

**ECONOMIC GROWTH AND UNEMPLOYMENT IN UGANDA (1991 – 2014)**

**By**

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**A RESEARCH THESIS SUBMITTED TO THE COLLEGE OF HIGHER DEGREES  
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UNIVERSITY, UGANDA.**

**APRIL, 2016**

## Declaration

I declare that this research thesis is my original work and has not been presented for a degrees or any other academic purpose award in any university or institution of learning.


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## Approval

I confirm that AHMED MOHAMED ELMI carried out this research thesis under my supervision and guidance in partial fulfilment of the requirements for the award of master's degree in economic policy and planning of Kampala International University.

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## **Dedication**

I, AHMED MOHAMED ELMI, would sincerely devote to this remarkable and significant thesis to my prestigious youngest sister ZAMZAM IBRAHIM ABDILAH I due to our brotherhood and adoration.

## Acknowledgement

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## List of Abbreviations and Abbreviations

UN-DESA	United Nations Development of Economics and Social Affairs
EU	European Union
US	United States
UK	United Kingdom
GDP	Gross Domestic Product
GNP	Gross National Product
UNECA	United Nations Economic Commission for Africa
IMF	International Monetary Fund
ILO	International Labor Organization
CIS	Commonwealth of Independent States
NY	National Income
IBT	Indirect Business Tax(s)
NFP	Net Factor Payment
UBOS	Ugandan Bureau Of Statistics
GDI	Gross Domestic Income
OECD	Organization for Economic Co-operation and Development

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## Abstract

This post-graduate thesis presents a regression analysis of the accumulated empirical evidence on the relationship between economic growth and unemployment in Uganda.

Okun's law emphasizes the relationship between economic growth and unemployment, stating that there is an inverse relationship among economic growth and unemployment. Even so, sometimes both variables move towards the same direction, meaning an increase of economic growth leads to a rise of unemployment. The researcher employed correlation design with linear regression analysis using Statistical Package for Social Science (SPSS) to analyse the empirical impacts of economic growth on unemployment in Uganda. The data of these both variables were confidential and were taken from the Ugandan Bureau of Statistics and World Bank as this thesis concerned Uganda. The result of findings showed that there is a weak negative correlation between economic growth and unemployment in Uganda from 1991 to 2014. The analysis displayed that a 1% increase of economic growth reduces 2.3% of the unemployment in Uganda, which is acceptable according to Okun's law, saying "to reduce unemployment in 1% point during a year, the economic growth must grow nearly 2% points faster than the rate of growth of potential economic growth over that period. The regression analysis further showed that the null-hypothesis was rejected as the critical value of F (0.159) is greater than 0.05 of significant level. The researcher recommended according to the findings that Uganda should not emphasize economic growth more to reduce unemployment in the country but the other variables (investment, inflation, government policies etc) that affect unemployment after when research is being done.

## CHAPTER ONE

### INTRODUCTION

This chapter shows the background, problem statement, purpose of the study, research objectives, research questions, Research hypothesis, scope of the study and significance of the study.

#### 1.1 Background of the Study

##### 1.1.1 Historical perspective

The world economy grew at 2.8 per cent in 2011, down from 4 per cent in 2010, largely because of decreased demand and greater uncertainty. Gross domestic product (GDP) growth in developed economies declined from 2.7 per cent in 2010 to just 1.3 per cent in 2011, on both demand and supply factors. Domestic demand, particularly in the developed world, stagnated owing to obstinately high unemployment and depressed consumer and business confidence, as fear of a second recession became widespread (UN-DESA, 2012).

Growth in the *European Union* (EU) levelled off from 2 per cent in 2010 to 1.6 per cent as the euro area registered only 1.5 per cent growth in 2011 (UN-DESA, 2012). The euro area crisis struck at consumer and business confidence, and lowered private consumption and investment against a backdrop of re-emerging financial turbulence and a bank credit crunch.

Growth in the *United States* (US) declined to 1.7 per cent in 2011 from 3.0 per cent in 2010, reflecting continued sluggish private consumption and reduced government expenditure (UN-DESA, 2012).

*Japan's* economy switched from 4.0 per cent growth in 2010 to a contraction of 0.5 per cent in 2011, mainly owing to the shock of March's devastating earthquake and tsunami on private consumption and investment (UN-DESA, 2012).

GDP growth in Africa declined from 4.9 per cent in 2008 to 1.6 per cent in 2009. As a result of the global economic recession. In spite of the fall in world commodity

prices, primary commodity exports continue to be the major driver of growth in Africa. Although oil and other commodity prices fell generally in the early part of 2009, they rebounded in the second half of 2009 and remained high. Thus, oil exporting African countries grew at 2.5 per cent compared to an average of 0.5 per cent for non-oil African economies in 2009 ((UN-DESA, 2010).

There were considerable regional variations in growth in 2009 across African regions and countries. Growth was highest in East Africa at 3.9 per cent, followed by North Africa at 3.5 per cent, West Africa at 2.4 per cent and Central Africa at 0.9 percent, while Southern Africa posted a negative growth rate of 1.6 per cent. Of the 53 African countries, only 7 grew at 5 per cent or more in 2009, while 29 grew at less than 3 per cent. This compares to 25 countries growing at 5 per cent or more and 16 countries growing at less than 3 per cent in 2008. Africa's GDP growth trended downwards in 2009. Disparities among countries persisted and even increased in some cases. In 2009, 29 countries grew by 3 per cent or less, 17 managed to record GDP growth rates in the range of 3 to 5 per cent and 2 (Ethiopia and Republic of the Congo) expanded by 7 per cent or more. This was a marked deterioration compared to the performance recorded over the past two years when the majority of countries witnessed GDP growth of more than 3 percent. (UNECA and AUC, 2009; IMF, 2009).

African economies continued to sustain the growth momentum of previous years, recording an overall real GDP growth rate of 5.7 per cent in 2006 compared to 5.3 per cent in 2005 and 5.2 per cent in 2004. For the second consecutive year, Africa's growth rate remains higher than that of Latin America (4.8 per cent) but lower than that of developing Asia (8.7 per cent). As many as 28 countries recorded improvements in growth in 2006 relative to 2005. Only one country– Zimbabwe - recorded a negative growth rate in 2006. North Africa recorded the highest acceleration in GDP growth, from 5.2 per cent in 2005 to 6.4 per cent in 2006, followed by Southern Africa, from 5.6 to 5.9. There was a notable deceleration in growth momentum in West Africa, from 5.4 per cent in 2005 to 4.2 per cent in 2006. Stronger growth performance in North Africa was mainly the result of higher oil prices, especially for Algeria, Libya, Sudan, and Mauritania. Mauritania achieved the

highest increase in GDP growth rate (from 5.4 per cent in 2005 to 14.1 per cent in 2006) owing to the start of commercial exploitation of crude oil in 2006. (UNECA and AUC, 2005; IMF, 2005).

Uganda established remarkable economic growth since in the 1990s. For the twenty years, the average of annual growth rate stood at about 7%. Recently, the annual growth has somewhat declined falling to 5.0% in the financial year 2010, 6.25% in 2011 and 2.8% in 2012. The decline since 2010 can be ascribed to the energy crisis, the increasing oil prices, infrastructural bottlenecks, disappointing harvests due to draughts, and difficulties in the European and US economies which serve as important markets for Uganda's exports and increasing unemployment rate (UBOS, 2013).

In 2013, Uganda saw the consolidation of macroeconomic stability and a gradual recovery of economic growth in which Real GDP growth in 2013 reached 5.6% compared to the 2.8% growth in 2012, this was mainly due to under execution of externally financed public investment and depressed exports as demand from trading partners stalled. Also, the economic growth in Uganda kept up escalating in the financial year in 2014 extended to 5.9% from 5.6% in 2013 and it is forecasting to improve in this year 2015, owing to the government's resolve to improve the fiscal space through domestic revenue mobilization efforts, scaled up public investment and a recovery in private investment (UBOS, 2014).

Global employment grew by a mere 1.4 per cent in 2013 – broadly unchanged from 2012, but lower than in any year of the pre-crisis decade. Employment growth deteriorated in every geographic region except South Asia and North Africa. Indeed, it was the strong acceleration of employment growth in South Asia that helped keep global employment growth stable in 2013 compared with 2012. The largest slowdowns occurred in Central and South-Eastern Europe and CIS, Latin America and the Caribbean and South-East Asia and the Pacific. As a consequence, the crisis-related global jobs gap, measuring the number of jobs lost in comparison to pre-crisis trends, widened further to 62 million workers in 2013 (ILO, 2014).

The global unemployment rate remained at 6.0 per cent of the global labour force, unchanged from 2012. The number of unemployed around the world is estimated to have reached 201.8 million in 2013, an increase of 4.9 million from a revised 196.9 million in the previous year. There were 31.8 million more unemployed persons around the world in 2013 than in 2007, prior to the onset of the global economic crisis. Labour market developments differ widely across regions and countries. In the Developed Economies and European Union region, 8.6 per cent of the labour force is unemployed, which is almost 3 percentage points higher than in 2007 (World Bank, 2014).

In Central and South-Eastern Europe and CIS, the unemployment rate remained relatively high in 2013, at 8.2 per cent, with an estimated increase of the unemployment rate in Turkey and the Russian Federation. Latin America and the Caribbean only saw a marginal decline in its regional unemployment rate, which edged down from 6.6 to 6.5 per cent (World Bank, 2014).

World Bank data shows that several African countries have single digit unemployment rates, including Rwanda (0.6%) which has the world's third lowest unemployment rate. Unemployment rate in Ethiopia decreased to 17.40% in 2014 from 17.50% in 2012. Unemployment in Ethiopia averaged 20.26% from 1999 until 2014, reaching in all time high of 26.40% in 1999 and a record low of 17.40% in 2014. (Central Statistics Agency of Ethiopia, 2014). In South Africa, the unemployment rate increased from 21.9% in 2008 to 24.1% in 2013, this shows how the number of jobs is going down rising up the unemployment rate. (Statistics South Africa, 2013). Statistics from the National Bureau of Statistics (NBS) show that Nigeria's unemployment rate rose from 21.1% in 2010 to 23.9% 2011. Since 2010, the unemployment rate in Nigeria is going up, in 2012 it was recorded rate of 24.3%, 28.5% and 30% in 2013 and 2014 respectively, indicating a dramatic and continuous rise of unemployment (World Bank, 2014).

As Uganda Bureau Of statistics reveals, Uganda's unemployment rate was 4.2% since 2009 to 2013, this is high comparing to the 3% in 2007 and 3.7% in 2008. Unemployment remained predominantly an urban problem as the unemployment



rate in urban areas leads to that of their rural counterparts. The unemployment rate is highest in Kampala estimating 11% of its residents remain jobless whereas western and eastern regions have the lowest ranging 2%.

### **1.1.2 Theoretical perspective**

This study was guided by the theory of Okun's law. In his seminal 1962 article, Okun noted two important empirical relationships between real output and the rate of unemployment: quarterly changes in the unemployment rate were related to quarterly growth in real GDP, and deviations in the unemployment rate from its non-accelerating inflationary level were related to deviations in GDP from its potential. (Abel, Bernanke, and Croushore 2008). The first of these associations is known as the growth-rate version and the second is known as the gaps version of Okun's law. In both expressions, the relationship between output and unemployment is roughly two to one. This "constant of proportionality" forms the basis for most large-scale macroeconomic forecasting models.

The simple rule-of-thumb relationship between output and unemployment hides more complex relationships that influence Okun's two-to-one rule. One way to see this is to recall that total output, or GDP, reflects a combination of several variables, including number of workers, the hours they work, and the efficiency with which they produce output. Economists have long known that the overall performance of the economy as measured by GDP has a direct bearing on unemployment and their mostly negative relationship. So that, the theory enables the researcher to know the extent in which economic growth impacts on unemployment in Uganda from 1991/2014.

Also, this study utilized the neoclassical growth theory (Solow Model) proposed by Robert Solow (1956), Solow assumed a very basic model of annual aggregate output over a year ( $t$ ). He said that the output quantity would be governed by the amount of capital (the infrastructure), the amount of labor force (the number of people in the workforce), and the productivity of that labor. He believes that the productivity of labor is the factor driving long-run GDP increases. So that, this theory helps the researcher to demonstrate that labor is a significant factor of economic growth.

### 1.1.3 Conceptual perspective

Economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy overtime. It is conventionally measured as the percentage rate of an increase in the real gross domestic product. Of the more is the growth of the ratio of GDP to population (GDP per capita) or simply per capita income. Per capita output is determined by output per unit of labor (labor productivity), hours worked, the percentage of working age (participation rate) and the proportion of working-age to the total population (demography). Therefore, the rate of change of GDP over population is the sum of the rate of these four variables plus their cross product. In economics, it is calculated as;

$$\text{GDP Growth rate} = \frac{\text{Current year's GDP} - \text{Last year's GDP}}{\text{Last year's GDP}} * 100$$

Gross domestic product (GDP) is defined as the market value of all finished goods and services produced in a country during a certain period of time (Peter Jochumzen & Ventus Publishing ApS, 2010).

The element of GDP are consumption, Investment, Government expenditure and net export. Gross Investment is the total amount spent on adding to the stock of capital and on replacing depreciated capital. Investment is the amount spent on adding to the stock of capital. Government purchases or expenditure are purchases of goods and services by governments. Net taxes are taxes paid to governments minus transfer payments received from governments and minus interest payments from the government on its debt.

$$Y = C + I + G + NX.$$

There are three approaches measuring to GDP. First, expenditure approach which is the total spending on all final goods and services (consumption good and services (C) plus gross investments (I) plus government purchase (G) plus net export (NX)). Second, income approach, using the income approach GDP is calculated by adding up the factors of production in the society. Adding up (National income (NY) plus indirect business taxes (IBT) plus capital consumption allowance and depreciation (CCA) plus net factor payments to the rest of the world (NFP)). Third, Value added

approach which is the value of sales of goods minus purchase of intermediate goods to produce the goods.

Unemployment refers to the number of civilian workers who are actively looking for work and not currently receiving wages. (Stephen D. Simpson, 2010). The most quite common approaches classifies unemployment into four categories. First, frictional unemployment which is individuals that are temporarily while transiting between jobs or just entering the labor market. Second, structural unemployment and are individuals that are unemployed because of their skills are no longer in demand where they live. Third, cyclical unemployment, refers to unemployment that is a product of the business cycle (Unemployment due to recession). Fourth, classical unemployment, unemployment due to real wages being too high. Unemployment is measured by the percentage change of total unemployed workers over total labor force.

$$\text{Unemployment rate} = \frac{\text{Unemployed worker}}{\text{Total labor force}} * 100.$$

#### **1.1.4 Contextual Perspective**

In 2012, the Ugandan economy declined from gross domestic product (GDP) growth of over 6% the previous year to 2.8%. Over the course of the year, inflation averaged 18.8%, up from 4.1% in 2010, the exchange rate depreciated by 6.2% against the US dollar (USD), and the trade deficit increased from 9.6% to 10.8% of GDP. On the external front, the current-account deficit is projected to deteriorate in 2012 and 2013 to 10.2% and 11.1% of GDP, respectively, as import growth accelerates and exports are hit by the global economic slowdown. (African Economic Outlook, 2012).

During 2012 the Ugandan economy continued to perform strongly by regional and international standards, albeit with an important deceleration of GDP growth as of the third quarter of the year. This slowdown in economic activity has been particularly felt in the mining, manufacturing, construction and energy sectors, and is likely to bring real GDP growth for 2011 down to 2.8%, the lowest in over a decade. The slowdown in the Ugandan economy is partly due to difficulties in the European and US economies, both important markets for Ugandan exports. The

Bank of Uganda considers that the sustained slowdown forecast for the advanced economies in the near term, together with financial instability in global markets, will continue to dampen demand for Uganda's exports and reduce foreign direct investment (FDI), remittances, and aid flows in the short to medium term. On a more optimistic note, the global economic downturn could cut Uganda's import bill, thus improving its external position, which deteriorated significantly, with the current account deficit (including grants) increasing from 7.2% of GDP in FY2009/10 to 5.2% in FY2011/12 (AEO 2013 AFDB, OECD, UNDP, and UNECA).

The household survey estimated Uganda's employment-to-population ratio at 75.4 per cent in 2009, an increase from 70.3 per cent in 2005. The ratio was higher in rural areas than in urban areas (77.1 and 68.0 per cent, respectively). Men and women were engaged in employment to an equal extent. According to the household survey the unemployment rate in Uganda grew from 2 per cent in 2005 to 4.2 per cent in 2009. The urban unemployment rate was more than three times higher than the rural unemployment rate. Uganda has one of the youngest and fastest growing populations on the African continent and, thus, faces the associated challenge of providing quality employment for these young people. In 2009/10, it was estimated that 5.9 million, or 19.3% of the population were between the ages of 15 and 24. Youth unemployment was estimated at 4.3%, higher than for the labour force as a whole, at 4.2%. Youth unemployment and underemployment trends in Uganda are driven by a variety of factors, including the lack of employable skills, limited access to financial and technical resources, the insufficient emphasis on vocational training and a mismatch between skills and requirements in the job market.

Applying the relaxed definition of unemployment brought to light the fact that unemployment affected many more Ugandan young people than the strict unemployment rate would have us believe. More than one in ten (13.3 per cent) young people in the labour force were jobless. The unemployment rate among Ugandan female youth was 17.4 per cent, which was double the rate for male youth (8.7 per cent). Youth in urban areas had a higher rate of unemployment than rural

youth (19.3 and 11.4 per cent, respectively). Almost half of the unemployed youth (49.6 per cent) were unemployed for over a year. The incidence of long-term unemployment was higher among youth in rural than in urban areas (57.4 and 38.0 per cent, respectively) (UNHS, 2013).

Recent estimates indicate that the labour force rose to 11.5 million persons in 2009/10 from 9.5 million persons in 2005/06. This represents a labour force growth rate of 4.7 percent per annum, which is higher than the population growth rate of 3.2 per cent. Uganda's unemployment rate stands at 4.2 per cent and youth unemployment rate stands at 4.7 per cent, much higher than the national one (UNHS, 2009/10).

In its discussions with social partners, the ILO found out that even the latest rate of unemployment in Uganda does not reflect the reality of the problem on the ground. Instead, the scarcity of job opportunities has led to rural-urban migration, high competition in the labour market and the emergence of a bulging underemployed and unproductive work force. Moreover, livelihoods in Uganda are characterized by underemployment, informality, high rates of working poverty which disproportionately affect the youth. A large number of people are simply forced to take up employment in the informal economy that provides low skilled poorly remunerated, hazardous and precarious jobs with almost no access to social protection. It's therefore in this fact that this study is attempting to explore the impact of economic growth in reducing unemployment in the country from 1991 to 2014 (ILO, 2012).

## **1.2 Problem statement**

Uganda's unemployment rate has been increasing since 1990s in which the highest rate of unemployment averages 26% to 29% for the last ten years, even so it reached at 32% in 2011 (UBoS, 2013). The increase of unemployment since 2006 can be attributed to the disappointing harvests due to draughts, inadequate investments, and high rates of labor force growth at 4.7% per annum (World Bank, 2013). Low economic growth has been caused by weak export growth and unemployment which rose to 29% in 2010 from 25% in 2005 with an economic growth of 5.2% and 6.3% respectively (UBoS and WB, 2014). Following recently global economic crisis in the world, Uganda faced with slow foreign demand of the main traditional exports such as Coffee, Cotton, Tea and Tobacco (UBoS, 2013). Persistently high unemployment create huge costs for both individuals and for the economy as whole. For instance, it leads to loss of income of the employed people when they lose their jobs and decline of their living standards, it can also contribute to poverty, robbery in the society, also unemployment could have a large negative multiplier effect on both local and regional economy, loss of potential national output (GDP) and it increase budget deficit as government loses more income tax from labor force (WB, 2010). The average of annual growth rate of Uganda stood at about 7% before 2010, but the annual growth has somewhat declined falling to 5.2% to in the financial year 2010 and 2.8% in 2012 and 5.6% in 2013 (UBoS, 2013). In accordance with this fact, there is no any research which examined the significance of economic growth and the increasing unemployment in Uganda. Therefore, this research was intended to fill in that contextual gap.

## **1.3 Purpose of the study**

The purpose of this study was to establish the extent on which economic growth impacts unemployment particularly in Uganda from 1991 to 2014.

## **1.4 Objective of the study**

### **1.4.1 Specific objective**

1. To investigate if there is significant relationship between the economic growth and Unemployment in Uganda in the period from 1991 to 2014.

## **1.5 Research questions**

1. Is there a significant relationship between the economic growth and Unemployment in Uganda since 1991 to 2014?

## **1.6 Null-Hypothesis test**

1. **H<sub>0</sub>**: There is no significant relationship between the economic growth and Unemployment rate in Uganda since 1991 up to 2014.

## **1.7 Scope of the study**

### **1.7.1 Geographical scope**

This study was conducted in Uganda by using time series data starting from 1991 to 2014, in order to examine the impact of the slowdown of economic growth in Uganda to the increasing unemployment rate in Uganda in the period from 1991 to 2014.

### **1.7.2 Theoretical scope**

#### **1.7.2.0 Okun's Law**

This study was based on "Okun's law" proposed by economist Arthur Okun in (1962). The theory says that there is a negative relationship between economic growth and unemployment. More specifically, according to the currently accepted versions of Okun's law, to achieve a 1% point decline in the unemployment rate in the course of a year, real economic growth must grow approximately 2% points faster than the rate of growth of potential economic growth over that period (Cuaresma, Jesus Crespo, 2003).

#### **1.7.2.1 Neoclassical growth model (Solow model).**

Also, this study based on the Solow model growth, also called the neoclassical model which was developed by Robert Solow in 1956. The Solow growth model believes that a rise in capital accumulation and labor force will increase the economic growth rate, but only temporarily because of diminishing return (Aghion, P. and P. Towitt, 1994).

### **1.7.2.2 Keynesian theory of unemployment**

In addition, Keynesian theory of unemployment proposed by John M. Keynes (1936) was a part of the study. According to Keynes, demand of labor and wage of labor regulate the level of employment because the economy was determined by demand as firms will hire new workers according to their specific production needs, the cut in wages would reduce employee income, decreasing consumer income spending. This reduces demand for products, leading to a reduction in production, forcing firms to not only cut wages, but also lay off employees (Barro, Robert J., 1991).

## **1.8 Content scope**

This study examined the economic growth in Uganda from 1991 to 2014 in terms of economic growth (consumption, investment, government purchase and net export (Export minus Import)), unemployment and the impact of the economic growth in unemployment during that period using time series data.

## **1.9 Time scope**

The study was covering between 1991/2014 which is 23 years.

## **1.10 Significance of the study**

Research findings of this study will be used by academicians and under-post graduate candidate economists as a reference in the case of studies related to the consistent relationship between economic growth and Unemployment in Uganda.

Ministry of national planning, Ministry of finance, Ministry of gender, labor and social development and Chamber of commerce will also use the result of this research for the prediction or forecast of economic growth and Unemployment in the future to take positive actions in order to encourage policies that improve the economic growth and those shrink the unemployment in Uganda.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

Chapter two explores the reviews from scholars, academicians, professionals and researchers about economic growth and Unemployment in terms of theoretical review, conceptual review, and empirical review.

#### 2.1 Theoretical review

##### 2.1.1 Okun's Law

This study was based on "Okun's law" proposed by economist Arthur Okun in (1962) which presents negative correlation between economic growth and unemployment. Okun presented two empirical relationships connecting the rate of unemployment to real output, which have become associated with his name. Okun's law predicts that growth slowdowns typically coincide with rising unemployment. Both were simple equations that have been used as rules of thumb since that time. To simplify the analysis, Okun assumed that the unemployment rate can serve as a useful summary of the amount of labor being used in the economy.

Okun's first relationship captured how changes in the unemployment rate from one quarter to the next moved with quarterly growth in real output. It took the form:

*Change in the unemployment rate = a + b\*(Real output growth).*

This relationship can be called the *difference version* of Okun's law. It captures the contemporaneous correlation between output growth and movements in unemployment—that is, how output growth varies simultaneously with changes in the unemployment rate. The parameter *b* is often called "Okun's coefficient." One would expect Okun's coefficient to be negative, so that rapid output growth is associated with a falling unemployment rate, and slow or negative output growth is associated with a rising unemployment rate. The ratio " $-a/b$ " gives the rate of output growth consistent with a stable unemployment rate, or how quickly the economy would typically need to grow to maintain a given level of unemployment.

In full employment, Okun considered what he believed to be an unemployment level low enough to produce as much as possible without generating too much inflationary pressure.

A high rate of unemployment, Okun reasoned, would typically be associated with idle resources. In such a circumstance, one would expect the actual rate of output to be below its potential. A very low rate of unemployment would be associated with the reverse scenario. Thus, Okun's second relationship, or the gap version of Okun's law, took the form:

$$\text{Unemployment rate} = c + d * (\text{Gap between potential output and actual output}).$$

The variable  $c$  can be interpreted as the unemployment rate associated with full employment. The coefficient  $d$  would be positive to conform to the intuition above.

This is credited to Arthur Okun. It specifies a relationship between an economy's GDP and the actual unemployment rate. Okun's law is an empirical relationship between the change in the unemployment rate and the percentage growth in real output, as measured by GNP. Arthur estimated the following relationship between the two variables: He found there is an inverse relationship between the change in the rate of unemployment and the difference between actual and potential real GDP.

Though the fundamental inverse relationship between the unemployment rate and the growth of real output had been accepted by economists for many years, Arthur Okun was first to formalise the relationship into a statistical one when he measured the extent to which the unemployment rate is negatively related to real output growth.

Okun pointed out that changes in the unemployment rate per se cannot account for the changes in real output as the unemployment rate changes, but that there are intermediary factors, such as labour force participation and productivity linking unemployment rate and the real output in the specified relationship.

### 2.1.2 Neoclassical Growth Model (The Solow Model)

In addition, this study utilized neoclassical growth theory introduced by Robert Solow (1956). He said that the output quantity would be determined by the amount of capital, the amount of labor force (the number of people in the workforce), and the productivity of that labor.

In the introduction to his paper that forms the foundation of neoclassical growth theory, Robert Solow (1956) criticises the Harrod-Domar model by identifying its assumption of fixed proportions of labour and capital as the cause of an equilibrium growth that in fact balances on a knife's edge (Solow 1956,). As a tendency toward instability is particularly dissatisfying for any approach dealing with long run problems, Solow (1956) and Swan (1956) turn to neoclassical production functions with varying shares of labour and capital inputs. These two approaches provide the first neoclassical model of long run economic growth and mark the starting point for most studies on economic growth up to the present day.

The Solow model focuses on a closed economy where output  $Q$  is produced by the factors labour,  $L$ , and capital,  $K$ . The production function takes the form

$$Q_t = f(K_t, L_t)$$

Where  $t$  denotes time. The critical assumption of the production function is that it shows constant returns to scale; Solow (1956) departs here from the classical assumption of scarce land or any non-augmentable resources. Romer (1996) interprets the assumption of constant returns to imply that the economy under consideration is big enough that the gains from specialisation have been exhausted. Technically speaking, the neoclassical production function is homogenous of degree one and implies that both factors must be available, or else output would equal zero (i.e. the economy would not exist). The function allows for an unlimited substitutability between capital and labour, which means that to produce any given output, any amount of capital can be efficiently used with the appropriate amount of labour. As a consequence of this assumption, the capital-output ratio can take on any nonnegative value.

### **2.1.3 Keynesian theory of unemployment**

This theory has its origins in the publication 'The General Theory of Unemployment, Interest and Money' of John Maynard Keynes' (Keynes, 1936). This theory presents key ingredients with the new features of the Keynesian theory of Unemployment in which labor demand is determined by the quantity of output produced and wage.

Labor demand or employment depends on the quantity of output (total income or production) that firms produce under the assumption prices are completely fixed. Moreover, the production of firms is given by the respective demand. As a result, the aggregate demand for goods sets up the income at a certain price, what finally leads to a new employment level. It is so because firms will hire new workers according to their specific production needs. This theory finally says "the interest rate affects the level of production and in the second instance labor demand".

Also, Keynes postulate that wage determine the level of workers to be hired or fired. It can be fixed by unions, government, employers' association or individuals. New-Keynesian theory is generally conceived as a negative-sloped curve. It has a downward slope assuming a decrease in employment (firms fire workers massively) increments the productivity because there are less workers leaving the output unchanged (short run). A higher level of productivity expressed in terms of the marginal product of labor  $FLt$ , would increase to finally push for higher wages in the short run. In short, the more unemployment we have, the higher the productivity is and normally it also means the higher the wages become

## **2.2 Conceptual review**

### **2.2.0 Economic Growth**

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another (Fischer Stanley; 1993). This definition is similar to the general definition of economics, referring the nation's gross domestic product (GDP) as the total value of all final goods and services produced for the marketplace during a given year, within the nation's borders (General economic definition). On the other hand, the concept of economic growth is defined by "The New Palgrave Dictionary of Economics as a measure of a positive

change of GDP within an economy. The economic growth is associated in the case with an improvement in what concerns the living standards. Joseph Schumpeter uses both the concepts of economic growth as well as economic development. In his view economic development is perceived as a spontaneous and discontinuous change within the existing steady state that affects the general equilibrium of the previous state. On the other hand, economic growth highlights a gradual change over the long period of time, due to a general increase of the population as well as of the economy dynamics. According to Simon Kuznet, economic growth embodies in general a quantitative approach. The statement in favour of this is the following one: "economic growth is essentially a quantitative concept" and calls in favour of a substantial progress in the field of empirical analysis and of considering the quantitative aspects as a basis of the economic growth process.

In studying the aspects related to economic growth and its main determinants, we could identify two leading approaches. The first one is the quantitative approach, and relates to the quantitative variables like natural resources, capital, foreign direct investments or degree of openness. The second approach, namely the qualitative one, implies a series of variables interconnected with the political or the cultural field. Besides that, speaking of economic theory, the most well-known model to investigate output dynamics is the Solow model awarded with a Nobel Prize. In the Solow model, once an economy attains its equilibrium level of output, growth rates of population and technology are the sole determinants of output growth.

Economic growth has two meanings. Firstly and most commonly used, growth is defined as an increase in the output that an economy produces over a period of time, the minimum being two consecutive quarters. The second meaning of economic growth is an increase in what an economy produces if it is using all its scarce resources. (Kambou G, Devarajan S, Over M 1992). Keynes defined GDP as the market value of all final goods and services produced in an economy, stated in prices of a given year. This definition is similar to that of Michael Parkin and Robin Bade who also defined gross domestic product as the nation's expenditure of all goods and services produced during the year at market prices. Consumption,

investment, and government spending are the three sectors of GDP. Gross domestic product (GDP) is intended to measure how much an economy produces in a given period such as quarter, or a year. According to John Ddumba-Ssentamu, gross domestic product (GDP) is an aggregate of the market value of the many goods and services produced in the economy. Gross domestic product is a measure of a quantity of goods and services produced by an economy. According to Robert H. Frank, and Ben S. Bernank, gross domestic product (GDP) is categorized into real GDP and nominal GDP. Real GDP is measure of GDP in which the quantities produced are valued at current year's prices. Real GDP is a measure the actual physical volume of production while nominal GDP is a measure of quantities produced and valued at current year prices. Nominal GDP measures the current dollar value of production.

### **2.2.1 Unemployment**

According to the ILO guidelines, a person is unemployed if the person is (a) not working, (b) currently available for work and (c) seeking work. In view of this in 1982 the ILO Thirteenth International Conference of Labour Statisticians revised its definition of unemployment in the sense of introducing certain amplifications concerning, amongst other things, the criteria of seeking work and the statistical treatment of people currently available for work but not actively seeking work.

These amplifications, allowing for broader definitions of unemployment, were specifically "aimed to make it possible to measure unemployment more accurately and more meaningfully" (ILO, 1998). The ILO approach to defining unemployment rests on what can be termed the 'labour force framework', which at any point in time classifies the working age population into three mutually exclusive and exhaustive categories according to a specific set of rules: employed, unemployed, and out of the labour force.

To assess labor market conditions, economists use the unemployment rate, defined as the percentage change of labor force that is currently unemployed but was available for job in last four weeks and was actively seeking employment in that period (Kodrychi, 2000).

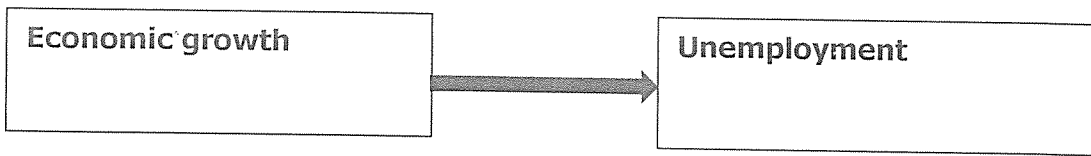
The unemployment measured should exclude that due to sickness, invalidity, participation in trade disputes, or voluntary absence from work, and should be limited to unemployment due to lack of employment or to lack of work while in employment; the necessary and sufficient condition for being enumerated as unemployed is that the individual must have been not at work for one day at least" (Rodenburg, 2009). Apparently, all these definitions convey the same meaning which is, that unemployment is the situation in which people of working age currently do not have a paid job, but are actively seeking work. Also, according to Rudiger Dornbusch and Stanley Fisher, unemployment is the situation that exists when one is out of work, has actively looked for work during the previous four weeks, or is waiting to be recalled to a job after having been laid off, or is waiting to report to a new job within four weeks.

Being classified as unemployed also means being recognized as part of the labor force, while those who are not recognized as unemployed are qualified as inactive. Being classified as inactive means that they are no longer officially part of the labor force. Research shows that discouraged workers – those who stopped searching for a job because they believe there are no jobs available for them – are distinct from the inactive, as well as from the unemployed (Jones and Riddell 1999 and 2006; Garrido and Toharia 2004; Kingdon and Knight 2006).

Most commonly, people can be unemployed due to one of the following. First, when there is not enough aggregate demand in the economy to provide jobs for everyone who wants to work called cyclical unemployment. Second type of unemployment occurs when the labor market is unable to provide jobs to for everyone who wants to work because there is a mismatch between the skills of the unemployed workers and the skills necessary for the jobs available and called structural unemployment. Third, arise the time period between jobs when a worker is looking for a job or transitioning from one to another, known as frictional unemployment. Fourth, classical unemployment which is unemployment due to real wages being too high.

## 2.3. Conceptual framework

Figure 2.1 Conceptual Framework



## 2.4 Related Study

### 2.4.0 Economic Growth

Gross domestic product was first developed by Simon Kuznets for a US Congress report in 1934. After the Britton Woods Conference in 1994, GDP became the main tool for measuring the country's economy.

Gross domestic product is the market value of all of officially recognized final goods and services produced within a country in a given period. GDP per capita is often considered an indicator of a country's standard of living, but it is not a measure of personal income. Under economic theory, GDP per capita exactly equals the gross domestic income (GDI) per capita (Kambou G, Devarajan S, Over M 1992).

Gross domestic product (GDP) is intended to measure how much an economy produces in a given period such as quarter, or a year. According to John Ddumba-Ssentamu, gross domestic product (GDP) is an aggregate of the market value of the many goods and services produced in the economy. Gross domestic product is a measure of a quantity of goods and services produced by an economy. According to Robert H. Frank, and Ben S. Bernank, gross domestic product (GDP) is categorized into real GDP and nominal GDP. Real GDP is measure of GDP in which the quantities produced are valued at current year's prices. Real GDP is a measure the actual physical volume of production while nominal GDP is a measure of quantities produced and valued at current year prices. Nominal GDP measures the current dollar value of production.



### **2.4.1 Unemployment**

According to Keynes and classical economists, Unemployment is a key measure of economic health. It is a major factor in determining how healthy an economy is; if the economy maximized efficiency, everyone would be employed at some wage. An individual unemployed is both unproductive and a drain on society's resources.

Unemployment has tremendous social and economic costs (Piachaud, 1997). Unemployment causes permanent losses of output of goods and services. The unemployed are faced with financial insecurity, resulting in poverty and indebtedness.

Certain kinds of criminal activity are directly related to unemployment. Many studies have linked unemployment to family disruption, suicide, ill health (physical and mental), drug addiction, homelessness, malnutrition, poor prenatal care, school dropouts, racial and ethnic antagonism, and other social problems (Jahoda, 1982).

Unemployment also can destabilize business expectations, as fears of low demand cool private investment. Related to this, unemployment can also lead to technological stagnation. If, as Marx and others suggest, high levels of employment stimulate technical innovation, unemployment would be associated with less innovation. Firms with high and stable levels of demand have the resources and the incentive to support going high tech; with high unemployment and thus cheap labour, firms lack the resources and the incentive to retool. It has also been shown that unemployment leads to deterioration in labour skills. All of this suggests that unemployment may lead to lower productivity of economic growth.

If we go back to the classic research of the 1930s, we get a grim picture of how unemployment affects the individual. In a comprehensive review of studies conducted by Eisenberg and Lazars Feld (1938), find a coherent picture of the psychological consequences of unemployment during the great depression. In general, unemployment is found to lower morale and make people emotionally unstable. The unemployment experience is described as a destructive process for psychological well-being, whereby the individual after layoff passes through different psychological phases. Unemployed individuals pass through initial shock after layoff, followed by a period of optimism and resilience in connection with active job search

activity, and when this effort fails, they become resigned and suffer from distress. According to Eisenberg & Lazarsfeld, these negative consequences of unemployment for psychological well-being are "...not surprising in the light of the structure of society where the job one holds is the prime indicator of a man's status and prestige" (Eisenberg & Lazarsfeld 1938).

#### **2.4.2 The Relationship Between Economic Growth And Unemployment**

The correlation between economic growth and unemployment is ambiguous. Bean and Pissarides (1993) examine the correlation between economic growth and unemployment (labor and total factor) for OECD countries over the period 1955-1985. The authors find weak evidence of a negative relationship between the two over the full sample, but no clear relationship within sub-periods. Caballero (1993) uses quarterly time series data from 1966 to 1989 for the U.S. and U.K., to find that the correlation between per capita growth and unemployment is unclear: at medium frequencies, it is positive for both countries; while at very low frequencies, it is positive for the U.K. and zero or even negative for the U.S. Bräuning and Pannenberg (2002) show that an increase in unemployment is associated with a decline in economic growth in Europe and the U.S. during the period 1960-1997. Dell'Anno and Solomon (2008) find a negative correlation in the U.S. between quarterly changes in the quarterly growth rate of GDP and unemployment rate between 1970 and 2004.

Most empirical research shows that economic growth has a negative impact on unemployment. Based on a panel of 20 OECD countries spanning 1960-1996, Blanchard and Wolfers (2000) find that economic growth has a negative effect on unemployment. Fitoussi et al. (2000) use data for 19 OECD countries over the period 1960-1998 to find that the Hodrick-Prescott-smoothed rate of change of economic growth has a negative effect on unemployment. Using individual data in the U.K. spanning the period 1982-1999, Zagler (2006) finds that individual value added growth, measured by the GDP growth rate of the region and the sector in which the individual resides, has a negative impact on the individual unemployment rate, which captures the number of days a person spends being unemployed over the entire year. Using a panel of 15 industrialized countries covering the period 1965-1995,

Pissarides and Vallanti (2007) find that economic growth has a substantial negative impact on steady state unemployment, both in terms of the estimated elasticity and in terms of the contribution of economic growth to the explanation of the change in the unemployment rate. Using historical time series for the U.K. from 1871 to 1999, Hatton (2007) finds that faster economic growth reduces the non-accelerating inflation rate of unemployment over the long run.

However, some studies find that the impact of growth on unemployment depends on the type of analysis being performed. Tripier (2006) describes the empirical co-movements of economic growth and unemployment by means of spectral analysis over 1948-2000 for the U.S. The author finds that the co-movements are positive over the business cycle, but negative in the short and long run. Using a panel of 20 OECD countries spanning 1974 to 1989, Aghion and Howitt (1992) report an inverted-U impact of GDP growth on unemployment.

It is widely known that unemployment has been rising over the last decades in several developed countries, while the economic growth rate has been falling over the same period. Interestingly, the rise in unemployment has been more pronounced on average in the European countries compared with the United States, although the GDP growth rate has been following a more similar pattern in both economies. Implicitly, this suggests that the relationship between these two variables is not the same among economies (Haruyama and Leith, 2010). This empirical evidence is reflected in several empirical and econometric studies. On the one hand, Caballero (1993) found a weak positive link between growth and unemployment in US and UK from 1966 to 1989. On the other hand, Bean and Pissarides (1993) performed a cross-country analysis for OECD countries and did not find any relationship between economic growth and unemployment, except for a negative relationship between 1975 and 1985. In contrast, Aghion and Howitt (1992) developed an empirical analysis based on 20 OECD countries and found what they have called an inverted U-shaped relationship. More recently, Herwartz and Niebuhr (2011) developed an econometric model to study the link between growth and unemployment, taking the Okun's law as a starting point. In their study, Herwartz

and Niebuhr (2011) found out that the relationship between variables changes across countries and crucially depends on labour market framework (unemployment benefits, unions' bargaining power, etc.). Finally, Carmeci and Mauro's (2003) empirical analysis concluded that labour market imperfections (measured unemployment replacement ratio and union density) have negative long run growth impacts.

Pissarides (1990) is consensually identified as the first attempt to study this relationship within a theoretical framework. Combining a standard search and matching model with the possibility of economic growth, the author concluded for a negative correlation between growth and unemployment. This negative relation is known as the *capitalization* effect.

On the other hand, Aghion and Howitt (1994) developed a new theoretical link between these two variables: the *creative destruction* effect, which identifies a positive relation between growth and unemployment. Moreover, there is also a pool of *saving effect* from Bean and Pissarides (1993) that states a negative relationship between unemployment and growth. Finally, Acemoglu (1997) presented the *coordination failure* effect, which establishes a positive correlation between unemployment and growth without a social planner.

More recently, Lingens (2003) developed a theoretical model based on the link between growth, unemployment and unions. According to him, it is possible to have a positive or a negative relationship between growth and unemployment, depending on the value of the elasticity of substitution between low and high-skilled workers. Finally, Herwartz and Niebuhr (2011) combined an efficiency-wage model with the possibility of an endogenous technological progress. Briefly, based on worker's incentives to shirk once employed, they concluded that the direction of the link growth-unemployment will crucially depend on the level of unemployment, in a sense that a high unemployment level will work as a *disciplinary effect*.

## **2.6. Research Gap**

In the literature review, there have been some researchers' results conducted by different authors from different countries, continents and time and found variety relationships between economic growth and unemployment. But there is no any research about economic growth and unemployment conducted in Uganda. Haruyama and Leith, (2010)., suggested that the relationship between these two variables is not the same among economies and found out that the relationship between variables changes across countries and crucially depends on labour market framework (unemployment benefits, unions' bargaining power, etc.).Some researchers found negative relation which is known as the capitalization effect, others found positive relationship referred as the creative destruction or coordination failure effect due to the different countries and locations. So that, as there no any research about economic growth and unemployment in Uganda, the researcher opted to fill in the existing contextual gap.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This chapter consist of data type and source, research design, data collection procedures, data analysis, ethical consideration and limitation of the study.

#### 3.1 Data type, source and collection techniques

Time series data of economic growth and unemployment rate was used in this research which was found from Uganda Bureau Of Statistics and World bank (2014), respectively. In this study, secondary quantitative data was utilized. Quantitative data are data which was expressed numerically and analyzed mathematically by applying statistical tools. Then, the researcher used time series data of economic growth and unemployment rate in Uganda from 1991 to 2014.

#### 3.2 Research design

The study adopted correlation design to study the relationship between economic growth and unemployment in Uganda the studywas conducted by using linear regression analysis to test for the significant relationship between gross domestic product (GDP) and unemployment, Stationarity of economic growth and unemployment during the period from 1991 to 2014 and Durbin - Watson was adapted to test autocorrelation.

#### 3.3 Data analysis

The data was collected, edited, categorized, and entered into the computer data base system for analysis, particularly Statistical Package for Social Science (SPSS).Linear regression analysis to find out if there is significant relationship between economic growth and unemployment rate in Uganda since 1991 to 2014. Also, Durbin-Watson (DW) test is used to test for the presence of autocorrelation between economic growth and unemployment, and also the stationary of economic growth and unemployment.

This model of the research is:-

$$\hat{y} = \beta_0 - \beta_1 X + \epsilon$$

$\hat{y}$  = *Unemployment level*

$\beta_0$  = The level of unemployment when economic growth is zero.

$\beta_1$  = The rate of change unemployment when economic growth changes  
by one percent.

$\varepsilon$  = The other variables that affect unemployment but exclude the model.

### **3.4 Ethical consideration**

The principle underlying research ethics regarding confidentiality, honest, and respect for individual rights was observed. Institutions from which the data was collected, was informed in writing about the objectives of this study and was requested to participate. The works of the other people used in the study was fully recognized through quoting and referencing.

### **3.5 Limitations of the study**

In the view of reporting complete and accurate information under an allowable significance levels of 5% or an error of 0.05, the availability of precise information was the greatest challenges for the research. Confirming the accuracy of variable measurement was also another constraint because using appropriate statistical tool is very essential to the presentation of the research information.

## CHAPTER FOUR

### DATA PRESENTATION , ANALYSIS AND INTERPRETATION

#### 4.0 Introduction

This chapter discusses data presentation, data analysis and data interpretation according to the specific objectives of the study.

#### 4.1 Test for presence of autocorrelation

The Durbin-Watson (DW) test is used to test for the presence of autocorrelation.

If  $d_c < d_L$ , there is evidence of a positive serial correlation but, If  $d_c > d_U$ , there is no evidence of a positive first-order serial correlation.

If  $d_L < d_c < d_U$ , there is inconclusive evidence regarding the presence or absence of a positive first-order serial Correlation.

For  $n=24$ ,  $\alpha=0.05$ ,  $k=1$ , from the regression analysis,  $d_L = 1.273$ ,  $d_U = 1.446$ ,  $d_c = 1.373$

Since  $1.273 < 1.373 < 1.446$ , there is inconclusive evidence regarding the presence or absence of a positive first-order serial correlation.

**Table 4.1 Shows test results for no trend (stationary) over time**

	ECONOMICGROWTH	UNEMPLOYMENT
Test Value <sup>a</sup>	6.38	3.00
Cases < Test Value	12	11
Cases >= Test Value	12	13
Total Cases	24	24
Number of Runs	9	7
Z	-1.461	-2.278

Source: UBOS and World bank (2014)



In testing for Stationarity in both the economic growth rate and unemployment rate, the runs test was used with the aid of the hypothesis below;

$H_0$ : There is no trend (no Stationarity)

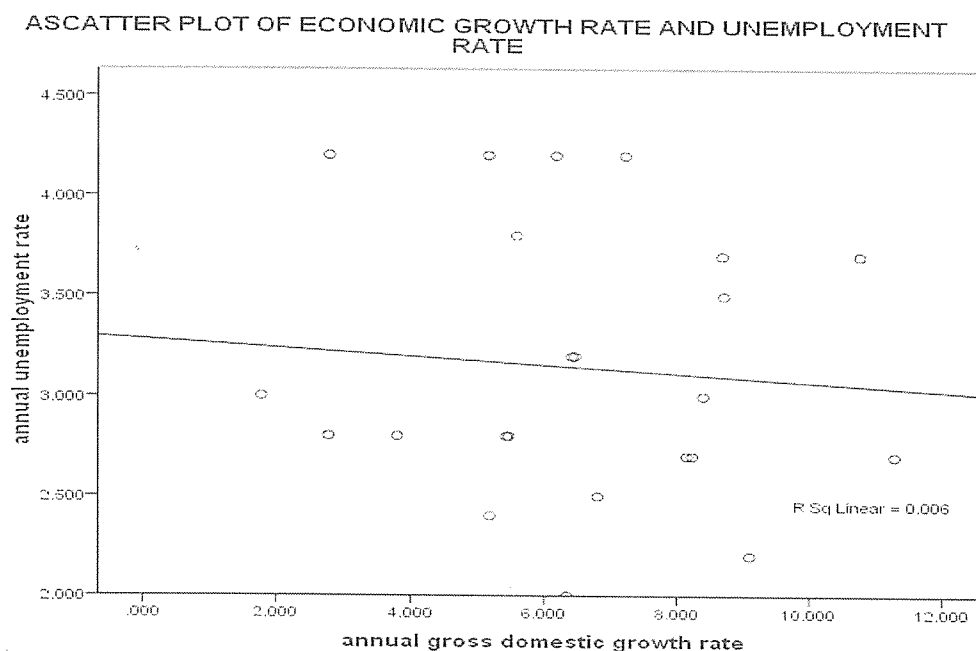
$H_a$ : There is trend (Stationarity)

The null hypothesis is rejected if  $Z_c \geq Z_{\alpha/2}$ , otherwise accepted

For economic growth  $Z_c = |-1.461| = 1.461$  and Z-critical = 1.96, the calculated Z-value is less than Z-critical ( $1.461 < 1.96$ ), the null hypothesis is therefore accepted and the conclusion is that economic growth rate is stationary over the period of time studied on average.

For unemployment rate  $Z_c = |-2.278|$  in absolute terms Z-value = 2.278 and Z-critical = 1.96, the calculated Z-value is greater than Z-critical ( $2.278 > 1.96$ ), the null hypothesis is therefore rejected and the conclusion is that unemployment rate is not stationary or trended over the period under study.

**Figure 4.1 Scatter diagram of the relationship between economic growth and unemployment rate in Uganda (1991/2014)**



The scatter plot in figure 3 indicates that there is a weak negative relationship between economic growth and unemployment levels. The change in unemployment

rate is explained by only 0.6% change in economic growth rate. This finding implies that economic growth rate is an insignificant factor in explaining unemployment rate in Uganda from 1991/2014.

**Table 4.2 Regression analysis showing the relationship between economic growth and unemployment levels.**

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Durbin-Watson
1	.085	.006	-.038	.67567	.806
Model	Unstandardized Coefficients			F	Sig
	B	Std. Error	T		
(Constant)	3.316	.408	8.121	.159	.000
Economic Growth	-.023	.059	-.399		.694

The fitted model:-

$$\hat{y} = 3.316 - .023x$$

The p-value or significance value is greater than 0.05, this implies that economic growth is insignificantly related to unemployment rate that is  $.694 > 0.05$ . And therefore the null hypothesis is rejected.

A negative model coefficient also shows a negative relationship between economic growth rate and unemployment levels in Uganda from 1991 to 2014.

The fitted model is given by;  $\hat{y} = 3.316 - .023x$ , so one unit change in economic growth rate reduces unemployment rate by 0.023 units.

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter summarizes the summary of findings, the conclusion and recommendations quoted from the research findings based on research objectives in the study and results derived from data presented in chapter four. The chapter summarizes the major study findings of the trends of economic growth, and unemployment and contribution of economic growth to employment creation in Uganda in period from 1991 to 2014. Furthermore, it presents the some policy recommendations drawn from the research findings of the study of chapter four in accordance with research objectives.

#### 5.1. To determine the relationship between economic growth and unemployment levels in Uganda (1991/2014)

The objective of the study is about the relationship between economic growth and unemployment. Hence, the findings shows that economic growth inversely relates to the unemployment and further presents that there is weak negative relationship between economic growth and unemployment, but the relation is nonlinear instead its scattered. Furthermore, ANOVA table shows that sig value which is (.694) is bigger than the significance level of (0.05). Therefore, this reveals the null-hypothesis is rejected and accepted alternate hypothesis, as well as it implies that economic growth insignificantly related to the unemployment in Uganda during the period between 1991/2014 as (.694>0.05).

On the other hand, the fitted model given by regression analysis is:-

$$(\hat{y} = 3.316 - .023x);$$

$\hat{Y}$  and  $X$  are economic growth and unemployment respectively. This implies as the economic growth rises up by one percent, unemployment goes down by 2.3 percent. In addition to that, the coefficient determination ( $R^2$ ) is (.006) which indicates that 0.6% of the variations in unemployment have been explained by the economic

growth and the remaining 99.4% was taken by the other factors that have significant impact on reducing unemployment but not included the model. Also, this analysis and findings is supported by the correlation analysis in which correlation coefficient ( $r$ ) = (-0.085), showing that there is a weak negative relationship between economic growth and unemployment in general and Uganda in particular during 1991/2014. Likewise, the coefficient determination ( $r^2$ ) states (0.006), implying that one percentage increase in economic growth, decreases unemployment only 0.6% and therefore, 99.4% will reduce it by the other factors that have an impacts on the unemployment level such as inflation, foreign direct investment, government policies, labor force participation are etc.

The findings of this study are supported by and agreed with of the empirical studies in the literature review. Those studies includes studies made by Bean and Pissarides (1993), Blanchard and Wolfers (2000) who examined the correlation between economic growth and unemployment for OECD countries. The authors find weak negative relationship between them. Also, Zagler (2006), Pissarides and Vallanti (2007) found that there is negative relationship between economic growth and unemployment in UK. On the contrary, some studies find that the impact of growth on unemployment depends on the type of analysis being performed. Tripier (2006) describes the empirical co-movements of economic growth and unemployment by means of spectral analysis over 1948-2000 for the U.S. The author finds that the co-movements are positive over the business cycle, but negative in the short and long run. Using a panel of 20 OECD countries spanning 1974 to 1989, Aghion and Howitt (1992) report an inverted-U impact of GDP growth on unemployment. On the one hand, Caballero (1993) found a weak positive link between growth and unemployment in US and UK from 1966 to 1989. On the other hand, Bean and Pissarides (1993) performed a cross-country analysis for OECD countries and did not found any relationship between economic growth and unemployment, except for a negative relationship between 1975 and 1985. Finally, Carmeci and Mauro's (2003) empirical analysis concluded that labor market imperfections (measured unemployment replacement ratio and union density) have negative long run growth impacts.

## **5.2 Conclusion**

Economic growth showed a little change over period studied (1991/2014). Therefore, the Stationarity test of economic growth shows Stationary over the period studied spanning 1991/214 in Uganda.

The nature of unemployment rate in Uganda is irregular over the years studied (1991/2014), but the Durbin-Watson (DW) test for autocorrelation shows that there is inconclusive evidence. Also Stationarity test shows that the unemployment rate is not stationary over the years studied (1991/2014).

Even though, the study shows a weak negative relationship between economic growth and unemployment in Ugandan spanning 1991/2014, it could be picked out that strong economic growth without causing inflation could reduce the rate of unemployment. This is due to an increase of economic growth employs some of the factors of production such as labor, land and equipment which have substantial contribution to the labor force participation as well as a rise of economic growth stimulating investment in the country catching the eyes of some investors and again this will positively reduce the unemployment in the country (Uganda). Therefore, this studies concludes that there is negative relationship between economic growth and unemployment.

## **5.3 Recommendation**

First, With reference to negative relationship between the economic growth and unemployment in Uganda, this research recommends to the government of Uganda to strengthen the economic growth in the country to avail of the little bit reduction of unemployment led by the growth.

Second, the government of Uganda is encouraged to adapt policies that could reduce supply side unemployment such as improving education and trainings to give the long term unemployed with a new skills which enable them to find jobs as well as enhance labor marker flexibility.

Finally, economic growth is not the only factor that impacts unemployment so that, the researcher suggests to make other researches about the other variables such as inflation, investment, government policy about job creation and interest rate linking to the unemployment.

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## Appendices

### Appendix II: Consent Letter For The Organizations

Dear sir/madam,

I'm a candidate of master in economic policy and planning of Kampala international university. A research report submitted to the college of higher degrees and research is a part of requirements for the award of my master's degree and my topic involves to the economic growth and unemployment levels in Uganda spanning 1991/2013. For that reason, I'm kindly appealing for you to contribute to me the available statistical data which relates to the economic growth and unemployment in Uganda. This information is only used for research purpose and no part of it shall be disclosed to any other means except academic purpose.

Thanks and I appreciate you so much for your help.

Best regards,

Mr. Ahmed Mohamed Elmi.

**Appendix II. Time Frame For The Research Study.**

ACTIVITY	DURATION						
	Nov, 2014	April, 2015	June, 2015	July, 2015	Nov, 2015	Jan,2015	Apr, 2016
Month							
Proposal Writing							
Proposal Editing							
Data Collection							
Data Arrangement							
Data Analysing and Presentation							
Editing and final Submission							
Defence							

### Appendix III: Researcher's Curriculum Vitae

AHMED MOHAMED ELMI

Ggaba Road, Kansanga

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Kampala Uganda

+252 634445446

Email: atosheelmi@yahoo.com

#### **EDUCATION**

August 2014/ May 2016	College Of Higher Degrees And Research Kampala International University Master Of Economic Policy And Planning; Expected
Graduation May 2016	
August 2008/ August 2012	Faculty Of Economics University Of Hargeisa Bachelor Of Economics
Sep 2014/ Sep 2015	Makerere Institute Diploma of Statistics
May 2004/ May 2008	Secondary School Farah Omar Secondary School GCSE SL Certificate
March 1997/ March 2004	Primary and intermediate school Sh. Ali Osman (Ex-Riis) Certificate of primary & intermediate school

## **CERTIFICATIFICATES AND TRAININGS**

June 2014/ July 2014  
Institute

Makerere Capacity Development And Research

Certificate Of Completion

Monitoring And Evaluation

Nov 6, 2014/ Dec 6, 2014

Family Business Network

Kampala International University

Certificate Of Completion

Research Application And SPSS

Dec23, 2014/Jan 23, 2014

Family Business Network

Kampala International University

Certificate Of Completion

Report Writing & Project Proposal Techniques

Jan 2014/ one week  
Development

Uganda Institute Of Social Work \$ Community

Certificate Of Attendance

Trainer Of Trainee (TOT)

April 2015/ Two weeks

Kampala International University

Certificate Of Attendance

Project Planning And Management

## **WORK EXPEREINCE**

Oct 2009/ Oct 2011

Somaliland Modern School

Intermediate Class Teacher

Nov 2011/ Nov 2012

Somaliland Modern School

Cashier And Vice Principal  
June 2011/ Dec 2011      Horseed Institute Of Language, Math & Islamic Studies  
Principal (Afternoon Section)  
Nov 2012/ July 2014      Iftin Schools  
Intermediate Class Teacher  
June 2011                      Somaliland Nation Electoral Commission (NEC)  
Complain Desk Officer, Dindinta Village, Togdher Region  
Dec 2013                      Somaliland National Electoral Commission (NEC)  
Sectary Of Warabe-Salan Sub-District, Ga'an Libah District,  
M.Jeex Region

### **PERSONAL LANGUAGES AND SKILLS**

Somali: Mother Tongue

Arabic: Satisfactory

English: fluent

Computer skills – Microsoft Office, PowerPoint, Access, Excel, Stata Statistical For social science (SPSS).

### **PERSONAL Information**

Date Of Birth: March 23, 1992.

Place Of Birth: Hargeisa, Somaliland.

Nationality: Somalilander.

Gender: Male.

Marital Status: Single.