

Inflation and the Role of Macroeconomic Policy in Ethiopia

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Abstract

The recent historical evidence indicated that Ethiopia has suffered from high inflationary experience owing to weather shocks (drought) and conflict (war). Despite its sustained economic growth and one of the fastest growing non-oil producing economies in Africa, the country had experienced soaring inflation distorting allocation of resources and deterrent to undertaking productive investments. In effect, households in Ethiopia especially urban poor were badly hurt and still the problem persist all over the country. This paper has critically reviewed the trends, the main causes and consequences of inflationary pressure and the role of macroeconomic policy in Ethiopia. The result showed that the magnitude of inflation in Ethiopia was found to be very high and the trends of inflation in Ethiopia seem to continue. Four main causes of inflation in Ethiopia were identified. The result concur with theories of inflation as an economic growth phenomenon, demand-pull and cost-push theories of inflation, the monetarist explanation of the causes of inflation, and fiscal budget deficit as the main source of inflation. Moreover, some oligopolistic pricing by few distributors/traders in Ethiopia was also identified as the major determinant of inflation. This implies the presence of monopoly power/market failure in price formation. To this end, the Ethiopian government has adopted various fiscal and monetary policy measures to control and mitigate the adverse effects of inflation in the country. A mix of monetary policy instruments such as adjusting reserve requirement and interest rates, and sale and purchase of bonds have been implemented for lessening the effect of inflation and better performance of the economy. However, the effectiveness of these policies in achieving the intended goal largely depends on the institutional factors that constrain the implementation process of the policy. To contain inflation, therefore, the government needs to exercise conservative fiscal and monetary policies measures.

Keywords: Inflation, fiscal and monetary policies, Ethiopia

1. INTRODUCTION

In spite of good macro economic performance over the past decade, inflation in Ethiopia has spiralled out of control recently. According to Simpasa and Daniel (2011), sharp increases in inflation could reduce economic growth and exacerbate poverty levels. They indicate that inflation is caused by various factors ranging from macroeconomic imbalances to supply-side constraints and external pressures. While recognizing that they also find the main driver of short-run inflation in Ethiopia is a surge in money supply, accounting for 40 percent that is inflationary pressures in Ethiopia reflects monetization of the fiscal deficit. Simpasa and Daniel (2011) also showed that the inflation rate in Ethiopia was nearly 40 percent in October before levelling off to 35.9 in December 2011. The report also indicates that inflation in Ethiopia has been building for some time, even before the onset of the current episode of high food prices, driven by expansionary monetary policy. In addition, credit to the public sector grew by more than 45 percent in 2011, triggered largely by the monetization of the fiscal deficit.

African Economic Outlook report of 2011 characterized the monetary policy performance as “the year 2010 witnessed a continuous depreciation of the local currency against major currencies. The strain on the country’s foreign exchange reserves was such that they remained below the equivalent of two months of imports in 2010. There has also been a nonstop depreciation of the currency in the parallel (black) market, aggravated by the government’s devaluation of nearly 20% in September 2010. The official exchange rate has declined from ETB 13.60 (Ethiopian birr) per USD to ETB 16.50 per USD in 2010. Currency depreciation combined with oligopolistic pricing by most distributors/traders in Ethiopia forced the government to establish price controls in January 2011 on 18 major commodities identified as ‘basic’”.

Consequently, the inflation reduced the real income of people, their living standard and saving in Ethiopia. The reduction in saving is due to the desire of more money to buy goods and services. This results in lower investment and capital formation. Inflation also hinders foreign direct investment because rising cost of materials and inputs makes foreign investment less profitable. Uncertainty about prices and increase in production costs also reduce production. Moreover, such inflation also causes misallocation of resources.

Similarly, inflation resulted in reduction of exports in Ethiopia. Because rises in domestic input prices makes the price of domestically produced products expensive in the international market. It also results in increased imports. This is because inflation results in higher price of domestically produced products which in turn results in increased demand for imports. The increase in imports and the decline in exports caused by inflation in turn results in adverse balance of payments in the country.

Thus, it is clear that the currently high rate of inflation in Ethiopia will retard the economic growth of the country. For instance, the living standard of urban dweller and rural poor has been adversely affected by inflation in Ethiopia. Therefore, the focus of this term paper is to review inflation trends, the main causes, the

consequences of existing inflationary pressure and monetary policy in Ethiopia. This paper aims at providing information on inflation and monetary policy of Ethiopia. The specific objectives of this paper are: to assess monetary policy and instruments adopted for macroeconomic stability; and to review the trends, causes and consequences of inflation in the country

MONETARY POLICY IN ETHIOPIA

The ultimate policy objective of any country in general is to have sustainable economic growth and development. Policy measures are geared at achieving moderate inflation rate, keeping unemployment rate low, balancing foreign trade, stabilizing exchange and interest rates, etc and in general attaining stable and well functioning macro-economic environment. In this process, monetary policy plays a central role. For instance, during economic recession where output falls with a fall in aggregate demand, monetary policy aims at increasing demand and hence production as well as employment will follow the same pattern of demand. In contrast, at the time of economic boom where demand exceeds production and treat to create inflation, the monetary policy instruments are utilized that could offset the condition and achieve price stability by counter cyclical action upon money supply (Johnston and Sundararajan, 1999).

Accordingly, to have moderate inflation and stable economic growth in Ethiopia, the National Bank of Ethiopia (NBE, 2009) monetary policy and regulatory stances of the central bank uses all of the following policy measures: Setting minimum interest rates on deposits or the rediscount rate charged to Commercial banks borrowing reserves; setting reserve requirements on various classes of deposits; increasing or decreasing commercial bank reserves through open market purchases or sales of government securities; regulatory actions to constrain commercial bank financial activity or to set minimum capital requirements; intervention in foreign exchange markets to buy and sell domestic currency for foreign exchange; and decides on level of required reserve of commercial banks total deposit

It, however, notes that monetary policy strategy of a central bank depends on a number of factors that are unique and contextual to the country. Given the policy objective, any good strategy depends on the macroeconomic and the institutional structure of the economy. An important factor in this context is the degree of openness of the economy. The more open the economy is, the more the external sector plays a dominant role in monetary management. Within a country's monetary management framework, there are basically three targets: the ultimate or final target, the intermediate target and the operating target.

Although growth remained strong in 2010, macroeconomic management had its fair share of problems, namely rising inflation and a sharply depreciating national currency. Monetary policy in 2009 and 2010 focused on fighting inflation. Exchange rate management, despite its negative impact on inflation, was also an important monetary policy in 2010 as it addressed the shortage of foreign exchange (AfDB 2011).

In this regard, AfDB (2011) observes that in 2010, the government managed to contain rising inflation through a combination of monetary instruments, the principal one being contraction of credit and money supply growth. The Bank found that the culprits (the origin of the problem) behind inflation in Ethiopia in the last three years are expansion in the money supply, rising prices of imported goods, a significant mark-up by traders and producers, and higher inflation expectations. Accordingly, the National Bank of Ethiopia (NBE) sought to keep monetary growth below 20% in 2008/09 and less than 17% in 2009/10 in broad money supply has been driven by domestic credit both to private and public enterprises. Growth in net lending to government contracted from 12.8% in 2007/08 to 0% in 2008/09 as well as 2010. A cap on credit placed on private banks in 2010 limited the expansion of credit to the private sector. This monetary policy kept inflation to about 11% in 2010 but inflation has since risen to over 17% (February 2011) (AfDB 2011).

Another monetary policy development in 2010 relates to exchange rate policy. The exchange rate in Ethiopia mischaracterised by managed floating with strong government control. The year 2010 witnessed a continuous depreciation of the local currency against major currencies. The strain on the country's foreign exchange reserves was such that they remained below the equivalent of two months of imports in 2010. There has also been a nonstop depreciation of the currency in the parallel (black) market, aggravated by the government's devaluation of nearly 20% in September 2010. The official exchange rate has declined from ETB 13.60 (Ethiopian birr) per USD to ETB 16.50 per USD in 2010. Currency depreciation combined with oligopolistic pricing by most distributors/traders in Ethiopia forced the government to establish price controls in January 2011 on 18 major commodities identified as "basic" (ibid).

The government's plan for 2010-15 includes a monetary policy target for the next five years of below 10% inflation. Money supply is expected to grow at a level consistent with real GDP growth targets, annual inflation targets, and at the economy's monetisation rate. However, containing inflation to a single digit is a huge challenge for monetary policy. The projected high GDP growth and investments required to achieve it will have an impact on foreign exchange demand and could lead to a further depreciation of the national currency (ibid).

Final and Intermediate targets: the final targets of monetary policy in Ethiopia are to maintain price and exchange rate stability and support sustainable economic growth. In achieving these objectives, the NBE sets

money supply as an intermediate target. It should be noted that intermediate targets are not directly controlled by the central bank (NBE, 2009). Traditionally, money supply is defined from its narrow and broader sense. Narrow money (M1) is a measure of money stock intended primarily for use in transactions. It consists of currency held by the public, traveller's checks, demand deposits and other checkable deposits. Broad Money (M2) is a measure of the domestic money supply that includes M1 plus Quasi-money (savings and time deposits), overnight repurchase agreements, and personal balances in money market accounts. Basically, M2 includes money that can be used for spending (M1) plus items that can be quickly converted to M1. It takes the broader definition of money or M2 as money supply. The current target is to ensure that the money supply growth is in line with nominal GDP growth rate (ibid).

Operational Target: the operational target is an economic variable that the central bank wants to influence, largely on a day-to-day basis, through its monetary policy instruments. They can be used to link instruments of monetary policy to intermediate targets set by the central bank and represent the first impulse in the transmission process of monetary policy. The growth of base money/reserve money is being used as operational target of the National Bank of Ethiopia. Reserve money (Base money) is defined as the sum of currency in circulation and deposits of commercial banks at NBE. The practice of targeting reserve money is based on the assumption that there will be a stable money demand function in the economy. If the money demand happens to be unstable over the medium to long term, then the NBE will shift its targeting in to another workable framework such as interest rate targeting or multiple indicator approach (NBE, 2009). In addition, the Bank shall maintain the international reserves at a level which, in its opinion, is adequate for Ethiopia's international transactions. In this regard, a minimum threshold at which foreign reserves are considered adequate is set at three months of imports of goods and services (ibid).

Policy Instruments

Monetary policy instruments are broadly classified as direct, to refer to the authorities' direct controlling mechanism of the monetary variables, and indirect monetary policy instruments, those that are implemented through market-based operation. Direct monetary control is administrative control of growth of money supply in the economy and of the features that characterizes the system, there is aggregate and individual bank credit ceilings, high reserve and liquid asset requirements, direct control of interest rates, selective credit controls and preferential central bank refinance facilities to direct credit to priority sectors are the main ones (Johnston and Sandararajan, 1999).

According to NBE (2009), the introduction of a wide range of monetary instruments by central banks engenders competition, efficiency and transparency and broadens financial intermediation in the banking system. It also promotes liquidity management of commercial banks and gradually leads to the development of well functioning money and financial markets which could serve as catalysts for economic growth and development. So far, the use of such instruments has been extremely limited in Ethiopia due to the underdevelopment of the money market and the virtual non-existence of a financial market. Thus, central bank is envisaged to use the following mix of diversified monetary policy instruments so as to effectively carry out the monetary management function of the NBE (NBE, 2009).

Open Market Operation (Sale & purchase of bonds or securities issued by governments) has generally been used by countries as one of the main instruments for the development of money markets. Trading in these instruments liquefies the financial system in particular and the national economy in general and increases financial intermediation among market participants. In light of this, the NBE uses open market operations (sale and purchase of government securities) as one of its monetary policy instruments. In the absence of its own securities, certain amount of government treasury bills needs to be allocated to NBE by the government for its monetary policy purpose. To prepare the ground for enhanced open market operations, the yield on government securities should be at least close to the minimum interest rate. As a next step, secondary market for government securities needs to be established.

A standing central bank credit facility is another instrument used to enhance the financial capacity of commercial banks and to promote financial intermediation and efficiency. The key advantages of such standing credit facility are transparency and predictability of accessing central banks' resources to cover short-term needs. This credit facility gives banks an assurance that, when confronted with problems of shortfall in the clearing and a lack of alternatives for raising immediate funds in the inter-bank market, they can settle the clearing with the central bank's funds at a reasonable interest rate which has a clear relationship with short term market interest rates. The NBE will use this facility as one of its monetary policy instrument. Other monetary policy instruments used and to be used include: Reserve requirement, Setting of floor deposit interest rate (until interest rate is fully deregulated), direct borrowing/lending in the inter-bank money market and introducing re-purchase agreement (repo/reverse repo operations), Use of selected credit control when necessary, and Moral Suasion

Legal and Institutional Framework

According to NBE Establishment proclamation No. 591/2008 (as amended), Board of Directors composed of seven members governs the National Bank of Ethiopia. The Governor and Vice Governor of the Bank are as permanent ex-officio members while the Chairperson of the Board of Directors as well as the remaining four members is to be appointed by the Government (NBE, 2009). As stated by NBE (2009), the Board of Directors plays a role in monetary policy formulation, as it is the highest decision making body of the Bank. To this end, the Monetary Policy Committee shall submit regular information & policy proposals to the Board regarding developments in the monetary sector, BOP, exchange rate, price, interest rate and financial sector as well as the reasons for the proposed stance of monetary policy. The Board of Directors will meet regularly at least once every three months and required within short intervals to discuss and decide on monetary policy stance. The monetary policy stance will be published as Monetary Policy Statement in hard copy and posted on NBE's website as per the pre-announced calendar. A press statement will also be given on the date of issuance of monetary policy statement.

INFLATION IN ETHIOPIA: TRENDS, CAUSES AND CONSEQUENCES

Together with other major indicators of macroeconomic stability like unemployment rate, balance of payment and output growth, inflation plays an immense role. The term inflation can be defined as a sustained or continuous rise in the general price level, or alternatively, can be understood as a sustained or continuous fall in the value of money (Abel and Bernanke, 2005). As a consequence of such rise in price level, each unit of currency buys fewer goods and services resulting in erosion of the purchasing power of money (Paul et al., 1973).

According to Mankiw (2002), effects of inflation on economy could be positive and negative. Some of the negative effects include increase in the opportunity cost of holding money, uncertainty over future inflation which may discourage investment and savings, and shortages of goods. The positive effects include ensuring that central banks can adjust real interest rates (intended to mitigate recessions) and encouraging investment in non-monetary capital projects. Nonetheless, in today's world, most economists favor a low and steady rate of inflation (Hummel, 2007). Low (as opposed to zero or negative) inflation reduces the severity of economic recessions by enabling the labor market to adjust more quickly in a downturn, and reduces the risk that a liquidity trap prevents monetary policy from stabilizing the economy (Svensson, 2003). The following sections of the paper discusses the subject of inflation in Ethiopia giving due emphasis to the past trends, causes and consequences.

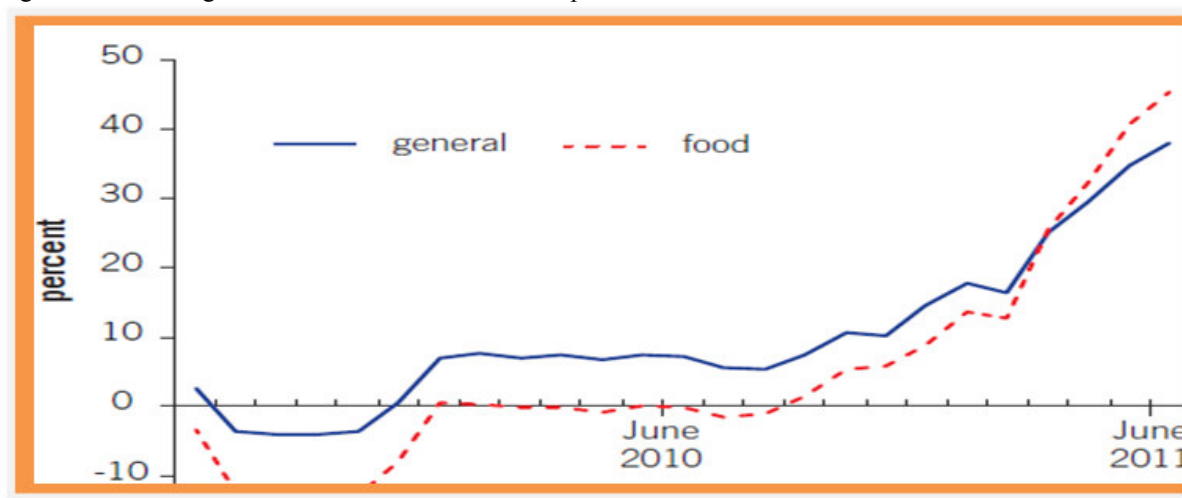
Trends of Inflation in Ethiopia

The past historical evidences indicate that Ethiopia has not suffered from high inflation (Durevall et al, 2010). In 2008, agricultural commodity prices on world markets reached their highest levels in 30 years (Daniel, 2008). The annual average inflation was only 5.2 percent from 1980/81–2003/04, and major inflationary incident have occurred only during conflict and drought. For instance, annual average inflation reached a record of 18 percent during 1984/85 because of drought, 21 percent in 1991/92 at the peak of war with Eritrea, and again 16 percent during the 2003 drought (Durevall et al, 2010).

According to Development Bank of Ethiopia (2011), the inflation rate steadily increased from a mere 3.4 percent in 2004 to 13.6 percent in 2006 and rose further to 34.9 percent in 2008. Similarly, IMF (2008) confirmed that in 2008 Ethiopian food price inflation was around 40 percent. A report by Africa Development Bank (2012), also asserted that the inflation rate in Ethiopia was nearly 40 percent in October before leveling off to 35.9 in December 2011. According to Central Statistical Agency's (CSA, January 2012) report, inflation went down to 32 percent from 35.9 as compared to the month of December 2011. Moreover, in May 2012, country level general and food inflation rate increased by 29.24 percent as compared to the preceding year of the same month. According to the Ethiopian Monterey Market Watch (2012), food price inflation rate was 41.4 percent as compared to the same month of 2011. IMF (2008) also identified that Ethiopia is particularly vulnerable to the rise in world oil prices because oil imports in 2007/08. From this it could be concluded that food prices rises are adding to domestic inflationary pressures, which is having a significant adverse impact on the poor.

Despite all these challenges, Ethiopia's growth in the last two decades, and in particular in the second half of the decade, has been appreciated by international observers, including economic institutions such as the Economic Commission for Africa (ECA, 2007). But for many of the 800 million people who are already affected by chronic hunger, higher food prices can be devastating (FAO, 2008). According to World Bank (2011) report more than 12 million people are estimated to be in need of humanitarian assistance in the Horn of Africa because of inflation. United Nations Office for the Analysts at IFPRI and the FAO predicted that food prices would rise by 26 percent per year until 2030 and 82 percent per year from 2030 to 2050. In line with this, the following figure clearly depicts the current food price surge and general inflation rate in Ethiopia.

Figure1. Trends in general and food inflation in Ethiopia



Source: World Bank, 2011.

The figure1 above describe inflation in Ethiopia has been building for some time, even before the high food prices, driven by expansionary monetary policy. During this period, credit to the public sector grew by more than 45 percent in 2011 triggered largely by the monetization of the fiscal deficit. In line with this, African Development Bank (2011) suggested that although commercial banks were obligated to purchase government bonds, this did not significantly slow down the ratof monetary growth.

Source: IFPRI, 2012

Table 1 below illustrates that inflation rate during world food price soar has significantly increase up to 46.7 in Ethiopia. Surprisingly, some evidences revealed that the price of salt which is considered as necessity item in Ethiopian’s food menu has soared to 50 birr per kg in most parts of the country.

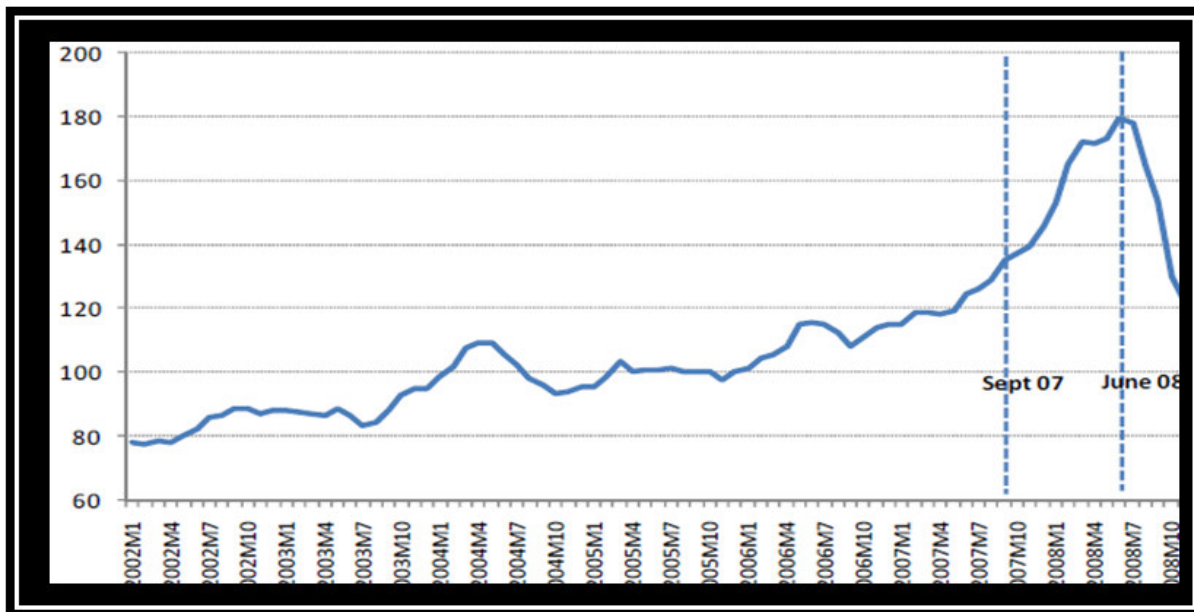
Table1. Inflation by regions of Ethiopia

	2004	2005	2006	2007
Ethiopia (Overall)	3.4	12.8	13.6	21.9
Addis Ababa	3.7	8.5	19.6	27.0
Afar	0.5	6.0	15.8	25.6
Amhara	7.9	11.8	13.3	26.7
B. Gumuz	13.6	1.9	14.3	24.0
Dire Dawa	-0.6	11.2	13.2	19.8
Oromia	-0.1	14.5	14.2	23.6
SNNPR	2.4	16.1	18.1	16.2
Somale	-0.6	19.1	14.8	9.0
Tigray	3.4	13.0	8.8	20.9

Source: World Bank, 2008

In similar way, as it can be seen in the above figure the inflation rate in Ethiopia has raised its maximum level during the world 2008 food price inflation. This has devastated most of the livelihood conditions of Africa in general and Ethiopia in particular.

Figure2: Inflation in January 2002-November 2008

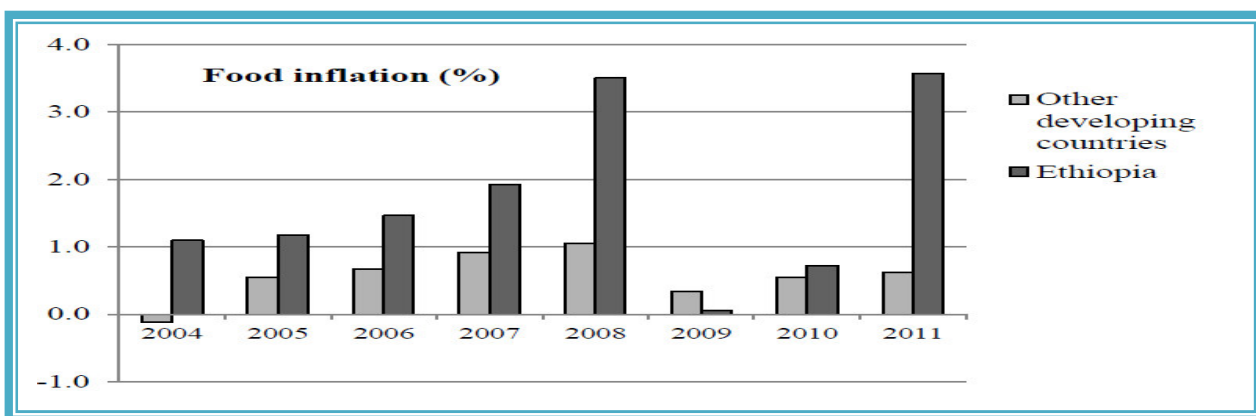


Source: IMF Primary Commodity Prices Data base

Considering the food price inflation alone, the trend shows huge fluctuation. As depicted Source: IMF, primary commodity Prices data bases

Moreover, the following figure food price inflation was high in 2008, it was at its least level in 2009 and it becomes high in 2011. The high fluctuation as well as high rate of inflation in food price challenged the livelihood of many in the country.

Figure3: Food Price Inflation in Ethiopia



Source: IFPRI, 2012

Causes of Inflation in Ethiopia

Inflation can be caused by external, internal, or both factors. Historically, the role of the external factors has been rather limited in causing inflation in Ethiopia (IMF, 2008). The same IMF report pointed out that, identifying the relative contribution of the various causing factors on Ethiopian inflation has technical difficulties mainly due to data scarcity, frequent structural changes and shocks. Nevertheless, some studies have tried to identify the determinants of inflation in Ethiopia taking different time periods. By taking three time periods, 1965-98, 1965-2002, and 1965-2005, Netsere (2007) has compared impulse response and variance decomposition of output and prices to demand and supply shocks and found that demand factor is more important in explaining inflation in Ethiopia. Ayalew (2007) employed a general equilibrium model using annual data of 1970-2005 and found that supply shocks and consumer prices of major trading partners as most important determinants of inflation in Ethiopia.

According to CSA (2008), inflation rate over the period of June 2007 to June 2008 was due to the rise in the prices of cereals, vegetables, fruits and other food items. Regarding the main factors bad weather and higher costs linked to fuel prices are key drivers of acceleration in food commodities price. Increase in demand for industrial use due to the surge in the production of biofuels in advanced countries was also the major factor as

cited by Yonas and Soderbom (2011). However, different findings showed that in different countries high inflation is caused by various factors. In relation to this, Manzoor (2011) identified the cause of inflation like government budgetary structure, price of imported goods, trade deficit, exchange rate and home remittance. FAO (2008) argue that the use of agricultural products, in particular maize, wheat and vegetable oil, as feedstock for biofuel production has been the most important factor behind the rise of global prices during 2005-2008.

There are various theories proposed by various economists to explain the determinants of inflation. In this study, the various theories of inflation are grouped into 1) inflation as an economic growth phenomenon, 2) demand-pull and cost-push theories of inflation 3) the monetarist explanation of the causes of inflation, and 4) fiscal budget deficit as a source of inflationary pressure. Each of the factors will be explained in the following section.

Inflation and Economic Growth

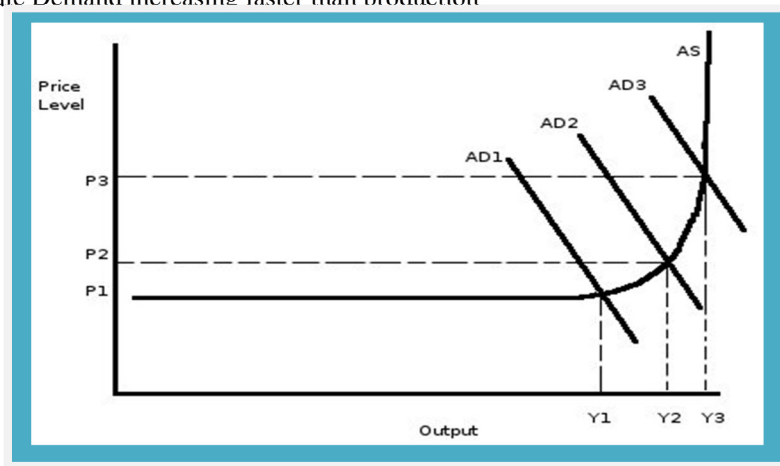
Moderate inflation is an inevitable consequence of sustained economic growth. It can enhance economic growth by mobilizing the resources of a country. For the last five years, Ethiopia has recorded sustaining economic growth. However, inflation in Ethiopia is beyond the break-even point. Instead of stimulating economic growth, inflationary pressure in Ethiopia seems to be on the verge of distorting the allocation of resources and is likely to be a deterrent to undertaking productive investments (Asayehgn Desta, date not specified). According to his study main determinants of inflation in Ethiopia are imports, depreciation of the Ethiopian birr, and a decline in the domestic lending interest rates or an increase in broad money supply.

Demand-pull and Cost-push Factors

The term demand-pull inflation is mostly associated with Keynesian economics. Keynesian economists often classify inflation according to the source of the inflationary pressures as Demand-pull and Cost-push factors. Demand pull (Excess demand) inflation is the traditional and most common type of inflation (Jhingan, 1997). Usually such an inflation results from an increase in aggregate demand when the economy is producing at or near full capacity. In such situation, where aggregated demand (AD) exceeds aggregate supply (AS), the excess demand creates disequilibrium and pulls up prices until equilibrium is restored. This excess demand may occur due to increase in one or all components of AD which includes consumption, investment, government expenditure and net exports. This is because the increase in AD causes shortage of goods and services at old prices. As a result consumers, business, and government bid against one another for a fixed quantity of available goods and services. This in turn leads to price increases until equilibrium is restored (Campbell and Stanley, 1986). When demand grows faster than the economy's productive capacity at full employment while the economy moves along the Phillips curve, it ends up in a situation which is commonly described as "too much money chasing too few goods".

According to Keynesian theory, the more firms employ people, the more people are employed and the higher will become the AD. This greater demand will make firms employ more people in order to produce more output. Due to capacity constraints, this increase in output will eventually become so small that the price of the good will rise.

Figure4: Aggregate Demand increasing faster than production

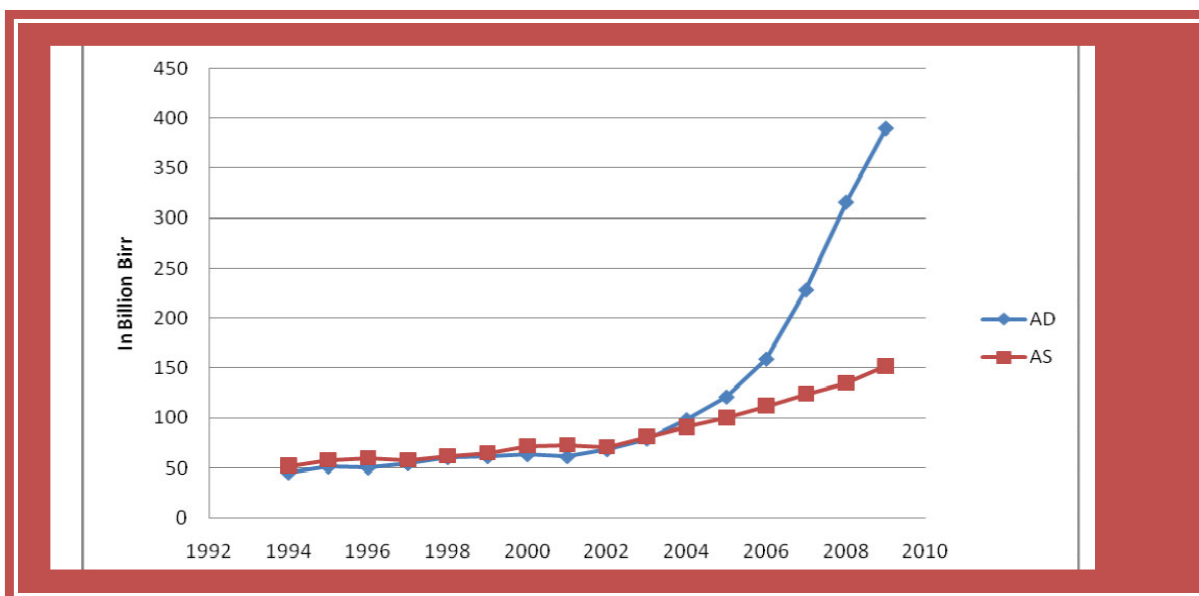


Source: Mankiw, 2001

At first, unemployment will go down, shifting AD1 to AD2, which increases demand (Y) by (Y2 - Y1). This increase in demand means more workers are needed, and then AD will be shifted from AD2 to AD3, but this time much less is produced than in the previous shift, but the price level has risen from P2 to P3, a much higher increase in price than in the previous shift. This increase in price is what is called inflation. In the case of the recent

inflation in Ethiopia, there may not be a standalone cause as such. Nonetheless, some scholars often claim that, it is characterized as demand pull inflation at least partially.

Figure5: Aggregate Demand and Supply in selected years in Ethiopia



Source: ADB, 2011

As can be seen from the graph, AD was greater than the AS. Before 2004, the difference between AD and AS was less. But after 2004, the growth rate of AD was much higher than the AS. Between 2004 and 2008, the annual growth rate of AD and AS was 29.7 and 10 percent respectively. Such big gap (19.7 percent) between AD and AS of goods and services has caused the price to increase at a higher rate than ever before. This justifies the source of inflation in Ethiopia to be partly due to the higher demand growth in the economy. As explained above such type of inflation is called demand-pull inflation.

It is the situation where inflation is caused by increases in aggregate demand due to increased private and government spending, etc. Demand pull inflation is constructive to a faster rate of economic growth since the excess demand and favourable market conditions will stimulate investment and expansion. The demand-pull inflation scenario occurs when a sustained increase in prices is preceded by a permanent acceleration of the nominal gross domestic prices growth. Stated differently, inflation occurs when increases in total spending are not offset by increases in the supply of goods and services. When many consumers are trying to buy the same good, the price of that good inevitably increases, as there is a limited supply. Also, demand-pull inflation could be a result of an increase in consumer and business confidence, an increase in the money supply, and/or government budget deficits. As the solution demand-pull explanation suggests restrictive monetary and fiscal policies, the cost-push theory endorses price formation and wage determination as stabilizing mechanisms.

Cost push inflation which is also called "supply shock inflation" arises due to continuous decline in aggregate supply. In the absence excess demand in the market, an increase in costs pushes up prices. Such cost increase may come from two sources. The first cause of cost push inflation is the rise in money wages more rapidly than that of the productivity of labor. The rise in wage rates exceeding productivity increases the unit labor cost. As unit labor cost rises, the production cost of firms also rise. Firms in turn raise prices of their products. In this way, the wage increase leads to cost-push inflation (Campbell and Stanley, 1986).

The second cause of cost push inflation is an increase in the price of domestically produced or imported raw materials. The increase in raw material prices increases production cost of firms. This in turn results in higher prices because firms pass the cost increase to consumers (Jhingan, 1997). For example, a sudden decrease in the supply of oil would increase oil prices. As a consequence, producers that are heavily dependent on oil could pass this on to consumers in the form of increased prices. Other related causes that may lead to such inflation include weather shocks, energy shocks, an increase in the prices of agricultural inputs or import price hikes.

Inflation and Money Supply

The other important factor that causes inflation is money supply. Money supply or money stock is nothing but the total amount of monetary assets available in an economy at a specific time (Paul, undtaed). Usually government institutions mainly central banks of most countries record and publish money supply data. Such monitoring and analysis on the changes in money supply is promoted because of its likely effect on price level, inflation, exchange rate and on the overall business cycle of a country. Past analysis strongly support the existence of

empirical evidence of a direct relation between long-term price inflation and money supply growth (Friedman, 1987). For instance, a country such as Zimbabwe which saw rapid increases in its money supply also saw rapid increases in prices (hyperinflation). In most cases, monetary economists agree that high rates of inflation are caused by high growth rate of the money supply. Despite the fact that inflation is assumed to be a monetary phenomenon in the long run, in the short and medium term it is influenced by the relative elasticity of wages, prices, as well as interest rates. Monetary economists explain this relation using Fisher equation (Fisher, 1911) as shown in the box.

$M \cdot V = P \cdot T$

Where: M= Money Supply

V=Velocity of Circulation

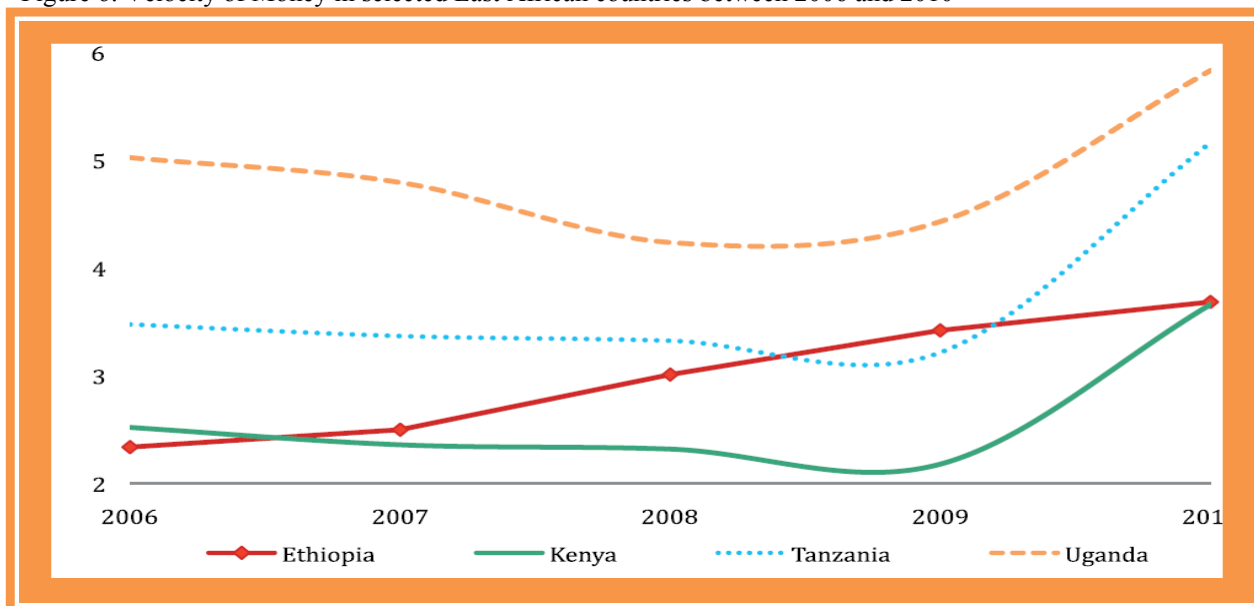
P= Price Level

T= Transactions or Output

Source: Mankiw, 2001

For the relation in the equation hold true, V is expected to follow regular behavior which may not be always the case. In case V varies rapidly (as shown in the figure below), the relation may fail to hold indicating the importance of considering the other variables like velocity (V) of money circulation in the analysis.

Figure 6: Velocity of Money in selected East African countries between 2006 and 2010



Source: AfDB, 2011

The above casual relationship between money supply and inflation as discussed above, there is no such agreement on the exact mechanisms about price and monetary inflation. Moreover, others even argue against the notion described above by claiming that money supply is endogenous (which is determined by the workings of the economy rather than the central banks) and hence the sources of inflation must be found in the distributional structure of the economy (Taylor, 2004).

The Ethiopian Development Research Institute (EDRI, 2007) and FAO (2008) point out that money supply is one of the causes of the recent inflation in Ethiopia. Likewise, the AfDB (2011) report identified monetary expansion as one of the factors that played a significant role both for short and long run inflation in the country. According to Desta (n.d), from 2002 to 2006, Ethiopia's real GDP has increased by 6.8 percent. Instead of adjusting the money stock with the increase in GDP, the country's money supply accelerated by about 18 percent, contributing to an average 12 percent increase in the rate of inflation.

In Ethiopia, financial intermediaries may accelerate inflation if the National Bank of Ethiopia relaxes its financial and monetary policies that regulate the Ethiopian financial intermediaries to maintain the statutory liquidity requirement of demand and time deposits. In addition, an increase in money supply could accelerate

inflation if the central bank substantially reduces the discount rate or buys existing government bonds from investors. The discount rate is the interest rate charged by the National Bank of Ethiopia when member banks borrow from it. Moreover, in Ethiopia inflationary trap increases because of an increase in the country's broad money supply such as currency in circulation, demand deposits, savings deposits, and time deposits.

Fiscal Deficit and Inflation

Fiscal deficit is the difference between the government's total expenditure and its total receipts (excluding borrowing). In most cases fiscal deficit are financed by borrowing from the reserves (deficit financing or money creation) or from market borrowing (from the money market, which is mainly banks). Various macroeconomic theory postulates that fiscal deficits cause inflation. The reason is that governments running persistent deficit has to balance their deficit through money creation (Seignorage) which could produce inflation (Sargent and Wallace, 1981). However, empirical evidence has had limited success in uncovering this relationships (Catao and Terrones, 2003).

Most scholars consider the relation between fiscal deficit and inflation is prominent in developing countries. As most of those developing countries are characterized by having inefficient tax collection system, high political instabilities, and limited access to external borrowing, they tend to lower the relative cost of seignorage and increase dependence on the inflation tax (Calvo and Vegh, 1999).

Several previous studies tried to establish the relation between fiscal deficit and inflation. For instance, using panel data of 94 countries of both developing and developed economies, Fischer et al (2002) concluded that fiscal deficits are main drivers of high inflation. However, many others (Haan and Zelhort, 1990; and Click, 1998) studied in as many as 78 countries finds that fiscal variables play no significant role in determining inflation. To that effect, several cross country studies on determinants of inflation do not even include fiscal balances in their regression with the assumption that it plays no role or their effect are indirectly captured by other variables (Romer, 1993; Loungani and Swagel, 2001). Nonetheless, a relatively recent study conducted on 107 countries found that even though there is no positive and strong connection between deficits and inflation in countries with advanced economies and low inflation, there is a relation in developing countries as well as in advanced economic countries with medium and high inflation (Catao and Terrones, 2003).

Tax levy in underdeveloped countries is generally very low. In addition, a government cannot or does not find it politically feasible to raise taxes when it needs to increase government spending. During wartime, the need to rapidly increase military spending results in government expenditures rising faster than tax revenues. The desire of the government to reduce taxes in the face of a continued high level of spending can lead to large budget deficits. Large budget deficits can be the source of inflationary monetary policy.

Consequences of Inflation in Ethiopia

Due to the simultaneous production and consumption decisions inherent in their livelihood systems as well as the responsiveness of consumption decisions to price and incomes, measuring the welfare impact of inflation for rural households is challenging. Nevertheless, several analyses suggest various important findings.

- Overall, rises in the relative price of food tends to benefit rural households, though the exact magnitude needs to be investigated further; changes in the prices of *teff*, wheat and maize tend to affect more the people at the higher income quintile in rural areas, while in urban areas they tend to affect those at the lower income quintiles; The hike in relative prices has increased the urban cost of living by 8-12 percent in urban areas; inflation could worsen urban income inequality significantly; demand for *teff*, maize and wheat tends to be elastic, with evidence of substitutability, especially between *teff* and wheat. In urban areas, all three types of cereals tended to be necessities, with inelastic price responses.

POLICY RESPONSES TO INFLATION IN ETHIOPIA

The main response to inflation has been monetary tightening. The policy response in Ethiopia has focused more on tackling supply shock-induced effects, initially through administrative price controls. Once price controls proved ineffective, they were suspended on all goods except for two commodities – a clear demonstration of the inefficacy of administrative action to control inflation.

According to the Ethiopia's government report inflation is a non-monetary phenomenon. On the contrary, study conducted by Jema Haji and Fekadu Gelaw (2012) monetary developments remain important and significant factor in explaining the high inflation in Ethiopia. Therefore, stabilization policies to dampen inflation expectations and a prudent fiscal policy as a means of avoiding sources of macroeconomic imbalance are quite apparent to reduce the rapidly rising prices in the country. In spite of good macroeconomic performance over the past decade, inflation in Ethiopia has risen sharply (ADB, 2012). In Ethiopia, the policy response has focused more on tackling supply shock-induced effects, initially through administrative price controls. As price controls proved ineffective, they were suspended on all goods except for two commodities, which is a clear demonstration of the inefficacy of administrative action to control inflation (AFDB, 2011).

In general, the Ethiopian government has adopted fiscal and monetary policy measures to mitigate the adverse effects of inflation in the country. A mix of monetary policy instruments such as adjusting reserve requirement and interest rates, and sale and purchase of bonds have been implemented for lessening inflation and better performance of the economy. However, the effectiveness of the policy in achieving the intended goal largely depends on the institutional factors that constrain or facilitate the implementation process of the policy.

CONCLUSION

The past historical evidence indicates that Ethiopia has not suffered from high inflation. If there have been inflation, the major drivers were weather shocks (drought) and conflict (war). On the other hand, the country will still be among the fastest growing non-oil producing economies in Africa. In times of sustained economic growth, moderate inflation is an inevitable consequence as it can enhance the growth by mobilizing the resources of a country. Macroeconomic challenges, however, given rise to high and persistent inflation which surpassed the break-even point. An attempted is made to explain major determinants of inflation in Ethiopia. The review result identified the following major causes: inflation as an economic growth phenomenon, demand-pull and cost-push theories of inflation, the monetarist explanation of the causes of inflation, and fiscal budget deficit as a source of inflation. However, the relative contribution of those factors in causing inflation in Ethiopia is a matter of an empirical question. In such cases, instead of stimulating economic growth, inflationary pressure result in distorting the allocation of resources and is likely to be a deterrent to undertaking productive investments.

It is a clear fact that Ethiopia has been registering economic growth for a decade. Along with the economic growth the country has been facing double digit increase in the price of goods and services. Consequently, inflation in Ethiopia becomes the most controversial issues in the economic and political discourses of the country. Today in general in developing countries in particular, inflation is officially regarded as a major economic problem and is one of the major concerns of macroeconomic policies. In effect, households in Ethiopia especially urban poor were badly hurt and still the problem persist all over the country.

It is conducted that there were four causes of inflation in Ethiopia. They are: inflation as an economic growth phenomenon, demand-pull and cost-push theories of inflation, the monetarist explanation of the causes of inflation, and fiscal budget deficit as a source of inflationary pressure. Moreover, the nonstop currency depreciation combined with oligopolistic pricing by most distributors/traders in Ethiopia contributed to inflation and forced the government to establish price controls in January 2011 on 18 major basic commodities. The Ethiopian government has adopted fiscal and monetary policy measures to mitigate the adverse effects of inflation in the country. A mix of monetary policy instruments such as adjusting reserve requirement and interest rates, and sale and purchase of bonds have been implemented for lessening inflation and better performance of the economy. However, the effectiveness of the policy in achieving the intended goal largely depends on the institutional factors that constrain or facilitate the implementation process of the policy.

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