx of strangers also increases xenophobic reaction against foreigners.

2.1 Causes of Migration

Migration is attributed to be caused by a number of factors. The factors are broadly categorized into two, that is, push and pull factors (UNDP Kenya 2010). Push factors are influences that arise from within the source country and facilitate a potential migrant's decision to leave. Pull factors reflect actions of recipient countries that create the demand for, or encourage potential migrants to leave their home countries.

Push factors include unemployment, famine, drought, natural disasters, poor living condition, housing, education, health care, agricultural change, war and conflict. Pull factors include; employment, higher incomes, better health care and education, better facilities and way of life.

2.2 Theoretical Literature Review

Theoretical literature is vast and largely developed and it is from these premises that a number of analyses emanate. The underlined models directly or indirectly dissect the impact of migration in the economy pertaining; excessive labour supply surrounding nations with labour shortage and capitalist surplus; income (wage) differential between the rural and urban population; the marginal productivity of the natives; and the quality of the incoming migrants. The study will utilize the works of Lewis, Harris and Todarro, conventional text book explanation with its emphasis on policy implications, and the self – selection model as developed by Borjas (1991).

2.2.1 Lewis model

Lewis (1954) model embarks from the classical assumption that an unlimited supply of labour is available at subsistence wages. He assumed that population is large relatively to capital and natural resources, and that there are large sectors of the economy where the marginal productivity of labour is neglible, zero or even negative. And that the only form of unemployment assistance in the developing countries is charity from relatives. The unlimited supply of labour arises from the fact that supply of labour exceeds demand at the ongoing wage rate.

Thus new industries can be created, or old industries expanded without limits at the existing wage, that is, shortage of labour is no limit to the creation of new sources of employment. Lewis assumed that there is a fixed amount of capital. He described two sectors in the economy; the capitalist sector; and the subsistence sector. The capitalist sector is that sector which uses reproducible capital, and pays

capitalist for the use thereof. Subsistence sector is the part that does not use reproducible capital, and that output per head in this sector is lower than the capitalist sector.

In this model, the key to the process of expansion is the use which is made of the capitalist surplus. In so far as this is reinvested in creating new capital, the capitalist sector expands taking more people into employment out of the subsistence sector. This process continues until the labour surplus disappears. However in the classical world, all countries have surplus labour. In the neoclassical world, labour is scarce in all countries. In the real world, countries which have labour scarcity are surrounded by others which have abundant labour.

He argued that when capital accumulation catches up with the labour supply, wages begin to rise above the subsistence level, and the capitalist surplus is adversely affected. However, if there is still surplus labour in other countries, the capitalist can avoid this by either encouraging immigration, or by exporting their capital to countries where there is still abundant labour at a subsistence wage. Mass immigration of unskilled workers might raise output per head, but its effect would be to keep wages in all countries near the subsistence level of the poorest countries.

2.2.2 Harris – Todarro Model

Harris and Todarro (1970) assumed that rural – urban migration will continue for as long as the expected urban real income at the marginal exceeds real agricultural product. The model further assumes that the unemployment is inexistent in the agricultural sector. And that rural agricultural production and labour market is perfectly competitive. As a result the agricultural rural wage is equal to agricultural marginal productivity. In equilibrium, rural urban migration rate will not be in existent since the expected rural income equals the expected urban income. However, they argued that equilibrium is only achievable with unemployment.

According to the model, rural – urban migration takes place if;

$$W_R \prec \theta W_U \quad \text{.....2.1}$$

Where W_R is the rural sector, W_U is the urban sector and θ is given as the ratio of the number of employed urban workers and the total number of job seekers, employed and unemployed in the urban sector. Urban – rural migration occurs if the reverse is true whereas the equilibrium is attained when;

$$W_R = \theta W_U \quad \text{.....2.2}$$

Rural – urban migration will increase if wage in the urban sector increases thus increasing the expected urban income. The model assumes that migrants are risk neutral, as they are indifferent between certain expected rural incomes and uncertain expected urban income of the same magnitude but poor migrants will likely be risk averse.

2.2.3 Neoclassical model of labour – leisure Choice

Immigration is a labour supply phenomenon but in this model emphasis is laid on the natives' demand for labour. The model is based on the idea that one must work to acquire a lot of goods or do the opposite, not work and hence consume lots of leisure. The model uses wage as its main variable. As wage rises, people have a large opportunity set and the income effect increases the demand for leisure and decreases labour supply. As wage increases, however, leisure becomes more expensive and the substitution effect generates incentives for workers to switch from the consumption of leisure to other types of consumption activities. This shift frees up leisure hours and thus increases hours of work.

Firm's labour demand is a derived demand, derived from wants and desires of the consumers. The influx of immigrants is agreed to have harmful impacts on the earnings of natives. That is, the cross elasticity of factor price between natives and immigrants is negative so that the two groups are substitute in production. As immigrants enter the labor market, the marginal product and hence the demand curve of natives shifts down and natives wage decline. At this lower wage, fewer natives are willing to work and there is a decline in native employment. In effect, immigrants 'take jobs away' from natives by reducing the native wage and convincing some native workers that it is no longer worthwhile to work.

However, if on the other hand the two groups are complements in production, an increase in the number of immigrants raises the marginal product of natives shifting up the demand curve. The increase in native productivity raises native wage. Moreover some natives who previously did not find it profitable to work, now view the higher wage rate as an additional incentives to enter the labor market and native employment rises

Given the heterogeneity of workers, there is no clear breakdown on how a decrease in wage rate can lead one to forgo employment and hence consume lots of leisure. This will only depend on the worker's economic status, work experience and a myriad of other factors. And that workers employment will only depend on the availability of already created jobs at the given higher wages.

2.2.4 Self - Selection model

In the model, Borjas (1991) seeks to answer the question of exactly which factors determine whether immigrants are positively or negatively selected from the population in their countries of origin. Borjas uses the Roy (1951) model to create his immigration model and hence theory. He embarks on the premise that home country residence face an earning distribution given by;

$$\ln W_0 = X\theta_0 + \mu_0 \quad \text{.....2.3}$$

Where X is a vector of socioeconomic characteristics in country 0, and the disturbance μ_0 is Independent of X and is normally distributed with mean zero and variance σ_0^2. Host country distribution is given by;

$$\ln W_1 = (1-\pi)X\theta_n + MX\theta_1 + \mu_1 \quad \text{.....2.4}$$

Where π is the dummy variable indicating whether individual is foreign born or native, θ_n gives the value that the host labour market attaches to the socioeconomic characteristic X for natives and μ_1 is the disturbance term.

In the model, migration decision is determined by the sign of the index function;

$$I = \ln\left(\frac{W_1}{W_0 + C}\right) \quad \text{.....2.5}$$

Where C is the mobility cost between the two countries. Immigration from the country of origin to the host occurs when I > 0. The self selection model identifies three cases of substantive interest;

2.2.4.1 Positive selection

This type exists when migrants have above – average earnings in the country of origin and also have destination countries earnings that exceed the earnings of comparable natives. This may result because the home country in a sense is 'taxing' high ability workers and 'insuring' low ability workers against poor labor market outcomes.

2.2.4.2 Negative selection

This type is defined to exist when the host draws persons who have below – average incomes in their home countries and who do poorly in the host country. The selection is generated when the host country 'taxes' high – income workers relatively more than the home country and provides better insurance for low – income workers against poor labor market outcomes. This opportunity set leads to large incentives for low – ability persons to migrate since they can improve their situation in the host country, and to decrease incentives for high ability person to migrate, since income opportunities in the home country is more profitable.

2.2.4.3 Refugee sorting

The selection occurs when the host draws below – average immigrants, in terms of the country of origin, but migrants have above – average earnings in the host labour market.

2.3 Empirical Literature Review

Previous literature is categorized differently, some according to geographical location, level of development and the magnitude of the immigrants' concentration in the studied economies. This study seeks to simplify previous analyses in accordance to data used; those that used samples or subsamples fall under micro – analyses; whereas those that used aggregate data to foster their arguments are hereby categorized as macro – analyses.

2.3.1 Micro – Analyses

Card (2001) used the 1990 US Census data source to study the effects of immigrants' inflows on the US local labor market opportunities of natives and older immigrants. And also used the micro – level mobility flows from 1985 – 1990 and found out that natives' locational decision are naturally unaffected by inflows of new immigrants refuting the claims that immigrants force natives out to other localities. He found also, that each new immigrant expands the local population of his/her particular skill group by 1 percent. Immigrants – induced rises in the relative fraction of the population in specific skill group generate small reduction in the employment rates of natives' earlier immigrants in the same skill.

On his conclusion, he asserted that even large inflows of relatively unskilled new immigrants generate surprisingly small effects on the relative labor market performance of less skilled natives or earlier immigrants. However, Card acknowledged that an increase in the fraction of immigrants in a city does

not necessarily imply a net increase in the supply of labour, since natives may move out in response to immigrant inflows.

Borjas (2003) pointed out that immigration even within a particular schooling group is not balanced evenly across all experience cells in that group and the nature of supply imbalance changes over time. It's from this premise that he noted that immigrants may not be randomly distributed across labour market. Incase immigrants endogenously cluster in cities with thriving economies, there would be a spurious positive correlation between immigration and wages. Further, he asserted that natives may respond to the wage impact of immigration on a local labour market by moving their labour or capital to other cities.

In the analysis, Borjas assumed that workers who have the same schooling but different level of work experience are imperfect substitutes in production. As a result, a skill group should be defined in terms of both schooling and labor market experience. In using the micro – data samples of the US Decennial Census and Current Population Surveys, the results indicated that immigration lowers the wage of competing workers, that is, a 10 percent increase in supply reduces wages by 3 to 4 percent. Immigration impacts on annual earnings indicated a 10 percent supply shock reduces annual earnings by 6.4 percent.

Bonin (2005) noted that the effect of a local supply shock from international migration may spread beyond the locality if capital or native works respond by relocating. Incase natives respond to a deterioration of local employment opportunities by moving to other labor markets, the measured impact of the immigrant shock will be small since immigration will eventually affect all labour markets. By using continuous employment subsamples data of Germany ranging from 1975 – 1997, he estimated that a 10 percent rise of the immigrants share in the work force at most reduces natives' wages by less than one percent and does not increase unemployment. However, the estimates for post 1990 period indicated that a 10 percent increase in the immigrant labour supply would increase the unemployment rate of natives by 1.5 percentage points.

In their analysis, Dustman et.al (2006) refuted the perception that immigrants take away jobs from the existing population, thus contributing to large increases in unemployment. In their framework, immigration inflow will affect the skill composition of the labour force if the skill composition of immigrants does not match the already existing skill composition. This change in skill composition leads to disequilibrium between supply and demand of different labour types of existing wages, prices and

output level. Immigration will lead to falling wages of certain skill types but can also lead to rises in wages for skill groups complementary to immigrating labour. They used the continuously Labour Force Survey and National Earning Survey of the United Kingdom's economy and using the Ordinary Least Square technique estimated that an increase in immigration amounting to 1 percent of the native population would lead to an increase of 0.18 percentage points in the natives 'unemployment rate. And that the same increase in immigrants' inflow would lead to just under 2 percent increases in average non – immigrant wages.

Some studies restrict their analysis to localities where immigrants are highly concentrated making generalization impossible. Bauer et.al (2011) used socioeconomic panel and longitudinal data for Germany and restricted their study to West Germany. The result showed that persons living in neighborhood with a high share of foreigners have on average higher wages. That is, a 1 percent – point increase of the share of foreigners increases the hourly wages of natives by approximately 0.4 percent. The estimates indicated that a higher unemployment rate decreases the wages of employed persons significantly, a fact they attributed to labour supply effects. However, their study also indicated that immigration does not have any employment effects. They attributed the positive effects of immigration on natives' wages as a result of the two groups being complements in production, and foreigners' self - selection into booming labour markets.

2.3.2 Macro – Analyses

Using the pooled 1970 and 1980 Census data on 41 countries, Borjas (1991) found out that immigrant from the UK, France and Sweden earn more than 10 percent compared to white natives. Immigrants from Asia, Latin America, Taiwan, Israel, Argentina and Columbia earn at least 16 percent lower than the white natives. From that, he concluded that an immigrants' birth place plays an important role in determining the type of selection that characterizes the migrants flow. On unemployment, he established that the unemployment rate in the US is an important determinant of immigrant quality; the higher the unemployment rate at the moment of migration, the better the quality of the migrant pool.

To clarify, he argued that an increase in unemployment rate will worsen the opportunities for persons in the lower end of the income distribution and hence lead to reduced incentives for these persons to migrate. The quality of self – selected immigrant pool increases as a result of the withdrawal of these persons from the immigration market. On growth, he postulated that the Gross National Product (GNP) of the continent of origin and the inequality measure for the continent of origin affect the quality of

migrant significantly. In that, migrants from wealthier regions do better no matter where they go and migrants from regions with large level of income inequality do worse than other migrants.

Paul Samuelson claimed that by keeping labour supply down, immigration policy tends to keep wages high. His main emphasis was that the limitation of the supply of any grade of labour relative to all other productive factors can be expected to raise its wage rate; an increase in supply will, other things being equal, tend to depress wages. Borjas (2006) embarked from this premise to assert that an increase in immigrants increases the supply of a particular type of labour and the wage paid to workers. He outlined the channels through which immigrants transform the economy; that is, they change the prices of goods and services, the employment opportunities of workers, the number of jobs in both native – owned and immigrant – owned firms. Thus the influx of immigrants in the labour market changes the 'terms of trade'between workers and firms, and affects the income accruing to workers , to firms, and to the native population in total. In using national data of the US economy ranging from 1960 to 2000, he discovered that by 2000, immigration increased the total earnings accruing to the native employers by 3.1 percent of GDP. However, he concluded that the net gains from immigration to the native population are relatively small.

Jean et.al (2007) combines a skill level and an aggregate approach using data for males covering 18 OECD countries over the period 1980 – 2003. Their estimates do not establish any permanent effect of immigration, measured as the share of immigrants in the labour force upon natives' unemployment. An immigration inflow leaving unchanged the share of immigrants in the labour force does not even influence unemployment in the short run. Still, they found significant evidence of a transitory and delayed impact on unemployment on changes in the share of immigrants. The impact is weak at the skill level. But, at the aggregate level, however, the transitory impact may be substantial, its magnitude and duration largely depends on the persistence of unemployment shocks and it may between 5 and 10 years. They argued that the anticompetitive product market regulation are found to increase both the magnitude and persistence of this impact, while more stringent employment protection magnifies its persistence and a higher average replacement rate of unemployment benefits increases its magnitude.

On the Sweden context, Mede (2007) used annual data spanning the period between 1980 and 2004, to investigate the nature of causal relationship between immigration and two macroeconomic indicators, GDP per capita and unemployment. The results supported the existence of a long – run, bidirectional causality between immigration and GDP per capita. However, the results did not support the hypothesis

that immigration causes unemployment. On the contrary, evidence suggested that unemployment causes immigration.

Majority of studies, reports and analyses tend to resolve the impact of immigration on the major recipient (developed) economies of the world. Less emphasis is however, laid on the third – world and developing countries. Availability of scant knowledge in the less developed countries points out clearly that analysis need to be undertaken to affirm or refute the existing literature in the African continent or less developed countries. Sibanda (2008) affirmed that a country receiving immigrants benefit from increased GDP, employment creation and increased labour force. Immigrants increase host's GDP through increased consumption, increased productivity and labour force growth, but noted that an increase in the number of immigrants may actually exacerbate underdevelopment in the host country. He uses a time series data from 1980 to 2006 in South Africa. In adopting the error correction model on the main variables; immigration, inflation and GDP, he found that a 1 percent increase in migrants' volumes increases unemployment by 0.1 percent concluding that immigrants displace natives in the labour market. However, his study revealed that a 1 percent increase in migrant labour increases wages by 0.01 percent.

Ortega et.al (2009) used data of 14 OECD countries from 1980 to 2005 and on immigration laws on these countries in order to analyze the economic and legal determinant of migrant flows. He established that an increase in the average income differences between destination and origin countries would generate an increase of 42 percent in the stock of migrants over the study period. In a specific analysis on US economy, the immigrant inflow recorded between 1995 and 2005 at around 0.3 to 0.4 percent of population, increased US GDP by around 0.3 to 0.4 percent each year, with no appreciable effect of average wages and income per person.

They also uncovered that immigration increases employment, with no evidence of crowding – out of natives, and that investments responds rapidly and rigorously. These imply that immigration increases the total GDP of the receiving country in the short – run one – for – one. Immigration shocks leads to an increase in total employment and a proportional response of GDP. Besides these, they also discovered that the receiving country laws, particularly those relative to the entry of immigrants, significantly affected the yearly inflows of immigrants.

The revealed objective of Coulibaly et.al (2011) was to ascertain causality between immigration, unemployment and growth. They used annual aggregate data over the period 1980 to 2005 for 22 OECD

countries. Unlike for Portugal's case, the other OECD countries showed no significant causality running from unemployment to immigration. France, Iceland, Norway and UK showed a positive significant causality running from GDP to immigration, while in the other countries there is no significant causality running from GDP to immigration. An immigration inflow does not granger cause economic growth according to the study. The results also suggested that immigration negatively responds to neither unemployment of host countries, while immigration flow does not affect growth nor unemployment of host countries.

2.4 Overview of the Literature Reviewed

The above review draws mixed reactions on the subject matter. On the basis of the above evidence, there is no study that can be pointed out as sealing the solution to the public and economic uproar on immigration in any economy. Lack of consensus can be attributed to researcher's hidden subjective agenda, data, methodology used and the objectives. While some sought to uncover the mystery on given skill level, some felt it was insignificant in generalizing the whole economy based on such estimates. And those that undertook to establish a solution based on aggregate data fell short of unveiling the reality on given areas concentrated with immigrants. Even on the major recipient nations, the macro – analyses differ. However, a majority of studies indicated that immigration negatively impacts on wages and unemployment of natives and positively on the GDP.

CHAPTER THREE

3.0 IMMIGRATION, UNEMPLOYMENT AND GROWTH TRENDS IN KENYA

3.1 Background on Kenya

Kenya is a low – income country with a young population. Kenya's land boundaries total 3477 kilometers. According to the Library of Congress (2007), the nation is bounded by Ethiopia (861 kilometers), Somalia (682 kilometers), Sudan (232 kilometers), Tanzania (769 kilometers), and Uganda (933 kilometers). The country is regarded as the hub of East African region. It's an attractive destination country in Africa and amongst the main traditional countries of immigration in Africa; Cote d'Ivoire and Ghana in West Africa, Kenya in East Africa, Gabon in Central Africa and South Africa in southern Africa (Adepoju 2007). Kenya is an active member of regional trade blocs such as the Common Market for Eastern and Southern Africa (COMESA) and the Eastern African Community (EAC). Kenya gained independence in 1963 with Mzee Jomo Kenyatta as the first president. Daniel Moi took over the presidency after Kenyatta's death in 1978 and was later succeeded by Mwai Kibaki in 2003.

United Nations (2010), ranked Kenya as the 143rd country using the Human Development Index value. The Kenyan population structure is typical of a developing country since 75 percent are mainly below 30 years. The estimated population was 40,512,682 in 2010. The annual population growth in the 60s, 70s, 80s, 90s and earlier decade of the millennium were 3.23%, 3.62%, 3.59%, 2.83% and 2.56% respectively. The figures depict a sudden rise followed by a decline probably due to family planning programmes and a literate population (87 percent of Kenyan are considered literate).

The percentage of urban population was observed to be 22.2 percent in 2010, an increase from the 21.9 percentage of 2009. Majority of job seekers and hence migrants tend to crowd themselves in metropolitan towns. The capital city which is the largest metropolitan town in Kenya hosted 39.18 percent in 2010 up from 38.42 and 38.88 percent in 2006 and 2008 respectively of all Kenyans living in the urban areas. The period 1985 – 2005 experienced an annual growth rate of 1.28 percent while the percentage growth was higher in the period 2006 – 2010 representing an annual urban population growth of 1.39 percent as can be depicted by the table.

Table 3.1: Population in the largest city (% of urban population)

Country Name	2002	2003	2004	2005	2006	2007	2008	2009	2010
Kenya	36.98	37.36	37.76	38.17	38.42	38.66	38.88	39.06	39.18

Source: World Bank

3.2 Immigration in Kenya

The International Organisation for Migration (IOM) estimated that there were 19.3 millions international Migrants in Africa in 2010. The nations with the most migrants were Cote D' Ivoire (2.4 millions), South Africa (1.9 million) and Ghana (1.9 million). However, the same sources place South Africa amongst the countries with low percentage of migrants in the world. The estimated international migrants represents a 1.9 percent of the population in the African continent. Shitundu (2006) argued that data on migration in the East African region is not readily available comprehensively. The data can not be easily aggregated at the regional level due to differences in coverage, definition of variables used and time frame of collected data because various government institutions collect and process specific data and information in accordance with their compartmentalized needs. In kenya, the main source of data on international migration and development has been the national population censuses which are normally carried out every ten years. The country has carried out 7 censuses since 1940s, that is; in 1948; 1962; 1969; 1979; 1989; 1999; and 2009.

Arabs were the first migrants into kenya. They took control along the coastline but were later eclipsed by the arrival of Portuguese in 1498. However Arabs' control of Kenya was later renewed in the 1600s. In the mid – nineteenth Century, British influence superceded that of Arabs . Unlike the Arabs, British control went beyond the coastal region (Library of Congress 2007). The 1960 – 1963 period witnessed many Europeans leaving kenya for their home country as Britain gave up their dominion on kenya. In the same period, many kenyans were given scholarships to study in the western countries. European emigration coincided with capital outflow. However to stem out the flight, President Kenyatta backed policies favorable to foreign investors and conciliated white settlers – totaling 55000 in 1962 (Library of Congress, 2007). International migration was noted in the height of President Moi's oppressive regime coupled with a disastrously performing economy which pushed many kenyans out to developed nations and other African countries such as South Africa, Namibia, Botswana and Zimbabwe (Macharia, 2003).

3.2.1 Refugees in kenya

UNHCR estimated that the number of refugees was 15.4 million in 2010 compared to 15.9 in 2000, a drop of 3.14 percent over the decade. The number of Internally Displaced Persons (IDPs) in the world has grown from 21 million in 2000 to 27.5 million at the end of 2010. In Africa, 11.1 million people were estimated to be IDPs in 2010 representing upto 40 percent of the world's total IDP population. African nations'with the most IDPs included; Sudan (5 million), Democratic Republic of Congo (1.7 million) and Somali (1.5 million). The estimated number of refugees in africa at the end of 2010 was 2.3 million. Countries in the continent hosting most refugees were Kenya (403,000), Chad (348,000) and Sudan (178,000) (IOM, 2010). The large number of refugees and IDPs in Africa is attributed to conflicts, human rights violation, lack of democracy and strong democratic institutions and natural disasters.

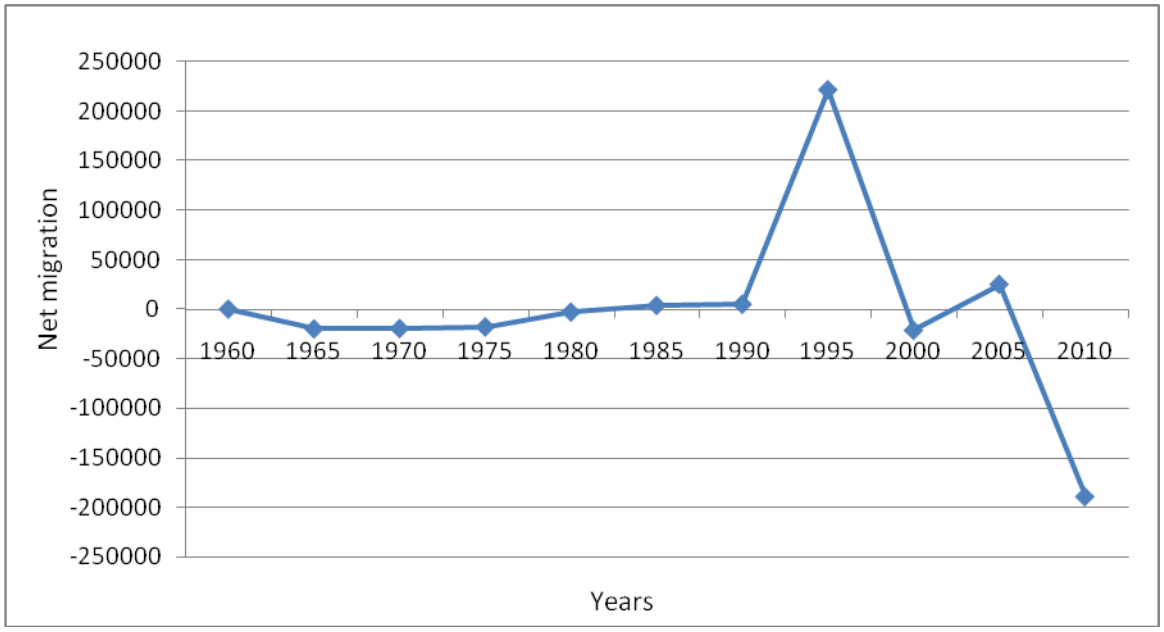
In 1988 Kenya hosted around 12,000 refugees mostly from Uganda, Pavanello et.al (2010). The number increased in the 90s especially mid 90s owing to the civil unrest that rocked the East African region. The unrest included; the prolonged Sudanese conflict (1983 – 2005); the mentioned Uganda conflict ranging the period 1987 – 2007; the Somali rift that began in 1991; the Burundi civil war of 1993 – 2005; the Rwandese genocide of 1994; and the ogaden war in Ethiopia that ensued in 1994. In the region, its only Tanzania that has no record of civil unrests.

The 1998 twin bombing in Kenya and Tanzania awakened Kenya on potential invasions of terrorist suspects from Somali. Regardless of Kenya closing its borders with Somali, Human Rights watchdog estimates that at least 80,000 Somalis entered kenya between the end of 2007 and early 2009. HRW (2009) estimated that the refugee camps in Kenya were designed to hold a maximum of 90,000 but the camps held 255,000 refugees by the end of February 2009. However, not all the refugees have remained in the camps, most leave for greener pastures in the urban areas. The urban refugees are dispersed over big cities and are reluctant to seek for support due to fears of being deported or sent to refugee camps. Pavanello et. al (2010) estimated that there are around 46,000 refugees in Nairobi alone. Official statistics indicates that Somali Population is the largest followed by Ethiopians, Congolese, Sudanese, Ugandan and Rwandese, including afew from Eritrea and Burundi. The number has since decreased due to return of some of the refugees as a result of the attainment of stability in their countries such as the Rwandese, Burundians, Congolese and Sudanese among others.

3.2.2 Net Migration in Kenya

The net international migration in Kenya remains unknown since data on emigration from kenya that would be used together with immigration data from censuses are lacking. Emigration of kenyans in large numbers is a recent phenomenon attributed to deterioration of economic performance over the decades. World Bank sources reported an outflow of kenyans within the period 1965 – 1985. However, the period 1985 – 1995 experienced an influx of migrants with 1995 reporting the highest increase in the total immigrant population in the country as depicted by the figure. The rise is associated with the various unrests that rocked the neighboring nations. The post – independence period presents an out – flow of white settlers and scholarship awardees. Whereas the post 2005 decline is attributed to the gained state of stability in the East African region and poor economic perfomance in kenya. The period can also be associted with increased international labour relations between kenya and Arab league nation that saw many kenyans emigrate to the Middle East.

Figure 3.1: Net Migration In Kenya (1960 – 2010)

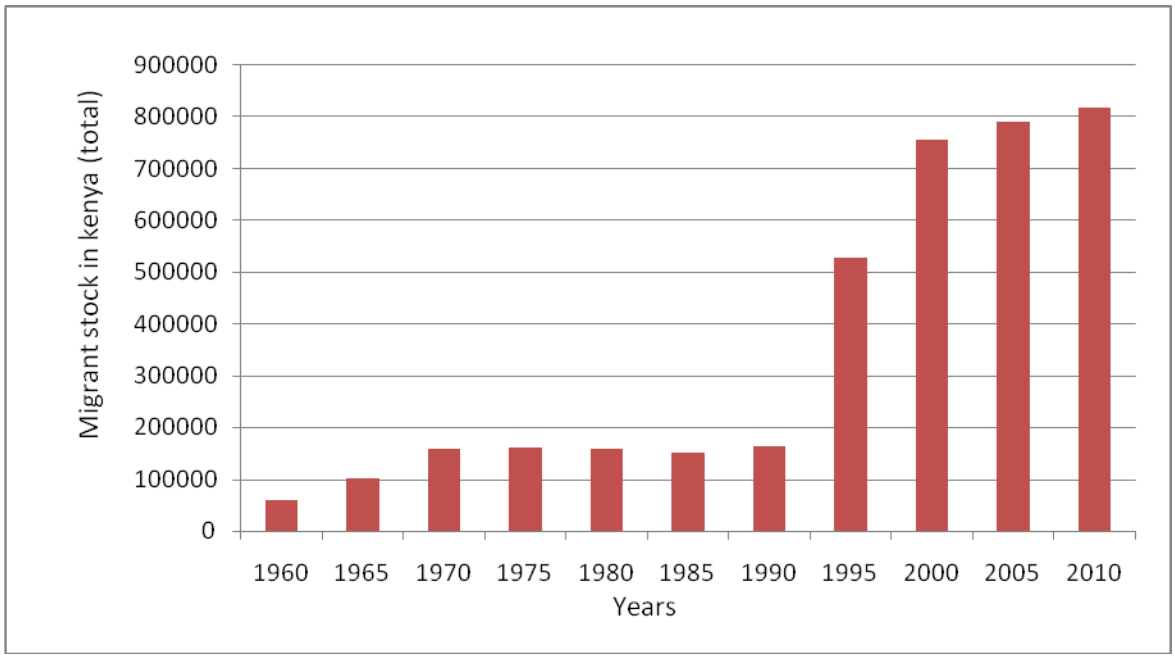


3.2.3 International Migrant Stock in Kenya

The immigration Act of Kenya stipulates that only expatriates with skills and knowledge not locally available can be given permits to work in Kenya. However, there are a lot of undocumented migrants in the country. World Bank data shows an increased rate of international migrants in kenya within the

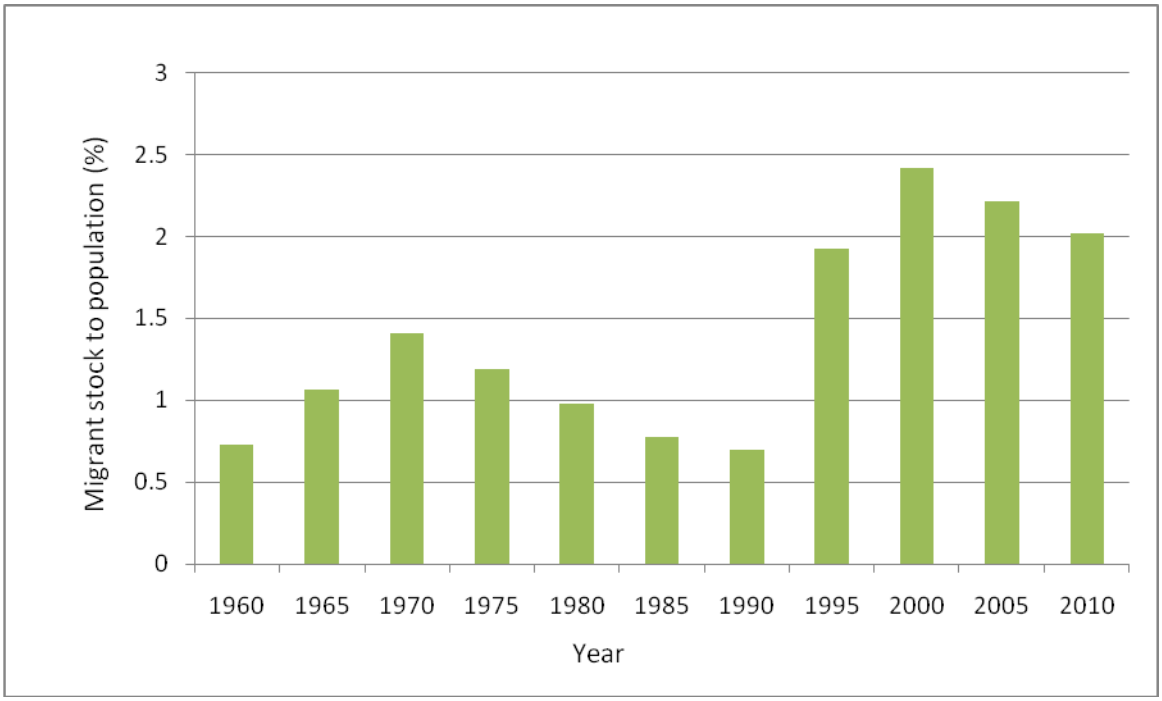
period 1960 to 2010. The three earlier decades experienced a slight rise in the total migrant stock. The number shot up in the 90s with the year 1995 representing the highest rise in the decade. The migrant stock did not cease from rising as the year 2010 observed a 3.4 percent rise from the 2005 total of 790,071 to register 817,747.

Figure 3.2: International Migrant stock in Kenya (1960 – 2010)



However unlike the total migrant stock, the percentage migrant stock to population trends in mixed directions. The period 1960 – 70 observed an increase in the percentage migrant stock with 1970 registering the highest rise of 1.4 percent in the period. The figure dropped sharply to an all time low of 0.69 percent in 1990. It however, rose to 1.92 percent in 1995 recording the highest percentage rise of 1.23 percent from the 1990 figure. The year 2000 witnessed the highest percentage stock of 2.4 percent but was later followed by a slight decline in the earlier decade of the millenium to register a 2.02 percent in 2010. The earlier drop in the stock owed to the fact that the population was growing at an annual rate of atleast 3 percent whereas the later rise in the stock matched the increased civil unrests in the region and a drop in average annual fertility rate of 2.5 percent in the past two decades.

Figure 3.3: Percentage of Migrants in Kenya (1960 – 2010)



3.3 Unemployment in Kenya

Unemployment represents a waste of resources since unused labor could be used to increase output growth. Okun's law postulates an inverse relationship between changes in unemployment and real GDP. Unemployment as measured by standard definition is perceived to give low figures. The figures on open unemployment provides a very limited picture of labour market condition. This is because the open unemployment does not take into account underemployment. Many people are engaged in self – employment, mainly in agriculture but also increasingly in non – agricultural activities. Formal employment is mainly found in the urban areas. However, population in the urban areas has been rising considerably faster. Nairobi was residence to 38.17 percent of the urban population and 39.18 percent in 2010. The increase has since outstripped the rate of job creation in the urban areas leaving many people unemployed.

According to the labour force survey data, 6.7 percent of the urban labour force was unemployed in 1978, 14.8 percent in 1986, 25.1 percent in 1998/99 and 19.9 percent in 2005/06. Open unemployment declined by almost two percentage points relative to 1999 level (Wambugu et. al, 2009). The number of

kenyans openly unemployed was 1,800,623 in 1998/99 based on intergrated labour survey. In 2005/06, the number was 1,856,296 based on intergrated Household survey. The number of those considered employed was 10,525,609 in 1998/99 and 12,708,035 in 2005/06. However, other records register kenya's unemployment rate to be over 40 percent reaching even 70 percent among the youth (ILO 2011). In 2001, 2008 and 2009 general unemployment in kenya was estimated to be over 40 percent (www.cia.gov).

3.3.1 Labour force and participation rate in kenya

Sub – Saharan Africa is rich in labour but poor in capital. The allocation of its abundant labour resources is of utmost importance for its economic development, (Bigsten, 1997). In kenya, agriculture remains the population's main occupation and source of income. It employs at most 75 percent of all kenyan laborers. Employment in urban areas covers a small fraction of the labour force. Kenya's labour force has been in tandem with the population growth. However, the growth rates have not been uphill all through the years. In the 80s, 90s and 2000s, labor force grew at annual rate of 3.8%, 3.3% and 2.8% percent respectively.

The estimated total labor force was 18,660,884 in 2009 compared to a total of 18,112,733 in 2008 implying that a total of 548,151 laborers joined the labour force or simply the labour force grew by 2.9 percent in 2009. The labour force declined at a decreasing rate from 2000 to 2007 but gained momentum in 2008 and 2009. The 2001 – 2005 period registered a 3.14 percent annual growth or 395,591 labourers annually compared to a 2.79 percent or 376,198 laborers annually in the period 2006 – 2009. On the other hand, the labour participation rate recorded a constant 82 percent rate over the period 1980 – 2010. The rapid rise in the supply of labour must be matched by increased demand for labour to make it possible for real incomes to rise.

3.3.2 Employment creation in kenya

The creation of employment opportunities for the labour force is the crucial issue facing Kenya today. In the standard keynesian model, the level of employment is largely determined in the product market. Unemployment is due to deficient demand for products. A common explanation provided for inadequate employment growth is the excessive labour costs – sometimes occasioned by a minimum wage that discourages businesses from hiring more workers (Wambugu et.al, 2009). Many people in

kenya are engaged in self – employment, mainly in agriculture but also increasingly in non – agricultural self employment, the informal sector and the formal sector.

However formal sector expanded slowly. Private enterprises are an increasingly important element in kenyan labour market but their number is also growing at a snail's pace. Based on 2005/06 Household Survey, there were a total of 2.1 million non – agricultural enterprises in kenya. Informal and formal enterprises were roughly 90 percent and 10 percent respectively. In the survey, six million kenyans were engaged in agricultural self – employment, 4.3 million in the informal sector and 1.7 million in the formal sector employment representing 50%, 36% and 14% of the employed labour force respectively.

The period 2005 – 2010 recorded an annual job creation rate of 2.54 percent in wage employment. Private sector empoyed at least 65 percent of the employees in the period. The Government recorded an annual employment rate of 0.25 percent since 2005. In 2010, total wage employment was 2,060,000 compared to 1,811,600 in 2005 representing 248,800 jobs created or 41,400 jobs annually. In 2008, the economic perfomance of the coutry slumped and so was the number of jobs created. In summary, wage employment increased by 2.5 and 2.7 percent in 2006 and 2007 but dropped to 1.75 percent in 2008. It later gained momentum to a 2.8 and 2.9 percent growth in 2008 and 2009 respectively. The wage employment records are based on total formal employment without considering the informal sector. In incorporating the informal sector, the number of new jobs created declined from 485,500 in 2007 to 467,300 in 2008. In 2010, the labour market registered 503 thousand new jobs. The informal sector which constituted 80.6 percent of total employment created an additional 440.9 thousand new jobs (KNBS 2011). The employment to population ratio ranged between 73.4 and 74.4 over the past two decades averaging 73.9 percent annually.

Table 3.2: Wage Employment by Sector, 2005 – 2010

Number, 000's

	2005	2006	2007	2008	2009	2010*
Private agriculture and forestry	272.4	280.3	289.0	289.7	288.0	291.8
Rest of private sector	885.0	927.4	992.7	1,016.2	1,058.5	1,105.2
Public service	654.2	649.9	628.1	638.0	653.5	663.4
Total	**1,811.6**	**1,857.6**	**1,909.8**	**1,943.9**	**2,000.1**	**2,060.4**

Source: Kenya National Bureau of Statistics.

* Provisional

3.4 Economic Growth in Kenya

Migrants participate in any country's product market. the proportion of migrant workers'earnings that return to home countries is quite small. The International Trade Union Confederation (2007) estimates that migrant workers' spend 87 percent of their incomes in the host country. Kenya is said to have the worst performing economies in Africa. The economy relies heavily on rain – fed agriculture and tourism sector leaving it vulnerable to cyclical swings.

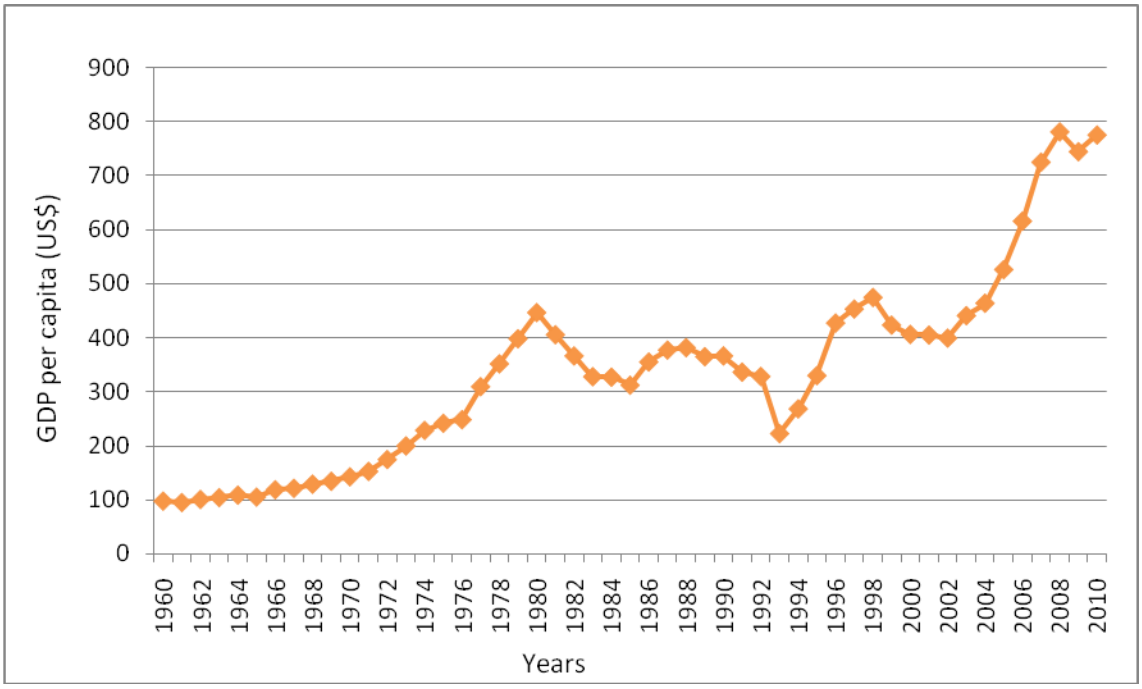
3.4.1 Gross Domestic Product (GDP) in Kenya

The global economic perfomance improved when its real Gross Domestic Product (GDP) expanded by 4.6 percent in 2010 from a contraction of 1.0 percent in 2009. In Kenya, GDP had been rising in the 60s through to the 80s recording a 7.7 percent and 12.3 percent annual growth in the 60s and 70s respectively. This was commended on President Kenyatta's regime during which Kenya's economic performance was better than most in Africa. Inspite of severe droughts, two oil shocks, ethnic conflict and border skirmishes, GDP grew at more than 10 percent in the two decades. However, the value declined in the 80s and 90s registering a 1.5 percent and 3.0 percent annuall growth respectively. The decline coincided with the presidential reign of Daniel Moi that was mired with corruption, inefficiencies and withdrawal of donor support (UNDP, 2010). The inception of Kibaki's administration saw economic performance improving from 0.6 percent in 2001 to a 2.8 percent and 5.9 percent in 2003 and 2005 respectively. The period 2006 – 2009 registered a growth rate of above 7 percent annually despite the post election violence that rocked the nation in 2008.

3.4.2 GDP per capita in Kenya

Like the GDP, per capita growth rose from 1960 up until 1981. An annual average growth of 3.6 percent and 10.9 percent in the 60s and 70s respectively. In 1981, the GDP per capita was US$ 405.6 down from US$ 446.6 in 1980. The drop slightly improved in 1986 but wasn't sufficient to reach the 1981 value. The 80s witnessed an annual decline of 2.27 percent but the highest decline was US$ 222.54 in 1993. Despite a slight improvement in the 90s, the decade registered a negative growth of 0.65 percent with the 1991 – 1995 period recording the highest annual drop of 4.64 percent. However, the growth picked up in the early 2000 to register the highest value of US$ 780.94 in 2008. The decade observed an annual growth of 6.04 percent with the period 2006 – 2010 registering the highest growth of 7.2 percent.

Figure 3.4: GDP per capita in Kenya (1960 – 2010)



CHAPTER FOUR

4.0 ANALYTICAL FRAMEWORK

This chapter is the backbone of the whole study as it encompasses the analytical structure of the study. The chapter contains; the sources of data and definition of variables; the econometric methodology being used; and the analysis of the given data. The analysis consists of the normality, unit root, cointegration and granger causality tests and the main analysis of the econometric equations.

4.1 Data sources and definition of variables

The study employs annual data over the period 1980 – 2010 as estimated by the World Bank. Other sources of data for descriptive statistics were obtained from various sources including IOM, Kenya National Bureau of Statistics, UNDP, ILO, and CIA among others. Data for working expatriates and unemployment is, however, not readily available and if available, it does not capture the real working expatriates as should be.

Thus, the variables; immigration will be replaced by the percentage of international migrant stock with respect to population and; employment to population ratio will replace unemployment. This has been done with the assumption that percentage of international migrant stock is positively related with working expatriates. Whereas employment to population ratio is used to measure unemployment presuming that it's negatively related to unemployment holding labour force growth constant. Both variables are in this study assumed to be valid instrument of immigration and unemployment in Kenya. GDP per capita will be used as a perfect measure for economic growth.

The World Bank defines percentage international migrant stock as the number of people born in a country other than that in which they live. It also includes refugees. The data used to estimate the international migrant stock at a particular time are obtained mainly from population censuses. The estimates are derived from the data on foreign born population – people who are citizens of a country other than the country in which they reside – are used as estimates. The data for the immigration variable are obtained from the World Bank sources and are purely secondary. The data is estimated every quinquennial period.

It is empirically proven that the unemployment rate does not consider the real measure of the unemployed because not all the unemployed persons are captured in the bigger picture. The

unemployment data in Kenya is very scant and majorly based on the two Household Surveys of 1998/99 and 2005/06. Thus, they don't capture the unemployment phenomena holistically. Many analyst advocate for a more objective measure of aggregate economic activity given by the employment to population ratio (= E/P). The E/P ratio simply indicates the fraction of the population at a job. The definition takes into account all employed persons aged 15 and above. However, its main drawback is that it lumps together persons who say they are unemployed with persons who are classified as being out of the labour force. The data are also derived from the World Bank data bank.

Economic growth is represented by GDP per capita, which is known and advocated to be the main measure of growth. GDP is the sum of gross value added by all residual producers in the economy plus any product taxes not included in the value of the product. GDP per capita is gross domestic product divided by mid – year population. Population is used to trim any 'growth fallacy' since GDP can be growing at the same pace with population leading to a state of constancy in growth. The data for the same are secondary and derived from the World Bank data bank and are measured in current US dollars.

4.2 Econometric Methodology

In their estimation, Ortega et.al (2009) found that the most significant limitation of their estimation is that immigration flows are endogenous. Dramane et.al (2011) observed that some empirical papers had examined the causality between immigration, unemployment and growth on data from different countries. However, in the empirical papers on causal link between immigration and host economic activity found no evidence of immigration causing unemployment and growth but found evidence of causation running the opposite direction. The direction of causality between immigrants' inflows and the labour market is not clear – cut. Immigrants may be attracted to those areas that are currently enjoying economic success. In such cases, immigrant inflow is said not to change the labour market, but that labour market changes are driving inflows.

Economic performance of a country can be a pulling factor in determining immigration, and employment or unemployment also. Thus, the regressors are likely to be endogenous. Endogeneity can result from measurement errors. Measures of immigrant concentration may suffer from measurement errors due to small sample size. Measurement errors leads to a tendency towards finding no effect in the labour market even when one is present in reality, (dustman et. al (2006)). The mismeasured inflows will be less strongly associated with the labour market outcomes than the true inflows, and the estimated effect may therefore be biased towards zero. The endogeneity or simultaneous bias is present

because the regressors and the error term are often related to each other through a system of simultaneous equations.

Simultaneous equations are equations that one may not estimate the parameters of a single equation without taking into account information provided by other equation in the system. Simultaneous equations suffer the problem of endogeneity. A regressor is endogenous if it's not predetermined, that is, not orthogonal to the error term or does not satisfy the orthogonality condition. A possible solution to this problem is using the technique of instrumental variable (IV). Many researchers including dustman et.al(2006) and checchi (2007) opted for the use of IV to avoid the simultaneity and hence the endogeneity problem.

IV addresses the issue of measurement error and simultaneity. The technique uses additional information to obtain unbiased estimates of the labour market effects of immigration. IV is a predetermined variable that is correlated with the endogenous regressors. It's often called a valid instrument to emphasize that its correlation with the endogenous regressors is not zero. Baum et.al (2003) argues that "good instrument" should be relevant and valid: correlated with the endogenous regressors and at the same time orthogonal to the errors. IV coefficient estimates are consistent, but their standard errors and their usual forms of their diagnostic tests are not.

The standard IV estimator is a special case of a generalized methods of moment (GMM) estimator, (Hayashi, 2000 and Baum et.al, 2003). If heteroscedasticity is present, the GMM estimator is more efficient than the simple IV estimator, but it is asymptotically worse in the absence of heteroscedasticity. GMM strategy chooses an estimator that balances each Population moment condition against the other seeking residuals that trade off violations of one moment restriction against violations of the other moment restrictions. Apart from providing solution to endogeneity problem, GMM does not require that the sample moments equal the population moments.

GMM does not guarantee an efficient estimator, but it does provide a consistent estimator, and also presents a powerful tool for finding consistent estimators in models that are mathematically cumbersome. However, on the negative, GMM takes a substantially larger sample size to estimate fourth moments rather reliably, than to estimate first and second moments. It's postulated that the efficient GMM estimator will have a poorer small – sample properties than the GMM estimator that do not use fourth moments. But, the equally weighted GMM estimator outperforms the efficient GMM in

terms of the bias and variance in finite sample. It's empirically proven that the size of the efficient Wald statistics in small samples far exceeds the assumed significance level.

This study seeks to employ GMM incorporating the valid instrumental variable due to data limitation and presence of endogeneity bias. The study will estimate the following simultaneous equations:

$$\log(M/P) = \beta_{11} + \beta_{12}\log(E/P) + \beta_{13}\log(Y/P) + \varepsilon_1 \quad \text{4.1}$$

$$\log(E/P) = \beta_{21} + \beta_{22}\log(M/P) + \beta_{23}\log(Y/P) + \varepsilon_2 \quad \text{4.2}$$

$$\log(Y/P) = \beta_{31} + \beta_{32}\log(M/P) + \beta_{33}\log(E/P) + \varepsilon_3 \quad \text{4.3}$$

Where M is the stock of immigrants, E is the total number of working individuals persons, Y is the Gross Domestic Product and P is the population total.

4.3 Analysis of Results

4.3.1 Normality test

Normality in data sets is tested by the use of Jarque Bera (JB) statistics. JB test is a goodness of fit test of whether sample data have the skewness and kurtosis matching a normal distribution. If the data is from a normal distribution, the JB characteristic asymptotically has a chi – squared distribution with two degrees of freedom, so the statistics can be used to test the hypothesis that the data are from a normal distribution. Economic growth and unemployment variables are both derived from a normal distribution since the JB statistics are 1.77 and 5.23 respectively which are less than the critical value of 5.99 implying that the residuals are normally distributed. On the other hand, the immigration variable is not drawn from a normal distribution since the JB value of 15.59 is very significant and greater than the critical value. However, one of the merits of using GMM is that it doesn't require distributional assumption such as normality.

4.3.2 Unit Root test

In classical linear regression, the use of non – stationary variables are likely to give misleading results and that the usual asymptotic properties do not apply. Therefore, it is important to determine the stationary conditions of the variables in the model, which is, testing for a unit root. If a series has a unit root, it is non – stationary so that mean and variance are changing over time. To test for unit root in a

time series sample, Augmented Dickey Fuller test (ADF) is used. It's an augmented type of Dickey Fuller test for a large and complicated set of time series model.

The unemployment variable has a unit root since the calculated ADF statistic (-1.23) is greater than the critical value (-2.62). Hence the unemployment variable is non stationary. Even upon differencing, the unemployment variable is still non – stationary. The immigration and economic growth variable have unit roots. The calculated ADF statistics for immigration and growth are -0.922 and -0.337 respectively. These statistics are greater than the critical values of -2.63, -2.96 and -3.68. However, both the variables become stationary after differencing once. But for the immigration variables, it becomes stationary after being difference once and beyond.

4.3.3 Cointegration test

It's empirically proven that a linear combination of two or more non – stationary series maybe stationary. If such a stationary linear combination exists, the non – stationary time series are said to be cointegrated. Economic theory always suggests that certain group or pair of variables is linked by a long run relationship. Cointegration implies that the variables may drift away from each other in the short run but may not divert from each other in the long run. Presence of cointegration precludes the problem of spurious regression. Using the Johansen test for cointegration, we found that there is at most one cointegrating equation and two cointegrating equation at 0.05 significance level using the trace test and maximum eigen value test respectively as observed in table 4.4 . These straightforwardly imply that the variables have a long run equilibrium relationship, that is, they are cointegrated.

4.3.4 Causality test

Correlation does not mean causality. The concept of granger causality relates to whether one variable can help improve the forecast of another. A test of causality is whether the lags of one variable enter into the equation of another variable. If both variables cause one another, then there is a feedback mechanism in the system. To test the claim of Mede (2007) concerning causality between the variables, we carried out a granger causality examination and established that there is no element of causation in the variables. However, the results established that unemployment granger causes economic growth at 10 percent significant level as shown in table 4.5. Apart from employment granger causing growth, which is in tandem with economic theory, the rest of the result agree with Coulibaly et.al (2011) on lack of causality among the variables.

4.4 Main estimation of the Equations

Equation 4.1, 4.2 and 4.3 are just identified. We therefore carried out the equation – by – equation GMM which is equivalent to the multiple – equation GMM and the IV estimator (Hayashi, 2000). This is because in joint estimation, biases due to a local misspecification contaminate the rest of the results. This problem does not arise for the equation – by – equation GMM. All the variables are endogenous by assumption and in regards to empirical estimation previous to this study. We estimated the equations Single handedly. We used logarithm to cater for heterogeneity of variances and skewness of the data.

4.4.1 Estimating Equation 4.1

Unemployment was found to be statistically significant at 0.1 when immigration takes the dependent variable state. Economic growth was statistically not significant as can be shown in table 4.6. However, the results indicate that, on average, a percent change in unemployment and growth leads to a 0.069 percent and 0.142 percent increase in the inflow of immigrants. This refutes the claim that the presence of unemployment "scares away" immigrants. However, the reason might be as a result of the influx of refugees in an unstructured manner. On the growth part, the study confirms that economic success of any country ushers in fresh inflow of immigrants.

4.4.2 Estimating Equation 4.2

Economic growth is highly significant when unemployment is the dependent variable. On average, a one percent change in growth reduces unemployment by 7.89 percent as table 4.7 indicates. The results are in tandem with the Okun's law. On the other hand, immigration variable is statistically insignificant. In spite of that, it indicates that, on average, a one percent change in the stock of immigrants leads to a 0.053 percent decline in unemployment. This is probably due to the fact that immigrants participate in the product market and hence labour demand is honed thereof. Again, refuting the claim that unemployment "scares away" immigrants.

4.4.3 Estimating Equation 4.3

When growth is the dependent variable, the results are insignificant apart from the constant which is highly significant. Despite the insignificance, on average, one percent change in both immigration and unemployment leads to a 1.78 percent and -0.044 percent change in economic growth. This is probably due to the fact that immigrants participate in the product market and that an increase in the labour

force with job creation being held constant will lead to a decline in economic growth hence supporting the Okun's law. The Durbin Watson statistic of 2.088 indicates absence of auto correlation. Results are presented in table 4.8.

CHAPTER 5

5.0 Recommendation and Conclusion

5.1 Policy Recommendations

There are no significant effects of immigration on locals' unemployment. It is true that immigration increases labour supply. However, the effects are not immediate neither constant over time. It is empirically established that labour market integration of immigrants is imperfect and increases gradually over time as assimilation takes place. Immigrant integration can be a key to entrepreneurship and future economic growth. The government needs to institute solid integration policies since they offer benefit to both parties. The investment, therefore, is an investment in the country's own well being (Giovagnoli, 2011).

The government should allow the influx of foreign investors in the country with an agreement that they only employ expatriates possessing skills not available in Kenya. That is, the government should focus on recruiting highly skilled workers since there is an overflow of low skilled workers. The presence of foreign investors in the country can provide incentive to invest in education for both people and government.

The government should support the absorption of new skills. They should work towards ensuring that the skills are taught in the institution of higher learning. It is believed that accumulation of human capital and availability of physical and financial capital are among the major determinant of economic growth. It is also widely accepted that the lack of these resources are potential reasons behind the delay of many poor countries in achieving development. Human capital is the most important form of wealth for a modern nation. Countries with the most intellectual resources achieve the highest rate of economic growth.

Eastern African countries should ensure that apart from the mobility of labour, sovereignty of each state is not overlooked. The government should also participate in reinforcing political sanity and stability amongst the war torn neighbors so as to preclude influx of refugees. Regional partnership encompassing a trade, development assistance and migration strategy need to be worked out in common recognizing that the development of poorer neighbors is in the interest of both parties, leading to expanded trade opportunities and to lower immigration pressures (Lucas,2008).

Kenya is among the countries that lack synchronized migration policies and programmes as well as appropriate data bases to inform such policies. Therefore, a proper and well established database on immigrants should be instituted to ensure that the analysis of immigrants' inflow is well detained.

Migrants and refugees are often considered as scapegoats, face xenophobic reaction by the local population and may be expelled when economic and political condition deteriorates. A pact should be signed between the Kenyan government and IOM to ensure that all refugees are well taken care of because their availability does not crowd – out employment for the natives.

Immigrants usually experience greater difficulties than other groups in accessing social services and hence in exercising their rights, as a result of cultural problems and discriminatory practices in host countries. Therefore, the Kenyan government and IOM should ensure that the refugees camps and other immigrant bases are well protected and standardized to promote the living standards of the refugees and hence the immigrants.

There are many reasons why people enter Kenya illegally. Many are attracted by the loose border control. Failure to control illegal immigration raises question of national security, blame for economic conditions, and fears of national identity crisis. Therefore, the government should ensure that Kenyan border and immigrants' entry points are well manned to avoid invasion of terrorist and terror weapons.

The Kenyan population is strikingly young, thus making it difficult for the government s to create jobs fast enough to meet the needs of such a burgeoning youth population. Opening an economy to the migration of its skilled workers when there is skilled unemployment at home could help remedy a wasteful underutilization of human capital. Consequently, the government should negotiate with advanced nations, facing labour shortage, to absorb most of the underutilized labour supply. Labour outflow provides relief from unemployment.

5.2 Conclusion

The study seeks to uncover the mystery surrounding the activities of the immigrants in Kenya. This follows from the recent insecurity caused by Somali insurgent group, al shabaab, and the public upheaval that immigrants take away jobs from the locals. Moreover, Kenya is the hub of Eastern Africa and a major destination country for immigrants in the region. Kenya is also a host to most refugees in the African continent. The refugees are mainly from neighboring countries such as Somali, Sudan, Ethiopia, Uganda, Rwanda, Burundi and a few from Eritrea. According to the empirical literature

available, there is no concrete solution pointing to either positive or negative impact of immigrants on locals' unemployment and economic growth of any country. That is, many studies on the subject matter draw mixed reactions. Thus the pursuit for factual evidence in Kenya is the main reason for this study. However, the study faces a limitation of data and hence for that reason, the results hereby cannot be said to be conclusive. Nevertheless, on the basis of available data, immigrants' inflow increases both the employment of the natives and economic growth of Kenya. Furthermore, Okun's law is replicated in the analysis denoting that unemployment negatively impacts on economic growth of the Kenyan economy.

5.3 REFERENCES

Aderanti, Adepoju (2008). “Migration and Social Policy in Sub – Saharan Africa.” UNRSID Working Paper.

Bauer, Thomas & Flake, Regina & Sinning, Mathias, (2011). "Labor Market Effects of Immigration: Evidence from Neighborhood Data," IZA Discussion Papers 5707, Institute for the Study of Labor (IZA).

Baum,Christopher,Schaffer, Mark and Stillman Stephen (2003). "Instrumental variables and GMM: Estimation and testing." *Stata Journal*. (3)1:1-31.

Bigsten, Arne and Sue, Horton (1997).” Labour Market in Sub – Saharan Africa.” Unpublished, World Bank.

Card, David (2001). “Immigration Inflows, Native Outflows, and the Local Labour Market Impacts of Higher Immigration, “NBER Working Paper No. 368.

Daniele Checchi & Gianfranco De Simone & Riccardo Faini, (2007). "Skilled Migration, FDI and Human Capital Investment," IZA Discussion Papers 2795, Institute for the Study of Labor (IZA).

Dustmann Christian, Fabbri Francesca, Preston Ian and Wadsworth Jonathan (2006), “The local labour market effects of immigration in the UK,” Home Office Online Report.

Ekrame Boubtane & Dramane Coulibaly & Christophe Rault, (2011). "Immigration, unemployment and GDP in the host country: Bootstrap panel Granger causality analysis on OECD countries," Working Papers 2011-29, CEPII research center.

Feridun, Mete (2007). “Immigration, Income and Unemployment: An Application of the Bounds Testing Approach to Cointegration,” The Journal of Developing Areas – volume 41, pp 37 – 49.

Fumio, Hayashi (2000). “Econometrics.”

George J. Borjas, (1991). "Immigration and Self-Selection," NBER Chapters, in: Immigration, Trade and the Labor Market, pages 29-76 National Bureau of Economic Research, Inc.

George J. Borjas, (2003). "The Labor Demand Curve is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market," NBER Working Papers 9755, National Bureau of Economic Research, Inc.

George J. Borjas, (2006). “The Impact of immigration on the Labour Market.”Conference Paper, IMF.

Giovagnoli, Mary (2011). “Improving the Naturalisation Process: Better Immigrants Integration Leads to Economic Growth.” Immigration Policy Center.

Harris, John and Michael Todaro (1970). “Migration, Unemployment, and Development: A Two-Sector Analysis.” *American Economic Review* 60: 126-142.

Holger Bonin, (2005). "Wage and Employment Effects of Immigration to Germany: Evidence from a Skill Group Approach," IZA Discussion Papers 1875, Institute for the Study of Labor (IZA)

HRW (2009). “From Horror to Hopelessness : Kenya’s Forgotten Somali Refugee Crisis.” New York, USA.

Jean, Sebastien and Miguel, Jimenez (2007). “The Unemployment Impact of Immigration in OECD Countries,” OECD Economic Department Working Papers, No. 563, OECD

Lewis, W. A. (1954). ‘Economic Development with Unlimited Supplies of Labour’,*The Manchester School*, Vol. 22, pp. 139–191.

Library of Congress (2007). “Country Profile: Kenya.” Federal Reserve Division, Washington DC.

Lucas, Robert (2008). “Intergrating Migration Issues into Development Planning.” International Migration Papers No. 93.

Macharia, Kinuthia (2003). “Migration in Kenya and Its Impact on the Labour Market.” Paper prepapred for conference on African Migration Perspective, Johanesberg, South Africa, June 2003.

Ortega, Francesca and Peri, Giovanni (2009). “The Causes and Effects of International Migration: Evidence from OECD Countries 1980 – 2005.” National Bureau of Economic Research Working Paper.

Pavanello, Sara, Elhawary, Samir and Pantuliano, Sara (2010). “Hidden and Exposed: Urban Refugees in Nairobi, Kenya.” HPG Working Paper.

Sibanda, Nomazulu (2008).”The Impact of Immigration and the Labour Market: Evidence from South Africa.” University of Fort Hare, South Africa.

Trade Union Congress (2007). “The Economics of Migration: Managing the Impacts,” London, United Kingdom.

UNDP (2010). “Kenya National Human Development Report 2009: Youth and Human Development.” UNDP Kenya.

Wambugu, Anthony, Munga, Boaz and Onsomu, Eldah (2009). “Unemployment in Kenya: The Situational Analysis.” KIPPRA.

www.cia.gov

www.hdr.undp.org

www.ilo.org

www.iom.int

www.knbs.go.ke

www.worldbank.org

5.4 Appendix

Table 4.1: Testing for stationarity in the immigrants variable

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(MIGRANTS)
Method: Least Squares
Date: 02/09/12 Time: 10:19
Sample (adjusted): 1985 2010
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MIGRANTS(-1)	-0.369407	0.400455	-0.922469	0.3673
D(MIGRANTS(-1))	-0.710978	0.327870	-2.168473	0.0424
D(MIGRANTS(-2))	-0.791363	0.254948	-3.104014	0.0056
D(MIGRANTS(-3))	-0.871748	0.181282	-4.808793	0.0001
D(MIGRANTS(-4))	-0.952133	0.105322	-9.040238	0.0000
C	0.525088	0.530386	0.990010	0.3340

R-squared	0.949959	Mean dependent var	0.077634
Adjusted R-squared	0.937449	S.D. dependent var	1.183338
S.E. of regression	0.295956	Akaike info criterion	0.601965
Sum squared resid	1.751803	Schwarz criterion	0.892294
Log likelihood	-1.825539	F-statistic	75.93420
Durbin-Watson stat	1.889806	Prob(F-statistic)	0.000000

Table 4.2: Testing for stationarity in the employment variable

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(EMPLOYMENT)
Method: Least Squares
Date: 02/09/12 Time: 10:10
Sample (adjusted): 1981 2010
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EMPLOYMENT(-1)	-0.083208	0.067575	-1.231337	0.2284
C	6.249860	3.917860	1.595223	0.1219

R-squared	0.051368	Mean dependent var	2.480000
Adjusted R-squared	0.017488	S.D. dependent var	13.50845
S.E. of regression	13.38981	Akaike info criterion	8.091205
Sum squared resid	5020.035	Schwarz criterion	8.184618
Log likelihood	-119.3681	F-statistic	1.516190
Durbin-Watson stat	2.010536	Prob(F-statistic)	0.228439

Table 4.3: Testing for stationarity in the growth variable

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GROWTH)
Method: Least Squares
Date: 02/09/12 Time: 10:13
Sample (adjusted): 1982 2010
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GROWTH(-1)	-0.023729	0.070343	-0.337337	0.7386
D(GROWTH(-1))	0.451331	0.195566	2.307819	0.0292
C	18.22257	30.26497	0.602101	0.5523

R-squared	0.187334	Mean dependent var	12.74782
Adjusted R-squared	0.124821	S.D. dependent var	47.91230
S.E. of regression	44.82242	Akaike info criterion	10.54099
Sum squared resid	52235.28	Schwarz criterion	10.68244
Log likelihood	-149.8444	F-statistic	2.996736
Durbin-Watson stat	2.075064	Prob(F-statistic)	0.067430

Table 4.4: Cointegration test

Date: 02/09/12 Time: 12:21
Sample (adjusted): 1982 2010
Included observations: 29 after adjustments
Trend assumption: Linear deterministic trend
Series: GROWTH MIGRANTS EMPLOYMENT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.549103	37.89267	29.79707	0.0047
At most 1	0.388560	14.79370	15.49471	0.0636
At most 2	0.018025	0.527497	3.841466	0.4677

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.549103	23.09897	21.13162	0.0261
At most 1 *	0.388560	14.26620	14.26460	0.0500
At most 2	0.018025	0.527497	3.841466	0.4677

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 4.5: Testing for causality among the variables

Pairwise Granger Causality Tests
Date: 02/09/12 Time: 15:45
Sample: 1980 2010
Lags: 1

Null Hypothesis:	Obs	F-Statistic	Probability
MIGRANTS does not Granger Cause GROWTH	30	1.54721	0.22424
GROWTH does not Granger Cause MIGRANTS		0.08015	0.77926
EMPLOYMENT does not Granger Cause GROWTH	30	3.18687	0.08547
GROWTH does not Granger Cause EMPLOYMENT		0.07880	0.78107
EMPLOYMENT does not Granger Cause MIGRANTS	30	1.35006	0.25544
MIGRANTS does not Granger Cause EMPLOYMENT		0.15705	0.69500

Table 4.6: Estimating equation 4.1

Dependent Variable: MIGRANTS
Method: Generalized Method of Moments
Date: 02/09/12 Time: 13:17
Sample: 1980 2010
Included observations: 31
Kernel: Bartlett, Bandwidth: Fixed (3), No prewhitening
Simultaneous weighting matrix & coefficient iteration
Convergence achieved after: 44 weight matrices, 45 total coef
Iterations
Instrument list: EMPLOYMENT MIGRANTS GROWTH

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EMPLOYMENT	-0.069269	0.033912	-2.042603	0.0506
GROWTH	0.141698	0.419270	0.337964	0.7379
C	-0.697180	2.466715	-0.282635	0.7795

R-squared	-0.494780	Mean dependent var	0.205151
Adjusted R-squared	-0.601550	S.D. dependent var	0.408968
S.E. of regression	0.517558	Sum squared resid	7.500267
Durbin-Watson stat	1.477277	J-statistic	0.162601

Table 4.7: Estimating equation 4.2

Dependent Variable: EMPLOYMENT
Method: Generalized Method of Moments
Date: 02/09/12 Time: 13:20
Sample: 1980 2010
Included observations: 31
Kernel: Bartlett, Bandwidth: Fixed (3), No prewhitening
Simultaneous weighting matrix & coefficient iteration
Convergence achieved after: 17 weight matrices, 18 total coef Iterations
Instrument list: EMPLOYMENT GROWTH MIGRANTS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GROWTH	7.893589	1.908062	4.136967	0.0003
MIGRANTS	0.053420	0.826988	0.064595	0.9490
C	-46.50655	11.31272	-4.110997	0.0003

R-squared	-0.885345	Mean dependent var	2.645166
Adjusted R-squared	-1.020013	S.D. dependent var	2.136915
S.E. of regression	3.037137	Sum squared resid	258.2776
Durbin-Watson stat	0.191690	J-statistic	0.092526

Table 4.8: Estimating Equation 4.3

Dependent Variable: GROWTH
Method: Generalized Method of Moments
Date: 02/11/12 Time: 15:16
Sample: 1980 2010
Included observations: 31
Kernel: Bartlett, Bandwidth: Fixed (3), No prewhitening
Simultaneous weighting matrix & coefficient iteration

Convergence achieved after: 33 weight matrices, 34 total coef Iterations

Instrument list: EMPLOYMENT MIGRANTS GROWTH

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MIGRANTS	0.057518	0.113192	0.508144	0.6153
EMPLOYMENT	0.016852	0.028682	0.587529	0.5616
C	5.886663	0.033253	177.0290	0.0000

R-squared	-0.008541	Mean dependent var	6.035808
Adjusted R-squared	-0.080579	S.D. dependent var	0.300932
S.E. of regression	0.312822	Sum squared resid	2.740010
Durbin-Watson stat	0.191375	J-statistic	0.094753