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Dynamics of Food Price Inflation and Its Determinants in Ethiopia: ARDL Approach to Con Integration

Amanuel AnjuloAssale[1] Amsalu Bedemo Beyene[2]
1. Ph.D. student in Agricultural Economics at Jimma University, Corresponding author; Ethiopia
E-mail Address: amanuelanjulo@gmail.com
2. Associate Professor at School of Policy Studies, Ethiopian Civil Service university; Ethiopia
E-mail Address: amsalu72@gmail.com.

Abstract
The inflation picture is more heterogeneous in transition and developing economies. In Ethiopia, the year-on-year food inflation has increased by 42.0 percent in September 2021 as compared to the one observed in September 2020. The main objective of this study is to investigate the dynamics of food price inflation and its determinants in Ethiopia. For data analysis autoregressive distributed lag (ARDL) to con-integration model was used. The results suggested that food price inflation appears to be strongly significant and positive in explaining current food inflationary pressures in the short-run and negative in the long run. In effect, a one percent rise in food prices in the previous year causes the actual food prices to increase in short-run and declines in the long-run. These results emphasized the importance of inflation inertia and persistent price-price spiral movement in Ethiopian food price dynamics. Money supply positively influenced food price inflation growth in the short-run and in long-run. In the same way, the exchange rate influenced food price inflation positively in the short-run and long-run. Food inflation is also negatively influenced by real gross domestic product in US Dollar in both the short-run and long-run. In the same way government budget deficit and general consumer price index affected food price inflation significantly. Therefore, as policy recommendation, policy makers need to take appropriate measure to follow tight monetary policy and find the right balance between money demand and economic growth when needed without over-pumping money into the economy which causes inflation. As it is inferred from the research work the influence of exchange rate on food price is for both the short-run and long-run so that the government needs to focus on the way to control instability in exchange rate by devising a right macroeconomic policy to constrain the upward spiral movement of food price inflation. In regarding budget deficit and general consumer price index, the right decision to stabilize the country's economy by the government is required.
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1. INTRODUCTION

According to Jhingan (2003) inflation is a highly controversial term which has undergone modification since it was first defined by neo-classical economists. Neo-classical economists meant by it a galloping rise in prices as a result of the excessive increase in the quantity of money. But according to Keynes, starting from a depression; as the money supply increases, output at first increases proportionately. But as aggregate demand, output and employment rise further, diminishing returns start and certain bottlenecks appear and prices start rising. If the money supply increases beyond the full employment level, output ceases to rise and prices rise in proportion with the money supply. This is true inflation, according to Keynes.

As it is described by Andrew B. (2008) both the classical and Keynesian models of the economy imply that deficits can cause aggregate demand to rise more quickly than aggregate supply, leading to an increase in the price level. The principal link between deficits and inflation is that in some circumstances deficits lead to higher rates of growth in the money supply and that high rates of money growth in turn cause inflation. Money supply is the leading determinant of price inflation. The government budget deficits can lead to ongoing increases in the money supply by printing money (seignorage) to finance government spending when the government cannot (or does not want to) finance all of its spending by taxes or borrowing from the public.

According to UN (2020) Average inflation in developing countries remained fairly stable in 2019, with price pressures falling in Africa and Western Asia while increasing in South Asia and Latin America and the Caribbean. Going forward, most developing countries are expected to see low to moderate inflation. There are, however, some major exceptions that will continue to drive up regional and sub-regional averages. Annual inflation in 2019 would continue to exceed 30 per cent in several countries experiencing severe macroeconomic imbalances or supply constraints.

In Ethiopia, there are a number of empirical studies have been conducted on food inflation by different researchers, and different results have been reported. For example, Kayamo (2021) conducted a study using a

non-linear ARDL approach on the topic of asymmetric impact of real exchange rate on inflation in Ethiopia found the result that depreciation of real exchange rate reduces inflation while the appreciation of the real exchange rate affected food price inflation positively and significantly both in the short-run and long-run. On the other hand, money supply has a positive and significant impact on the inflation rate in the short-run and long-run indicating that the increase in money supply causes an increase in the food price inflation. The results in the same topic, indicates that increases real gross domestic product affect inflation positively and significantly.

Hailegebrial (2015) conducted a research on determinants of food price inflation in Ethiopia using dynamic error correction model and identified four independent variables (broad money, real gross domestic product, inflation expectation and world food price) affected domestic food price inflation. And according to the result obtained from the model, real gross domestic product affected positively food price inflation significantly in the long-run. But broad money, inflation expectation and world food price positively affected food price inflation significantly in the long-run.

Gofere (2013) analyzed determinants of food price inflation in Ethiopia using vector error correction model and the results indicate that increase in output negatively and significantly affected food price inflation. Monetary aggregates affect inflation positively only in the short-run. Similarly, budget deficit tend to affect inflation in the long run positively. However, increased government expenditure that goes to finance current consumption may result in inflationary pressures in the short to long run. Furthermore, real exchange rate depreciation tends to be inflationary in the long run positively.

According to NDPC (2015) in Ethiopia, the persistently high inflation rate that has been registered over the past years, which exposed citizens to a high cost of living, has put the sustainability of the economic growth into question by affecting the sustainability of investment. However the government had done a commendable job of bringing down inflation to single digits through its prudent fiscal and monetary policy measures by practicing additional measures such as import and distribution of basic commodities such as sugar, vegetable, edible oil, and wheat to low income families at subsidized prices. These all measures have not curbed the continuous and persistent in price increase, particularly in food commodities, sustainably.

Rapidly increasing prices cause a welfare loss of household expenditure on commodity groups such as rice, wheat, pulses, tuber and other food and non-food items. Overall, 70.1% of the households suffered welfare loss that amounted to an average of 7.52% of the household budget annually (Adeyonu et al., 2021).

According to ESS (2021) in recent consumer price index of September, 2021; inflation rate based on last year's similar month comparison generally year-on-year inflation has increased by 34.8 percent as compared to the one observed in September 2020. The year-on-year food inflation has increased by 42.0 percent in September 2021 as compared to the one observed in September 2020. Therefore to analyze the intensity of problem, the researcher sets the objective of this study to investigate the dynamics of food price inflation and to identify its core determinants.

The reminder of this manuscript is organized into four sections. The second section presents the materials and methods which includes methods of data analysis and model specification; and definition of variables. The third section presents results and discussion which comprises descriptive analysis of data and reporting the econometric results. The fourth section presents Conclusion and policy implications.

2. MATERIALS AND METHODS

2.1. Sources of Data Used and Its Measurements

Table 1: The name of variables, measurement, Sources and expected signs of variables.

The Name of Variables	Variable Description and Measurement	Sources of Variables	Expected Sign
Food price inflation	Measured by consumer price index	National Bank of Ethiopia	+/-
Broad money	Measured in US Dollar	National Bank of Ethiopia	+
Exchange rate	Ethiopian Birr per US Dollar	National Bank of Ethiopia	+
Real gross domestic product	Measured in US Dollar	World Bank Data	-
Budget deficit	Measured in US Dollar	National Bank of Ethiopia	+
General consumer price inflation	Measured by consumer price index	World Bank Data	+

2.2. Methods of Data Analysis and Model Specification

Autoregressive Distributed Lag (ARDL) approach (i.e. the bounds testing approach to cointegration) popularized by Pesaran et al. (2001) is adopted to examine the dynamics of food price inflation in Ethiopia.

Acording to Nkoro and Uko (2016) advantages of ARDL approach are that since each of the underlying variables stands as a single equation, endogeneity is less of a problem in the ARDL technique. Also, it enable us analyze the reference model. When there is a single long run relationship, the ARDL procedure can distinguish

between dependent and explanatory variables. That is, the ARDL approach assumes that only a single reduced form equation relationship exists between the dependent variable and the exogenous variables Pesaran et al. (2001) explained the major advantage of this approach lies in its identification of the co-integrating vectors where there are multiple co-integrating vectors. The Error Correction Model (ECM) can be derived from ARDL model through a simple linear transformation, which integrates short run adjustments with long run equilibrium without losing long run information. The associated ECM model takes a sufficient number of lags to capture the data generating process in general to specific modeling frameworks.

As Nkoro and Uko (2016) generally suggested, for this specific topic such as Dynamics of Food Price Inflation and Its Determinants, the researcher constructs the ARDL model in the following step by step manner:

$\text{logFdpi}_t = \alpha\text{logFdpi}_{t-i} + \beta\text{logM2}_{t-1} + \gamma logXRATE_{t-1} + \varphi\text{logRGDP}_{t-1} + \varepsilon\text{logBdeficit}_{t-1} + \omega\text{logCPI}_{t-1} + \mu_t$ ---------- (1)

Where, $Fdpi_t$ is food price inflation in the period, $Fdpi_{t-i}$ is the lagged food price inflation, M_2 is Broad money supply in US Dollar, XRATE is the exchange rate of Ethiopian Birr per US Dollar, RGDP is real gross domestic product in US dollar, overall budget deficit including grants, CPI is general consumer price index; and $\alpha, \beta, \gamma, \varphi, \varepsilon$ and ω are the coefficients of independent variables; and μ_t = error term in the period.

$\Delta\text{logFdpi}_t = c_0 + \sum_i^p \alpha_i \Delta log\text{Fdpi}_{t-i} + \sum_{i=0}^p \beta_i \Delta\text{logM2}_{t-1} + \sum_{i=0}^p \gamma_i \Delta\text{logXRATE}_{t-1} + \sum_{i=0}^p \varphi_i \Delta\text{logRGDP}_{t-1} + \sum_{i=0}^p \varepsilon_i \Delta\text{logBdeficit}_{t-1} + \sum_{i=0}^p \omega_i \Delta\text{logCPI}_{t-1} + \delta_1 log\text{Fdpi}_{t-1} + \delta_2\text{logM2}_{t-1} + \delta_3\text{logEXCHR}_{t-1} + \delta_4\text{logXRGDP}_{t-1} + \delta_5\text{logBdeficit}_{t-1} + \delta_6\text{logCPI}_{t-1} + \mu_t$ ---------- (2)

Where Δ is a difference operator, t is time, c_0 is an intercept term, $\alpha, \beta, \gamma, \delta, \varphi, \varepsilon, \omega$; and δ_1 to δ_6 are the coefficients of their respective variables and p's are the lag lengths.

To examine the existence of long-run relationship following Pesaran et al. (2001), the study's first test, based on Wald test (F-statistics), for the joint significance of the coefficients of the lagged levels of the variables, i.e.

$$H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 = \delta_5 = \delta_6 = 0$$
$$H_1: \delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq \delta_5 \neq \delta_6 \neq 0$$

The asymptotic critical values bounds, which were tabulated in Pesaran et al. (2001) provide a test for co-integration with the lower values assuming the regressors are I(0), and upper values assuming purely I(1) regressors. If the calculated F-statistics exceeds the upper critical value, the null hypothesis is rejected, implying that there is co-integration. However, if it is below the lower critical value, the null hypothesis cannot be rejected, indicating lack of co-integration. If the calculated F-statistics falls between the lower and upper critical values, the result is inconclusive. Once co-integration is established, the conditional ARDL long-run model can be estimated as:

$\text{logFdpi}_t = c_0 + \sum_{i=1}^p \alpha_i log\text{Fdpi}_{t-i} + \sum_{i=0}^p \beta_i \text{logM2}_{t-i} + \sum_{i=0}^p \gamma_i \text{logXRATE}_{t-i} + \sum_{i=0}^p \varphi_i \text{logRGDP}_{t-i} + \sum_{i=0}^p \varepsilon_i \text{logBdefict}_{t-i} + \sum_{i=0}^p \omega_i \text{logCPI}_{t-i} + \mu_t$ ---------- (3)

In the following step, we obtain the short-run dynamic parameters by estimating an error correction model related to the long-run estimates. Such as:

$\Delta log Fdpi_t = c_0 + \sum_{i=1}^p \alpha_i \Delta log Fdpi_{t-i} + \sum_{i=0}^p \beta_i \Delta\text{logM2}_{t-1} + \sum_{i=0}^p \gamma_i \Delta\text{logXRATE}_{t-1} + \sum_{i=0}^p \varphi \Delta\text{logRGDP}_{t-1} + \sum_{i=0}^p \varepsilon_i \Delta\text{logBdeficit}_{t-1} + \sum_{i=0}^p \omega_i \Delta\text{logCPI}_{t-1} + \vartheta ecm_{t-i} + \mu_t$ --- (4)

Where *ecm* is the error correction model and ϑ is the speed of adjustment.

All data comprise the period of 1999/2000 to 2019/20, 21 years data. Fdpi (food price inflation): Yearly food price inflation calculated based on taking December 2016 = 100 in Ethiopia: The data obtained from National Bank of Ethiopia (NBE, 2021). M2 (Broad money supply): It includes narrow money supply (currency outside banks and demand deposits in bank, net) and quasi money (savings deposits and time deposits) and it is measured in US Dollar (NBE, 2021). Broad money expected to affect food price inflation positively. Kayamo (2021) in his research work found that an increase in money supply increases inflation both in short run and long run. XRate (exchange rate) is the value of Ethiopian Birr in US Dollar): The data obtained from (NBE, 2021). Exchange rate expected to influence food price inflation positively. Ambachew et al. (2012) in their research, exchange rate was found to have a positive and significant impact on food prices. RGDP (real gross domestic product) is the value of the country's total output measured at constant price taking 2015 US Dollar and its data source is World Bank data base. It is expected to have positive influence on food price inflation. Bdeficit (budget deficit) is overall budget deficit including grants which is measured in US Dollar and it is expected to positively affect food price inflation in Ethiopia (Demeke and Tenaw, 2021). CPI (consumer price index) is an index number which is calculated based on taking 2010 as a base year (2010 = 100) and it is expected to affect food price inflation positively; and its data source is World Bank data base.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistics

Table 2 summarizes the dependent variable and explanatory variables. It simply shows the number of observations included in the analysis mean, standard deviation, minimum and maximum of the respective variables.

Table 2: Summary statistics of the variables (1990- 2020)

Variable	Obs	Mean	Std. Dev.	Min	Max
logFdpi	21	.6329321	5.163873	-13.81551	3.788725
logM2	21	22.80268	1.025832	19.95636	24.14661
logXRATE	21	2.645404	.4903889	2.09679	3.554839
logRGDP	21	24.09571	.9078098	22.78388	25.40211
logBdeficit	21	20.54233	.7183009	19.5243	21.72311
logCPI	21	4.617236	.8224338	3.469495	5.786948

Note: logFdpi = log of food price inflation, logM2= log of broad money supply, logXRATE = log of foreign exchange rate, logRGDP= log of real gross domestic product, logBdeficit = log of budget deficit and logCPI = General consumer price inflation.

3.2. Unit root tests

The Augmented Dickey-Fuller (ADF) and Pillips-Perron (PP) unit root tests were used to check the existence of unit root in each of the time series. In both ADF and PP unit root tests, the null hypothesis is that data series are non-stationary (contain unit root) against the alternative hypothesis of a stationary process. As shown in Table 3, the ADF test results indicate that only one variable, out of six variables, becomes stationary at its level and all variables, except one variable, are stationary at first difference (follow I(1) process). The Pillips-Perron (PP) test also reports similar results.

Table 3: Unit root tests results

				Critical values	1% = -3.750 5% = -3.00 10% = -2.63	
ADF unit-root test				PP unit-root test		
Variable	In levels	Intercept + trend	Decision	In levels	Intercept + trend	Decision
logFdpi	-3.261**	-5.915***	l(0)	-3.258 **	-6.897***	l(0)
logM2	-1.593	-7.033 ***	l(0)	-1.315	-8.175***	l(0)
logXRATE	1.753	-2.053	L(1)	1.159	-2.086	L(1)
logRGDP	-0.111	-3.088**	l(1)	-0.166	-3.005**	l(1)
logBdeficit	-0.735	-5.674 ***	l(1)	-0.483	-5.836 ***	l(1)
log of CPI	0.104	-4.035 ***	l(1)	0.086	-4.106 ***	l(1)

Note: **, and *** denote statistically significant at 5%, and 1% levels respectively. I(0) and I(1) represent stationarity at a level and first differences, respectively.

3.3. Maximum lag selection

There are three selection criteria for optimum lag lengths are available. Such as: Ackakie Information Criterion (AIC), Hannan-Quinn Information Criterion (HQIC) and Schwarz Bayesian Information Criterion (SBIC). From these three criteria I selected directly the famous Ackakie Information Criterion (AIC) to identify the appropriate lag length as indicated in the (Table 4). 2,2,2,2, 2, 2

Table 4: Maximum lag selection

	logFdpi	logM2	logXRATE	logVPPI	logRGDP	logBdeficit
r1	2	2	2	2	2	2

3.4. Unrestricted co-integration test

As long as the variables are either I (0) or I (1), we can proceed to establish the existence (or lack thereof) of any long-run relationship by applying unrestricted co-integration test. As we can observe from the tables trace statistic in the Table 5 greater than five percent critical value and maximum statistic in the Table 6 also greater than five percent critical value significantly.

Table 5: Unrestricted Co-integration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	0.05 Critical Value	Prob.***
0	.	287.5390 ***	94.15	0.000
1	0.99994	103.5638 ***	68.52	0.000

*** denotes 1% significance

Table 6: Unrestricted Co integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigen value	Maximum statistic	0.05 Critical Value	Prob.***
0	.	183.9752 ***	39.37	0.000
1	0.99994	43.4971***	33.46	0.000

*** denotes rejection of the hypothesis at 1% significance level.

Co-integration establishes a stronger statistical and economic basis for empirical error correction model, which brings together short and long-run information in modeling variables. Testing for co-integration is a necessary step to establish if a model empirically exhibits meaningful long run relationships (Nkoro and Uko, 2016).

So that, after unit root tests and unrestricted co-integration test are being carried out, the ARDL bounds co-integration test is used to test for the existence of a stable long-run relationship among variables of interest. To this end, the test was applied, with a null hypothesis of no co-integration. The null hypothesis can be rejected if the F-statistic and t-statistic exceed the corresponding critical values for upper bound, I (1). As presented in Table 7, the ARDL bounds co-integration test results show that the variables are co-integrated in each F-bound and t-bounds test statistics exceed their respective upper bound critical values at a 1% significant level. This implies the presence of a stable long-run relationship among variables in model.

Table 7: ARDL Bounds co-integration test results

Food Inflation	Lower bound I(0)	Upper bound I(1)
F-Bounds test statistic = 190.035	2.62 ***	3.79***
	3.41***	4.68***
t-bounds test statistic = -24.913	-3.43***	-4.79***
	-2.86***	-4.19***

*** indicates 1% significance level.

3.5. Short and Long Run Relationships

The standard ARDL model results are presented with food price inflation as a dependent variable in Table 8. Food price inflation appears to be strongly significant and positive in explaining current food inflationary pressure in the short-run and negative in the long-run. In effect, a one percent rise in food prices in the previous year causes the actual food prices to increase, on average, by (1.42) percent in the short-run and declines by (-0.3) percent in the long-run. The declining condition in the previous year of the food price is may be the implication of long-run readjustment process. These results emphasize the importance of inflation inertia and persistent price-price spiral movement in Ethiopian food price dynamics.

Broad money supply influenced food price inflation growth in short-run by (24.98) percent, and in the long-run by (11.59) percent. Money supply result of this research was in agreement with previous results were found by Demeke and Tenaw (2021) and Bawa et al. (2016) from Ethiopia and Nigeria respectively and it had a positive and significant impact on the inflation rate indicating that the increase in money supply caused an increase in food price inflation. Kayamo (2021) an in his research work found that a 1% increase in money supply increased inflation by 2.99%.

In addition, as indicated in the Table 8 exchange rate, in the same way as broad money supply, influenced food price inflation significantly by 153.62 % positively in the short-run and it has 53.53% impact on the long-run. According to Kayamo (2021) in similar research work to this research, the appreciation of the real exchange rate in 1% causes a 1.126% surge in inflation in the long-run but declined by a -0.352 in the short-run. While exchange rate in the current research influenced food price inflation significantly by 153.62 % positively in the short-run and it had 53.53% impact on the long-run. On the other hand, Ambachew et al. (2012) in their research, the exchange rate was found to have a positive and significant impact on food prices in the short-run.

Furthermore, food inflation is also negatively influenced by the real gross domestic product in US Dollar in both short-run (-54.76 %) and long-run (-29.19 %), indicating its short run influence is higher in absolute value than long run influence. Kayamo (2021) conducted a research and found the result that real gross domestic product affected significantly and negatively food price inflation both in the short-run and long-run. While according to Ambachew et al. (2012), and Hailegebrial (2015) real gross domestic product significantly and

negatively affected only in the long-run. However, the current study demonstrated the significant impact of real gross domestic product on food price inflation in both short-run (-54.76 %) and long-run (-29.19 %), indicating its short run influence is higher in absolute value than long run influence.

Food price inflation is also positively influenced by budget deficit in US Dollar in both short-run (15.79 %) and long-run (7.76 %), indicating its short run influence is higher than long run influence. Gofere (2013) found in his similar research work budget deficit tend to affect inflation only in the long-run positively. But in this specific research, budget deficit influenced positively food price inflation both in the short-run and long-run by 15.79 per cent and 7.76 per cent respectively, indicating that government budget deficit is a very important determinant for food price inflation.

Furthermore, food inflation is positively influenced by general consumer price index in both short-run (110.93%) and long-run (74.19 %), indicating its short run influence is higher than long-run influence. Zaman and Khan (2018) analyzed food and non-food prices nexus and the result indicated that food prices positively and significantly affect non-food prices for all income groups of developing countries, i.e. low income, lower - middle income and upper-middle income groups. In the current study in the same notion, general consumer price index affected food price inflation significantly and positively in the short-run and long-run by 110.93 per cent and 74.19 per cent respectively. However, Hailegebrial (2015) found in his research work that world food price positively affected food price inflation significantly only in the long-run. This means one kind of inflation can be easily transmitted to another. In the same token in this particular research general consumer price index transmitted and affected food price inflation.

As it is shown in the Table 8 the speed adjustment coefficient (-0.30) is significant and negative, indicating that 30 percent of the deviation in food price inflation from its equilibrium will be corrected every year.

Table 7: ARDL model with Food Inflation Equation

Selected Model: ARDL (2,2,2,2,2,2)
Dependent Variable: Δ(ln food price inflation)

Variables	Short run coefficients	Std. Err	t	P>|t|
Δ(Log of food price inflation)	1.419637**	.0794442	17.87	0.036
Δ(Log of broad money)	24.98467**	1.359963	18.37	0.035
Δ(Log of exchange rate)	153.6159*	12.43802	12.35	0.051
Δ(Log of real gross domestic product)	-54.76161**	3.361032	-16.29	0.039
Δ(Log of budget deficit)	15.79105**	1.151487	13.71	0.046
Δ(Log of General consumer price inflation)	110.9347*	10.67217	10.39	0.061
Error correction term	**-.304353**	**.0122181**	**-24.91**	**0.026**
	Long run coefficients			
Log of food price inflation	-.304353**	.0122181	-24.91	0.026
Log of broad money	11.58617**	.2377609	-48.73	0.013
Log of exchange rate	53.52984**	2.078804	-25.75	0.025
Log of real gross domestic product	-29.18928**	1.617678	-18.04	0.035
Log of budget deficit	7.763651**	.3831541	20.26	0.031
Log of General consumer price inflation	74.1933**	2.810865	26.40	0.024
Constant	1855.808**	140.1008	13.25	0.048
Model Diagnostic tests				
R^2 $(AdjR^2)$	0.9999 (0.9977)			
F- statistic p- value	0.0464			
Breusch-Godfrey Serial Correlation LM Test [P-Value]	0.389 (0.5328)			
White's test for homoskedasticity chi2 (p- value)	28.07 (0.3551)			
Ramsey RESET Test [P-Value]	1.54 (0.2539)			
Durbin Watson d test to check serial autocorrelation p- value	2.110211			
Skewness/Kurtosis tests for Normality (P- value)	2.38 (0.3047)			

** and * indicate 5% and 10% significance level respectively

3.6. Stability checking

To check stability cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) testes applied. The estimated lines are within the 5% critical limits indicating that the model is reliable and stable.

4. CONCLUSIONS

The major objective of this study is to investigate the dynamics of food price inflation and to identify the core determinants of food price inflation. In this regard we have been apparently successful: the econometric analysis

offers a set of inflation equations that identify, with varying degrees of precision, a plausible characterization of the main determinants of food price inflation. Therefore using the econometric analysis we pointed to a number of reasonably robust conclusions which can have direct implications for policy.

Food price inflation appears to be strongly significant and positive in explaining current food inflationary pressures and negative in the long-run. In effect, a one percent rise in food prices in the previous year causes the actual food prices to increase in short run and declines in long run. The declining condition in the previous year of the food price is may be the implication of long run readjustment process to converge to the equilibrium state in the long run. These results emphasize the importance of inflation inertia and persistent price-price spiral movement in Ethiopian food price dynamics.

The results of ARDL method show that Money supply influences positively food price inflation growth both in the short-run and long-run, indicating the significant role of monetary expansion for recent food price inflation in Ethiopia. On the other hand, money supply has a positive and significant impact on the inflation rate indicating that the increase in money supply causes an increase in the food price inflation.

In addition, exchange rate, in the same way as broad money supply, influenced food price inflation significantly and positively both in short-run and long-run.

Food inflation is also positively influenced by real gross domestic product in US Dollar in both short-run and long run indicating its short run influence is higher than long run influence.

Furthermore, budget deficit and general consumer price index affected food price inflation sufficiently indicating these variables are also very important determinants for food price inflation.

Following the results of this research policy implication can be drawn. Money supply is found to be a core determinant of food price inflation in the short run and long-run so that it needs to take appropriate measure to follow tight monetary policy. Furthermore policymakers need to find the right balance between money demand and economic growth when it is required without over pumping money into the economy and that causing inflation.

As it is inferred from the research work the influence of exchange rate on food price is for short-run and long-run therefore the government need to focus on the way to control instability in exchange rate by devising necessary macroeconomic policy to constrain upward spiral movement of food price inflation.

In Ethiopia, government deficit and general consumer price index are coming to become essentially influencing factors of food price inflation. So that policy makers need to devise and follow right course of action in order to curb the persistent food inflationary pressure in the country.

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