

# **Economic Growth for Inflation: The Ethiopian Dilemma**

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## **Abstract**

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.

Based on the multiple regression analysis results, it is quite clear that the 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. Thus, the lesson to be ascertained from this analysis is that to successfully jump out of the inflationary trap, the Ethiopian monetary authorities need to tighten the stock of money in the country. A tight monetary policy could serve as an anchor for inflationary pressure in Ethiopia. Thus, it is absolutely vital that economic policymakers design strategies that could curtail the on-going erosion of purchasing power—to curb inflation before it deepens the economic crisis and contributes to political instability.

## **Introduction**

By and large, Ethiopia has recorded seventeen years of economic stagnation under the leadership of The Derg, a military government. For example, in 1990/91, the growth rate of the Ethiopian Gross Domestic Product (GDP) was -3.2 percent, cyclical unemployment was about 12 percent, the rate of inflation was about 21 percent, and the country's budget was at a deficit of 29 percent of GDP. For the last five years, contemporary Ethiopia has gathered momentum by recording a steady economic growth. Along with this growth, however, the country has seen an accelerated, double-digit increase in the price of goods and services.

Thus, inflation has remained a scourge of the Ethiopian economy (See for example, Tadesse, 2008; Demissie, 2008; Goodo, 2008; Kassahun, 2002).

Stated in simple words, Ethiopia at this juncture is faced with an overheating economy. With the global soaring price of oil, wheat, corn, and minerals, this condition cannot be regarded as unique to the Ethiopian situation. What makes this a special case is that Ethiopia is a low-income country. The increase in National Consumer Price Index (the main gauge of inflation) has become very detrimental to the low-income groups and retirees who live off a fixed income. The risk of inflationary pressure is reducing the purchasing power of the Ethiopian birr. Since the current inflation rate in Ethiopia was “almost 40 percent year-on-year in May 2008, driven largely by rapidly rising domestic food prices” (IMF, 2008), therefore an item which used to cost one birr a year ago now costs one birr and 40 cents. That is, the value of one birr is approximately 71 cents (i.e.,  $1/1.40$ ).

Given that a large portion of country’s population lives in absolute poverty (i.e., less than one dollar per day), it is time that the regime in power identifies the salient factors that might be contributing to inflation in Ethiopia. Also, it is absolutely vital that economic policymakers design strategies that could curtail the on-going erosion of purchasing power—to curb inflation before it deepens the economic crisis and contributes to political instability (Desta, 1993).

The focus of this study is to examine both the main causes and the consequences of existing inflationary pressure in Ethiopia. The first section provides the literature review, which briefly discusses the theoretical formulations of inflation as well as empirical findings in the context of the causes of inflation in developing countries. The second part provides empirical analysis of the determinants of inflation in

Ethiopia using an econometric technique. The final section contains the conclusion of the study and provides some suggestions on how policymakers may control the current inflationary pressure in Ethiopia and prevent the resurgence of inflation at a minimum cost in terms of output loss.

### **Determinants of inflation**

**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.**

### **Inflation as an Economic Growth Phenomenon**

From theoretical and empirical perspective, determining the direction of causality between economic growth and inflation in the developing countries is very controversial (e.g., Hossain & Chowdhury, 1996). In 1950s, the Structuralist Economist view of inflation, as pioneered in Latin America, persuasively argued that moderate inflation and economic growth are positively related. This was in contradiction to the policy advice of the international lending institutions (Meier, 1995; Mallik & Chowdhury, 2001). Stated in simple terms, inflation stimulates the economy since nominal wages may lag behind prices, allowing for slower adjustment to wage expectation.

Similarly, the Keynesian economic perspective assumed that moderate inflation might accelerate economic growth by raising the rate of profit, thus increasing private investment (Jung & Marshall, 1986). According to Meier, inflation accelerates economic growth in two ways: “by redistributing income from workers and peasants, who are assumed to have a low marginal propensity to save, to capitalist entrepreneurs, who have assumed to have a high marginal propensity to save and invest; and by raising the nominal rate of return on investment relative to the rate on interest, thus promoting investment” (1995). Capitalizing on the Keynesian theoretical framework, the ruling party in Ethiopia seems to attribute the surge in inflation to macroeconomic growth. As stated by Goodo, “The Ethiopian government admits that inflationary pressure has become very severe. However, it also claims that the economy has been growing at 10% for five consecutive years and it is healthy at present.” (2008; Hassan, 2008).

Using the full-employment model, it is possible to assume that if a nation achieves full employment, economic growth is likely to precipitate an inflationary situation. Since the 10 percent increase in nominal GDP cannot keep pace with a 40 percent inflation rate, the acceleration of economic growth seems to be overstated. In fact, it is possible to assert that double digit inflation in Ethiopia is nothing but a clear sign of an unhealthy economy ( See for example, Goodo, 2008). As persuasively argued by Barro, the inflationary situation in a country could have a negative-structural-break effect on economic growth, if the sustained increase in prices is more than 15 percent (1996).

The inflationary economic growth process generates distortions in the allocation of resources under the free market system. It may not bear fruit if the Ethiopian citizens do not “have confidence in the stability of

the value of money, and . . . if inflationary financing is not accompanied by governmental policies of holding down the wage and interest costs of business enterprises” (Meier, 1995, pp. 180). It needs to be appreciated that following a rise in the Consumer Price Index, the Ethiopian government not only scrapped taxes on flour and grains but also started selling edible food items at subsidized prices in order to repress inflation. The government claims “greedy” businesses and speculators are the cause of the inflation. They subsidize food to placate the vulnerable urban poor and the salaried government employees. The efforts of the Ethiopian government to curtail inflation are in the right direction. However, the governmental subsidization programs may be effective only for a short period of time. They are likely to result in shortages; inefficient production and distribution; and black markets. To suggest possible solutions for curtailing inflation in the long run, the articulation and disarticulation between aggregate demand and aggregate supply will be investigated. Additionally, the monetary policy Ethiopia will be assessed in relation to the chronic inflation that has manifested in the country.

### **The demand-pull and cost-push factors for inflation**

Keynesian economists often classify inflation according to the source of the inflationary pressures. The most straightforward method defines inflation in terms of sustained pressure from the demand side of the market or the supply side of the market. By and large, a rampant inflationary situation in any country occurs because of an imbalance between demand-pull and cost-push factors. 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 (e.g., Gordon, 2009). 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.

On the other hand, cost-push inflation is an increase in production costs that force firms to raise prices to avoid losses. In broad aggregate terms, these could be as a result of increase in wages, energy shocks, weather shocks, increase in the prices of agricultural inputs, or import price hikes, which might cause exchange rate depreciation or a decline in land holding sizes. While the demand-pull explanation suggests restrictive monetary and fiscal policies, the cost-push theory endorses price formation and wage determination as stabilizing mechanisms.

### **Inflation as a monetary phenomenon**

According to Monetarist economists, in every case where the inflation rate of a country is high for any sustained period of time, its rate of money supply growth is also high (e.g., Friedman, 1959). In accordance with this, the National Bank of Ethiopia has recently responded by tightening the monetary policy in order to tackle the chronic level of inflation. However, to examine if a relaxed monetary policy has been the source of inflation in Ethiopia, the role played by financial and non-financial intermediaries in the supply of money stock needs to be factored out.

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.

As shown in Table 1, Ethiopia seems to have been driven into an inflationary trap because there was an increase in the country's broad money supply (i.e., currency in circulation, demand deposits, savings deposits, and time deposits) from 19.4 percent in 2002 to 23.3 percent in 2006. That is, Ethiopian banks adopted a relaxed monetary policy to help promote the financial markets. Ethiopian banks overused their reserve facilities to boost their credit portfolio (Teshome, 2008). The excess reserve in Ethiopia occurred due to more savings. As persuasively argued by Demissie, "the demand for bank credit rose sharply to finance large-scale investment projects by the public enterprises and the rapidly expanding private sector. Substantial negative real interest rates and commercial banks' excess reserves facilitated the rapid expansion of credit" (2008).

From 2002 to 2006, Ethiopia's real GDP increased by 6.8 percent (See Table 1). 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. The link between money supply and other determinants of growth is not an automatic process. However, if we abide by the principles of the transmission mechanism, we might argue that the increase in money supply in Ethiopia might have contributed to an increase in investment. However, the problem of inflation in the Ethiopian environment cannot be tackled without addressing the large budget deficit.

**Table 1: Ethiopia's GDP, Inflation, Broad Money, Public finance, Investment, Savings, and Current Account Balance, 2001-2007**

Year	Real GDP Growth rate (%)	Inflation rate (%)	Broad money increase (%)	Government budget/GDP (%)	Gross Capital Formation, % GDP	Domestic Saving, % GDP	Current Account Balance (%) / GDP
2001/02	1.6 <sup>d</sup>	7.2 <sup>b</sup>	19.4 <sup>b</sup>				
2002/03	-4.5 <sup>b</sup>	15.1 <sup>b</sup>	12.3 <sup>b</sup>				
2003/04	11.5 <sup>b</sup>	8.6 <sup>b</sup>	20.0 <sup>b</sup>	-7.4 <sup>d</sup>	12.4 <sup>d</sup>	5.4 <sup>d</sup>	
2004/05	10 <sup>c</sup>	9.2 <sup>c</sup>	16.4 <sup>b</sup>	-5.8 <sup>d</sup>	11.4 <sup>d</sup>	2.6 <sup>d</sup>	-9.1 <sup>a</sup>
2005/06	9.7 <sup>c</sup>	9.0 <sup>c</sup>	23.3 <sup>b</sup>	-7.4 <sup>d</sup>	11.4 <sup>d</sup>	5.2 <sup>d</sup>	-10.2 <sup>a</sup>
2006/07	9.0 <sup>a</sup>	18.0 <sup>a</sup>	29.7	-5.8 <sup>d</sup>	12.0 <sup>d</sup>	8.1 <sup>d</sup>	-14.4 <sup>a</sup>

*Notes:* <sup>a</sup> Economic Intelligence Unit (1997, 1998, 1999, 2006). Ethiopia: Country outlook. *EIU Views Wire*.

<sup>b</sup> International Monetary Fund (2008, April). *International Financial Statistics*.

<sup>c</sup> The World Bank Group (2007, April). Ethiopia. *World Development Indicator Database*.

<sup>d1</sup> International Monetary Fund (2007, June 15).

<sup>d2</sup> AfDB/OECD (2007). African economic outlook: Ethiopia.

## Fiscal Deficit and Inflation

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. As argued by Meier, “When financing of government expenditures by money creation exceeds the non-inflationary limit, total spending in the country becomes greater than production valued at stable prices (1995, pp. 176; see also Johnson, 1966).

To promote more investment; to maintain law and order within its highly volatile domestic environment; and to ascertain peace and tranquility with its neighbors, the Ethiopian government has been running a budget deficit of between five and six percent of GDP per year (See Table 1). Government deficit could be financed by selling government savings bonds (monetization of the debt) if there is a highly developed capital market. However, capital markets barely exist in Ethiopia. Thus, the Ethiopian government has either depended on external sources of finance or has financed its budget deficit by printing high-powered money (currency and deposits at the National Bank), which serves as a reserve for commercial banks and allows commercial banks to expand their loans (Johnson, 1966; Meier, 1995, pp. 177; Hassan, 2008). Since donor funds have not greatly increased in 2007/08, it is reasonable to assume that the government’s commitment to finance large-scale capital projects and infrastructure improvements has contributed to the sustained inflationary period (AfDB/OECD, 2007).

### **Methodology and Data Analysis**

To determine the factors that have contributed to inflation in Ethiopia, time series data (1991-2 to 2006-7) are used. The main source of data is from the World Bank, International Monetary Fund, and the Ethiopian

Statistical Office. The regression coefficients are estimated using ordinary least squares. Based on the theoretical and empirical discussion presented above, the inflation function for Ethiopia has been specified using the following econometric model:

$$\text{INF Rate}_t = \beta \text{GDP}_{t-1} + \beta \text{IM}_{t-1} + \beta \text{BD}_{t-1} + \beta \text{LR}_{t-1} + \beta \text{MS}_{t-1} + \beta \text{EX}_{t-1} + \mu_{t\dots}$$

Where

INF RATE = Ethiopia's Consumer Price Index ( 1992/93-2007/8)

GDP = Real GDP growth rate (%), 1992/93 - 2006/7

IM = Import /GDP (%), 1992/93 to 2006/7

BD = Government budget/GDP (%), (1992/93 to 2006/7

LR = Lending interest rate (%), 1992/93 to 2006/7

EX = Nominal Exchange rate, 1992/93 to 2006/7

$\beta$  = Standardized coefficient data

$\mu$  = represents all relevant variables omitted from the model as well as random errors

As shown above, the predictor variables which are lagged by one year include real GDP, nominal exchange rate, money supply, lending interest rate, government budget/GDP (%), foreign exchange rate. Ethiopia's consumer price index (CPI) is the dependent variable. Instead

of GDP deflator, CPI is used to gauge the inflation rate in Ethiopia because it reflects the real prices faced by the Ethiopian consumers.

To standardize and adequately represent the constructs under study, the dependent and independent variables depicted in the above regression equations are estimated based on percentage increase rate. The relative influence of the predictors on the dependent variable (the level of inflation in Ethiopia using annual data for the period 1991-2 to 2007-8) is ascertained by using beta coefficients. Holding other variables constant, beta coefficients measure change in the dependent variable (in standard deviation units) for a unit of change in each explanatory variables. In short, since beta coefficients are independent of the units of measurement of each explanatory variables they are used to compare compared the effects of the independent variables on the dependent variable directly.

As shown in Table 2, the model explains 69 percent of the determinants of inflation rate in Ethiopia. In the Ethiopian economic environment, as real GDP increases by 1 percent, inflation measured by the consumer price index increased by 0.04 percent. Though not statistically significant, it shows that real GDP propagates inflation in Ethiopia. Also, as import to Ethiopia increased by 1 percent, inflationary pressure was engendered by 1.5 percent. In addition, as exchange rate depreciated by 1 percent, inflationary situation in Ethiopia hiked by 1.5 percent. In recent years, since Ethiopia is attempting to be an open economy, its inflationary instability is heavily dependent on external trade. The depreciation of the *birr* over the period under review implies that the price of imported commodities has increased when expressed in local currency. Therefore, inflation in Ethiopia is subjected to inflationary

impulses transmitted by the average prices of imported goods and services that are purchased from abroad.

Table 2: Regression results (coefficients)

Model	Un-standardized Coefficients		Standardized Coefficients Beta ( $\beta$ )	t	Sig.
	B	Std. Error			
(Constant)	14.349	9.851		1.457	.183
Real GDP	.050	.238	.038	.209	.840
Import	1.155	.293	1.479	3.938	.004*
GD (budget deficit)	.745	.589	.230	1.264	.242
Broad Money	.339	.225	.257	1.503	.171
Exchange rate	5.839	1.535	1.514	3.802	.01*
Lending Interest rate	-.969	.354	-.475	-2.74	.03*

\* significant at .05 level

$$\text{Inf Rate} = .038\text{GDP} + 1.479\text{IM} + .230\text{GD} + .257\text{MS} + 1.514\text{EX} - .475\text{LR}$$

t-value	(.209)	(3.938)	((1.264)	(1.503)	(3.802)	(-2.74)
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Adjusted R Square = 0.69    F =6.227    Sig. at 0.01 level, N=15

The results also show that as banks increases their lending rates to their domestic customers by 1 percent, inflation pressure in Ethiopia declined by 0.5 percent. In line with the monetarist point of view, with the decline of lending interest rate. Stated in different term, as money supply increases, inflation pressure in Ethiopia increased by 0.5 percent per year. Also, since deficit financing of the government is positively related to inflation, it could be argued that monetary policy in Ethiopia is to a large extent based on the discretion of the government instead of being independently determined by the country's National Bank.

### **Summary and policy implications**

For the last five years, Ethiopia has recorded sustaining economic growth. Moderate inflation is an inevitable consequence of sustained economic growth. It can enhance economic growth by mobilizing the resources of a country. 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.

Based on the multiple regression analysis results, it is quite clear that the main determinants of inflation in Ethiopia are real GDP, percentage increase of the exchange rate (exchange rate of the Ethiopian birr against the US Dollar), and the domestic lending interest rate used as a proxy for broad money supply. Though it is very difficult to document, the inflow remittance through the informal channels from abroad might have contributed to the soaring of prices in the Ethiopian market of goods and services. Thus, the lesson to be ascertained from this analysis is that to successfully jump out of the inflationary trap, the Ethiopian monetary authorities need to tighten the stock of money in the country. In other words, a tight monetary policy could serve as an anchor for inflationary pressure in Ethiopia.

Therefore, as a partial solution to the inflationary pressure in Ethiopia, it could be suggested that let the National Bank of Ethiopia be allowed to function as an institutionally independent body. That is, the National Bank of Ethiopia could be made to be immune from political pressures to tighten its monetary policy, such as auditing of financial institutions to maintain reserve requirements or forcing banks to indulge in prudent lending procedures. However, it needs to be underlined that granting legal independence to a central bank is not sufficient to keep monetary policy effective on a sustained basis unless the central bank also dominates the fiscal policy of the government. In other words, the framework of fiscal policy should result in a monetarily dominant regime. Granting legal independence to the central bank, the fiscal policy regime must be such that it does not allow changes in the price level to become

the mechanism through which the condition for government solvency is satisfied (Canzoneri et al., 1998).

With a substantial increase in prices, Ethiopian banks are on the verge of lending to the least solvent borrowers to keep from bankrupting themselves. In addition, as the value of the domestic currency depreciates, domestic savers may decide to invest abroad. Rampant inflation proliferates inefficiencies and disrupts investment. It takes time and proper policy to adequately damp inflationary fires. The supporting price controls implemented by the Ethiopian Government as knee-jerk responses to inflation might be effective for a short period of time. In fact, political and economic agitators may be calmed by government subsidies, supplements, and price floors, as well as an increase in interest rates and reserve requirements. Banning speculators in futures trading of edible products and preventing rising prices with government subsidies might not halt the rampant inflation. Inflation creates more inflation unless long-term stabilization programs are pursued. Since current inflation causes inflationary expectations. The current inflation rate in Ethiopia can therefore be partly explained by its past history of inflation and the various relative price and institutional adjustments such as indexation of wages, government subsidies, financial contracts, monetary and exchange rate policies which the government might have taken over the years to deter inflation. In other words, based on rational expectation theory we can assume that the Ethiopian people may use all available information including that about current policies to forecast the future.

Therefore a stabilization program to mitigate the inflationary situation in Ethiopia may include a drastic cut in the money supply, reducing

government expenditures and a further devaluation of the currency. As shown above, the minor currency depreciation in Ethiopia has led to a high cost of imported materials for production, which are ultimately passed onto higher prices for goods and services. As indicated before, these policies can have their own inertia and usually induce an unexpected inflation. But they have to be undertaken in order to suppress the evolving inflationary pressures encountered by the country.

However, since a large portion of inflation in Ethiopia is due to a price surge in edible and finished products, one of the long run strategies for suppressing inflation and increasing employment in Ethiopia is to balance the aggregate demand with long-run aggregate supply. Aggregate demand is a combination of the price level and real output at which the money and commodity markets are both in equilibrium (Gordon, 2009).

Though not included in the model due to lack of data, with limited land holding, massive land degradation, soil nutrient depletion, and inefficient production techniques, based on the law of diminishing returns, it is possible to argue that, despite economic growth, rapid population growth in Ethiopia might have contributed to low agricultural productivity. For example, the food estimate for the 2004/05 periods in Ethiopia indicates that while the population increased at about 2.5 percent, the food production grew at 3.7 percent (ESSGA, 2006). When compared with the eruption of population in Ethiopia, the food growth is at the margin to provide adequate nutrition (Worku, 2000). In addition, while cereal production in Ethiopia increased by 17.7 percent from 2005 to 2007, the prices of cereals jumped by 15 percent. This is both due to increases in the price of fuel oil and fertilizers, as well as inefficient market structures (Teshome, 2008).

Due to the diversification of the commodity export base that Ethiopia is pursuing under the Agricultural Development Led Industrialization (ADLI) paradigm, farm exports have grown on average by 25 percent (Tadesse, 2008). Nonetheless, it needs to be underlined here that due to an extensive use of chemical fertilizers, the limited rural Ethiopian land is currently facing a number of environmental challenges. The challenges range from land degradation to environmental pollution. Due to the misguided application of chemicals in agriculture, it is estimated that Ethiopia has accumulated one of the largest stockpiles of obsolete pesticides on the African continent (Edwards, 2004). Therefore, we can argue that the sharp increase in the price of agricultural outputs could be attributed to the limited production technologies currently available in rural Ethiopia.

What is more, Ethiopia is indulged on growing horticulture commodities in order to diversify its exports and earn foreign exchange. Given this, Ethiopian farmers are reducing the production of more essential edibles. Instead, they harbor the production of horticultural commodities in order to amass strong foreign currency. More particularly, most of the agricultural land in the proximity of highways is tailored to the production of horticultural crops (i.e., floriculture fruits and vegetables) for export. The reduction of its limited land holdings to the production of horticulture products instead of edible food items has accentuated the price of the staple products. Taking the best land in order to secure the best financial returns by growing floriculture is morally wrong. Since the market for horticultural products is strongly dependent upon knowledge, human capital, and technical inputs, “small producers are frequently eliminated from markets for failure to understand market dynamics or because of their inability to meet new production, sanitary, and quality standards” (USAID, 2005). Given this fact, it can be argued that in the long run, the dependency of Ethiopian farmers on the

production of horticultural commodities is not only less lucrative but also environmentally costly. For instance, the pattern was the same in other similar countries that imported agro-chemicals (viz., herbicides, pesticides, and fertilizers) for horticultural products. They would not only exhaust the productivity growth of their agricultural land, but also create toxic and hazardous waste that could pollute the surrounding environment and damage human health (e.g., Desta, 1998; Edwards, 2004).

If Ethiopia is to achieve long-term sustainable growth, its developmental process has to be rooted in the Ethiopian system of thought and its people-centered approach, rather than depending on the Western capitalist model of industrialization by invitation to gain various forms of external assistance. Since agriculture is the backbone of the Ethiopian economy, its sustainable development model must be one of self-sufficiency—to feed its own people instead of producing environmentally-insensitive horticultural products to amass foreign currency. Contrary to expectations, Ethiopian horticultural commodities are sold at very low prices. Additionally, they lack markets to absorb production, often involve a large number of middlemen, and lack marketing institutions to safeguard farmers (Gebremedhin, 2007).

Given the resources and techniques of production, the Ethiopian agricultural sector seems to have exhausted its productivity growth. To improve productivity under these conditions would require substantial investment in research and development. For example, since deforestation, desertification, increase in population, shortage of water, and air-related disease are to a large extent the symptoms of poverty, the poor need to be organized to formulate and implement their own development strategies and ensure that their basic needs are fulfilled.

Based on land security and adhering to environmentally-sensitive, cooperatively-managed systems, it is reasonable to assume that Ethiopia would not only achieve growth and equity (with full employment and modest inflation) but could also empower the Ethiopian people to fully participate in the design and management of long-lasting development paradigms (Kofi & Desta, 2008).

**Figure 1: Ethiopia's GDP, Inflation, Broad Money, Government budget deficit, Population Growth Rate, Exchange Rate, Imports/GDP (%)**

Year	Real GDP Growth Rate (%)	Inflation rate (%)	Nominal Exchange rate \$ = birr	Broad money increase (%)	Gov. budget deficit/GDP (%)	Pop. Growth rate	Exc. rate	Imports/GDP (%)
1991/92	-3.7b	20.8b	2.07b	17.0b	-9.6b	2.8b	2.07b	10.7b
1992/93	12.0	10.1	5.00	19.0	-7.6	2.8	5.1	16.9
1993/94	1.7	1.1	5.77	18.4	-11.1	2.8	6.22	21.5
1994/95	5.4	13.4	6.25	26.5	-4.00	2.8	6.32	23.5
1995/96	10.6	-2.6	6.32	18.4	-8.3	2.7	6.35	23
1996/97	5.2	-1.4	6.50	15.9	-5.2	2.8	6.78	25.5
1997/98	-1.4	3.9	6.88	27.6	-4.5	2.6	7.09	25.3
1998/99	6.0	4.8	7.51	14.3	-8.7	2.9	8.12	28.9
1999/00	5.4	6.2	8.14	14.3	-11.7	3.1	8.23	30.0
2000/01	7.7	-5.2	8.33	10.5	-5.5	2.7	8.47	29.9
2001/02	1.2d	-7.2 b	8.543	19.4b	-9.3	2.7	8.57	34.1
2002/03	-3.8b	15.1b	8.581	12.3 <sup>b</sup>	-8.7	2.7	8.61	44.5
2003/04	11.5b	8.6b	8.62	10.9 <sup>b</sup>	-7.4 <sup>d</sup>	2.6	8.63	40.2
2004/05	10.0c	9.2c	8.65	19.6 <sup>b</sup>	-5.8 <sup>d</sup>	2.5	8.67	29.0
2005/06	9.7	12.3c	8.68	17.4 <sup>b</sup>	-7.4 <sup>d</sup>	2.6	8.69	40.0
2006/07	9.0	17.0a	9.20	29.7	-5.8 <sup>d</sup>	2.5	9.20	42.0
2007/08	20.10							

Notes: <sup>a</sup> Economic Intelligence Unit (1997, 1998, 1999, 2006). Ethiopia: Country outlook. EIU Views Wire.,

<sup>b</sup> International Monetary Fund (2008, April). International Financial Statistics.

<sup>c</sup> The World Bank Group (2007, April). Ethiopia. World Development Indicator Database.

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