REPUBLIC OF TURKEY
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Department of Economics and Finance

EFFECTS OF UNEMPLOYMENT ON ECONOMIC GROWTH IN SOMALIA

Master Thesis

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Supervisor

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DECLARATION

I hereby declare that in the preparation of this thesis, scientific ethical rules have been followed, the works of other persons have been referenced in accordance with the scientific norms if used, there is no falsification in the used data, any part of the thesis has not been submitted to this university or any other university as another thesis.

Samiro Omar SALAD

…/…./2023

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THE DIRECTORATE OF SOCIAL SCIENCES INSTITUTE

The thesis study of Samiro Omar SALAD titled as Effects of Unemployment on Economic Growth in Somaliahas been accepted as MASTER/PhD THESIS in the department of Economics and Finance by out jury.

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SUMMARY

This study looked at the connection between Somalia's unemployment rate and its economic growth. This study was done with the intention of analyzing how unemployment affects economic growth and offering suggestions on how to improve economic growth and decrease unemployment in Somalia in light of the country's current economic difficulties. The World Bank database and United Data database were used to provide annual secondary data spanning the years 1991 to 2020. The ARDL Bound Testing and the Parsimonious Error Correction Model (ECM) of the ARDL Model were used to analyze the data collected in order to test the relationship and analyze the effect, respectively. The results demonstrated a long-term relationship between Somalia's unemployment rate and economic growth, as well as a negative relationship between unemployment and GDP.

Key Words: Economic Growth, Gross Domestic Product, Unemployment, Auto Regressive Distribution Lag (ARDL)

ÖZET

Bu çalışma, Somali'nin ekonomik büyümesi ile işsizlik oranı arasındaki ilişkiyi incelemektedir. Bu bağlamda çalışmanın, işsizliğin ekonomik büyümeyi nasıl etkilediğini analiz etmek ülkenin mevcut ekonomik zorlukları ışığında işsizliğin nasıl azaltılacağı ve Somali'de ekonomik büyümenin nasıl iyileştirilebileceğine dair öneriler sunmak amacıyla yapılmıştır. Bu çalışmada yıllık ikincil verileri Sağlamak için 1991-2020 yılları arasındaki Dünya Bankası ve Birleşmiş Milletler Veri Tabanı kullanıldı. Aradaki ilişkiyi test etmek için toplanan verilerin analizinde sırasıyla ARDL Sınır Testi ve ARDL Modeli Hata Düzeltme Modeli (ECM) kullanıldı. Çalışmanın sonuçları, bu Somali de işsizlik oranı ve ekonomik büyüme arasında uzun vadeli bir ilişkinin yanı sıra işsizlik ile GSYH arasında negatif bir ilişki olduğunu göstermektedir.

Anahtar kelimeler: Ekonomik Büyüme, Gayri Safi Yurtiçi Hâsıla, İşsizlik, ARDL

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ABBREDIVATIONS

ADF	**:**	Augmented Dickey-Fuller
ARDL	**:**	Auto-regressive Distributive Lag
GCF	**:**	Gross Capital Formation
GDP	**:**	Gross Domestic Product
ILO	**:**	International Labour Organization
PP	**:**	Phillip-Perron
POPG	**:**	Population Growth
RGDP	**:**	Real Gross Domestic Product
UN	**:**	Unemployment
UNSD	**:**	United Nations Statistics Division
WDI	**:**	World Development Indicator

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The International Labour Organization (ILO) has defined unemployment as the total number of people who constitute the labour force that is not self-employed, are confirmed as candidates for employment but are not in paid employment despite actively pursuing employment opportunities. Consequently, an unemployed person is deemed as an individual who can be placed into a paid employment position and is actively pursuing such positions but has not self-employed or employed in a wage-earning job while still seeking to get a job within a specified period. Involuntary unemployment happens when individuals who are eligible for employment and willing to work at the current wage levels cannot find a job. This study will use the rate of unemployment, which is the population ratio of working age working or unemployed (aged 15 to 64) to those who are not employed, actively seeking employment, or available for employment.

The prevalence level of unemployment is a definite indicator of labour market performance that media sources frequently cite and is well-known to many people. The under-utilization of labour supply can be established by keenly observing the unemployment rate. It demonstrates how an economy fails to offer job opportunities for those willing to work but don't, regardless of their availability for employment and how active they are in their search for work. Thus, this is considered a predictor of the labour market's performance and the effectiveness of an economy's capability to absorb its workforce (ILO, 2022).

Unemployment is one of the world's primary concerns, particularly in developing nations. In specific ways, both industrialized and developing countries now struggle with unemployment. Lack of employment is when a person needs to work and possesses the necessary knowledge and abilities but cannot find a job. According to Somalian economic theory, unemployment occurs when markets are efficient, and consumer demand for products and services is high.

There are still many different patterns in employment outcomes around the world. The unemployment rate in developed nations is anticipated to drop to 5.5% in 2018, the lowest level since 2007, and this would mark the sixth year in a row that jobless rates have decreased. On the other hand, between 2014 and 2017, unemployment rates in emerging nations significantly increased, primarily due to severe economic downturns brought on by the drop in commodity prices in many big economies, including Brazil and the Russian Federation. Similarly, it was predicted that between 2018 and 2019, the number of unemployed individuals in emerging countries would increase by 500,000 per year while the unemployment rate would remain at 5.3%. However, the fundamental issues for many developing and growing countries are ongoing low-quality employment and working poverty (ILO, 2018).

On perilous voyages over deserts and oceans, many young people in Somalia have been compelled to emigrate in search of a better life by the country's high unemployment rate. Over 60% of young people plan to emigrate for better job opportunities. Clan and cultural prejudices, a lack of practical training, and unemployment are significant factors leading to unemployment in Somalia. As a result of ingrained gender stereotypes, young women are frequently forced to enter traditional vocations. On the other hand, some nations draw in foreign direct investment to boost employment prospects, lowering the unemployment rate. Still, Somalia is unable to do so because of its unstable security situation and the presence of terrorist organizations there. The main socioeconomic issue in Somalia is unemployment, which has led to several social issues like migration, terrorism, robbery, and, most crucially, a slow development rate. From 1991 through 2020, according to Fig. 1.1, Somalia's unemployment rate will range from 18 to almost 20%.

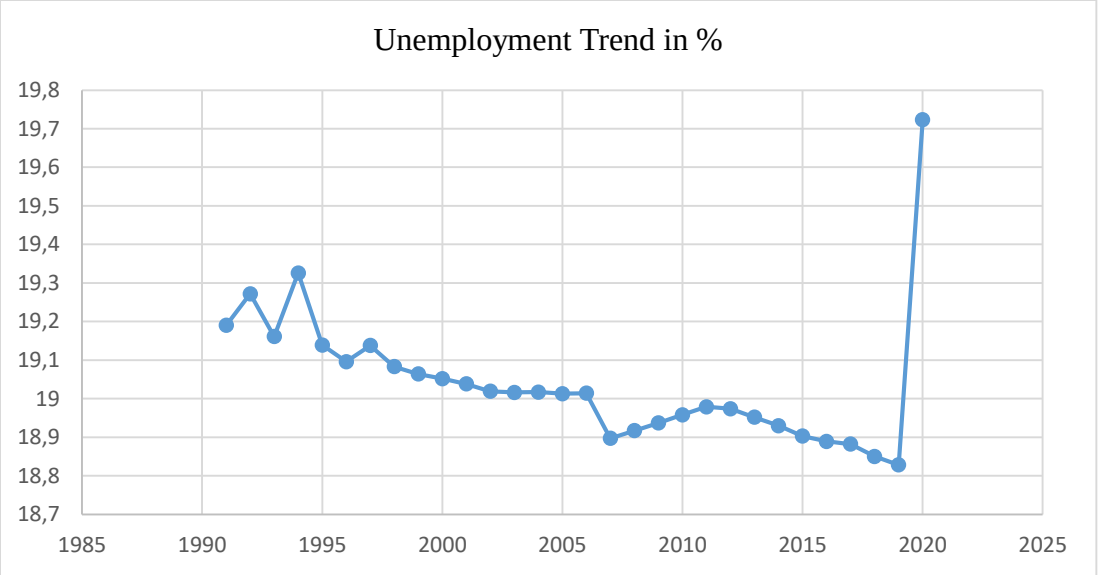


Figure 1. Unemployment Trend in Somalia from 1991-2020.

In 2012, the overall unemployment rate in Somalia for those between the ages of 15 and 64 was reported to be 54%. The unemployment rate for people between the ages of 14 and 29 is 67%, among the most effective rates globally. Compared to men, women have excellent unemployment rates (74% vs 61%, respectively) (UNDP, 2021). Due to established traditional gender norms, young women make up the majority of unpaid family workers who handle home duties. Young people who would have otherwise gone to school and acquired skills that would have increased their future chances of employment and productivity chose to enter the labour force at a high rate, estimated at 66%, reflecting further missed opportunities (OCHA, 2014).

Since 1991, Somalia has had a variety of governments, and 2017 marks the end of one of those periods when the nation lucked out with an active administration that could rein in the country's extremely high unemployment rate, which is rising yearly. The Human Development Index (2012), however, shows that it is critically important for developing, implementing, and assessing integrated national policy frameworks, including strategies of federal employment with specific action plans for youth employment and sound sector policies. Somalia is one of the world's least secure and poorest countries. Despite being positive from 1991 to 2000, the GDP trend shows that economic growth has significantly changed. However, the trend has slightly risen in more recent years, from 2015 to 2019.

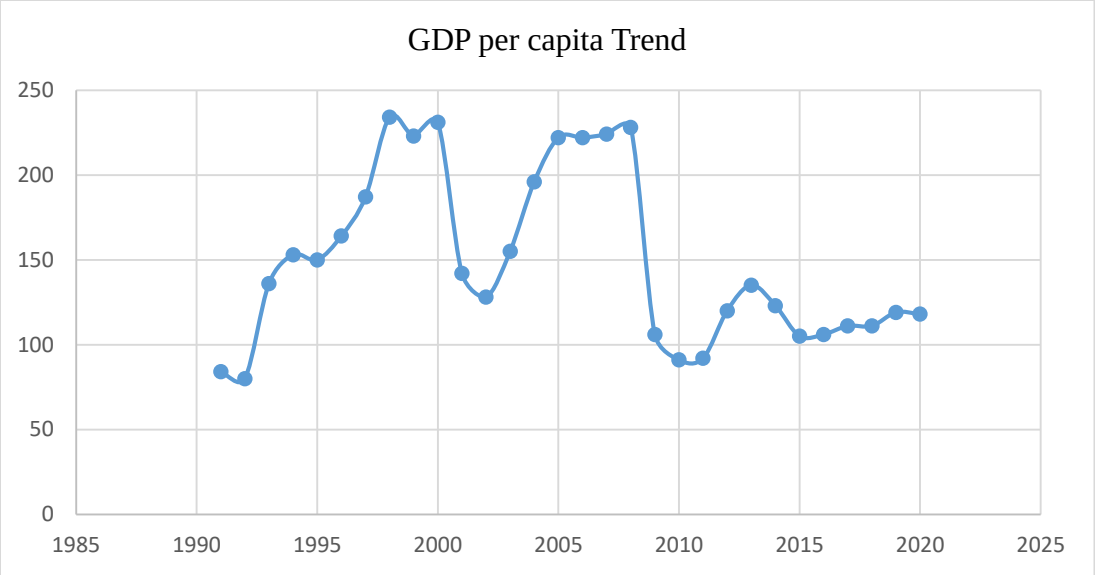


Figure 2. GDP per capital Trend in Somalia from 1991-2020.

1.2 Problem Statement

According to ILO data on unemployment rates for Somalia from 1991 to 2020, the country's unemployment average rate for that period was 19.04%, with at least 18.83% in 2019 and an optimum percentage age of 19.72 in 2020. 19.72% is the most recent projection for 2020. In contrast, based on data from 181 nations, the global average in 2020 was 8.49%. This indicates that there is a higher rate of unemployment in Somalia.

Due to the increasingly adverse effects of unemployment on people and the country, the government has been adopting several policies to help reduce and control the issue of unemployment. Still, the problem seems to be increasing rather than producing positive results—some of the bad effects of unemployment caused a low economic growth rate.

Valid policies need to be adopted to solve this issue of unemployment. The economic consequences of unemployment in Somalia are used as the foundation for the problem statement in this study.

1.3 Research Objective

The study's primary goal is to find out how Somalia's unemployment affects economic growth.

1.3.1 Specific Objective

1. To find out how unemployment affects Somalia's economic growth.

1.4 Research Hypothesis

The following hypothesis serves as the basis for this study:

Null Hypothesis: Unemployment has no impact on the growth of Somalia's economy.

1.5 Scope of the Study

This research focuses on the unemployment impact on Somalia's economic growth. The study focuses on the approximate twenty years from 1991 to 2020.

1.6 Significance of the Study

Generally, unemployment has a severe socioeconomic problem in Somalia, particularly in urban areas. Has been attempted in previous research to shed light on the qualitative variables influencing unemployment. Still, this study will focus on and identify quantitative factors, especially economic growth, that determine the higher rate during the period studied; Somalia's unemployment rate was higher. This is why the researcher is conducting the study, which is distinct from previous research that has been undertaken. Thus, It will help to explain the nature and magnitude of the problem associated with Somalia's high percentage of youth unemployment.

- The finding is also predicted to help formulate policies and tactics that will make it easier for Somalia to reduce its unemployment rate.
- The study findings will also be applied in conducting additional research on the subject.
- And finally, it is more advantageous to public agencies, especially those concerned.

Table 1 Work Plan

Time (Weeks)	Activities
1-3	Topic, Research Objectives and Problem Statement
3-4	Research Significance
4-5	Chapter One Completion
5-7	Literature Review
7-9	Writing Methodology
9-10	Data Collection
10-12	Data Analysis, Reporting and Discussion
12-13	Conclusion and Policy Recommendation

Limitations of the Study

This current study investigated the outcome of unemployment on the growth of the economy of Somalia. The study did not consider gender and cultural influences on the advancement and development of sustained economic and lack of employment. Data unavailability of some variables was one of the issues the study faced due to their exclusion from the model. Lastly, data obtained for this study are available from 1991, yet the study intended to use data from the time of independence."

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section presents the theoretical framework and anchors the study within the relevant scholarly literature on unemployment discourses. With the literature review, this section discusses the correlation between unemployment and economic growth. Secondly, previous empirical research concerning the link between economic growth and unemployment is examined. The literature review will be completed in part three.

2.2 Theoretical Framework

2.2.1 Okun's law

According to Okun (1962), a target of aggregate demand and output should be linked to a policy aim of maximum employment. A strong correlation exists between the economic growth rate and the decline in unemployment rates, based on research on the association of unemployment and economic growth. The employment rate goes up, or the unemployment rate declines with the rise in the growth rate. In experimental examinations on the link between economic growth and unemployment in the literature about the economy, the Okun rule—states that there is an inverse proportionality in terms of the correlation between the Gross Domestic Product fluctuations or growth rate and the unemployment patterns—has been utilized. According to Arthur Okun's work on the Potential GNP: Its Measurement and Significance, a target of aggregate demand and output should be linked to a policy aim of maximum employment

In studies surveyed in this study dealing with the relationship between unemployment and economic growth, one can demonstrate the presence of positive correlations between economic growth and the significant decline in unemployment levels. As the growth rate increases, it may either cause increases in the employment rate or decreases in the unemployment rate. The Okun rule has been utilized in experimental examinations concerned with the relationship between economic growth and unemployment based on the economic literature. Okun (1962) effectively established an antagonistic connection between economic growth and unemployment. He demonstrated that the Real Gross Domestic Product (RGDP) would increase by 1%

if unemployment decreased by (1%), (3) and vice versa; a rise in the RGDP increases employment.

2.2.2 The Keynesian Unemployment Theory

The Keynesian theory of unemployment also refers to the low or cyclical demand theories of unemployment. According to the hypothesis, an economy's weak demand is a primary reason why people who are prepared to work for the going pay rate cannot find employment at a given time (Obadan, 2010). The theory further posits that labour requirements must also decrease as output decreases in response to declining demand for goods and services. The Keynesian theory also highlighted the reality that because there will always be more jobless workers than job openings, some will remain unemployed due to economic mismatches even when full employment is achieved.

2.2.3 The Marxist Theory of Unemployment

Karl Marx presented this thesis in 1863. According to the thesis, the intrinsic essence of capitalism's insatiable nature makes unemployment a problem in any economy. Because unemployment lowers labour demand and pay, capitalism unfairly manipulates the labour market. According to the argument, eliminating capitalism is the best way to reduce unemployment since deficit spending by the government can increase the goods and services public demand, which in turn lowers the need for work. Government intervention can also enhance employment levels and the concept of forced wage rivalry before switching to a communist economic system.

2.3 The Concept of Unemployment

In economic terms, the issue of unemployment has been stressed from a variety of angles. Three crucial criteria must be met for the International Labor Organization (ILO) to define unemployment as being without a job, being prepared to find employment, and actively looking for employment (ILO, 2020).

Therefore, Hussmann (1990) hypothesis that unemployment included all individuals who attained the age that is recommended to take part in economic activities and are having conditions of being without work, which means that they are not self-employed or working at any job that generates income; in other words, they are currently available for work, implying that they are prepared to begin working in any career or employment that generates income; and seeking work, which means that they

are making an effort to find a job. There are exceptions for those who are now jobless but intend to find employment within the reference time range and those who are momentarily suspended from their positions. According to the Keynesian view, governments ought to apply expansionary fiscal policy to reduce unemployment in the economy because it results from a lack of aggregate demand for labour. According to classical theory, because unemployment is a temporary phenomenon, the free market will take care of it naturally and help the economy reach its full employment potential (Ngirande, 2016).

2.4 The Concept of Economic Growth

Economic growth is among the most important financial strategies for poverty elimination and improving quality of life (DFID, 2008). Growth in the actual gross domestic product, or GDP, is a standard definition of economic progress. However, labour (employment), capital, and natural resources directly impact it, while institutions, fiscal and monetary policies, collective demand, and government efficiency indirectly impact it.

Jhingan (2003) defined economic growth as the process by which a country's actual per capital income gradually rises over an extended period. The metric indicators for this are the increases or reductions in the volume of domestically produced goods and services. More interests and better services are generated. As a result, laying the groundwork for expanding wealth through improved societal comfort and reducing the imbalance in the flow of overall revenue.

A balanced approach to raising individual productivity and overall revenue is recognized as the GDP, commonly abstracted as a measure of economic development. More excellent growth rates in total factor output and per capital productivity, particularly labor output, prove this. Economic growth is crucial once population growth significantly outpaces the level of development because it must improve individual well-being by creating employment opportunities and high labour demand, the primary and frequently the solitary strength source for the underprivileged (DFID, 2008).

2.5 Empirical Literature

Various studies were undertaken locally and internationally to provide a basis for justifying the inverse association between high economic growth and reduction in unemployment levels. The association between unemployment and economic growth is well supported by local and international research. A country's diverse economic and social characteristics are revealed through unemployment, which is seen as a negative situation.

Researchers have looked into how unemployment affects economic growth in several articles, academic papers, and other works with a scientific bent. Numerous authors have researched the effects of unemployment on society; the literature about macroeconomics expectations that the current crisis of unemployment and unemployment have a negative impact on the economy and other elements is gradually expanding. As a result of its economic and social ramifications, unemployment is more complicated, which encourages us to examine a range of factors to understand it and how it influences economic growth. Theoretical assessments of unemployment demonstrate that the employment status of the workforce is a function of achievement, which is linked to economic growth. Muhammad (2013) examined the relativity between unemployment and actual gross domestic product because Okun's law suggested that the connection between the two variables is inverse. The study analyzed data from time series spanning the years 1976 through 2010. The Ordinary Least Squares (OLS) and unit root test approaches were utilized in the study to analyse the relativity between unemployment and GDP. The results indicate that a 1%-point increase in the unemployment rate will give rise to the growth of real GDP to contract by 0.36%.

The link between unemployment and the economy's growth rate was examined in several Arab nations (Abdul-Khaliq, & Shihab, 2014). The paper's purpose was to investigate the association between unemployment and economic growth rates in numerous Arab states. We combined data from 1994 to 2010. The study finds that economic growth has a considerable, detrimental implication on the unemployment rate. This means that a 1% economic growth will contribute to a 0.16% decrease in unemployment during the research period.

Another study determined Okun's coefficient and evaluated the rule's applicability in Nigeria, utilizing yearly time series data for 28 years from 1980 to 2008.

The Fully Modified OLS and Engle-Granger Co-integration test were both used. The empirical information on the regression indicated a positive coefficient, showing that Nigeria cannot use Okun's legal analysis. It was recommended that the administration and those in charge of making decisions employ economic measures that strongly emphasis structural modifications and labour market reform. Unemployment may be linked to structural change and subsequent economic expansion. Here, we focus on the mechanisms by which long-term, high unemployment may negatively impact economic progress. In the short run, economic growth and unemployment have an inverse connection along the business cycle. However, structural unemployment is primarily influenced by factors relating to labour market characteristics (Bankole, 2013).

Another study investigated if Okun's law played a role in the United States Great Recession. Using various Okun's law parameters, they evaluated the rate of temporal variation in changes and output in unemployment during the business cycle. The three most recent U.S. recessions and the Great Recession received a lot of attention, and it was found that Okun's law's historical performance was volatile. Okun's law breaks tend to be closely related to recessions based on the recorded break dates of the most significant shifts in the coefficients, which indicates that the business cycle has an essential role in how often it breaks. The study's most robust conclusion is that recessions generally cause the jobless rate to rise. During the three most recent recessions, particularly the Great Recession, there have been changes in the link between output variations and unemployment. Depending on the given specification, the slope changes' statistical significance varies (Owyang, 2012).

Naimy examined the Lebanese equation and determined its potential output using an Okun-type connection. Four hundred households were engaged in an empirical study to evaluate employment status using the BLS criterion in selecting the most beneficial labour market metrics. The primary outcome established was that, with an output $32 billion below potential, the economy of Lebanon appears to be suffering greatly from the effects of unemployment. Due to the current economic and financial crisis, unemployment in Lebanon is steadily increasing (Naimy, 2005).

Khan (2008) examined the connections between Pakistan's unemployment and GDP development. Data from time series were used between 1960 and 2005. Their initial Augmented Dickey-Fuller (ADF) test produced results which stayed constant at the first difference. After that, the Johansen Co-integration test was used. Their research

showed that although a 1% increase in GDP boosted GDP by 7.25%, a 1% drop in unemployment improved GDP by 0.63%. Additionally, their data showed a long-term decline in the relationship between GDP and unemployment.

Another study discussed the effects of inflation and unemployment on Jordan's GDP using 2000-2010 time series data. His model was estimated by the study using the OLS method, and the findings revealed that A 0.906% increase in inflation increased GDP by 1%. Further analysis revealed that a 0.697% drop in unemployment improved GDP by 1%. He concluded that whereas GDP and unemployment have no relationship at all, GDP and inflation do (Jaradat, 2013). Hussein investigated the connection between Pakistan's unemployment levels and economic growth and showed a long-term relationship between trade openness, GDP growth, unemployment, labour, and capital. Overall, it was discovered that GDP growth and unemployment rates were negatively correlated (Hussein, 2010). Young people without jobs who are disheartened or working in poor conditions give up looking for work. They have psychological problems that could lead them to revolt against rules, laws, authorities, and the state, as well as cause them to be deprived of societal respect for themselves. Unemployment's economic repercussions, which appear as a loss of income, can be somewhat offset by financial and insurance assistance from family members. Still, the social effects, such as despair, poverty, insecurity, and fear, are thought to be permanent (Ataman, 2000). Stephen also assessed the implication of unemployment on Nigeria's economic expansion between 1980 and 2008. To establish his approach or model, the author utilized the function of Cobb-Douglas production through traditional least squares (OLS). He discovered that the unemployment rate and its inverse drastically change while the economy is expanding. Furthermore, the results showed that although some macroeconomic metrics encourage Nigeria's economic growth, others do not. He has demonstrated that increasing the money supply raises capital formation, mobiles savings, and ultimately increases domestic production (Stephen, 2012).

However, it turned out that the prolonged unemployment crisis and its high unemployment rate showed a negative economic impact, demonstrating that such crises do not encourage economic expansion. World Bank, in its study on the Western Balkans' crises of unemployment, the institution employed regression analysis to evaluate the connection between economic growth and unemployment. Therefore, the World Bank concluded that the nexus between economic growth and unemployment

provides evidence of an inverse relationship. It further showed that a reduction of 0.25% and 0.37% in unemployment levels in European industrial power nations and Western Balkans was predicated on a resurgent and increasing GDP (World Bank, 2017).

The expansion of the economy's capability to avail the products and services necessary to reduce the poverty rate is how GDP is occasionally interpreted. The general public and policymakers monitor GDP, which is also seen as a steady process that considers the increase of products and services in an economy. (2007) Manchellari, Ahmet One of the main issues the Western Balkans are currently dealing with more than ever is economic security. The daily economic security of the nations in the region has been endangered by poverty and the region's persistently high unemployment rate. Nearly all Balkan countries have high unemployment rates and low employment opportunities among their top worries. With a 50% employment rate and double-digit unemployment rates, European nations face challenges that obstruct their hopes for long-term E.U. integration and economic growth (IMF, 2011). Due to their small exposure to international markets, Kosovo and Albania were the only nations that did not experience significant swings in the GDP indicator due to the crisis. The Western Balkans' economic growth was thought to be driven more by extensive worldwide liquidation and irregular capital profits than by growth as a result of the economy's transition, according to the IMF. However, this tendency doesn't seem to endure long (IMF, 2016). In addition to the fact that the transition processes all of those countries underwent and the century-old disputes between states had a negative impact on those countries, it is also claimed that those countries' geographical distance from the E.U. core countries prevents them from accessing the German economy's supply chain (Bakker, 2015).

Karikari-Apau & Abeti examined the connection between growth and unemployment in China (2019). Chinese macroeconomic time series and secondary data provided by the World Development Indicator covering 1991 to 2018 were used (WDI). In the study's econometric analysis, the stationary level variables were examined and confirmed by applying the Phillips Perron Test and the Augmented Dickey-Fuller Test; the long and short-run co integration of the study's variables were also read by utilizing the Auto-regressive Distributed Lagged (ARDL) co-integration and the ARDL Bounds test since the two variables at first difference were stationary.

The study's conclusions show a negative short and long-term linkage between economic growth and unemployment.

By considering sequence-based data for the duration lasting from 1999 to 2017, Iloabuchi (2019) measured the effect unemployment imposes on the economic growth, specifically in Nigeria. The World Bank and the Central Bank of Nigeria's databases served as the sources for the statistics. The OLS, Augmented Dickey-Fuller, Philip Perron Unit root tests, and pair-wise Granger Causality were used in an explanatory study design. This study's central goal is to examine the connection between the GDP, which acts as a stand-in for economic development and follows Okun's rule, and the direction and magnitude of causality. A one-way relationship between Nigeria's unemployment and economic growth is shown via the Granger causality test (GCT). The result of population expansion, which is also factored into the model, co-occurs as economic growth. Because of the linear link of population growth, the government needs to promote natality rates through strong, high-quality education and human capital development. The report suggests that additional economic sectors be developed in order to diversify the economy and provide jobs for Nigeria's hordes of unemployed youth (Iloabuchi, 2019). The impacts of inflation and unemployment on Nigeria's economic performance over a period specified in the title must be examined and evaluated in order to determine the connection existing when it comes to unemployment and inflation and real GDP in Nigeria. The Ordinary Least Square (OLS) method was combined with a series of diagnostic tests to determine how well the data are suitable for the study. The diagnostic test's findings reveal that the data analyzed is stationary at level and the existence of two co-integrating equations is there and valid, suggesting a long-term link between inflation, unemployment, and RGDP. The research revealed a correlation between economic growth and both inflation and unemployment that is positive (Ademola & Badiru, 2016).

Jibir, Bappayaya, and Babayo (2015) evaluated how unemployment affects Nigeria's economic growth by utilizing time-series data from 1982 to 2014. Central Bank Statistical Bulletin was an important platform for deriving the secondary data. Using OLS, the Phillips-Peron unit root test, and the pair-wise GCT, an exploratory study design was performed. This essay's primary objective is to investigate the causes, consequences, and causal connections between economic growth unemployment in Nigeria. Based on Okun's law, the outcome of OLS points out a link that is negative

between real GDP and unemployment, which seems a clear economic growth proxy. Besides, the GCT illustrates that there is no existence of any association for Nigeria's economic expansion and unemployment. The capacity utilization and government spending inclusion by the model posits the possibility of an association which is favorable between economic growth and unemployment. The government ought to utilize policies and programs that can offer employment possibilities directly to the portion of youths who are in the unemployed population section in Nigeria since there the correlation between economic growth and unemployment is negative. The study also recommends establishment of various centers geared towards skill development and transforming the school system in order to ensure that young people are creator of jobs as opposed to job seekers.

The connection between economic development and unemployment was covered by Nagel (2015). It showed the main theoretical and empirical study pathways, demonstrating the evolution of viewpoints as well as the lack of agreement regarding the nature of the connection. The most important relationships between growth and unemployment were found to be the creation effect (a negative relationship between growth and unemployment), the creative destruction effect (a positive relationship between growth and unemployment), the pool of saving effect (a negative relationship between growth and unemployment), and the coordination failure effect (a negative correlation between growth and unemployment). Additionally, novel links that were brought about by institutional factors—such as the minimum wage effect or the legal employment protection—were examined. The paper's constrained size prevented the discussion of all the factors implicated in the development of the association between growth and unemployment that have been documented in the literature. Research that can account for the dynamically changing conditions of economic activity on international, domestic, and local markets ought to continue to be inspired by the multiplicity of elements that govern this interaction in the modern economy.

Conteh (2021) examined the correlation between unemployment and GDP using unit root test, Augmented Dickey-Fuller (ADF) Co-integration test, and Standard GCTs. The Auto Regressive Distribution Lag (ARDL) bounds test can be useful in assessing the possibility of variables being connected in the long-term. Based on the findings of the ARDL model, unemployment and economic growth fails to indicate a long-term correlation. For those in charge of making economic policy in Liberia, the

results of this inquiry show substantive policy implications. The observational findings illustrates that over both the short and long time frames, there is minimal linkage when it comes to unemployment and economic growth. The government of Liberia needs to refocus its spending on programs that both indirectly and directly support the establishment of decent jobs and employment, create an environment that is welcoming and ensure that there are flexible legislation's or policies governing the labor market, and give preference to sectors that support labor-intensive production.

Meyer (2017) examined the employment situation in South Africa and its connection to GDP growth, which is a measure of economic expansion. This study applied econometric time-series approaches to assess both the long-run and short-run link possibly present between economic growth and employment using quarterly data from 2002 to 2016. The primary variables of the study were the report rate, inflation rate, real GDP, and Employment. The study identified long-term co integrating relationships between the variables. The investigation found that the coefficient of South Africa's employment was 0.96. According to Granger-causality analysis, the study discovered that changes in employment are caused by economic growth and the report rate. Additionally, suggestions on how to create jobs in South Africa were made, which ought to have an impact on how future policies are developed (Meyer, 2017).

In Mauritius, Chuttoo (2020) investigates the link between economic expansion and unemployment. The approach for this study included the ARDL Error-Correction Model (ARDL-ECM), the ARDL Bounds Co-integration Test, and Okun's Law-Gap Version. The relativity between economic growth and unemployment is estimated using the ARDL-ECM model over both the long and short horizons. The applicability of the Okun's law to the Mauritian environment is investigated in order to calculate the Okun's coefficient. Outcome of these experiments posits that economic growth and unemployment have a short- and long-term negative co-integration, but this co-integration is not significant statistically. However, the findings of the Okun's law-gap version projects that Okun's law is actually relevant to the little economy of Mauritius. Based on the Okun's coefficient, it is determined that the unemployment rate in Mauritius varies by 1% in the opposite direction for every 4% change in GDP growth rate (Chuttoo, 2020).

Every country strives to find a solution to the unemployment issue. Unemployment has severe effects on a country's social, economic, and political stability

when it lasts for a very long time. High unemployment rates mean that nations like Greece, Spain, and Italy may be able to plainly see the harmful effects of unemployment. It takes a lot of effort and time to combat unemployment.

"Unemployment develops when there are more job seekers than there are real job openings (labor supply) in the labor market," according to the theory (International Labor Organization, 2012). The formal labor market in developing nations, where the informal sector typically outnumbers the formal one, is where unemployment is defined by the International Labor Organization (ILO). Economic theories have been put out over time to explain the occurrence of unemployment, aiding nations in addressing, if not completely eliminating, and unemployment while upholding a healthy economy. Marxian theory of unemployment, efficiency wage theory, Keynesian classical theory of unemployment, implicit contract theory, and Okun's law model are a few of the well-known theories. These ideas contend that one or more factors may contribute to unemployment. On the other hand, the Okun's law is the only economic theory that focuses only on joblessness and economic growth (Okun, 1962).

On the other hand, a country's capacity to put effective macroeconomic and structural policies into place as well as to generate long-term employment depends greatly on its ability to maintain economic stability. "While bad macroeconomic policy always results in bad economic performance, good macroeconomic policy does not always result in good economic performance. Favorable economic conditions offer only a starting point in dealing with unemployment" (OECD, 1994). The primary drivers of economic growth are price stability (exactly a low inflation rate), a sufficient level of capital investment, and a sufficient level of national savings. Cooperative and effective participation of the private sector, together with policies, is crucial for reviving the economy, creating new jobs, and lowering unemployment. Institutions in the legal, economic, political, and social spheres are essential for giving incentives to business people and the working class in order to achieve successful structural reform. However, economic structural changes raise the possibility of a brief increase in unemployment. Using data for 24 European nations between 1998 and 2013, Piton & Rycx (2018) generated reliable estimates of the effect of both product and labor market rules on unemployment. The results demonstrate that product market deregulation generally lowers the critical factor in maintaining the unemployment rate low while enacting structural changes, even after controlling for country-fixed effects, heterogeneity, and

a wide range of covariates. In general, inflexible macroeconomic policies and other types of public support increase the probability of temporary unemployment becoming terminal or permanent (from structural to cyclical unemployment) (OECD, 1994).

This outcome is in line with theoretical forecasts and robust for all configurations. Reforms need not, however, all have the same impact; for example, the deregulation of government regulations and, more specifically, government engagement in corporate operations, tend to increase the unemployment rate. The employment protection law index, which measures labor market deregulation, indicates that it has a negative short-term impact on unemployment and a favorable long-term effect (a lower unemployment rate). According to sub-indicator research, limiting protection against collective dismissals lowers the unemployment rate. Additionally, estimates of the unemployment rate equation are made for various worker types.

While deregulation of the labor and product markets affects both men and women equally, it affects employees differently based on their age and level of education. Younger employees are approximately twice as negatively impacted by employment protection as older workers. High-educated people are less affected by the deregulation of the product market than are those with low and moderate levels of education (Piton & Rycx, 2018).

(2018) Seth and John looked into the connection between Nigeria's economic expansion and unemployment. Furthermore, the effect of unemployment on Nigeria's economic expansion was assessed. In view of the current economic issues in Nigeria, these studies were done to investigate the outcome of unemployment on economic growth in addition to providing recommendations geared towards boosting it and lowering the rate of unemployment. For the years 1986 to 2015, annual secondary statistics were taken from the National Bureau of Statistics and Central Bank Statistical Bulletin. . The results indicate that there is no consistent correlation between Nigeria's economic growth and unemployment rate. Despite good interventions, the long-term increase in unemployment has a statistically significant (t=3.748221) growth-enhancing mechanism on the economy (Seth & John, 2018).

Another study assessed the bond between current account balance, unemployment, inflation, and economic growth. The relationship was conceptually examined, and alternative theoretical stances were considered. As a result, national

income accounting is used to show how the current account balance and growth interact, whereas Okun Law is used to quantify the strength of the growth-unemployment link and Phillips analysis is used to determine the link subsisting between unemployment and inflation. Following the thorough theoretical approaches using widespread data were defined and assessed for Turkey.

Additionally, symmetric and asymmetric reserved causality tests were employed in this research to examine the link between inflation, the prevailing shortages, economic growth, and unemployment for the time period from 2000Q1 to 2020Q4. In this study, we used the Hatemi-J (2012) approach based on the Toda-Yamamoto (1995) test to assess the asymmetric hidden causation links between the series. When the association between Turkey's unemployment rate and these years' growth rates is looked at.

Two negative effects of Romania's relatively rising unemployment rate that cannot be used to increase production of goods and services, on the other part, are caused by the economic burden of providing unemployment benefits, on the one hand, and the availability of a portion of the labor pool, on the other. The availability of the labor market and the nation's economy's inability to adjust are revealed by looking at the established unemployment rates in the BIM or AMIGO systems. There is a direct correlation between the evolution of the Gross Domestic Product, which we evaluated using multiple appropriate econometric models, and the inflation rate (ANGHEL & MANOLE, 2017).

Another study looked at the connections between economic growth, unemployment, and inflation from 1996 to 2012 The findings demonstrate that both unemployment and inflation have a significant and detrimental effect on economic growth, slowing it, according to the model estimation results. This problem served as a reminder of the importance of cautious government initiatives and programs to lower and regulate inflation and unemployment.

The study's conclusions may be used by all respectable Iranian authorities, especially those in control of the nation's economic and social institutions, to attempt and minimize and regulate unemployment and inflation in order to encourage economic progress (Mohseni & Jouzaryan, 2016).

Shahid (2014) looked at how inflation and unemployment impacted Pakistan's economic growth. Time series data from 1980 to 2010 were made available by the World Bank. The economic expansion was the dependent variable. Unemployment and inflation were the two independent factors. In the preceding study, it was determined how unemployment and inflation impacted economic growth.

In the earlier investigation, the impact of unemployment and inflation on economic growth was evaluated using the Augmented Dickey Fuller (ADF) test for unit root. The outcomes demonstrated the stability of the variables. The results of the ARDL test also indicated a long-term relationship for these variables. Political stability and a strong educational system both significantly lowered economic growth and unemployment.

Zabihi (2012study findings indicated that the output gap and the difference between the unemployment rate and inflation had a persistently negative connection. Business cycles have a detrimental effect on inflation and unemployment as well. In other words, if the actual unemployment rate approaches the actual unemployment rate in proportion to inflation, output will be maximized without any inflationary pressure.

2.6 Summary of the Literature

The study reviewed numerous studies utilizing a variety of methodologies on the link between economic progress and unemployment from different countries. The Okun's law is the foundation of the majority of these research' theoretical framework. The literature revealed that no previous study on this topic had been carried out in Somalia, which is one of the driving factors behind this investigation.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section demonstrates the study research methodology and entails the following: the first segment introduces the chapter, the second segment pertains to model specification, the third showcases data description, and the last one entails estimation method testing.

3.2 Model Specification

Utilizing the model, this study analyzes how unemployment rates changed over the research period in Somalia. It's quite easy to understand and put together. Since Okun's Law states that output and unemployment are connected, GDP is used as the independent variable in this analysis.

Okun's Law describes the correlation between fluctuations in unemployment and GDP (Gross Domestic Product) to forecast potential output. Okun's Law measures potential output in terms of human capital input, where potential output is the maximum amount of real GDP output at full employment. However, the rate is not constant but rather depends on the growth of the employment power and employment output in the country (Okun, 1962). He proposed that a GDP increase above 3 percent on median is required to reduce unemployment. Also, it says that a 3% growth in GDP occurs when the jobless rate falls by 1%. Okun also noted that the significant empirical relationship between economic growth and unemployment can be broken down into two parts: (1) changes in the unemployment rate from their non-accelerating inflationary level, which are connected to changes in GDP from their highest, and (2) changes in the unemployment rate from their highest (Daly & Hobijn, 2010). Two methods, the output-gap method and the sensitivity analysis method, are proposed by Noor, Nor, and Ghani (2007) for calculating Okun's elasticity constant. Therefore, this research utilized a variant of Okun's (1962) model that incorporates previously established control factors. Here is how the model was revised after it was adopted:

$$Xt-Xt^*=b(Zt-Zt^*) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Where, Zt= actual production,

Zt*= possible production,

Xt= normal unemployment,

Zt*= possible unemployment,

b=Okun's constant.

Below is an illustration of the next method for estimating Okun's coefficient, based on Okun's first difference:

$$\Delta X=\alpha-b\ (\Delta Z/Z)\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

Another possibility is to look at how output shifts in relation to fluctuations in the unemployment rate.

$$(\Delta Z/Z)t=\alpha-b\Delta Xt+\varepsilon t\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

$$\log Zt=\alpha-b\log Xt+\varepsilon t\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

Okun's coefficient can be calculated by taking a close approximation of b. Using this statistic, we can deduce that the jobless rate is negatively correlated with GDP growth.

3.3 Data Sources and Description

Time series data from 1991 to 2020 was used in this study. The utilized data in this evaluation emanates from two sources: World Bank and United Nation Data. The research used gross domestic product (GDP) per capital as the dependent variable and unemployment as the main independent variable.

ILO defines unemployment as the proportion of the labor force (aged between 15 and 64) who are unemployed but looking for work. The prominent criterion of assessing unemployment is focusing on the rate of unemployment, which can be computed by the division of the number of individuals who are jobless by the labor force total.

The GDP, which can be defined as the increase in the number of goods and services generated per head of population in a particular period, is a useful tool for measuring the growth of the economy. The percentage growth rate per year for the GDP at current economic value calculated using the constant local currency is used in this

study. The basis for aggregates is constant 2010 U.S. dollars. Production can rise with an increase in GDP, allowing households to enjoy more products and services and raising living standards, particularly in developing nations where there is a high level of poverty. The ability to lower unemployment is the most crucial factor in an increase in GDP.

3.4 Estimation Technique

First, the model was established; next, diagnostic tests were conducted; finally, the stationary of the variables was evaluated; last, the long-run and short-run versions of ARDL were implied, along with an error-correcting form of the test. A CUSUM test was used in the last phase.

3.4.1 The unit root test

Before estimating the equation, this research checks to see if the variables are stationary in the time series. If the data series can be separated and found to be stationary, then they can be arranged into one or more orders; otherwise, they are non-stationary. Evaluating unit root tests, which are predicated on the null hypothesis of non-stationary and failing to deny 0, signifying refusal and the need for sufficient variations to set off stationary, can be done with the use of the augmented Dickey-Fuller and Phillip-Perron tests.

3.4.2 ARDL

The ARDL limits checking method of co-integration developed by Pesaran (1999), Shin (1999), and Pesaran (1997, 2000) was used in this review (2001). There are two phases to the ARDL method of dealing with co-integration (Pesaran, 2001). The first step in evaluating a problem is realizing that there are interconnected elements at play.

3.4.3 Descriptive Statistics

In this review or examination, we will run graphic measurements. As per this test, to put it plainly, help portray and comprehend the highlights of a particular informational collection by giving short outlines about the example and proportions of the information.

3.4.4 Bound Test

This test is running according to this study to check for the presence of co-incorporation affiliation the Bound test is utilized and the overall meaning of the coefficients are tried.

3.4.5 Stability Test

When the CUSUM insights chart falls within the margins of the core region for a test at 5% significance or lower, it is accepted that the idea of routine transport is false.

CHAPTER FOUR

DATA ANALYSIS AND METHODOLOGY

In this chapter, the research data will be explained in detail. The methodology used to test the effects on inflation and economic growth will also be explained step by step.

4.1. Data

Secondary macroeconomic data covering the years 1991-2020 was downloaded from the World Development Indicator and United Nations Statistic Division used in the analysis. Time series data was used for the analysis, meaning the study's observations were based on a number of different factors measured over time and presented in a specific order. The two primary variables are annual percent change in gross domestic product (GDP) and total number of unemployed people (Unemployment) (% of the total labour force). However, the study's sample was determined by the size of the data set, the significance of the variables of interest, and the ways in which they interact with one another. The table below shows sources of the data derived for this study in table 4.1.

Table 2. Data Details

Variables	**Abbreviation**	**Data**	**Sources**
Unemployment	UN	Unemployed Growth (%)	World Bank
Economic Growth	GDP	GDP Growth (%)	United Nation Data

4.2. Study Measurement of Variables

Economic Growth: Gross domestic product (GDP) per year was used as a proxy for economic growth because it measures the total economic output in an economy. Growth in real GDP from one period to the next is measured by the rate of real GDP growth. Real Gross Domestic Product Growth Rate:

$$\text{Real GDP} = \frac{Current\ Real\ GDP - Previous\ Real\ GDP}{Previous\ Real\ GDP}\ X\ 100$$

Unemployment: Unemployment is total (% of the total labour force) is the proportion of the labor force that is currently unemployed as a proxy for the unemployment rate. Unemployment is measured as the number of people actively seeking employment as a fraction of the total labor force. To determine the unemployment rate, we use the formula:

$$\text{Unemployment} = \frac{Number\ of\ Unemployed\ Persons}{Labour\ Force}\ X\ 100$$

4.3. Descriptive Statistics

Studies are summed up in this section. After precise measurements are made, a relationship lattice is introduced. Initially, we calculate the average mean, standard deviation, minimum, and maximum. Using a connection analysis, you can find out which variables are connected. If there is a strong relationship between the variables, the relapse model could be impacted by multi collinearity.

Table 3. Descriptive statistics

	GDP	UN
Mean	1.114000	19.04190
Median	2.600000	19.01500
Maximum	5.700000	19.72300
Minimum	-21.00000	18.82800
Std. Dev.	5.227152	0.175737
Skewness	-3.150828	2.076558
Kurtosis	12.90046	8.659123
Jarque-Bera	172.1626	61.59255
Probability	0.000000	0.000000
Sum	33.42000	571.2570
Sum Sq. Dev.	792.3703	0.895616
Observations	30	30

The table 4.2 show that there was a total of 30 observations made during the course of the study. In this model, GDP serves as the dependent variable, while Unemployment Rate serve as the independent variable. The annual rate of GDP expansion can be anywhere from 5.7% to -21.0%. The annual rate of growth in GDP is 1.114% on average. This is a hallmark of an economy marked with not so much fortune. The Jarque-Bera value of 172.1626 and the probability value of 0.000 percent indicate that the unemployment rate was normally distributed.

The Unemployment range can be anywhere from 19.723% to 18.828%, with a mean of 19.042%. and a standard deviation of 0.218861 across all observations. This demonstrates that despite Somalia's GDP growing faster in 2020 than it did in 1991, unemployment has not decreased as much as might have been anticipated. The claim made by (Seth, John, & Dalhatu, 2018) based on empirical data that GDP growth can be characterized by higher rates of increase in per capital productivity and total factor output, particularly labor output, may not be as far-fetched as the cause.

4.4. Unit root test

Results and confidence intervals for the Augmented Dickey-Fuller (ADF) and Philip-Peron (PP) tests used to verify the series' stationary are displayed in table 4.3. The study's investigators used the Augmented Dickey-Fuller and Philip-Peron tests to determine whether the time series was stationary, and the table below displays the tests' outcomes and levels of significance.

Table 4. ADF-PP Unit Root Test Results

		ADF			**PP** Philip-Peron		
Variables		**Level Intercept and Trend**	**First Difference Intercept and Trend**	**Decision**	**Level Intercept and Trend**	**First Difference Intercept and Trend**	**Decision**
GDP	t-statistics	-4.1769	-5.9511	I(0)	-5.85863	-7.5931	I(0)
	probability	(0.0144) **	(0.0002) *		(0.0002) *	-7.5931	

UN	t-statistics	-1.3158	-2.9729	I(1)	-1.3158	-2.4153	I(1)
	probability	(0.8637)	(0.0126) **		(0.8637)	(0.3643)	

* Table 4.3 is organized according to 1% (*) & 5% (**) significance level and Schwarz criteria.

After applying ADF and PP test it is concluded that GDP is stationary at level with a 1% confidence interval and unemployment is stationary first difference with a 5% confidence level.

4.5. ARDL Bounds Test

When the initial characteristic of a time series is entirely I (0), entirely I (1), or concertedly co integrated, the bound's testing procedure is a crucial statistical tool for evaluating position connections. In this study, we assume that the ARDL model provides a uni-variate framework for sampling the true one-level relationship between Somalia's GDP growth and unemployment rate. The Bound test and a thorough exploration of the coefficients' potential significance are used to determine whether or not co-integration is present.

When the information generating process fundamental to a time series is pattern or first distinction fixed, bound testing as an expansion of ARDL displaying uses F and t-insights to test the meaning of the lax levels of the factors in a uni-variate harmony adjustment framework when it is unclear.

Table 5. ARDL Bound Testing Results

Model	**Optimal Lag***	**F Statistics****	**Bound Test Critical Values**		
				Lower	**Upper**
F(GDP, UN)	(3,0)	11.53767	10%	3.02	3.51
			5%	3.62	4.16
			2.5%	4.18	4.79
			1%	4.94	5.58

The bound test is used to determine whether the dependent variable and independent variables have a long-term relationship or not. Table 4.4. indicates that F-statistic (11.53767) is greater than the upper critical value (4.16) at 5% significance level and lower critical value (3.62) which means that there is co integration, and it suggests that there is a long-run relationship between economic growth and unemployment which is the independent variable. Diagnostic tests are used after demonstrating the model's variables' long-term relationship with one another (Table 4.5).

4.6. Diagnostic Checking Tests

Table 6. Diagnostic Checks

Test	**Statistics**	**Probability**
Breusch-Godfrey Serial Correlation LM Test	4.545639	0.1930
Heteroskedasticity Test: Breusch-Pagan-Godfrey	1.550495	0.9561
Ramsey Reset Test	1.8772	0.1866

4.6.1 Breusch-Godfrey Serial Correlation LM Test

If the chi-squared statistic's p-value is significantly lower than 0.05, signifying the absence of an auto-correlation issue, we accept the null hypothesis H0. If the chi-square value is greater than 0.05, however, we reject H1 and conclude that auto-correlation is a problem (Stock and Watson, 2006).

Although the p-value associated with the test measurement is more impressive than the conventional significant level (0.1930 > 0.05), this fact does not lead to the dismissal or rejection of the false hypothesis of no sequential connection (Breush and Godfrey LM test). The absence of auto-correlation is ruled out as the reason.

4.6.2 Breusch Pagan Heteroskedasticity Test

Since the P-value associated with the Breusch-Pagan-Godfrey heteroscedasticity test (0.961) is substantially larger than the typical significance limit, the result of the

test suggests that the null hypothesis of no heteroscedasticity is accepted or standard at a 5 percent significance level (0.05).

4.6.3 Ramsey RESET Test

Hypothesis of the Ramsey Reset test is as follows:

H0: The model is correctly indicated.

H1: The model is not correctly indicated.

If the P-value of F-stat is greater than 0.05, it is demonstrated that the model has been correctly specified and H0 is therefore plausible to accept. Since the probability value of the F-measurement is 0.1866, which is greater than 0.05, we must reject the null hypothesis that the model has been accurately determined (Gujarati and Porter, 2009). Therefore, at the 0.05 level of significance, we can infer that the model is accurately depicted.

4.7. Long-Term Coefficients

After confirming the long-term relationship, the following refers to the normal long-term coefficients after normalizing on GDP.

Table 7. Long-Term Coefficients

Levels Equation
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UN	-16.13270	0.753005	-21.42441	0.0000
C	309.0322	14.31511	21.58783	0.0000

EC = GDP - (-16.1327*UN + 309.0322)

The above result (table 4.6) suggests that two factors have a fundamental impact on Somalia's long-term economic growth (GDP) because their likelihood is below the threshold of significance (5%) which 0.0000. A 1% increase in the unemployment rate caused the GDP to fall by approximately 16.13%. There is also negative effect of unemployment on GDP.

4.8. Error Correction form for ARDL

Table 8. ECM Regression

ARDL Error Correction Regression				
Dependent Variable: D(GDP)				
Selected Model: ARDL(3, 0)				
Case 2: Restricted Constant and No Trend				
Sample: 1991 2020				
Included observations: 27				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	-0.434880	0.206311	-2.107891	0.0467
D(GDP(-2))	-0.148488	0.162464	-0.913970	0.3706
CointEq(-1)*	-0.625025	0.202591	-3.085151	0.0054
R-squared	0.627710	Mean dependent var		-0.011481
Adjusted R-squared	0.596686	S.D. dependent var		6.275008
S.E. of regression	3.985071	Akaike info criterion		5.707426
Sum squared resid	381.1390	Schwarz criterion		5.851408
Log likelihood	-74.05026	Hannan-Quinn criter.		5.750240

If the appropriate policy measures are in place, according to the estimates of the parsimonious error-correction model in table 4.7, The Error Correction Term (ECTt-1) has the correct negative sign and is statistically significant at 5% when it comes to measuring the rate of adjustment between the short-run disequilibrium (actual) and the long-run equilibrium (anticipated). According to the estimated coefficient, if the proper policy measures are implemented, the disequilibrium in the short run can be remedied in the long run at a speed of 63%.

4.9. Stability Test

The Cumulative sum of squares of recursive residuals (CUSUM), shown at the figure, is used to calculate the version's balance. This type of test is provided in this instance by the CUSUM test, which is based solely on the residuals from the recursive estimations.

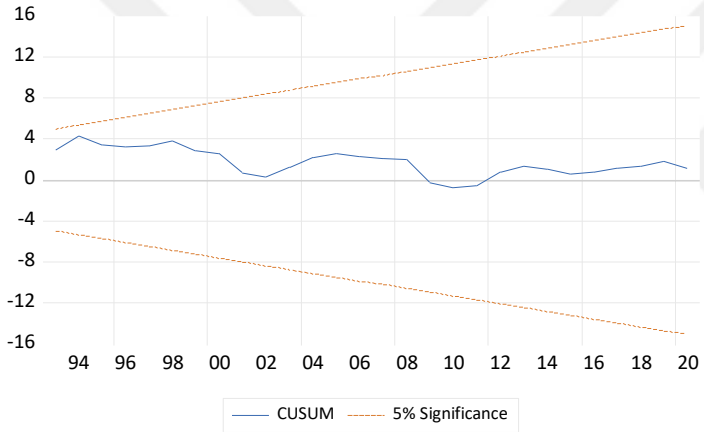
Hypothesis1:

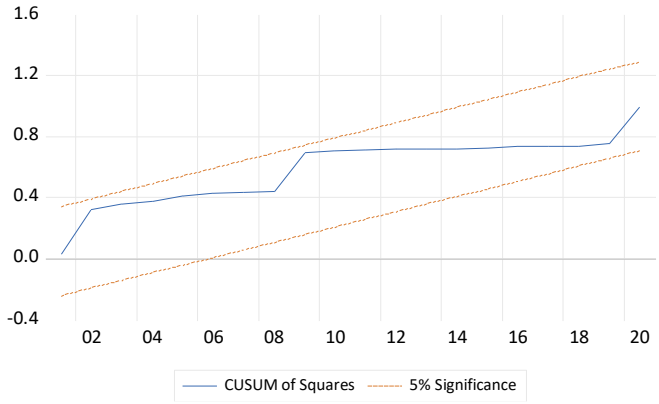
H0: The CUSUM distribution is a symmetric distribution targeted at 0.

H1: The CUSUM distribution isn't always symmetric distributed and no normal distribution.

Decision rule.

When the graph of CUSUM information lies between the confines of the crucial area for a check at 5 % degree of significance, the null hypothesis of normal distribution is accepted, and vice versa. Based on the study's final findings, the graph of CUSUM data places the following limits around the important area:





Graphic 1. Stability test

As demonstrated by the above figure, the model has not experienced any stability issues.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

The final portion of the study focuses on drawing conclusions, discussing the findings' consequences, and making recommendations based on those conclusions.

5.2 Conclusion

The effects of unemployment on Somalia's economic development were the focus of this analysis. The research used a 30-year set of data covering the years 1991-2020 compiled from the World Development Indicator (WDI) and United Nations Data. An ARDL model was employed as the econometric framework for the study. In this study, we calculated the short-term and long-term link between GDP growth rate (the independent variable) and unemployment rate (the dependent variable). Both the short- and long-term growth rate of the Somalia economy are correlated with the unemployment rate, various exogenous factors may have contributed to the observed negative correlation between the unemployment rate and economic growth rate.

5.3 Implications

These studies show that there is a negative connection between unemployment and economic growth. Since a higher pace of economic growth necessitates a greater allocation of resources, including human labor, unemployment falls as Somalia's economy expands. However, when the rate of economic growth in Somalia slows, unemployment rates rise because fewer people are needed to generate the same amount of goods. Since more human capital will be required by these industries, Somalia can alleviate the problem of high unemployment by incorporating the idea of industrialization into its short term and long-term strategies. Since higher productivity is related to lower unemployment, the Somalian government can also invest more in the development of human capital for people to have the necessary skills to be more productive.

5.4 Recommendations

In light of the results of this study, I thus offer the following policy suggestions.

- Since it is obvious that increased economic output follows a decline in the unemployment rate, the government should work to lower the rate through promoting domestic and foreign direct investments that generate jobs in order to advance economic development. This suggestion is in line with that made by Akeju and Olanipekun (2014), who urge policymakers to embrace fiscal policies that will draw foreign direct investment to lower unemployment in Somalia.
- In order to know how to combat unemployment in the upcoming year, the government should develop rules that will aid in a proper check of the annual unemployment rate and its impact on efforts to reduce it.
- Creation of efficient unemployment policies that would integrate the unemployed, particularly into informal economic sectors.

5.5 Areas of Further Study

The data presented above demonstrates a negative relationship between unemployment and economic growth. So as to lessen the burden of unemployment in Somalia, the country's GDP should be boosted by measures aimed at inspiring the country's youth to work. Additionally, I will advocate for more research into the other macro-economic factors like inflation, interest rate, and currency rate that may contribute to the negative short- and long-term relationships between Somalia's unemployment rate and economic growth rate.

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