Review Article **IJESE 2020,1:2**

International Journal of Economics, Sociology and Education

(DOI:10.28933/IJESE)

Impact of Money Supply, Gross National Saving and Economic Growth on Inflation Rate

Endashaw Sisay Sirah

Department of Economics, Mizan Tepi University

The quantity theory of money, inflation monetary theory, modern quantity theory of money and inflation, new inflation, structural inflation theory, a new neo-classical synthesis of inflation, neo political macro-economics of inflation and Phillips curve theories are gratified. Just like several developed and developing countries, in Ethiopia one of the incredible macroeconomic objectives is to improving the living standard of peoples with low inflation. Though, there has been substantial argument on the condition of the inflation and economic growth correlation. In the late 1970s and at the beginning of 1980s, various nations, comprising the United States, practiced great inflation. A comprehensive agreement arose that this routine was undesirable, and monetary officials all over the world agreed policies intended to reduce high inflation. If inflation is painfully high, policymakers distinguished what track they desirable to down inflation even though they were indeterminate of its final terminus. Inflationary delinquent has become the greatest significant macroeconomic tricky of the Ethiopian economy in current existences. Mainly for this review the author used five empirical papers which focused on the impact of money supply, economic growth and gross national saving on inflation. The result imply that on some researches money supply (in long run and short run) and real growth domestic product (in long run) has positive and negative impact on inflation rate in Ethiopia respectively. Some of the studies proved that there is negative relationship between inflation rate and gross national saving. The causality result implies as there is bi-directional causality between inflation rate and money supply. Some of the studies also finalized that real gross domestic product unidirectional granger cause inflation rate. Even if there is no consistent result but the study recommends appropriate intervention should be important by using monetary policy and fiscal policy on each respective variables. The author also insight other interested researchers to review this title by concerning other macroeconomic variables.

***Correspondence to Author:**
Endashaw Sisay Sirah
Department of Economics, Mizan Tepi University

How to cite this article:
Endashaw Sisay Sirah. Impact of Money Supply, Gross National Saving and Economic Growth on Inflation Rate .International Journal of Economics, Sociology and Education, 2020,1:2

eSciPub LLC, Houston, TX USA.
Website: https://escipub.com/

Introduction

Still a number of economists delineate inflation in dissimilar means; but there is one common agreement. With the common sense, inflation simply means a sustainable rise of all goods and services price. According to various schools of thought there are many source of inflation. But the source of inflation in a given country may not be a source of inflation for other countries. The situation is no opposing the point that many economies in diverse parts of the world practice price rises of goods and services. It could be the dissimilarities found in the mastery, sources, time and in their principal economic circumstances. Moreover, there economic status like being developing and developed nations of the world see to witness rise or decrease in price.

Before 10 years and currently Ethiopia take a shower of inflationary occurrence, parallel a government takes action to control the problem (Gylych & Abdurahman, 2016).

According to Yismaw (2019) “Inflation is started together a momentum in the late 2005 and early 2006 few months after the national election of the country. General prices rose by more than 44 percent on average and food price inflation reached 60 percent in 2008. Although the picture is relatively less pronounced, non-food price has also been rising over the same period. Although general inflation slowed down to 9% annual growth in 2009 and 2010 the figures remained at high level in 2011 steadily increasing to reach average annual rate of 28.1 percent. Despite efforts by monetary authorities, the average rates remained above the target levels in 2012. This shows that inflation has become the most important macroeconomic problem of the Ethiopian economy in recent years. One salient feature of the recent inflationary pressure in Ethiopia is that it is led by food inflation. On average, food prices increased relatively faster than non-food prices over the recent years except for some years with bumper food harvest and plummeting prices. Furthermore, food inflation is generally more erratic than the non-food inflation.”

Just like several developed and developing countries, in Ethiopia one of the incredible macroeconomic objectives is to improving the living standard of peoples with low inflation. Though, there has been substantial argument on the condition of the inflation and economic growth correlation. In the late 1970s and at the beginning of 1980s, various nations, comprising the United States, practiced great inflation. A comprehensive agreement arose that this routine was undesirable, and monetary officials all over the world agreed policies intended to reduce high inflation. If inflation is painfully high, policymakers distinguished what track they desirable to down inflation even though they were indeterminate of its final terminus. Inflationary delinquent has become the greatest significant macroeconomic tricky of the Ethiopian economy in current existences (Denbel, Ayen, & Regasa, 2016).

The subject of inflation has been a problem of disquiet in place of economists, eventually as it leftovers a statement that the factual earnings of nations are negatively influence through inflation if the government cannot address the problem by using funding. If there is low productivity, this funding may create another economic problem like inflation inclination in the economy. The reason for this is also due to low purchasing power of money. Therefore this empirical review objective is to see the impact of money supply, economic growth and gross national saving on inflation rate and the direction of their causality.

Theory of Inflation

Under this paper the following common inflation theories are touched; Agreeing to the quantity theory of money; inflation and non-inflationary level of a given economy is determined by the amount of money which enters to the economy. David Hume (1711 -1776); he showed the change of the process of changing relative prices and quantities due the change of money from one sector of the economy to the other.

David Ricardo (1772 - 1823), the main reason for England economy inflation was due to the carelessness of England bank related from money issue and not gave much attention on output growth and employment creation from money injection in to the economy. Irvin Fisher (1876 - 1947), Fisher gives us on well-known equation, money supply multiplied by velocity of money equivalent from price and transaction. Regarding to inflation monetary theory; the supporters of this idea said that monetary policy is more preferable to stabilize price and economy than that of fiscal policy; mostly the owner of this idea known as monetarism and the main producer of the idea was Milton Friedman (1867-1960). This school known as a modern quantity theory of money and inflation also happened everywhere and always which came from the expansion of money than that of output. From this we conclude that if there is high money supply in the economy than that of our national income, and then it produces inflation.

According to (Keynes , 1936) and his followers postulate that the rise of aggregate demand is due to demand pull inflation, i.e. where the supply of goods and services in to the economy less than from aggregate demand of the economy. In this case the aggregate demand is a function of consumption (C), investment (I) and government expenditure (GE). In 1950s and 1970s the known theory known as inflation cost push theory; it is also called new inflation. This is result from the increase of wage or increase the price of inputs, which leads the rise of cost of production.

Another theory of inflation stated that more demand or less demand, supply decrease and supply increase, this considered as economic structure factors, which more formally known as structural inflation theory. If there is structural enhancement, it takes along a fast economic growth, moreover, when developing countries try to change their undeveloped structure, those countries can find them as they are free from inflationary problem. Conferring to (Totonchi , 2011), the anti-inflationary measure could take just like reduce monetary policy expansion. In many cases “contradiction as such policies prescriptions end up stagnating the economic growth of the less developed economies. This is basically true because less developed countries have several dearth that have to be addressed such as infrastructures and social services, try to cut expenditure and liquidness in the system could effect in deprived level of economic growth”.

In 1970’s the idea of rational expectation became a dominant one, which also considered as macroeconomic revolution, (Lucas, 1972; McCallum, 1987). The main assumption of rational expectation mainly focused on households, firms and government should form their macroeconomic expectation rationally depend on current and past relevant information. A New neo-classical synthesis of inflation; explained that a monetary and demand factors a major determinants of economic business cycles. Neo political macro-economics of inflation: this inflationary theory explained economic factors are a determinant cause of. Moreover, additional factors like political, cultural process and institutional process of inflation hinder a country economic policy. “The new political economy offers fresh viewpoints on the relations between timing of elections, performance of policymakers, political instability, policy credibility and reputation and the inflation process itself (Totonchi , 2011).” According to the Phillips curve explanation there is inverse relationship between inflation and unemployment. Both are the main macroeconomic problems, so any government have needs to reduce high inflation and high unemployment, but as the same time getting low inflation and low unemployment is quite difficult (Phillips, 1958).This theory has lost its acceptance in the end of 1960’s and the beginning of 1970’s. During at that time both goes to the same direction in the real world economy.

Methodology of the Study

This study focused on conducted empirical studies which are related on macroeconomic determinants of inflation rate in Ethiopia. To analyze the result of the listed empirical investigation the researcher used descriptive analysis. The review primarily considers empirical studies i.e. from eight (8) quantitative research conducted in Ethiopia amid the year 1970/71 to 2016/17. In addition to those concerned investigations, the researcher dig out other helpful studies which is related the title of this review. Mainly the author identified 12 conducted researches, from this eight of them are more appropriate for the study, but based on the objective of the review the author used only 5 empirical studies. Moreover, published materials are the main source of the review which is downloaded from internet by using different journal documentations. The study anticipated that the dependent variable is inflation rate and it is a function of various economic variables. This empirical review mainly focus on three major explanatory variables, those are, the broad money supply, real gross domestic product and gross national saving.

Inflation rate = f (M2, RGDP, GNS)

Table 1.1- Included Variables and Label of Variables

No	Authors	Dependent variables	Independent variables
1	Alemu et al. (2016)	CPIt = Consumer price index	M2t= the Broad Money Supply, NDIRt= the Nominal Deposit Rate of Interest, BDt= Budget Deficit, RERt= real Exchange Rate, RGDPt= Real Gross Domestic Product, OTt= Openness to Trade Variable
2	Kahssay(2017)	CPIt = Consumer price index	CPI = Consumer Price Index , M2 = Broad Money supply GDP = Gross Domestic Product , CR = Credit Facility , EXP = Exports of Goods and Services, IMP = Imports of Goods and Services, GNS = Gross National Saving
3	Biresaw(2013)	CPIt = Consumer price index	RGDP = Real Growth Domestic Product, M2 = Broad Money stock, XER= Nominal Exchange rate, GP= Gas Oil Price LCPI = Lag Consumer Price Index, LM2 = Lag Broad Money supply, LXER = Lag Exchange Rate, LG = Lag Gas Oil Price
4	Yismaw (2019)	Gross domestic product	CPI= Inflation, EX= Export, INT= Investment
5	Denbel et al. (2016)	CPI = Consumer price index	Money Supply (M2) and Real GDP.
6	Ademe (2015)	CPI = Consumer price index	M = Money supply, ER = Exchange rate, Y = Growth in GDP, Pe = Price Expectations Computed from CPI.
7	Sisay (2008)	CPI = Consumer price index	RGDPt= real gross domestics product, M2t = broad money supply, Et= the value of birr against dollar, Rt= average lending rate of commercial banks, ODt= overall budget deficit, LCPIt = one period lagged consumer price index, LM2= one period lagged money supply, G = price of gas oil
8	Dachito & Alemu (2017)	CPI= Consumer price index	BDt= Budget Deficit, GDPt= Gross Domestic Product, RERt= Real Exchange Rate, OTt= the openness to trade variable, M2t= the broad money supply, GCFt= Gross Capital Formation

Source: Empirical Literature Review, 2020

Conducted Empirical Result of the Studies

In this section of the study, the reviewer presents some of the overall characteristics of empirical literatures in terms of author, title of the study, type of models which applied in each respective study, type of data, and periods under study.

Based on table 2.2 the reviewer abridged the following table by using five studies which should be appropriate for the objective of the review.

Table 2.2- Conducted Empirical Studies

No	Authors Name	Titles	Type of Models	Type of Data	Years
1	Alemu et al. (2016)	Monetary Policy and Inflation Dynamics in Ethiopia	Error Correction Model	Annual Data	1974/75 to 2014/15
2	Kahssay (2017)	Determinants of Inflation in Ethiopia: A Time-Series Analysis	Ordinary Least Square	Annual Data	1975 to 2014
3	Biresaw (2013)	Determinant and Impacts of Dynamic Inflation in Ethiopia	Granger Causality Model Approach	Annual Data	1998 to 2010
4	Yismaw (2019)	Effect of Inflation on Economic Growth of Ethiopia	Granger Causality Model Approach	Annual Data	1975 to 2016
5	Denbel et al. (2016)	The Relationship between Inflation, Money Supply and Economic Growth in Ethiopia: Co integration and Causality Analysis	Johansen co integration and Granger Causality	Annual Data	1970/71 to 2010/11
6	Ademe (2015)	Interaction of Ethiopian and World Inflation: A Time Series Analysis; VECM Approach	Vector Error Correction Model	Annual Data	1981 to 2012
7	Sisay (2008)	Determinants of Recent Inflation in Ethiopia	Ordinary Least Square	Quarterly Data	1997/98 Q3 to 2007/08Q1
8	Dachito & Alemu (2017)	Trade Liberalization and Inflation: Econometric Analysis to Ethiopian Economy	Vector Error Correction	Quarterly Data	1976/77 to 2016/17

Source: Empirical Literature Review, 2020

According to Alemu et al. (2016) the independent variable, money supply (in long run and short run) and real growth domestic product (in long run) has positive and negative impact on inflation rate in Ethiopia respectively. Kahssay (2017) conclude that, both in short run and long run money supply and economic growth has positive impact on inflation rate, the study also proved there is negative relationship between inflation rate and gross national saving. Regarding to the study of Denbel et al. (2016) in long run money supply (positively) and economic growth (negatively) has impact on inflation rate. On the study of Biresaw (2013) there is bi-directional causality between inflation rate and money supply. Yismaw (2019) finalized that real gross domestic product unidirectional granger cause inflation rate.

Conclusion and Recommendation

This study mainly focused the macroeconomic determinants of some variables on inflation rate

by using empirical review. On this study the author addressed some variables which have long run and short impact on inflation rate like money supply, economic growth and gross national saving. Moreover the study tries to look their causality. Even if there is no consistent result but the study recommends appropriate intervention should be important by using monetary policy and fiscal policy on each respective variables.

Table 3.3- Causality and Macroeconomic Determinants of Inflation Rate

No	Authors	Variables																	
		M2		BD		RER	RGDP	TO			IR	GNS							
1	Alemu et al. (2016)	S(+) L		S(+) L		S(+) L	S(−) L	S(+) L			S(−)L								
		$Yt-1$	$Yt-2$	$Yt-1$	$Yt-2$	$Yt-1$		$Yt-1$	$Yt-2$	$Yt-3$									
		S(+) Sr	S(+) Sr	S(+) Sr	S(+) Sr	S(+)Sr		S (+)	S (−)	S(−)									
2	Kahssay (2017)	S(+) L					S(+) L					S(−) L							
		S(+) sr					S(+) sr					S(−)sr							
3	Biresaw (2013)	M2→INF INF→M2																	
4	Yismaw (2019)						RGDP →INF												
5	Denbel et al. (2016)	S(+) L					S(−) L												

Note:- S= significance, L=long run and sr = short run

Source: Empirical Literature Review, 2020

Limitation

This study not addressed all major macroeconomic variables which have an impact on inflation; this may be the limitation of this review. So, the author also insight other interested researchers to review this title by concerning other macroeconomic variables.

References

1. Ademe, A. S. (2015). Interaction of Ethiopian and World Inflation: A Time Series Analysis; VECM Approach. *Intellectual Property Rights: Open Access, 3*(3).
2. Biresaw, T. T. (2013). *Determinant And Impacts Of Dynamic Inflation In Ethiopia (A Granger causality model approach).*
3. Denbel, F. S., Ayen, Y. W., & Regasa, T. A. (2016). The Relationship between Inflation, Money Supply and Economic Growth in Ethiopia: Co integration and Causality Analysis. *International Journal of Scientific and Research Publications, 6*(1).
4. Kahssay, T. (2017). Determinants of Inflation in Ethiopia: A Time-Series Analysis. *Journal of Economics and Sustainable Development, 8*(19).
5. McCallum, B. (1987). Inflation: Theory and Evidence. New York. The American National Bureau of Economic Working Paper No. 2312.
6. Yismaw , T. G. (2019). Effect of Inflation on Economic Growth of Ethiopia. *Journal of Investment and Management, 8*(2), 48-52.

7. Alemu, H., M, W., & W, Y .(2016). MonetaryPolicy and Inflation Dynamics in Ethiopia: An Empirical Analysis. *Global Journal of Human-Social Science:E Economics, 16* (4).
8. Dachito , A., & Alemu, M. (2017). Trade Liberalization and Inflation: Econometric Analysis to Ethiopian Economy. *Global Journal Of Human-Social Science: E Economics, 17*(2).
9. Gylych, J., & Abdurahman, I. (2016). The Impact Of Inflation On Unemployment In Nigeria (2001-2013). *Sacha Journal Of Policy And Strategic Studies, 6* (1), 28-34.
10. Keynes , J. M. (1936). *The general theory of employment, interest and money.* London: Macmillan publication.
11. Lucas , R. E. (1972). Expectation and the neutrality of money. *J. Econ Theory, 4*, 103-124.
12. Phillips, A. (1958). The Relationship between Unemplyment the rate of change of Many Wage Rates in the United Kingdom, 1861-1957. *Economica*, pp.283-299.
13. Sisay, M. (2008). Determinants of Recent Inflation in ethiopia. Online at https://mpra.ub.unimuenchen.de/29668/MPRA Paper No. 29668, posted 04 Apr 2011 06:17 UTC.
14. Totonchi , J. (2011). Macroeconomic theories of inflation. Int. Conf. *Econ. Finan, 4*, 459-462.