

THE TRADE-OFF BETWEEN UNEMPLOYMENT AND INFLATION IN ETHIOPIA

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Abstract

In countries like Ethiopia where production is predominately agrarian, markets are fragmented and underdeveloped, and labour productivity is abysmally low, inflation is not a demand side phenomenon. Internal and external shocks have subjected the aggregate supply curve to a repeated contraction moving the actual production function well below the potential (steady state) level. Removing structural rigidities and creating well functioning and integrated markets to eliminate supply bottlenecks should, therefore, be in the priorities of development strategies. Each step to remove the bottlenecks is expected to produce a continuous rightward shift in the aggregate supply curve which gives rise to a positive relationship between unemployment and inflation. The Phillips Curve is, therefore, positive. It is only after the creation of an efficient market system and when resources begin to be exposed to a competitive market system that money will complete its duties as a producer good and inflation begins to be a demand side phenomenon.

1. INTRODUCTION

Inflation in Ethiopia averaged about 7.15 per cent for the last three decades between 1967/68 and 1997/98. This places the country among the low inflation economies in the region. This period falls in three distinct political regimes. The period between 1967/68–1973/74 falls in the last part of the imperial regime which could be considered as a period of modest economic growth. Real GDP was growing at an average rate of about 3.8 per cent. Particularly, the manufacturing sector registered a rapid rate of growth averaging 10.5 per cent per annum between 1967/68–1971/72 (Eshetu and Mekonnen 1992). Of the total average government deficit of about Birr 83.1 million, only 23 per cent (0.5 per cent of GDP) was financed by the banking system. On average, aggregate money supply (M2) and the Addis Ababa Consumer Price Index grew by 13.8 per cent and 2.8 per cent per annum, respectively.

The replacement of the market system by a central planning system, however, created an economy characterised by shortages and production rigidities. Industries

began to be uncompetitive both internally and externally. Most of them became loss makers requiring government subsidies. This put pressure on budget deficit in two ways. First, government lost revenues from these industries in the form of taxes or residual surplus. Second, it had to subsidise these industries to keep them alive. And, the fiscal situation was aggravated by the long-standing civil war in Northern Ethiopia. Government was therefore forced to increase its bank financing. The latter reached as high as 80.6 per cent of the deficit in 1991/92.

Despite these unfavourable situations, the government was able to contain domestic inflation on average at about 9.8 per cent per annum. The low-level of inflation that prevailed was not a sign of a healthy economy, however. It reflected the recession that the economy had experienced for such a long period. As observed by Mistry (1991) aggregate demand was in fact declining in real terms between 1984/85–1988/90 (p.15). Policies such as protracted wage control, direct price control on basic commodities, restraints on credit to the private sector (to help finance budget deficit), appreciation of the Birr to the extent of 242 per cent (Yohannes 1994), and other measures employed throughout the period, have contributed to the recession. Hence, the average annual rate of per capita real GDP growth in the two decades was about 0.2 per cent only.

The defunct regime felt the consequences of misguided policies only during the end of its era with the fall of socialism in the Eastern Block. In 1989/90, the Derg proclaimed the end of the socialist system and the beginning of capitalism in Ethiopia. However, the government was not courageous enough to take practical actions. For instance, it hesitated to devalue the exchange rate, decontrol prices, lift up (let alone liberalise) the highly repressed interest rate and others. All these measures were thought to result in high rate of inflation.

A practical and more market-oriented program was launched in 1992/93 by the EPRDF government. The program was in fact supported by the IMF and the World Bank. The fear of inflation was not given much weight for the immediate future. This was because the medium- to long-term objectives gave more emphasis to demand management with increased role of the private sector in the economy. The exchange rate was devalued by about 58.6 per cent in dollar terms from Birr 2.07 per US Dollar to Birr 5.00 per US Dollar (TGE 1993:1). Price controls were removed from all sectors except in strategic commodities, such as petroleum and fertiliser.

When the program was agreed upon with the IMF and World Bank in late 1992, it was feared that the actions taken might push up prices to the tune of 24.2 per cent in 1992/93 (TGE 1993:30). The result was, however, surprisingly the opposite. Inflation declined from 21 per cent in 1991/92 to 10 per cent in 1992/93 and to 1.2 per cent in 1993/94. This provoked some economists to ask whether inflation is actually a monetary phenomenon in Ethiopia or not. In fact, it was believed that non-economic factors such as the civil war and the resultant blockade of the road leading from grain producing areas to the central market (Addis Ababa) had significantly contributed to

the rise in prices that was registered in the year immediately before the end of the civil war. So, when these non-economic factors were removed, food prices began to level down (Yohannes 1994).

This paper tries to address problems like: what drives inflation in Ethiopia? Is there a real trade-off between unemployment and inflation? Should policymakers employ a stabilisation first strategy? Is there a room for accommodative monetary policy? The paper will, therefore, test different models that could best explain the inflationary process in Ethiopia.

2. INFLATION-UNEMPLOYMENT TRADE-OFF: A THEORETICAL BACKGROUND AND EMPIRICAL EVIDENCE

2.1. The Augmented Philips Curve and Latter Developments

In the late 1960s, two major criticisms emerged in the analysis of the Phillips Curve which was a landmark in the modern theory of inflation. The criticisms concern on the permanent trade-off between inflation and unemployment, and the neglect of inflationary expectation. Quoting Friedman and Phillips, Sachs and Larrian noted that "what actually matters for workers is not the nominal wage per se but with the purchasing power of the wage i.e., the real wage. Employers are not also concerned with the nominal wage per se but with the cost of labour relative to the price of output" (Sachs and Larrian 1993:453-454). This was supported by studies in the 1970s which confirmed that "for a given level of unemployment, nominal wage inflation was higher in the early 1970s than it had been in the 1960s. Thus, the Phillips Curve started to shift up". (Sachs and Larrian 1993:459).

This laid the basis for the emergence of short-run and long-run analysis of the Phillips curve. Friedman argues that when money supply increases, spending on goods and services grows in the short-run because producers would find it profitable to produce more, and employment increases. However, the increase in prices erodes real wages and workers would start to negotiate with their employers to regain the lost purchasing power. The Phillips curve shifts up and the level of employment starts to move back to the original level, as nominal wage increases. Therefore, in the long-run, expansionary policy results in higher inflation, while the level of unemployment sticks to its natural rate (Mishkin and Posen 1997; and Frisch, 1990). This is what is called the Natural Rate of Unemployment (NRU) hypothesis. (Sachs and Larrian 1993; and Debelle and Laxton (1997)). The long-run Phillips Curve is, therefore, vertical. Friedman's hypothesis is based on his assumption of adaptive expectation formation of prices. Workers and employers are backward looking. They form their expectation based on the gap between past expected and actual prices and adding (subtracting) some margin to the next period. Wages would, therefore, increase by the rate of the expected rise in prices. These time inconsistency models tell us that policymakers cannot actually fool workers and firms for a reasonably long period so that output will

not be higher under such a strategy; unfortunately, however, inflation will be. (Sachs and Larrain 1993; and Mishkin and Posen 1997).

Disagreement over the formation of expectation and the existence of short-run Phillips Curve led to the emergence of the Rational Expectationist School. In this school, workers and employers are assumed to be forward-looking. They use all available information in formulating their expectation. On average, their expectation is correct. Systematic policy measures could not therefore affect output even in the short-run.

Along with the monetarists, the structuralist school is the other dominant school in the modern theory of inflation. This school argues that the sources of inflation in developing countries are rooted in the very structures of the economies themselves. They ascribe inflation to the composition of demand for products and services accompanied by inflexibilities in the productive structure (Fischer and Mayer 1981). Hence, money supply is not the source of inflation. It only aggravates the inflationary process. In these countries, economic resources could not be sufficiently utilised due to low technical know-how, poor infrastructure, etc. And, because of these structural rigidities, production is not responsive to increases in aggregate demand through higher money supply. Thus, inflation increases (Tekle Birhan 1990). They argue, therefore, that the coefficient of money supply in the inflation model is significant. It only indicates the positive correlation between factors such as structural budget deficits, trade deficits (due to worsening terms of trade etc.) and money supply.

Fischer and Mayer's (1981) exposition of the Latin American structuralist school stresses on two basic causes of inflation: (1) the rigidity of food supply in the face of rapid industrialisation and urbanisation. "--- under the condition of the dual economy food supply is inelastic and hence prices are very flexible in response to changing demand, while in the industrial sector prices are said to move only upwards and to be rigid downwards" (pp. 39-40) and (2) the inadequacy and instability of the purchasing power of exports. "During the process of industrialisation there is a shift of resources from agriculture to the industrial sector. With a stagnant agricultural sector growth, the industrial sector will increase the demand for agricultural products. Because of the rigidity of supply and inadequacy of the purchasing power of exports which prevents sufficient food imports, increased demand for agricultural products induces higher prices" (Frisch and Mayer 1981:40).

The second group in the structuralist school is the European branch. While the Latin American structuralism stresses on the link between inflation and economic development and points to sectoral bottlenecks as the causes of changes in relative prices, the European branch ascribes inflation to the uniform increases in wages across all sectors in spite of differences in sectoral rates of growth of labour productivity. The latter approach to inflation is, therefore, limited to changes stemming from supply shifts (Canavese 1982).

The other group of economists who emerged in the early 1970s was led by McKinnon and Shaw who doubted the relevance of the controversies between these leading schools of economists (Keynesians and mainstream classicals) to the problem of LDCs. They argued that first of all both schools pre-supposed, despite differences in the degrees of efficiency, the existence of well functioning markets. Whereas McKinnon and Shaw argued that although markets are the only means for an efficient use of resources and sustained growth, they are not well developed or non-existent in LDCs (Coats and Khatkate 1984). They, therefore, argue that the typical structure of LDCs doesn't allow us to talk about demand management in the way it serves developed countries. LDCs are producers of primary goods. Exports largely consist of primary commodities, the demand for which is determined by world markets. On the other hand, their imports are mostly composed of manufactured and capital goods. Savers and investors tend to be identical (i.e. predominance of self-financing). McKinnon and Shaw therefore, argued that sustained increase in money supply produces inflation not because the economic resources are fully employed but because of underdevelopment of markets and imbalanced growth of sectors due to repressive policies in LDCs. So, with financial liberalisation and creation of efficient markets, money enhances economic growth rather than aggravating inflation.

The McKinnon and Shaw hypothesis resembles the structuralist theory of inflation except that the former emphasises on market inefficiency and it largely ascribes to internal policy problem while structuralists argue that both internal and external policy and non-policy factors are responsible for the inflationary pressures in LDCs.

2.2. Some Evidences in Underdeveloped Countries

The desperate need of growth and high level of employment and the lack of appropriate model to explain the economies of developing countries gave rise to monetarist-structuralist controversy over the sources of inflation. Betancourt (1976) criticised Robert Vogel's (1974) paper on *Dynamics of Inflation in Latin America* which concludes that "... a purely monetarist model, with no structuralist variables, reveals little heterogeneity among Latin American countries, in spite of their extreme diversity". Betancourt argued that in fact the sources of inflation in these countries are different. While monetarist model seems more appropriate to high inflation countries such as Uruguay, Brazil, Chile and Bolivia, money supply has less explanatory power in low inflation countries such as Nicaragua, Ecuador, Honduras, Costa Rica, Guatemala, Venezuela and El Salvador. He observed that it would be good to study the roles played by income growth, favourable external circumstances, conscious design or the nature of the social, political, and economic environment prevailing in these countries to the differences in policies (Betancourt 1976: 689-690).

The underdevelopment of labour and financial markets complicated the analysis of inflation in developing countries. Nugent and Glazakas (1982) argued that the institutional conditions of LDCs are sufficiently different from those of developed countries that the newly emerged consensus rationale for the Phillips curve's

existence, even if perfectly valid for developed countries (DCs), should not be expected to apply to LDCs. They went on stating that" indeed, we shall argue that the institutional conditions of agriculture dominated LDCs would be likely to lead to exactly the opposite relationship between inflation and unemployment (or growth) in LDCs than that expected for DCs" (p. 322).

3. A TEST ON THE TRADE-OFF BETWEEN INFLATION AND UNEMPLOYMENT IN ETHIOPIA

In the following paragraphs, the paper tries to measure the trade-off between inflation and unemployment in Ethiopia the way Phillips (1958) tried to estimate for England. Applying the usual procedure is, however, not possible as the data on the actual level of unemployment is unavailable in Ethiopia. The first job is, therefore, to estimate the level of unemployment. This is done applying the following procedures. First, estimate potential output and then take the deviation between potential and actual output series (i.e. output gap) a proxy for unemployment (actually it measures unemployment of factors of production i.e., labour, capital, land and entrepreneurship, not labour alone). The details of the procedures are presented below.

3.1. Measuring the level of Unemployment.

First, specify an exponential trend model for national output.

$$Y_t = Y_o e^{bt} u \tag{3.1}$$

- where Y = real GDP
- Y_o = initial output
- t = time
- u = error term

Taking the log of equation (1), we get

$$\ln Y_t = \ln Y_o + bt + \ln u \tag{3.2}$$

Some studies use the fitted values of Equation [3.2] as a proxy for potential output. The paper by Khan et al. (1991), for example, estimated normal potential output applying this technique. This could be applicable in industrial countries which most of the years produce at their potential level. Supply shocks are not so frequent and markets are well functioning.

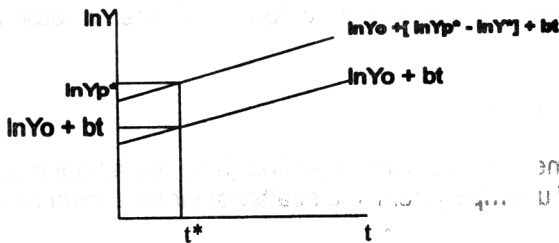
The situation is, however, different in LDCs. They are faced with a number of structural problems. They are also vulnerable to external and internal shocks such as fluctuating export and import prices, drought and war. Hence, in most of the years they produce below capacity. The fitted output applying the trend line does not,

The Trade-off Between Unemployment and Inflation in Ethiopia

therefore, represent potential (capacity) output. It is way below that as the data used to fit the equation are dominated by under capacity output levels. Taking this into account, the paper would try to estimate potential output (Y_p^*) by drifting the trend output estimated using equation [3.2] by the highest positive difference between the actual output and trended output in a particular year. The year chosen in this way should be a normal year i.e., no positive or negative exogenous shock.

The next step is, therefore, to drift the estimated regression equation [3.2] by the deviation between the maximum output and the fitted output at that particular year. Adding the deviation to the constant ($\ln Y_0$) drifts the trend output upwards without changing the slope!

$$\ln Y_p = \ln Y_0 + (\ln Y_p^* - \ln Y^*) + bt \quad [3.3]$$



Drifting the line to the point considered to be a relative maxima is on the assumption that if some of the structural rigidities (created due to protracted wrong policies) were removed and the recurrent drought which affected almost all sectors in the economy hadn't happened, output would have oscillated around the potential output line in the same manner as it did around the estimated trend line. These factors dominated the time-series data. Moreover, given the amount of uncultivated land and excess labour both in the rural and urban areas, no any higher output that lies beyond the trend line signifies beyond-potential-production or excess demand. In fact, in most cases, domestic prices decline when output happens to be above the trend.

Assuming that the slope of the line remains unchanged, the basic ordinary least squares (OLS) assumptions will not be affected if the trend line is drifted some constant magnitude throughout the period. Unemployment is, therefore, derived by taking the antilog of the difference between actual output ($\ln Y$) and potential output ($\ln Y_p^*$) series.

$$\text{Antilog of } (\ln Y_p^* - \ln Y^*)$$

[3.4]

Some of the limitations of this technique need to be mentioned. First, it uses local maxima to drift the line. The extent to which the trend line could be drifted to derive the potential output trend line is limited by the historical data available in a given period of time. Second, the quality of the data and the econometrics technique employed determine the accuracy of estimates. Third, the slopes of the potential and fitted output trend are assumed to be the same throughout the period. Fourth, the way that the potential output year is chosen is subjective. With all these limitations, however, the technique remains superior to that of Khan and Knight (1991).

The technique has two major advantages. First, it gives a better proxy for unemployment of resources for the economy in LDCs than just using labour input whose information is scant and unreliable in most cases. Second, even though it uses local maxima, it can still show the minimum level of unemployment in the economy in a given period. One important point to note is that, although there could exist significant difference in absolute values, in terms of the rates of growth, unemployment rates shouldn't be significantly different whether a local or absolute maximas are used.

3.2. The 'Phillips Curve' for Ethiopia

Having obtained unemployment series using equation [3.4], the actual rate of inflation is plotted against the rate of unemployment in a scatter diagram shown below:

From Figure (3.1), one can observe that the higher the unemployment, the higher is the inflation. The slope of the curve seems to be positive. The estimated equation, equation [3.6], supports the visual inspection above.

$$\Delta P_t = f(\Delta UNEMP_t) \quad [3.5]$$

ΔP_t and $\Delta UNEMP_t$ are inflation and unemployment rates, respectively. The OLS estimation gives the following result:

$$\Delta P_t = 0.028226 + 0.47333 \Delta UNEMP_t - 0.36573 S_2 \quad [3.6]$$

(6.562) (2.376) (-4.251)

$$R^2 = 0.19 \quad F(2, 101) = 12.03 \quad (0.000), \quad a' = 0.03799 \quad DW = 1.81$$

Diagnostic Test: AR 1-5 $F(5,96) = 0.36761$ (0.8696); ARCH 4 $F(4,93) = 2.1915$ (0.0759); Normality $\text{Chi}^2(2) = 8.9798$ (0.0112) *; $\text{Xiy}' F(3,97) = 0.36992$ (0.7749); $\text{Xi}^* \text{Xj}' F(4,96) = 0.34142$ (0.8494); RESET $F(1,100) = 0.38494$ (0.5364)

S_2 is dummy for quarter two to take care of seasonality. The diagnostic tests on equation [3.6] show that there is no evidence of auto- correlation (AR) problem (i.e.,

The Trade-off Between Unemployment and Inflation in Ethiopia

the error terms are not serially correlated). The error terms do not exhibit clusters of small and large forecast errors through time as shown by the ARCH Test. The RESET test also tells us the absence of specification error. There is, however, a normality problem at 5% level of significance. This might indicate the existence of outliers in the data that should be accounted using dummies.

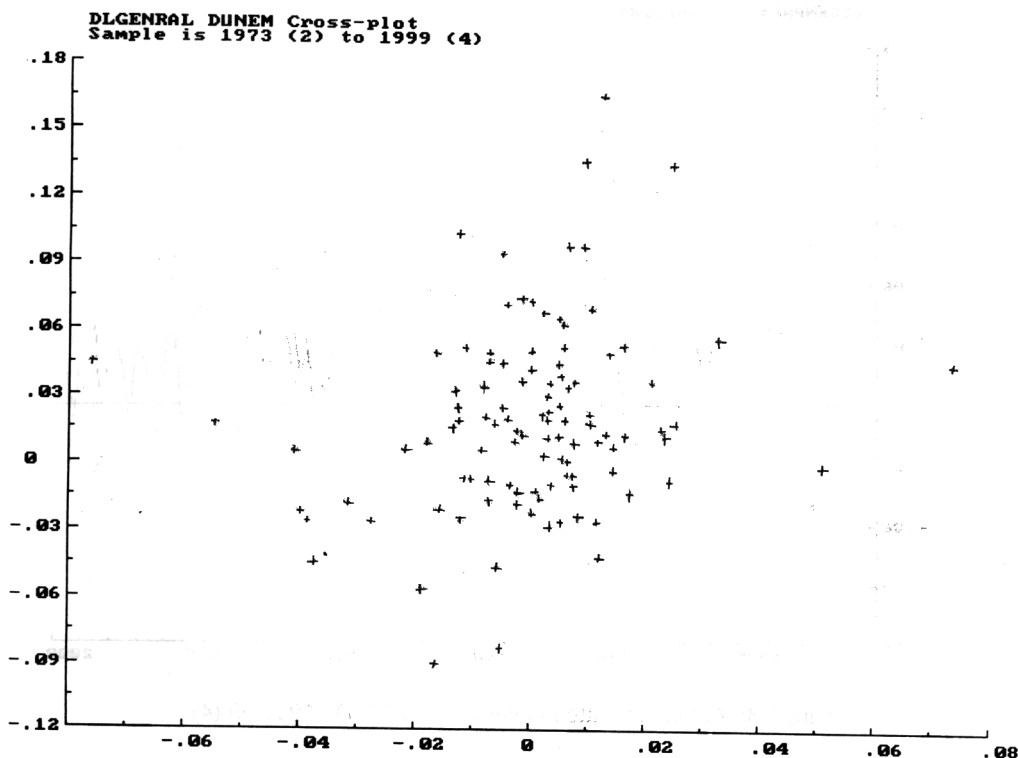


Figure 3.1: Plots of Inflation Against Changes in Unemployment: 1972/73 (2)-1998/99 (4)

According to the estimation result in equation [3.6], at least in the short-run, inflation is positively related to unemployment, i.e, there is no trade-off between them. The traditional Phillips Curve is not, therefore, applicable to Ethiopia. In fact, the unemployment coefficient describes that inflation increases by 47 per cent when unemployment rate increases by 100 per cent. And, every year inflation tends to be lower by 0.37 per cent in the second quarter as compared to the first quarter of the fiscal year indicating the existence of price seasonality.

The policy implication is that it is not wise for the government to choose high unemployment in order to dampen inflation or vice versa. If it chooses higher unemployment, it may end up in higher inflation. Since the economy is dominantly agrarian, characterised by production rigidities and market fragmentation, government policy to manage the economy from the demand side would not be effective. The only solution to fight against inflation is, therefore, to support the workings of the supply side and remove structural bottlenecks.

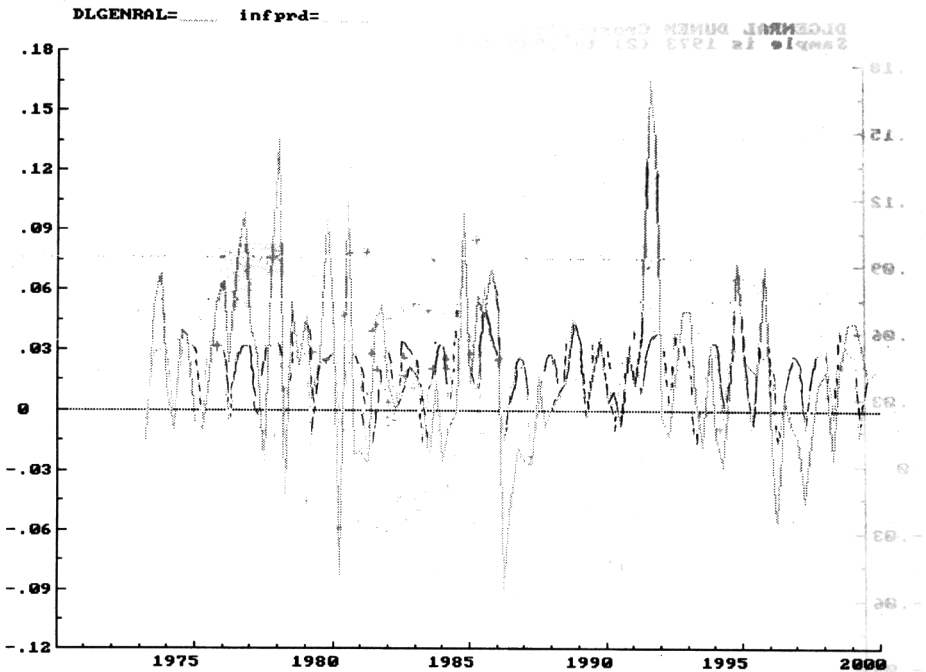


Figure 3.3: Actual and fitted inflation: 1972/73 (1)-1998/99 (4)

4. THE STRUCTURALIST-TYPE INFLATION MODEL

The test for the existence of a long-run trade-off between unemployment and inflation is conducted using the Johansen (1988) procedure. The test for the number of co-integrating vectors was originally conducted on six variables which include the Consumer Price Index for Addis Ababa (P), unemployment level (UNEM), exchange rate index (EX), world price index (WP), money supply (M), and Government deficit (G). However, money supply and government deficit variables are dropped for giving wrong signs. The result is presented in Table 4.1 below.

The Trade-off Between Unemployment and Inflation in Ethiopia

Table 4.1. Co-integration Analysis Of The Structuralist Model

| HO: Rank=P | Δ trace | 95% | Δ Max | 95% |
|-------------------------------|----------|----------|-----------|------|
| P= 0 | 25.56** | 17.9 | 42.62** | 24.3 |
| P<=1 | 17.65** | 11.4 | 20.06** | 12.5 |
| P<=2 | 2.409 | 3.8 | 2.409 | 3.8 |
| Standardised B' eigen vectors | | | | |
| P | UNEM | EX | WP | |
| 1 | -0.981 | 0.3458 | -0.7396 | |
| -1.753 | 1.000 | 0.5212 | 1.628 | |
| -1.878 | 6.327 | 1.000 | 1.095 | |
| Standardised α Coefficient | | | | |
| P | -0.01514 | 0.07514 | -0.006008 | |
| UNEM | 0.009518 | 0.003743 | -0.002693 | |
| EX | -0.03102 | -0.1911 | -0.01880 | |

The vector auto regression in Table 4.1 includes five lags on each variable (Pt, UNEMP, EX & WP). WP entered the model restrictedly because world price is purely exogenous to Ethiopia whereas the constant term and the war dummy entered the vector auto regression unrestrictedly.

The null hypothesis of at most two co-integrating vectors (P<=2) is not rejected at 1 per cent level of significance implying that there are actually two co-integrating vectors in the model.

Statistical techniques and economic theories are employed to identify those co-integrating vectors. And, the first co-integrating vector is found to be the long-run price equation ($P_t = 0.981 UNEMP_t + 0.3458 EX_t + 0.7396 WP_t$). The test for weak exogeneity confirms that P_t is weakly exogenous. The second vector is the 'exchange pass through equation' ($P_t = EX_t * WP_t$). The actual equation is $P_t = 0.2941EX_t + 0.9414 WP_t$.

Using the results, a vector error correction model is specified. Equation [4.1] is the preferred model after a number of iterative estimations.

$$\begin{aligned}
 \Delta P_t = & 0.20514\Delta P_{t-4} - 0.222 \Delta M_{t-1} + 0.17025 \Delta M_{t-4} + 0.9842\Delta WP_{t-1} - 0.7808\Delta W \\
 & (-2.405)^* \quad 3.145)^{**} \quad (-2.583)^* \quad (2.837)^{**} \quad (-2.415)^* \\
 & + 0.7221\Delta WP_{t-4} + 0.03836 \Delta UNEMP_{t-2} - 0.0127 VECM1_{t-1} + 0.038362DDrought_{t-1} \\
 & (2.412)^* \quad (3.031)^{**} \quad (-2.063)^* \quad (2.503)^* \\
 & - 0.05537 DDrought_{t-4} + 0.0615 DVAR - 0.01424Se \quad \dots [4.1] \\
 & (-3.739)^{**} \quad (4.764)^{**} \quad (-1.328)
 \end{aligned}$$

** Significant at 1% level of significance

* Significant at 5% level of significance

$R^2 = 0.68$

$a' = 0.027362$

DW = 2.36

Diagnostic test: AR 1-5 $F(5,64) = 1.6813 (0.1519)$; ARCH 4 $F(4,61) = 5.9151(0.0004)**$; Normality Chi $\chi^2(2) = 2.9681 (0.2267)$; Xi $\chi^2 F(20,48) = 1.78 (0.0522)$; RESET $F(1,68) = 1.7402 (0.1915)$

DDrought and DWAR are dummies for drought and war quarters while VCEM1 stands for vector error correction term for the first co-integrating vector. The model passes all the diagnostic tests except the ARCH test, which becomes significant at 1%. The final estimation result as stated by equation [4.1] above drops the second vector carrying long-run information on purchasing power parity. The price equation remains the only long-run information in the model. To avoid the simultaneity bias, the paper has applied a recursive least square procedure.

The conclusion from the structuralist model is that Ethiopia's inflation could be explained by supply side (structural) variables both in the short- and long-run. Inflation inertia, money supply, world inflation and unemployment of resources explain short-run variation in prices. World inflation rates at various lags seem to have significant cumulative effect, as shown by the sum of the coefficient of WP_{t-i} . Unemployment aggravates inflation even in the short-run as proved by its positive coefficient. There is also a weak but significant VECM coefficient which signifies that disequilibrium in the model is corrected slowly at 1.3 per cent.

The positive unemployment coefficient signifies that inflation declines as unemployment drops. The explanation is that when structural problems such as production rigidities and market fragmentation are removed, output increases and absorbs aggregate demand in the economy. Increases in output result from the increased employment and improvements in the utilisation of factors of production. However, as the actual is way below the potential employment line, increases in employment would not push up wage and rent levels which are at the centre of inflation-unemployment trade-off in the traditional theories.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

Inflation has been low for years since economic data began to be compiled in Ethiopia. This is good news both for consumers and policy makers. The lower inflation during the major part of the Imperial regime was for two reasons. First, world inflation was low due to the fixed exchange rate system adopted as an international monetary order. Second, as the country was undergoing a major industrialisation process with its attendant urbanisation program, the result accelerated monetisation which, in turn, helped the economy to absorb some of the increase in money supply.

The Trade-off Between Unemployment and Inflation in Ethiopia

The Derg, on the other hand, was a suppressive regime. It used to suppress aggregate demand by applying various direct and indirect control measures on financial and real variables. Wages and salaries, interest income and profit were all suppressed. The tax system was so harsh that in some cases it was close to 300%. On the supply side, the economy was faced with a number of structural problems. The labour market (especially markets for educated people) was controlled by the government and it was virtually non-existent in the agricultural sector, etc. So, inflation was low but volatile.

Even after the Economic Reform Program in 1992/93, suppressing aggregate demand continued to be the number one measure to control inflation. So, despite the major achievements in the supply side of the economy, the country is not able to enjoy the optimal rapid rates of economic growth that have been observed in East Asia. The conclusion of the paper is that policies should also try to address supply side problems, and they should not over-emphasise the link between money supply growth and inflation. The claim for inflation to be a monetary phenomenon is valid only when structural rigidities are removed and various markets are created and developed.

5.2. Recommendations

The paper forwards the following policy recommendations:

1. Since production is well below potential, the concerns of policies should not be inflation alone. Due priority should also be given to the supply side. In the latter, as markets for labour, capital and money develop and integrate, money will help expand production by financing investment. And, the production function continues to shift up until the economy approaches the 'potential' or steady state level.
2. Money would continue to be inflationary as rigidities in markets and production prohibit its productive role.
3. A programmed and captive government intervention which aims at creating markets and improving production efficiency through the constructions of road transport, telecommunication, electricity, irrigation systems would not be inflationary in the long-run. As argued in (1) and (2) above, the process of creating efficient and well functioning markets and removing rigidities in the production sector enables the production function to continuously shift up until the steady state level is reached. However, if these targets are not met, money's inflationary role is unavoidable by the same analogy in number 2.

NOTE

¹ Researchers in industry use this technique to estimate firms' level of capacity utilization.

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The Trade-off Between Unemployment and Inflation in Ethiopia

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