

INFLATION AND TRADE BALANCE IN UGANDA

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MAY, 2016

DECLARATION

"This thesis is my original work and has not been presented for a degree or any other academic award in any university or institution of learning".

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Date

14/05/2014

APPROVAL

"I confirm that the work reported in this thesis is carried out by the candidate under my supervision".

Name of Supervisor Dr. Abuga Isaac

Signature of Supervisor _____

Date _____

DEDICATION

This work is dedicated to my dear mother Lul Guhad Ibrahim and dear father Abdullahi Haji Hassan who has tirelessly supported me in all aspects including my academic endeavors. May the God bless you abundantly!

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I wish to thank the almighty God for keeping me alive and providing me with the capacity and courage to go through the three year course successfully.

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LIST OF ACRONYMS

CPI	Consumer Price Index
BOU	Bank of Uganda
UBOS	Uganda Bureau of Statistics
GDP	Gross Domestic Product
IMF	International Monetary Fund
BOP	Balance of Payment
EAC	East African Community
UEPB	Uganda Export Promotion Board
UNBS	Uganda National Bureau of Standards
CET	common external tariffs
ERP	enterprise resource planning
OIC	Organization of Islamic States
AGOA	African Growth and Opportunity Act
(SEP)	The Strategic Exports Program
NES	National Exports Strategy
WTO	World Trade Organization

LIST OF TABLES

Figure 2: A Scatter Plot of Inflation rates and Trade balance in Uganda (1983–2014).....	27
Table1: Stationarity Test for Inflation Rate Using Dickey Fuller Test.....	25
Table2: Stationarity Test for Trade Balance Using Dickey Fuller Test.....	26
Table3: Regression analysis model summary	28
Table 4: Regression Analysis showing the relationship between Inflation Rate and Trade Balance.....	28

TABLE OF CONTENTS

DECLARATION	i
APPROVAL.....	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
LIST OF ACRONYMS.....	v
CHAPTER ONE	1
1.0 Introduction.....	1
1.1 Background of the Study	1
1.1.1 Historical perspective.....	1
1.1.3 Conceptual perspective	3
1.1.4 Contextual perspective	5
1.2 Statement of the problem	6
1.3 Purpose of the study	6
1.4 Objectives of the study	6
1.5 Research Questions.....	6
1.6 Hypothesis.....	7
1.7 Scope of the study	7
1.7.1 Geographical Scope	7
1.7.2 Theoretical Scope.....	7
1.8 Significance of the study	7
CHAPTER TWO	8
LITREATURE REVIEW	8
2.0 Introduction.....	8
2.1 Conceptual Review	8
2.2 Conceptual framework.....	12

2.4 Empirical review.....	14
2.4.1 Empirical findings on inflation rate.....	14
2.4.2 Empirical findings of Balance of trade.....	17
2.5 Research Gap	21
CHAPTER THREE	22
METHODOLOGY	22
3.0 Introduction.....	22
3.1 Research Design	22
3.2 Data Type and Source	22
3.3 Data Processing and Analysis.....	22
3.4 Ethical Consideration	24
3.5 Limitations of the Study	24
CHAPTER FOUR.....	25
PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA	25
4.0 Introduction.....	25
4.1 Stationarity Test.....	25
4.2 Relationship between inflation and trade balance in Uganda from 1983-2014	27
CHAPTER FIVE	30
Discussion, CONCLUSIONS AND RECOMMENDATIONS	30
5.0 Introduction	30
5.1 findings and Discussions	30
5.4 Recommendations.....	31
5.5 Areas of further study.....	32
REFERENCES.....	33
Appendix I: DATA SET	38
APPENDIX 2: RESEARCH CIRUCULAM VIT.....	39
APPENDIX III: TIME FRAME.....	40

ABSTRACT

The study set to investigate the impact of inflation on trade balance of Uganda from 1983-2014. The study was guided by one objective of established relationship between inflation and trade balance in Uganda. The study adopted a longitudinal research design involving quantitative approach. Time series analysis was adopted and regression analysis to analyze secondary data collected from International monetary fund, Bank of Uganda and World Bank data sheets.

The findings were that the inflation rate in Uganda has been increasing, though with some stagnations and fluctuations. The balance of trade was unfavorable over the last 32 years and there was a mix of ups and downs with the balance of trade still heating negative. The correlation coefficient shows a weak negative relationship ($r = -0.307$) between inflation rate and trade balance and after Stationarity correction, a negative and insignificant relationship was observed also. The rate change of trade balance due to inflation rate is ($B = -0.021$), indicating that a unit increase in inflation rate reduces trade balance by -0.021 . The researcher recommends the government should encourage the local company to produce and export so that to improve the trade balance. Finally, the government should have the policy to limit the import goods, decrease the cost of transport and decrease the impact of oil price on import to avoid trade balance deficit.

CHAPTER ONE INTRODUCTION

1.0 Introduction

In pursuit of the topic mentioned above, this chapter brings forth the introduction to the research paper as it tackles the background of the study, the statement of the problem, purpose of the study, study objectives, research questions, the scope of the study in terms of geography, content/variables and time, hypothesis, the significance of the study and eventually operational definitions of key terms.

1.1 Background of the Study

1.1.1 Historical perspective

Historically, large infusions of gold or silver into a world economy led to inflation. From the second half of the 15th century to the first half of the 17th, Western Europe experienced a major inflationary cycle referred to as the "price revolution", with prices on average rising perhaps six fold over 150 years. This was largely caused by the sudden influx of gold and silver from the New World into Habsburg Spain. The silver spread throughout a previously cash-starved Europe and caused widespread inflation. Demographic factors also contributed to upward pressure on prices, with European population growth after depopulation caused by the Black Death pandemic.

Today, few currencies are fully backed by gold or silver. Since most world currencies are fiat money, the money supply could increase rapidly for political reasons, resulting in inflation. The most famous example is the hyperinflation that struck the German Weimar Republic in the early 1920s. The nations that had been victorious in World War I demanded reparations from Germany, which could not be paid in German paper currency, as this was of suspect value due to government borrowing. Germany attempted to print paper notes, buy foreign currency with them, and use that to pay their debts.

This policy led to the rapid devaluation of the German mark, and with it, hyperinflation. German consumers exacerbated the cycle by trying to spend their money as fast as possible, expecting that it would be worth less and less the longer they waited. More and more money flooded the economy, and its value plummeted to the point where people would paper their walls with the practically worthless bills. Similar situations have occurred in Peru in 1990 and Zimbabwe in 2007-2008.

In Uganda the inflation rate has been increasing, though with some stagnations and fluctuations. For the years, 1983 it was high and reduced to 1984, this was followed by a sporadic increase in inflation rate up to 1987. There was a steady reduction in the level of inflation rate to a figure below 100% to 1992. A sharp slight increase was realized up to 1993 there after a steady decrease in inflation. Despite the few upsets in late 2000-2011. Uganda tried to maintain single digit inflation up from 1994-2007 (bank of Uganda, 2012).

Trade, in general connotation, means the purchase and sales of commodities. In International Trade, purchase and sale are replaced by imports and exports. Balance of Trade is simply the difference between the value of exports and value of imports. Thus, the Balance of Trade denotes the differences of imports and exports of a merchandise of a country during the course of year. It indicates the value of exports and imports of the country in question. If the value of its exports over a period exceeds its value of imports, it is called favourable balance of trade and, conversely, if the value of total imports exceeds the total value of exports over a period, it is unfavorable balance of trade. The favorable balance of trade indicates good economic condition of the country. Hira and Anil (2005)

Policies of early modern Europe are grouped under the heading mercantilism. Early understanding of the imbalances of trade emerged from the practices and abuses of mercantilism in which colonial America's natural resources and cash crops were exported in exchange for finished goods from England, a factor leading to the American Revolution. An early statement appeared in Discourse of the Common Wealth of this

Realm of England, "We must always take heed that we buy no more from strangers than we sell them, for so should we impoverish ourselves and enrich them. Similarly a systematic and coherent explanation of balance of trade was made public through Thomas Mun's "England's treasure by foreign trade, or, the balance of our foreign trade is the rule of our treasure, (Bivens, 2004).

the ups and downs of trade balance rates in Uganda for the period of 32 years, that is from 1983 to 2014. The peak of the trend was in 1985, where the economy experienced the lowest rate of balance of trade by -1.27. In the following years however, there was a mix of ups and downs with the balance of trade still heating negative. For example in 1992, there was an increase in the rates followed by a slight increase in 1993, despite the world economic crises then. For the years 1993 to 1996, there was a steady decline and increase in the trade balance rates in Uganda thereafter to 2001 when it increased (BOU, 2011).

Generally, the highest balance of trade rates in Uganda was in 1985 were -1.27 change to GDP was realized, with the percentage rate of 0.9490% as for this study that focused on a period of 32 years (1983– 2014). The lowest balance of trade rates were in 1992 with -15.53 rate and the second lowest it was in 2011 with -15.1 ; this could be attributed to the economic crisis at the time. This imply that balance of trade in Uganda is unfavorable over the period of study attributed to low levels of exports (BOU,2015).

1.1.3 Conceptual perspective

The term "inflation" originally referred to increases in the amount of money in circulation, and some economists still use the word in this way. However, most economists today use the term "inflation" to refer to a rise in the general price level. An increase in the money supply may be called monetary inflation, to distinguish it from rising prices, which may also for clarity be called "price inflation" Kiley, (July 2008).

Chisholm, Hugh, (1922) argued that it is important to distinguish the word "inflation" conceptually, since it refers only to the general trend, not specific one. For example, if people buy much more cucumbers than tomatoes, which consequently become cheaper, it does not correspond to the inflation - it is a simple shift of tastes.

Other economic concepts related to inflation include: deflation a fall in the general price level; disinflation a decrease in the rate of inflation; hyperinflation an out-of-control inflationary spiral; stagflation a combination of inflation, slow economic growth and high unemployment; reflection an attempt to raise the general level of prices to counteract deflationary pressures (Leoning, 2011). Since there are many possible measures of the price level, there are many possible measures of price inflation. Most frequently, the term "inflation" refers to a rise in a broad price index representing the overall price level for goods and services in the economy (Blank, 1993).

Trade balance is the difference between the monetary value of exports and imports in an economy over a certain period of time or simply the difference between what goods and service a country produces and how many goods and service it buys from abroad. The sum can take the form of a deficit if imports overweigh exports or trade surplus if exports are more than imports or equivalent when the values of exports and imports are equal.

An import of a good occurs when there is a change of ownership from a non-resident to a resident; this does not necessarily imply that the good in question physically crosses the frontier. However, in specific cases national accounts impute changes of ownership even though in legal terms no change of ownership takes place (e.g. cross border financial leasing, cross border deliveries between affiliates of the same enterprise, goods crossing the border for significant processing to order or repair)(Esaki, 1978).

The term export means shipping the goods and services out of the port of a country. The seller of such goods and services is referred to as an "exporter" and is based in the country of export whereas the overseas based buyer is referred to as an "importer". In

international trade, "exports" refers to selling goods and services produced in the home country to other markets(Blinder and Esaki, 1978).

Export of commercial quantities of goods normally requires involvement of the customs authorities in both the country of export and the country of import(Blinder and Esaki, 1978).Thus exporting is a major component of international trade, and the macroeconomic risks and benefits of exporting are regularly discussed and disputed by economists (Faria and Carneiro, 2001).

1.1.4 Contextual perspective

Uganda recorded the second highest level of inflation in the region hitting 30.5% in October 2011(IMF, 2012), such an increase in inflation have negative implications for the countries at large and particularly for the poor. Given that the majority of the population lives in rural part of these countries, the consequences can be enormous. It erodes the standard of living of the population and hence it can lead to political unrest of the same magnitude to those that occurred in the Maghreb and the Middle East (Okal and Hanif, 2004).

Recent studies have identified several factors underpinning sudden rise in inflation in developing countries, namely, external factors, internal factors, and accommodative policy in the form of exaggerate rise in money supply. External factors refer to rise in world food prices and world energy prices. The fact that most of developing countries import a considerable amount of food, a rise in world food prices is translated directly to an increase in domestic food prices. As food account for large proportion of basket of an average household in these countries, an increase in domestic food prices leads in turn to a general increase in prices. Similarly, world energy price shock, such as oil price, affect domestic prices almost instantaneously. Internal factors generally refer to supply-side constraint, represented by agricultural shocks. Periods of drought, put upward pressure on food prices and hence on domestic price level. These shocks can also be captured by seasonal pattern in agricultural production. Dry seasons are followed rise in inflation, while inflation is subdued during raining seasons. When

analyzing determinants of inflation in Chad and Mali, Diouf (2007) find that average rainfall explains significantly inflation. Finally, accommodative policies, especially those followed by massive injection of money in the economy, generally put upward pressure on prices.

1.2 Statement of the problem

Uganda has experienced trade balance deficit in the years (1983-2014) (IMF, 2015). Balance of trade in Uganda has been characterized with deficiency and has experienced unfavorable situation in the period of 32 years and still exists (IMF, 2015). Uganda recorded a trade deficit of 234.80 USD Million in July of 2015 and reached all time high level of 14.60 USD Million in April 1996 and a record low of -409.30 USD Million in March 2011 (BoU, 2015). This unfavorable situation could be a result of low exports and high imports, low level of industrialization and as well as the high inflation. This trade deficit has negative impacts such as low economic growth in Uganda as the World Bank recorded 2.8% in 2012 and 5.8% 2013 and high rates of inflation of 16.2% for the year September 2013 from 12.9% for the year August 2013 (World Bank, 2014). Therefore the potential problem of trade deficit is still uncovered and no recent study on inflation rate as the cause of this problem in Uganda has been conducted. The last study was conducted by Kabundi, (1993), who examined the effect of domestic price inflation on trade balance in Uganda ,so this study is going to fill that temporal gap.

1.3 Purpose of the study

The study was set to investigate the impact of inflation on trade balance in Uganda from 1983-2014.

1.4 Objectives of the study

- i. To establish the relationship between inflation and trade balance in Uganda from 1983-2014.

1.5 Research Questions

- i. Is there a significant relationship between inflation and trade balance in Uganda from 1983-2014?

1.6 Hypothesis

- i. There is no significant relationship between inflation and trade balance in Uganda from 1983-2014

1.7 Scope of the study

1.7.1 Geographical Scope

The study was conducted in Uganda based on historical data starting from 1983 to 2014. This period is appropriately chosen as it is the period when the economy experienced both stability and instability in both the trade and money markets with the same economic structures and policies implying the two variables under study have been subjected to the same conditions.

1.7.2 Theoretical Scope

The study adopted the quantity theory of money by Henry Thornton (1802) that focuses on analyzing the trends of inflation. Quantity theory of money argues that when the Inflation increases the prices of the goods and services go up and this make the country's exports less competitive in the international market and results is widening the trade deficit. (<http://www.investopedia.com/articles/05/010705.asp>)

1.8 Significance of the study

The result of this study will be used by academicians and under-post graduate candidate economists as reference in the case of the studies related to the consistent relationship between inflation and trade balance in Uganda.

The study also will enable the policy makers to know the degree inflation and the extent of impact it has on trade balance. and also to predict or forecast of inflation and trade balance in the future to take the positive actions in order to encourage policies that decrease the inflation and those improve the trade balance.

CHAPTER TWO

LITREATURE REVIEW

2.0 Introduction

This chapter is concerned with review of information that different authors have advanced on the topic in regard to study objectives, it therefore looks at the theoretical review, conceptual review, related literature and related studies

2.1 Conceptual Review

2.1.1 Inflation rate

Inflation is defined as a generalized increase in the level of price sustained over a long period in an economy (Lewis and Chrystal, 1995). According to Umaru and Zubaine (2012), the concept of inflation can be defined as a persistent rise in general price level of broad spectrum of goods and services in a country over a long period of time. Thus The term "inflation" originally referred to increases in the amount of money in circulation, and some economists still use the word in this way (Malik and Chowdhury, 2001). However, most economists today use the term "inflation" to refer to a rise in the general price level (Metin, 1998). An increase in the money supply may be called monetary inflation, to distinguish it from rising prices, which may also for clarity be called price inflation (Michael, July 2008).

Zaidi (2005) argued that one of the major drivers of inflation is increase in food prices, and have been increasing due to reduced supplies to the market. Reduced supplies are mainly attributed to a spell of drought in the country that began late December 2010 to early March 2011, which affected production of main food commodities. Moreover, there was an increased demand for Uganda's food commodities by neighboring countries (mainly South Sudan, Kenya and Rwanda). In addition, rising fuel prices have filtered through to transport sector, which has in turn raised the cost of Food Crops' distribution to markets (Bank of Uganda, 2012). Inflation is defined as a sustained ncrease in the general level of prices for goods and services (Bank Of Uganda, 2013). It is measured as percentage increase in the price levels over two time periods. As

inflation rises, every shilling you own tends to buy a smaller quantity of goods and services (www.bou.or.ug). Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output (Friedman, 1970).

Inflation is generally measured in terms of a consumer price index (CPI), which tracks the prices of a basket of core goods and services over time. Viewed another way, this tool measures the "real" that is, adjusted for inflation-value of earnings over time. The CPI tells how the average price of all goods and services bought by a typical urban household changes from time to time. Its major purpose is to measure changes in the costs of living and in the value of money (Charles, 2010).

Robin bade (1997), argues and defines several variations of inflation. According to him, deflation is falling down of general prices levels. Hyperinflation is unusual rapid inflation and refers to when to extreme cases and stagflation is the combination of high unemployment and economic stagnation with inflation.

2.1.2 Trade balance

The balance of trade is the difference between the monetary value of exports and imports of output in an economy over a certain period (Metin, 1998). It is the relationship between a nation's imports and exports. A positive balance is known as a "trade surplus," and a negative balance is referred to as a "trade deficit" or, informally, a "trade gap." The balance of trade is sometimes divided into a goods and a services balance. The trade balance is identical to the difference between a country's output and its domestic demand (the difference between what goods a country produces and how many goods it buys from abroad; this does not include money re-spent on foreign stock, nor does it factor in the concept of importing goods to produce for the domestic market).

According to freedman (1998), trade balance is the difference between the value of goods and services exported out of a country and the value of goods and services imported into the country. The balance of trade is the official term for net exports that makes up the balance of payments. The balance of trade can be a "favorable" surplus (exports exceed imports) or an "unfavorable" deficit (imports exceed exports). The official balance of trade is separated into the balance of merchandise trade for tangible goods and the balance of services.

According to Macon (1995), refers Balance of trade as the difference in value over a period of time between a country's imports and exports of goods and services, usually expressed in the unit of currency of a particular country or economic union. If the exports of a country exceed its imports, the country is said to have a favourable balance of trade, or a trade surplus. Conversely, if the imports exceed exports, an unfavourable balance of trade, or a trade deficit, exists. According to the economic theory of mercantilism, a favourable balance of trade was a necessary means of financing a country's purchase of foreign goods and maintaining its export trade.

Balance of Trade is simply the difference between the value of exports and value of imports (Blinder and Esaka (1978). Thus, the Balance of Trade denotes the differences of imports and exports of a merchandise of a country during the course of year. It indicates the value of exports and imports of the country in question. If the value of its exports over a period exceeds its value of imports, it is called favorable balance of trade and, conversely, if the value of total imports exceeds the total value of exports over a period, it is unfavorable balance of trade. The balance of trade forms part of the current account, which includes other transactions such as income from the net international investment position as well as international aid. If the current account is in surplus, the country's net international asset position increases correspondingly.

The trade balance is identical to the difference between a country's output and its domestic demand (the difference between what goods a country produces and how many goods it buys from abroad; this does not include money re-spent on foreign

stock, nor does it factor in the concept of importing goods to produce for the domestic market) Sullivan (2003). Measuring the balance of trade can be problematic because of problems with recording and collecting data. It appears the world is running a positive balance of trade with itself.

Trade balance is likely to differ across the business cycles. In export-led growth (such as oil and early industrial goods), the balance of trade improves during an economic expansion. However, with domestic demand led growth (as in the United States and Australia) the trade balance worsens at the same stage in the business cycle. Monetary balance of trade is different from physical balance of trade (which is expressed in amount of raw materials, known also as Total Material Consumption) (Aristovnik and Aleksander, 2006).

Export

Exports are the goods and services that are made in one country and transmitted to foreigners (Parkin, 2003). It doesn't matter what the good or service is or how it is sent. It can be shipped, sent by email, or hand-carried in personal luggage on a plane. If it is produced domestically and sold to someone from a foreign country, it is an export.

According to Dewan (2001), the term export means shipping in the goods and services out of the jurisdiction of a country. The seller of such goods and services is referred to as an "exporter" and is based in the country of export whereas the overseas based buyer is referred to as an "importer". In international trade, "exports" refers to selling goods and services produced in the home country to other markets.

According to Rodrik (1995) an export is a function of international trade whereby goods produced in one country are shipped to another country for future sale or trade. The sale of such goods adds to the producing nation's gross output. If used for trade, exports are exchanged for other products or services. Exports are one of the oldest

forms of economic transfer, and occur on a large scale between nations that have fewer restrictions on trade, such as tariffs or subsidies.

Import

According to Richard (1995) an import is a good brought into a jurisdiction, especially across a national border, from an external source. The party bringing in the good is called an importer. An import in the receiving country is an export from the sending country. Imports consist of transactions in goods and services to a resident of a jurisdiction (such as a nation) from non-residents. The exact definition of imports in national accounts includes and excludes specific "borderline" cases. An import of a good occurs when there is a change of ownership from a non-resident to a resident; this does not necessarily imply that the good in question physically crosses the frontier. However, in specific cases national accounts impute changes of ownership even though in legal terms no change of ownership takes place. Also, smuggled goods must be included in the import measurement. Imports of services consist of all services rendered by non-residents to residents. In national accounts any direct purchases by residents outside the economic territory of a country are recorded as imports of services; therefore all expenditure by tourists in the economic territory of another country are considered part of the imports of services and international flows of illegal services must be included.

According to WTO (1995), an import is good or service brought into one country from another. Along with exports, imports form the backbone of international trade. The higher the value of imports entering a country, compared to the value of exports, the more negative that country's balance of trade becomes.

2.2 Conceptual framework

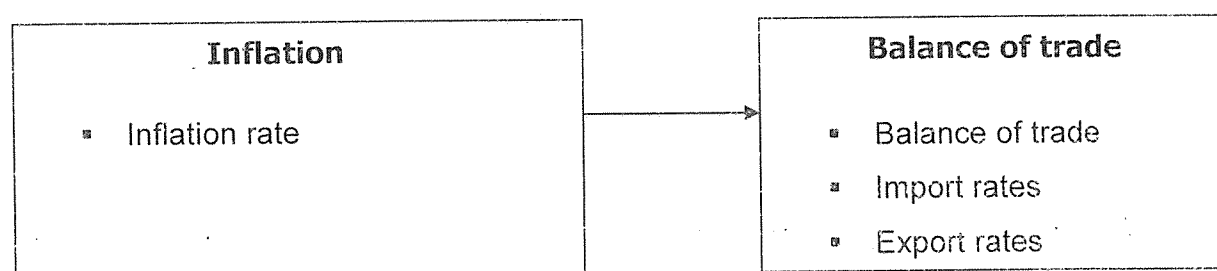
The conceptual framework gives a researcher's conceptualization of variables of the study. The interaction between the independent variables and dependent variable that

is the researcher identifies mechanisms under which the inflation rate and trade balance can be displayed and measured.

Figure 1: Conceptual framework showing the relationship between inflation rate and trade balance.

Independent variable

Dependent variable



Source: Researcher derived, 2015

2.3 Theoretical review

Theoretically, the Phillips curve and the quantity theory of money by Henry Thornton (1973) are main frameworks used by economists to analyze inflation dynamics. The former is popular in analyzing inflation in advanced economies, due mainly to the fact that inflation in these countries is essentially due to high aggregate demand which boosts employment. The rise in employment in turn puts pressure on wages and hence on overall price. Durevall et al. (2012) state clearly that this analysis is less likely in countries that predominantly dependent on agricultural sector with huge informal sector, and a low degree of unionization of the labour market. In this set up, it is difficult to link the increase in aggregate demand to low unemployment and hence rise in wages.

Hence, the quantity theory of money is more appropriate in analysing dynamics of inflation in developing countries, in general, and in Uganda in particular. Like most of

East African countries, Uganda has experienced recently a rise in inflation, reaching a maximum of 30.5% in October of 2011 from nearly 0% inflation a year earlier. Further more the theory argue the more supply of money the more inflation increases. So if inflation is running rampant in a country, the price to produce a unit of a product may be higher than the price in a lower-inflation country. This would affect exports, affecting the trade balance

Expansionary macroeconomic policies which result in rise in monetary aggregate tend to be inflationary and effects the trade balance . However, the impact of trade balance on inflation. Most recently, studies on inflation in Africa find evidence that inflation in most of African countries is caused by increase in world food prices and energy prices. The rationale is, most African countries are small open economies with a large agricultural sector. Food prices represent a considerable proportion in basket of an average household. Rise in world food prices and energy prices have direct and positive effects on domestic prices. In addition to commodity prices, these studies find that trade and weather-related factors such as rainfall or drought, shortage in agricultural production to be important determinants of inflation. The drought witnessed recently in the horn of Africa coincides with a period of high inflation in the region.

2.4 Empirical review

2.4.1 Empirical findings on inflation rate

Recent studies on inflation (Durevall, 2012 and Leoning, 2011) show that the Phillips curve approach, which is mainly used to estimate inflation in developed economies, is not appropriate for agricultural economies, like Sub-Saharan African economies. The Phillips curve argues that a rise in aggregate demand results in higher employment, which in turn exerts pressure on wages first and then to general level of price. It is less likely that this framework describes reality faced by most East African countries. Durevall et al. (2012) argued that these economies are characterized by massive self-employment and underemployment, large informal sector, and a low degree of unionization of the labour market.

Khan and Qasim (1996) estimate the key determinants of inflation in Pakistan by using the annual time series data for the period 1971-1995. They divided inflation into food and non-food inflation and suggest a strong role of money supply in accelerating inflation in Pakistan. Other factors causing inflation, investigated by the researchers, are currency devaluation, value addition in agriculture sector, support price of wheat, import prices and the price of electricity.

Fischer (1993) has reviewed extensively the evidence and presented his own empirical evidence, which supports the view that a stable macroeconomic environment, meaning a low rate of inflation and a small budget deficit, is conducive to sustained economic growth (p 509). His observations indicate that countries with low inflation have grown faster (south East Asian economies) and countries with high inflation have stagnated or grown much more slowly (Latin American and African economies). His empirical results indicate that inflation reduces growth by reducing investment and thereby reducing the rate of productivity growth. He also found that larger budget surpluses (or low budget deficits) were strongly associated with rapid growth, through greater capital accumulation and greater productivity growth. Foreign exchange market which was undistorted was also found to be conducive to growth. In other words, high inflation in developing countries may be expected to be associated with weak economic performance.

IMF (1990) in a review of the literature of inflation brought in the openness variable and argued its potential influence on the inflationary process in the developing countries. Since the early 1980s, external payments problems, and in particular the burden of debt, had become the main policy issue in many of the less developed countries. The debt crisis had been associated with a considerable weakening of growth and investment and deterioration in inflation performance across countries. Inflation in large part of the developing world had remained considerably higher than in the industrialized countries. In many of these countries inflation had still been a serious problem with some experiencing hyperinflationary situations. This paper besides the

conventional variables, such as money growth and fiscal deficit, which influence inflation process, brought in the import price and degree of openness as other possible factors that might influence the inflationary dynamics. There was, however, no empirical or econometric estimation in the paper.

The inflation rate in Uganda was recorded at 7.10 percent in March of 2014. Inflation Rate in Uganda is reported by the Uganda Bureau of Statistics. Inflation Rate in Uganda averaged 7.23 Percent from 1998 until 2014, reaching an all-time high of 30.48 Percent in October of 2011 and a record low of -5.36 Percent in November of 2001. In Uganda, the inflation rate measures a broad rise or fall in prices that consumers pay for a standard basket of goods.

With the exception of December 2006, the Annual Headline Inflation rates of Uganda maintained single digit figure (below 10%) between June 2006 and April 2008. In May 2008, the Headline Inflation rate rose to above 11.2%. The rising trend continued up to February 2009 when the Headline Inflation rate was 14.9%. Note that in between, in August 2008, there was a dramatic rise of Headline Inflation rate to 15.9% (the highest ever Headline inflation since July 2006) before easing to 15.2% in September 2008 and then to 14.2% in October 2008. (Durevall, and Ndung'u, 2001).

The high inflation levels persisted, cascading between 14.7% and 14.1% until March 2009, before falling to 13.4% in April 2009. The declining trend continued, though still in double digits, until January 2010 when Headline inflation rate was recorded at 8.9% and reached the lowest level at 0.2% in October 2010. Subsequent months witnessed rising inflation trend. In November 2010, the Headline inflation rate rose to 1.4% and to 3.1% in December 2010 and kept accelerating to 6.4% in February 2011, and rose sharply to 11.1% in March 2011 (world bank, 2012).

Davoodi and Pintor (2012) pointed out that since the structural adjustment days of the 1990s, targeting inflation to single digit rates has remained a predominant feature of

Uganda's macroeconomic strategy towards creating and sustaining an enabling environment for poverty-reducing growth. One of the most commonly advanced arguments for this inflation targeting strategy is the minimization of the erosion of the purchasing power of the poor. Implicit in this argument is the concern that inflation hurts the poor the most.

Solomon and Wet (2004), pointed out that rising from economic contraction of the 1970s and early 1980s, by the mid-1990s Uganda had stabilized its macroeconomic environment, with annual inflation rate reduced to single digits from about 150% in 1985/86. Because of the country's resolve to ground its economic recovery and transformation on sound macroeconomic policy, it attracted massive overseas development assistance. The main potential source of inflation was, therefore, no longer gross economic mismanagement but expansionary fiscal strategies that aimed to absorb increasing foreign aid inflows.

2.4.2 Empirical findings of Balance of trade

Metin (1991) finds that trade balances is an influential phenomenon found in the economies that is negatively influenced by inflation. The research study proved important facts with the help of multivariate co integration analysis. The scale budget deficit is also seen to significantly affect the inflation. Inflation also influences unemployment in the economic spheres. The economic prospect regarding unemployment can be measured as the product of the unemployment risk in the population and the amount to which people are protected from the income unemployment risk.

Fleming (1962) and Mundell (1963) explained that an increase in budget deficit induced upward pressure on interest rates, thereby causing capital inflows and an appreciation of the exchange rate that in turn increased the current account deficit. Volcker (1987), Kearney and Monadjemi (1990) and Smyth et al. (1995); among other researchers argued that government deficits may cause trade deficits through different channels.

Himarios (1989) and Bahmani-Oskooe, (2001) found a strong association between balance of trade and real effective exchange rate. Rahman (1997), Mahdavi and Sohrabian(1993-1994), Greenwood(1984) and Mustafa (1996), and a number of other researchers explained the changes in real effective exchange rate and how such changes would affect the balance of trade positively in some nation without being consistent for all nations.

Lardy (1996) , Zhang (1999) and Liu (2001) studied foreign direct investment and balance of trade with reference to China, using panel data for the period 1987-1999 on a pooled least square method framework. They found out that FDI affects expansion of export and economic growth in china significantly. Similar conclusions were also arrived at by Tse (1997) that FDI positively impacted provincial and regional manufacturing, export growth in China.

Barungi,(2012) examined oil price and trade balance in Uganda and found that there is a negative and significant relation between oil price and the trade balance in both short – time and long – time. It indicates that with the increase in oil price, the cost of materials and capital goods increase and then trade deficits widening (trade imbalance).

Abuka and Wandera (2007) found that an increase in government spending produces an expansion in output, an expansion in consumption, and decrease of the trade balance. Besides that, with the same result of Abuka, And Wandera all., (2007), Beetsma et al., (2007) showed that an increase in government spending will lead to an increase in GDP. The trade balance will be decrease because imports increase and export fall. Thus, the trade balance will be trade deficits.

2.4.3 Relationship between inflation and trade balance

Van der Merwe(2002) argued that it might be wise to neutralize surpluses on the current account owing to sharp improvements in terms of trade by encouraging capital outflow given the difficulties that could arise in the management of domestic liquidity. What is clear though is that the likely appreciation of the real effective exchange rate of the

domestic currency may hamper the price competitiveness of traded goods that do not benefit the improvement in the country's terms of trade.

Bruno and Easterly (1995) addressed the issue of inflation and trade balances and found no evidence of any consistent relationship between these variables up to a certain level of inflation. They assess that the growth falls sharply during discrete high inflation crisis, above 40%, and recovers after inflation falls. Their experiential analysis shows that there exists a temporal negative relationship between these two variables beyond 40% threshold level.

Khan and Senhadji (2001) examined threshold effects of inflation on trade balances separately for industrial and developing countries. The data set covers 140 countries from both groups for which non-linear least squares (NLLS) and conditional least squares methods are used. The experiential results verify the existence of a threshold beyond which inflation exerts a negative effect on trade balance. Significant thresholds at 1-3% and 11-12% inflation levels for industrialized and developing countries have been found. The view of low inflation for sustainable growth is strongly supported by this study.

The research study of Mocan (1995) revealed very interested findings. It is observed that inflation happens continuously where the flexible wage rates are planned and the unemployment and employment levels are controlled with it. Therefore, the inflation level happens, but with this strategy the trade balance is found in situation that produces limited effect on the economy. If inflation happens then immediate preplanned strategies are required to establish long lasting solutions and financial wellbeing.

According to Catao and Terrones (2003), there is a strong relationship between fiscal deficit and changing inflation. The results were reached at experiential and provided quantitative responses in the form of positive relationship between fiscal deficit and inflation. The inflation is seen to influence economic problems in the form of

unemployment and economic disruptions. Soloman and Wet (2004) identified the effect of budget deficit on inflation in Tanzania and found that economy experienced a high inflation rate accompanied by high fiscal deficit. While Benneth (2007) says that relationship between fiscal policy is associated with unemployment in Nigerian economy. This was carried out with the help of equilibrium model and the experiential results concluded that fiscal policy influences the inflation and unemployment. While the inflation further influences the impact of the unemployment adversely, therefore, the inflation influences unemployment. Finally the fiscal policy formulation should be considered when redistribution of income in society is implemented. Volker (2005) examined the role of unemployment in the economic development. It was found that unemployment is the indicator of the economic downfall or economic crisis.

Kabundi, (1993) examined the effect of domestic price inflation on trade balance. The results showed that higher price inflation will lead to decrease competitiveness, decrease export and increase import. But export is not exactly decrease like the result above with an increase in price. In some cases, the result likely is difference. The empirical evidence showed that there is an increase in export even though the price still increasing. In these cases, export likely has more effect from other factors, not only an increase on price. The import appears in this case to be more dominant in determine the response of the balance of trade towards an increase in price. Imports appear more responsive towards an effect of higher price inflation more than lower price inflation. The evidence showed that, an increase in price for a long – terms will impact import with a random fluctuation in the developing countries. Totally, an increase in the domestic price will effect on an increase of import in a short – terms and long – terms. However, in the final result, Kabundi, showed that price inflation doesn't appear to be an important determinant of the trade balance. Another way, price inflation doesn't impacts significant towards the trade balance in many developing countries.

2.5 Research Gap

The problem of trade deficit in Uganda is still uncovered and no recent study on inflation rate as the cause of this problem has been conducted, so this study is going to fill that temporal gap.

CHAPTER THREE METHODOLOGY

3.0 Introduction

This chapter explains and describes how the research was carried out. It focuses on the research design, area, methods for data, data processing data analysis and ethical consideration.

3.1 Research Design

The study adopted longitudinal design and used quantitative approach. Under the Longitudinal design the researcher wanted to determine the relationship between the inflation and trade balance and which extent to they associate.

3.2 Data Type and Source

In this study, Secondary data was utilized as well as record sheet techniques and time series data of inflation and trade balance in Uganda (1983-2014). Data sets were obtained from published resources of International monetary fund (IMF world economic outlook 2015) and Bank of Uganda (2015) and also World bank(2015).

3.3 Data Processing and Analysis

The data was collected, edited, categorized, and entered into the computer data base system for analysis, particularly Statistical Package for Social Science (SPSS). Simple linear regression analysis to test for significant relationship between inflation rate and trade balance in Uganda (1983-2014). Longitudinal and regression analysis was used in determining the relationship between inflation rate and trade balance in Uganda from (1983–2014), as well as to test the hypothesis. The data on the variables was scattered to find the strength of relationship between independent and dependent variables. Stationarity test was also conducted for inflation rate and trade balance to ensure there is no spurious correlation using the dickey fuller test (DF-test)

Stationarity for trade balance is done using the equation below;

$$\Delta Y_t = b_0 + \delta Y_{t-1} + u_t$$

This is done by regressing first difference against lagged values of trade balance. Stationarity for inflation rate is done the same way by replacing the above equation with(X).

H_0 : Non – stationarity($\delta = 0$)

H_a : Stationarity

If $|\tau_c| > |\tau_\alpha|$, the null hypothesis of trend is rejected, otherwise accepted for zero trend and a constant

A bivariate regression analysis was used to estimate the regression equation.

The regression model was

$$\text{Balance of trade} = a + \beta_0 (\text{inflation rate}) + \varepsilon$$

$$Y = a + \beta_0 X_0 + e_i$$

Where

Y: Trade balance level

α : The trade balance without inflation rate variation

β_0 : The rate of change of trade balance to inflation rate

x_0 : Inflation rate

The critical region for rejecting or accepting the hypothesis will be

$$|t_c| \geq t_{\alpha/2}$$

3.4 Ethical Consideration

The researcher ensured honesty in data handling for example in a bid to attain information (inflation rate and trade balance rates) information retrieved from right sources were left unchanged.

The researcher recognized the contributory authors especially those authors from whom literature, related studies and theories were generated.

Data analysis estimation through secondary data processing was documented to enable the production of accurate information.

3.5 Limitations of the Study

In the processes of carrying out the research these problems encountered.

There is an expected difficulty into collecting data since the rates of inflation rate and trade balance may not be acquired with ease. The scattered nature of the information may not be attained and compiled with ease.

Despite all the above anticipated challenges, the researcher made efforts to adequately address them so as not to compromise the findings of the study in any way, so that the outcome reflects the majority view of the entire population.s

In view of the following threats to validity, the researcher claimed an allowable 5% margin of error at 0.05 level of significance this might not lead to accurate data production.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.0 Introduction

In this chapter, the researcher presents analyses and interprets the data. The presentation, analysis and interpretation of the data are dependent on the study objective. The presentation, analysis and interpretation are shown below.

4.1 Stationarity Test

Before performing regression analysis and scatter plot for the relationship between inflation and trade balances, stationary test is done for each variable to avoid spurious regression.

Table 1: Stationarity Test for Inflation Rate Using Dickey Fuller Test

	β	τ	p-value	<i>AdjustedR</i> ²
Constant	6.628	0.799	0.431	
First lagged values	-0.283	-2.441	0.021	0.094

$$\Delta Y_t = b_0 + \delta Y_{t-1} + u_t$$

This is done by regressing first difference against lagged values of inflation rate

The equation above is fitted as;

$$\Delta Y_t = 6.628 - 0.283Y_{t-1}$$

$$H_0: \delta = 0(\text{Trend})$$

$$H_a: \text{Stationarity}$$

If $|\tau_c| > |\tau_\alpha|$, the null hypothesis of trend is rejected, otherwise accepted for zero trend and a constant

The critical value of τ at 0.05 for $n = 32$ by simulations is -2.93 and the computed $\tau = -2.441$. Since $2.441 < 2.93$, the null hypothesis is not rejected. Therefore inflation rate is non-stationary.

Table 2: Stationarity Test for Trade Balance Using Dickey Fuller Test

	β	τ	p-value
Constant	-3.364	-2.419	0.022
First lagged values	-0.306	-2.431	0.022

$$\Delta Y_t = b_0 + \delta Y_{t-1} + u_t$$

This is done by regressing first difference against lagged values of Trade balance

The equation above is fitted as;

$$\Delta Y_t = -3.364 - 0.306Y_{t-1}$$

$$H_0: \delta = 0 = \beta(\text{Trend})$$

$$H_a: \text{Stationarity}$$

If $|\tau_c| > |\tau_\alpha|$, the null hypothesis of trend is rejected, otherwise accepted for zero trend and a constant

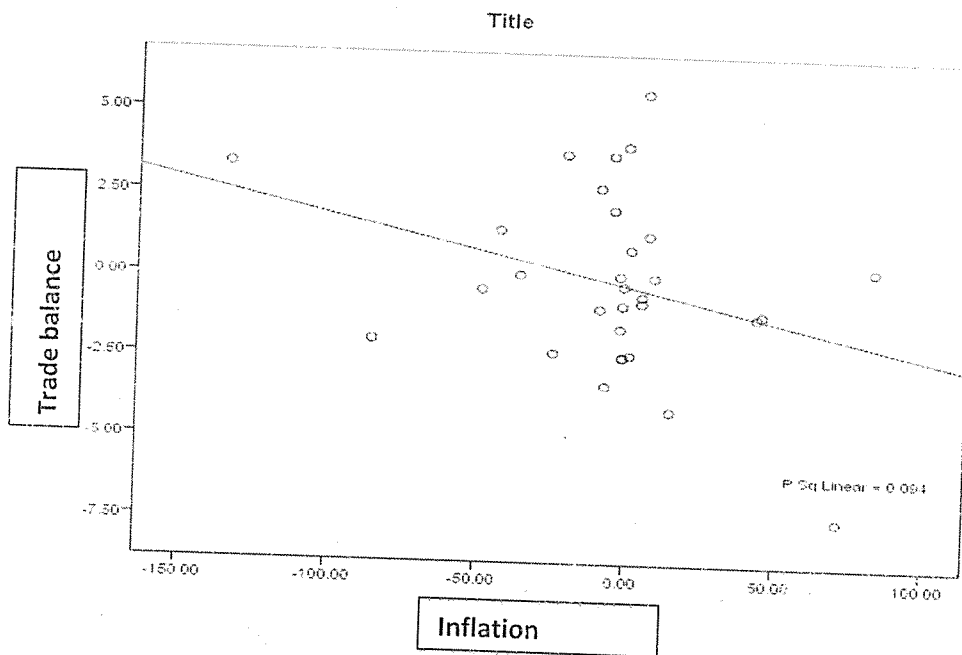
The critical value of τ at 0.05 for $n = 32$ by simulations is -2.93 and the computed $\tau = -2.419$. Since the tau-value $2.419 < 2.93$, the null hypothesis is not rejected. Therefore Trade balance is non-stationary.

Therefore to avoid spurious relationship we regress the first difference of trade balance and first difference of inflation rate.

4.2 Relationship between inflation and trade balance in Uganda from 1983-2014

The objective of the study was to establish the relationship between inflation and trade balance. This was done using a scatter plot and regression analysis and the significance of the test is used to decide on the hypothesis.

Figure 2: The Scatter Plot Showing the Relationship between Inflation rates and Trade balance in Uganda (1983–2014).



Source: Researcher (2015)

The figure 4.3 above shows a scatter diagram illustrating the relationship between Inflation rates and Trade balance in Uganda. The scatter diagram shows that there is a negative relationship between inflation and balance of trade in Uganda ($R^2=0.094$). In other words, the change of trade balance rates is explained by only 9.4% change in inflation rate, the other

Table 3: Regression Analysis of Inflation Rate and Trade Balance**Model Summary^b**

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate	Durbin-Watson
1	-.307 ^a	.094	.063	2.61937	2.009

a. Predictors: (Constant), IFNALTION

b. Dependent Variable: TRADE

From table 3; the R value represents the simple correlation and is ($r=-0.307$), which indicates a low degree of correlation. The R^2 value indicates how much of the total variation in the dependent variable, trade balance, can be explained by the independent variable, inflation. So In this case, ($R^2=9.4\%$) of the variation in trade balance have been explained by the inflation, which is very low and the remaining 90.6% explained the other factors that have not included the model.

Table 4: Regression Analysis showing the relationship between Inflation Rate and Trade Balance.

Source: world bank & IMF

Coefficients^a

Model	Unstandardized Coefficients		T	Sig.
	B	Std. Error		
1 (Constant)	-.239	.474	-.504	.618
IFNALTION	-.021	.012	-1.737	.093

a. Dependent Variable: TRADE

$$\Delta Y_t = b_0 + \Delta x_t + u_t$$

This is done by regressing first difference against lagged values of inflation rate

The equation above is fitted as;

$$\Delta Y_t = -0.239 - 0.021X_t$$

$$H_0: \beta = 0 \text{ (No relationship)}$$

$$H_a: \beta \neq 0 \text{ (there is a relationship)}$$

If $|\tau_c| > |\tau_\alpha|$, the null hypothesis of trend is rejected,

The critical value of τ at 0.05 for $n = 32$ by assimulations is -2.93 and the computed $\tau = -1.724$. Since the tau-value $1.724 < 2.93$, the null hypothesis is not rejected ($p\text{-value} > 0.05$). There is no significant evidence for the relationship between trade balance and inflation rate in Uganda.

Thus both the scatter plot and the regression analysis result reveal a negative relationship, though it is not statistically significant even after accounting for trend.

The regression analysis shows that the rate of balance of trade does not depend on inflation rate ($0.093 > 0.05$) than the relationship between infalation and trade balane is insignificant at 0.05 level of significance and the null hypothesis accepted. The rate of change of balance of trade due to inflation rate in Uganda is ($\beta = -0.021$). This means that a unit change in inflation rate leads to a reduction of balance of trade by 0.021.

CHAPTER FIVE

Discussion, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter is concerned with discussion of findings, conclusions and recommendations of the study. The presentations are done basing on the research objective of this study as shown below:

5.1 findings and Discussions

Relationship between inflation and trade balance in Uganda from 1983-2014

The objective of the study is about the relationship between inflation and trade balance in Uganda (1983-2014). Hence, The findings shows that trade balance inversely relates to the inflation and further presents that there is weak negative relationship between trade balance and inflation, but the relation is nonlinear instead its scattered. Furthermore, Coefficient table shows that sig value which is (0.093) is bigger than the significant level of (0.05) and so the null hypothesis is not rejected. The findings imply that trade balance is insignificantly related to the inflation rate in Uganda during the period between (1983-2014), and as the inflation rises up by one percent trade balance goes down by 2.1%.

The R2 value of (0.094) indicates that 9.4% of the variations in trade balance have been explained by the inflation and the remaining 90.6% was taken by the other factors not included the model. These findings are supported by the correlation analysis in which correlation coefficient (r) = (-0.307) showing that there is a weak negative relationship between inflation and trade balance in Uganda during (1983-2014).

The findings of this study are supported by and agreed with of the empirical studies in the literature review. Those studies includes the study made by Khan and Senhadji (2001), which examined threshold effects of inflation on trade balances separately for industrial and developing countries, Whose results verify the existence of a threshold beyond which inflation exerts a negative effect on trade balance. Also Bruno and

Easterly (1995) addressed the issue of inflation and trade balances and found no evidence of any consistent relationship between these variables up to a certain level of inflation. They assessed that the growth falls sharply during discrete high inflation crisis, above 40 percent, and recovers after inflation falls

5.3 Conclusions

This study used scatter plot and the regression analysis to determine the relationship between inflation and trade balance in Uganda and have found a negative and insignificance relationship between inflation and trade balance in Uganda. Therefore an increase in inflation will increase the cost of produce in the domestic, and create more problems for the enterprises to export and sell the products and this create a trade deficit.

5.4 Recommendations

Given the findings, the researcher makes the following recommendations: The current study proposes a close monitoring of dynamics in world food and energy prices in order to curtail their secondary effects.

The government should spend more budgets to support and encourage the local company to produce and export the products to another country and expand the business to the other countries so that to improve the trade balance.

The government should have some policies to support export. Such as investment incentive, taxes incentive, support the enterprises to set up and expand their business to the other area by create policies loan with the low-interest rate.

The government should have the policy to limit the import goods, decrease the cost of transport and decrease the impact of oil price on import. Besides that, the government should support the local company increase producing, to ensure the output enough for the local consumers so to avoid a trade deficit.

5.5 Areas of further study

The results presented in this report may not be conclusive and should be treated as being preliminary. Further analysis of the survey data on inflation rate and balance of trade needs to be done to validate these findings and provide greater confidence in explaining the changes in inflation rate and balance of trade. Furthermore, it was found out that the effect of inflation rate on trade balance is low hence provoking the fact that there are other factors that influence. Therefore based on these there is need for further study to be conducted on the following.

- Effect of inflation on economic growth of Uganda
- Impact of unemployment on economic growth of Uganda
- Fiscal policy and inflation rate.

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Appendix I: DATA SET

YEAR	Inflation	trade GDP%	balance
1983	150	-4.98	
1984	16.711	-1.63	
1985	100	-1.27	
1986	143.8	-2.43	
1987	215.4	-9.8	
1988	166.7	-10.2	
1989	130.8	-10.14	
1990	45.4	-12.13	
1991	20.819	-14.47	
1992	66.31	-15.53	
1993	23.427	-14.11	
1994	2.59	-10.36	
1995	9.63	-9.04	
1996	8.285	-11.46	
1997	7.999	-7.44	
1998	0.875	-10.77	
1999	5.759	-11.52	
2000	3.382	-11.45	
2001	1.922	-12.29	
2002	-0.3	-13.85	
2003	8.71	-13.81	
2004	3.666	-10.07	
2005	8.602	-10.63	
2006	7.205	-13.08	
2007	6.073	-13.33	
2008	12.041	-7.7	
2009	13.074	-10.07	
2010	3.972	-11.02	
2011	18.677	-15.1	
2012	14.017	-13.01	
2013	4.779	-10.26	
2014	5.9	-9.38	

Source: IMF & BOU

APPENDIX 2: RESEARCH CIRUCULAM VIT

PERSONAL PROFILE

Name : Guled Abdullahi Hassan

Gender : Male

Nationality : Somalilander

Content : 0791662251

EDUCATION BACKGROUND

INSITUTION	AWERD CERTIFICATE	YEAR
Kampala International University	Master of Arts in Economic Policy and Planning	2015
Kampala University	Bachelor of Human Resource Management	2013
Hamdan High School	Secondary Certificate	2009

APPENDIX III: TIME FRAME

ACTIVITY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	February	March
Topic Selection								
Consultation With Researcher								
Literature Review Search								
Proposal Written								
Finalizing the proposal and submitting								
Data Collection								
Data Analysing and Adjustment of The Work								
Report Writing and Submission of the Report								