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Papavangjeli, Meri

Bank of Albania

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COMBINING MONETARY, FISCAL, AND STRUCTURAL APPROACHES TO MODEL ALBANIAN INFLATION

Meri Papavangjeli[1], *Research Department, Bank of Albania*

ABSTRACT

Amidst the prevailing global economic uncertainty and rising commodity prices, this article investigates empirically the driving forces of inflation in Albania through combining several approaches, focusing especially on the developments in the food sector in general and cereals in particular, during the period from 2000 to 2022. Considering four measures of inflation such as: cereals, food, non-food, and headline inflation, it analysis the effects of domestic and foreign factors on inflation, using a vector error correction model (VECM), which allows to capture both the short-term and long-term effects. The study also considers the fiscal sector in examining inflation dynamics, which has been neglected so far in the current studies on this topic. The empirical analysis finds that domestic inflation is underpinned by disequilibria in the monetary, cereals and non-food sectors; in the short-run, inflation is driven by structural factors (particularly agricultural output gap and imported inflation), as well as demand-side factors (especially money growth and public sector borrowing).

Key words: inflation; monetary, fiscal, structural factors

1. INTRODUCTION

In the current context of high uncertainty in the global economy, including the impact of the COVID-19 pandemic and geopolitical risks, global commodity prices have been on the rise over the recent months, and annual consumer price inflation readings have reached their highest levels in decades, both in developed and emerging markets, exceeding the expectations of many analysts and commentators worldwide. Such developments have intensified the debate and shifted collective attention to understanding the mechanisms that underpin inflation dynamics in Albania as well.

This article investigates empirically the driving forces of inflation in Albania, based on several approaches, namely the monetarist, fiscal and structuralist ones, focusing on the country's vulnerability against shocks affecting agriculture and exposure to external shocks. The model also incorporates demand-side factors, such as monetary and fiscal indicators. Headline inflation is disaggregated into various components (cereals, food and non-food items), since each of

[1] *e-mail: mpapavangjeli@bankofalbania.org.* *The views expressed herein are of the author and do not necessarily represent those of the Bank of Albania. The author would like to thank Mr Altin Tanku, Head of Research Department and Mr Ilir Vika, Head of Economic Modelling Division, for their comments and suggestions.*

them may be driven by diverse factors. A vector error correction model is then estimated, which allows capturing both short- and long-term effects (through adjustment to equilibrium in the respective sectors) of domestic and external forces affecting inflation. The empirical findings reveal that domestic inflation is underpinned by disequilibria in the monetary, cereals and non-food sectors; in the short run, inflation is driven by structural factors (particularly agricultural output gap and imported inflation), as well as demand-side factors (especially money growth and public sector borrowing).

2. APPROACHES TO MODEL INFLATION

The interrelated nature of economic phenomena makes it empirically difficult to establish the sources of inflation (Ghatak, 1995; Thirlwall, 2003). Thus, the debate between advocates of different approaches remains present even nowadays, especially in the current context of the global price upsurges. This study combines the prominent approaches to inflation modelling, namely the monetary, the fiscal and the 'structuralist' theory of inflation, to specify the estimation models explaining the different inflation categories and to deepen further the understanding behind their dynamics.

Under the monetary view, inflation arises from imbalances in the money market, i.e. from excessive expansion of the exogenously determined supply of money relative to demand for real balances. On the other hand, the fiscal theory of inflation suggests that the fiscal deficit may affect the price level through its impact on money demand and thus the equilibrium in the money market. It describes equilibrium inflation as a function of fiscal deficit to the money stock ratio (Catão and Terrones, 2005; Gordon and Leeper, 2006).

Additionally, there is also the structuralist approach of imported inflation, which states as follows. First, contrary to the monetarist view, excessive monetary expansion by the central bank is not considered as the only cause of inflation (Pinga and Nelson, 2001). The supporters of the structuralist view of inflation argue that the money stock is 'partly' endogenous and in some situations only plays a passive role in the inflationary process. Second, imported capital and intermediate goods are essential inputs in the production process of developing countries (see Taylor, 1983; Thirlwall, 1974). Third, the ability of developing countries to finance imported goods is constrained by foreign exchange scarcity, due to the fact that many developing countries only export a few primary commodities (or low technology labour intensive products) with relatively low income elasticities in the international markets, while the demand for imports has high income elasticity (Argy, 1970; Ghatak, 1995; Thirlwall, 1974).

Domestic inflation in Albania is fuelled by imported food and energy products, as well as exchange rate fluctuations, as also confirmed by several similar empirical studies done on this topic (Çeliku et al., 2019; Papavangjeli, 2019; Skufi, Kika, 2019; Skufi, Çela, 2017). The behaviour of the agriculture sector is an important driver of inflation in Albania. The agricultural sector contributes with about 20% to GDP, but yet Albania ensures a considerable share of food

domestic demand through imports. Food is an important component of the consumption basket for most of the population, the respective weight of which in the consumer basket is around 42%; therefore, movements in food prices drive overall inflation dynamics. Also, the exposure of agricultural production to weather shocks may generate large and frequent changes in output, and consequently in prices as well. Negative shocks to domestic food production may also induce an increase in food imports, which may exacerbate and prolong the effects of imported inflation to the overall inflation.

Another channel of external pressure on domestic prices is imports of petroleum and related products, which represent about 16 percent of Albania's total imports. Thus, the country is exposed to the international energy prices which pass through the domestic production costs of goods and services, eventually increasing inflation. The exchange rate also plays an important role in any import-dependent economy, as the case of Albania (as shown also in several studies on this topic (Tanku, Vika, 2020; Vika, Rama, 2017). A depreciation of the domestic currency raises the cost of imports, which in turn increases the domestic prices.

3. METHODOLOGY

3.1 MODEL SPECIFICATION AND ESTIMATION PROCEDURE

In this section, we present an empirical model that embeds the different approaches of inflation mentioned above and allows us to test various hypotheses. Following Maweijje and Lwanga (2016 and Durevall (2010), inflation is viewed as mainly originating either from price adjustments in markets with excess demand or supply, or from price adjustments due to import costs. The modelling approach adopted herein accounts for several structural features of the Albanian economy, such as: (i) exposure to agricultural shocks that affect food prices and overall price level; (ii) import dependence and exposure to international prices shocks, particularly cereals, food, and oil prices; and (iii) financial repression arising from direct and indirect financing of the fiscal deficit.

The money market equilibrium, in an open economy, which also considers the role of the exchange rate for portfolio decisions, can be represented by the following expression:

$$(m-p) - \lambda y + \rho r + \gamma e = 0 \qquad (1)$$

where m, p, y, r and e are the annual changes in money stock, price level, output and interest rate, and λ, ρ and e are the elasticities of money demand with respect to output, the interest rate, and the exchange rate, respectively.

Changes in the exchange rate affect the returns on foreign assets and, therefore, their demand relative to domestic assets. In the absence of foreign exchange controls, expected appreciation or depreciation will influence the demand for foreign assets as a substitute for local currency. Therefore, the demand for real balances is influenced by the exchange rate.

The fiscal theory of inflation suggests that the fiscal deficit may affect the price level through its impact on money demand and thus the equilibrium in the money market. In particular, government borrowing to finance the deficit results in monetary expansion, which raises inflation. In line with this theory, the second long-term equilibrium which describes a relationship between inflation and the ratio of the fiscal deficit and real money balances is presented as follows:

$$\frac{M}{p} = \delta_1(G^{prim} - T) + \delta_2 \Delta pubdebt_t \qquad (2)$$

Where the coefficients δ_1 and δ_2 represent the long-run effects of the primary fiscal deficit and public sector borrowing on real money demand.

Next, the 'law of one price' or purchasing power parity is applied for both food and non-food markets, according to which the linkages between the price level and the exchange rate in the long run are reflected in the trend of the real exchange rate or the terms of trade of domestic goods in terms of foreign goods. The equilibrium condition can be expressed as:

$$e + p_f - p = 0 \qquad (3)$$

These co-integration relations are tested and estimated for several CPI (Consumer Price Index) items: all CPI items, food and non-food items and cereals as well, given their considerable share in production, food imports, and food consumption. Further, this study considers the agricultural production gap instead of overall GDP gap as a determinant of inflationary pressures arising from the supply side.

The potential agricultural output is calculated using Hodrick-Prescott (HP) filter using the formula:

$$\min \sum_{t=0}^{T} (y_t - s_t)^2 + \lambda \sum_{t=2}^{T=1} ((s_{t+1} - s_t) - ((s_t - s_{t-1}))^2$$

where λ is the smoothness level of the trend (which is assumed λ = 6400), is the trend component of the agricultural output series and y is the actual agricultural output.

Time series econometric modelling methods are used to estimate four models for each of the inflation measures (cereals, food, non-food, and all-item inflation) through a two-step procedure. The first step establishes long-run relationships in the monetary and fiscal sectors, and in the food and non-food sectors. After specifying and estimating the long-run relationship in each of these sectors, the coefficients of the cointegrating vector are used to compute the deviations from equilibrium.

In the second step of the empirical analysis, ARDL (Auto-regressive distributed lag) models with HAC (heteroscedasticity and autocorrelation consistent) standard errors are estimated for cereals, food, non-food, and CPI inflation, including in the specification the error correction residuals estimated in the first step. Applying the general-to-specific methodology, the analysis starts with over-parameterized models where short-term variables have 4 lags each and then parsimonious models of inflation are derived through a process of model reduction.

Each model groups the inflation determinants into three categories: long-run determinants, short-run domestic factors, and short-run external factors. Long-run determinants are represented by the cointegrating vectors derived in the first step of the analysis. Short-run determinants are lags of first differences of the variables of interest. More specifically, the model incorporates long-run relationships in the monetary sector (equation 1), in the fiscal sector (equation 2), and food and non-food sectors (equation 3), as well as the inertial effects of domestic prices, the short-run effects of agricultural output gap, money growth, public sector borrowing and primary fiscal deficit, the exchange rate, and international prices, as in the specifications below.

The baseline model is defined as follows:

$$\Delta p_t = \theta_0 + \sum_{j=2}^{k} \theta_{1j} \Delta p_{t-j} + \theta_2 agrigap + \sum_{j=2}^{k} \theta_{3j} \Delta m_{t-j} + \sum_{j=2}^{k} \theta_{4j} \Delta p^{w}_{cereals\ t-j} + \sum_{j=2}^{k} \theta_{5j} \Delta er_{t-j} + \theta_6 ECM_m + \theta_7 ECM_{cer} + \theta_8 ECM_{nfood} + \varepsilon_t \quad (4)$$

As already stated earlier, the baseline model is estimated for four measures of inflation (Δp): cereal $(cerp)$, food (fp), non-food (nfp), and all-item inflation (Δp). The variable $agrigap$ represents the agricultural output gap as a determinant of inflationary pressures arising from the domestic food supply, m is real money stock, Δp^{w} is inflation (including cereal price, food price, non-food price and oil price changes in the global market, introduced in the model according to different model specifications), and er is the exchange rate of ALL (Albanian Lek) to EUR (Euro). The error correction (ECM) terms represent the cointegration equations (disequilibria) for the money market, relative prices for food (cereals), and non-food markets, respectively, estimated in the first step of the procedure. Additionally, in each short-term equation, there are included some dummies catching sharp spikes in world food and cereal prices and in the agricultural output gap that are typically related to shocks to food production, also in order to explain the soaring domestic inflation of the recent period.

The ECM equation for the monetary sector is a modified version of equation (1) that excludes the interest rate and includes the real exchange rate[2]:

$$(m-p) - \lambda y + \gamma e + c = 0 \quad (5)$$

where the variables are defined as explained above, and c is a constant.

[2] *The interest rate is replaced with the exchange rate in order to link it with the equilibrium relations in the two other markets according to purchasing power parity.*

The respective ECM equations for food and non-food sectors are as below:

$$e + p_f^w - p_f + c = 0 \qquad (5a)$$
$$e + p_{nf}^w - p_{nf} + c = 0 \qquad (5b)$$

The empirical analysis proceeds with the estimation of an alternative specification which includes the fiscal sector, based on the fiscal view of inflation, defined as follows:

$$\Delta p_t = \theta_0 + \sum_{j=2}^{k} \theta_{1j} \Delta p_{t-j} + \theta_2 agrigap + \sum_{j=2}^{k} \theta_{3j} \Delta pub_{t-j} + \sum_{j=2}^{k} \theta_{4j} \Delta p^w_{cereals\ t-j} + \sum_{j=2}^{k} \theta_{5j} \Delta er_{t-j} + \theta_6 ECM_{fiscal} + \theta_7 ECM_{food} + \theta_8 ECM_{nfood} + \varepsilon_t \qquad (6)$$

where pub represents borrowing from the public sector, and ECM_{fiscal} is generated from the long-run equilibrium relation in the fiscal sector, as specified in equation (2), introducing also a constant term.

The individual models for each of the sectors are specified in natural logarithm and all the series result to be integrated of order one, I(1), after being tested for the stationarity properties using the Phillips-Perron unit root test. Next, the variables included in the short-run models are specified in a stationary form, as annual growth rates, or as a relative indicator (expressed in percentage). The sample starts from 2000, due to questionable data quality during the first decade of the transition period.

3.2 DATA DESCRIPTION AND EMPIRICAL RESULTS

The dataset includes quarterly data covering the period 2000Q1-2022Q1 for several economic indicators: real production, agricultural output gap, price level, exchange rate (ALL/EUR), monetary aggregates, and fiscal indicators such as: primary fiscal balance and public borrowing. Real production growth is represented by the annual growth of GDP at constant prices expressed in million ALL and the price level is measured by several price indexes: cereals, food, non-food, and overall CPI. Money supply growth is represented by the monetary aggregate M3 growth expressed in real terms, deflated by the CPI inflation.

Data on domestic indicators are obtained from Albania's National Institute of Statistics (INSTAT), Bank of Albania (BoA) and Ministry of Finance and Economy (MFE), whereas data on the international prices are taken from World Bank Commodity Price Data (The Pink Sheet). Detailed information on the variables list used in the regressions is provided in Table A1 in the Appendix.

Table 1 summarizes the estimation results of the baseline specification, which confirm that inflation in Albania is determined by several long-term and short-term factors. Monetary sector developments are important long-term drivers of inflation in Albania. As indicated in the estimated cointegration residual equation (the ECM term for the monetary sector), excess money supply growth has a long-term positive impact on the overall price level when controlling for the main factors of money demand, such as GDP and the exchange rate (the latter being a proxy for the opportunity cost of holding liquidity in the domestic currency). More specifically, a 1 percent increase in GDP increases money demand by 0.8 percent, and a 1 percent increase in the real exchange rate contracts money demand by 0.12 percent in the long run. Imbalances in the monetary sector cause inflationary pressure on all the considered price measures: cereals prices, food and non-food prices, and overall prices (all-item CPI), but the effect is statistically significant only for the latter.

Table 1. Baseline specification.

Variables		Cereals	Food	Non-food	Headline
		Adjustment effects			
Monetary sector	$[(m-p) -0.79y+0.12e]_{t-1}$	0.202 (0.106)	0.058 (0.869)	0.035 (0.974)	0.339* (0.091)
Cereals sector	$[(e+ p_f^w)- 0.88p_f - 5.23]_{t-1}$	0.049*** (0.009)	0.051** (0.030)		0.410* (0.095)
Non-food sector	$[(e+ p_{nf}^w) - 0.41p_{nf} -5.79]_{t-1}$			0.034** (0.015)	0.360* (0.079)
		Domestic factors			
Domestic cereal inflation(-1)		0.462*** (0.000)			0.031* (0.062)
Agricultural output gap(-1)		-0.133* (0.093)	-0.049* (0.061)		-0.003* (0.053)
Money growth(-1)		0.026 (0.814)	0.051 (0.874)	0.057 (0.208)	0.021* (0.096)
Domestic food inflation(-1)			0.628*** (0.000)		
Domestic non-food inflation (-1)				0.173* (0.052)	
		External factors			
World cereal inflation		0.211** (0.027)			0.042** (0.024)
World food inflation			0.241** (0.023)		
World non-food inflation				0.003* (0.072)	
Exchange rate change		0.001 (0.106)	0.005 (0.113)	0.017 (0.908)	0.029* (0.059)
World Oil Price					0.001 (0.109)
World food*spike		0.043** (0.016)	0.012** (0.034)		0.014* (0.074)
Constant		0.002 (0.243)	0.004 (0.321)	0.002* (0.067)	0.135*** (0.000)
Obs.		*73*	*73*	*73*	*73*
Adjusted R-squared		0.415	0.497	0.267	0.419

*Note: Estimates are corrected for autocorrelation and heteroskedasticity. *** denotes significance at 1%, ** significance at 5%; * significance at 10%.*
Spike is a dummy variable capturing the "spikes" in the world food prices.
Source: Author's computation.

In the long run, international food prices also have a significant effect on domestic prices of cereals and food and on the overall inflation: keeping the exchange rate constant, a 1 percent increase of the food price in the international markets raises the domestic prices of cereals by about 0.9 percent, demonstrating that Albania is integrated in international food markets and it's highly dependent on food imports. Also, non-food prices in Albania are determined by world prices in the long run and more specifically: a 1 percent increase of the international non-food price index raises domestic non-food prices by 0.4 percent.

As regards the short-run period, inflation is driven mainly by structural factors: sporadic food price inflation seems to be influenced more by international prices, and agricultural supply shocks rather than money growth and the exchange rate. Money growth affects positively all price measures, but the effect is statistically significant only for the headline inflation. One important issue in assessing the impact of the money growth on inflation is that its effect can be offset or amplified by variations in exchange rate or aggregate demand. The agricultural output gap results with a negative statistically significant effect on cereal, food and overall inflation, implying that the periods of abrupt deterioration of the agricultural production are associated with inflationary pressures on certain inflation measures. As expected, the impact of the output gap is stronger on cereal prices relative to the other inflation measures. International prices are another very important determinant of domestic prices, and their effect on domestic prices is amplified especially along the periods of sharp price upsurges globally, as the one we are experiencing currently. Nevertheless, a thorough analysis with monthly data could reveal more on this issue.

It is worth pointing out the weaker responsiveness of non-food prices to domestic and external factors that affect other measures of inflation, which can be explained by the fact that the non-food consumption basket comprises several goods with prices that are closely controlled and often directly set by the government, such as fuel. Inflation displays substantial persistence, with past changes in domestic prices leading to high inflation in the current period.

In addition, alternative specifications are estimated for each of the price measures, by substituting the monetary indicators with fiscal ones in the short-term specifications, in order to investigate the inflationary implications of fiscal measures. A 1 percent increase in deficit increases real money stock by 2.2 percent, and a 1 percent increase of public sector debt increases real money stock by 0.68 percent, but the effect of disequilibria in the fiscal sector is not significant on inflation, in the long run.

Table 2. Alternative specification considering the fiscal sector.

Variables		Cereals	Food	Non-food	Headline
		Adjustment effects			
Fiscal sector	$[(m-p) - 2.23*pubdef - 0.68*debt]_{t-1}$	-0.096 (0.363)	-0.066 (0.869)	0.072 (0.454)	-0.009* (0.091)
Cereals sector	$[(e+p_f^w) - 0.88p_f - 5.23]_{t-1}$	0.049*** (0.009)	0.051** (0.030)		0.410* (0.095)
Non-food sector	$[(e+p_{nf}^w) - 0.41p_{nf} - 5.79]_{t-1}$			0.038* (0.093)	0.360* (0.079)
		Domestic factors			
Domestic cereal inflation(-1)		0.527*** (0.000)			0.028* (0.055)
Domestic food inflation (-1)			0.610*** (0.000)		
Domestic non-food inflation (-1)				0.109* (0.057)	
Agricultural output gap (-1)		-0.101* (0.091)	-0.081* (0.061)		-0.005* (0.087)
Public sector borrowing		0.001 (0.814)	0.010 (0.602)	0.0002 (0.208)	0.014* (0.095)
		External factors			
World cereal inflation		0.039** (0.043)			0.011** (0.042)
World food inflation			0.049** (0.013)		
World non-food inflation				0.034* (0.077)	
World Oil Price					0.0007* (0.059)
World food*spike		0.035** (0.025)	0.015** (0.037)		0.028* (0.082)
Constant		0.001 (0.784)	0.004 (0.321)	0.003 (0.893)	0.012*** (0.000)
Obs.		67	67	67	67
Adjusted R-squared		0.351	0.508	0.143	0.546

*Note: Estimates are corrected for autocorrelation and heteroskedasticity. *** denotes significance at 1%, ** significance at 5%; * significance at 10%.*
Spike is a dummy variable capturing the "spikes" in the world food prices.
Source: Author's computation.

In the short-run, an increase in the public sector borrowing leads to an increase of all inflation measures, but the effect results statistically significant only for headline inflation, even though the effects are negligible. This can be explained by the fact that the fiscal deficit in Albania is financed mostly by bonds and external borrowing, rather than money issuance.

The results for the other determinants are roughly similar to those found in the baseline model. External factors play an important role in fuelling domestic inflation, particularly through imported food and energy products as well as exchange rate fluctuations. The results show persistent effects of shocks to world prices on several measures of domestic inflation. Inflation exhibits inertia, with price shocks leading to high inflation, especially in the cases of food and cereals inflation. Non-food inflation displays a smoother pattern and is not affected by either money growth or public sector borrowing, which could be due to the fact that this indicator includes items for which prices are controlled or closely monitored, such as fuel and energy.

4. FINAL REMARKS

While the findings are generally in line with the existing studies' results, this article accentuates the critical importance of considering structural supply-side factors to understand the dynamics of inflation, especially food sector developments in general and those in the cereals sector in particular. In the short run, shocks to cereal production trigger cereal and food price hikes, with spillover effects on the overall inflation. In the long run, disequilibria in relative cereal prices in Albania versus world markets sustain inflation in the country. These results reflect the large share of cereals in household consumption, exposure of cereal production to natural shocks, and dependence on imported cereals. The fiscal sector, which has been omitted in previous studies, has both long-run and short-run impacts on inflation in Albania, even though the effects are minor at the moment.

The results from this study confirm that the Albanian economy is significantly integrated in the global economy. Its prices are strongly influenced by relative prices in the cereal and food sector in the long run, and changes in world prices of grains, food, non-food items are transmitted into domestic prices.

As regards policy implications, the empirical results of this study suggest intervention by easing supply-side constraints and stabilizing cereal production in line with the needs of the fluctuating demand, arising from the fast changing population and urbanization trends. Additionally, keeping money growth under control is desirable to avoid exacerbating other pressures on inflation from the demand and supply sides. Even though the analysis herein show that the current effects are negligible, containing government borrowing should be part of the inflation-controlling strategy, in order to prevent any adverse effect in the future. However, the government borrowing implications for inflation are complex, as they work through both the demand and supply sides. For instance, when government debt is used to finance public investments that boost productivity and expand the economy's productive capacity, such as infrastructure, technology, and innovation, the supply-side effects may eventually ease demand-side inflationary pressures. This certainly would require an effective coordination of monetary and fiscal policies, as well as rationalization and efficient management of debt-funded government expenditures.

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APPENDIX

Table A1. Variables' description.

Indicator	Variable name	Source
Headline inflation	Δp	INSTAT
Cereal inflation	$\Delta p^{cereals}$	INSTAT, author's calculations
Food inflation	Δp_{food}	INSTAT
Non-food inflation	Δp_{nfood}	INSTAT, author's calculations
Agricultural output gap	$agrigap$	INSTAT, author's calculations
Money growth	Δm	Bank of Albania
Public sector borrowing	Δpub	Ministry of Finance and Economy
Primary deficit	$\Delta prim$	Ministry of Finance and Economy, author's calculations
World cereal price	$\Delta p^{w}_{cereals}$	World Bank Commodity Price Data (The Pink Sheet)
World food price	Δp^{w}_{food}	World Bank Commodity Price Data (The Pink Sheet)
World non-food price	Δp^{w}_{nfood}	World Bank Commodity Price Data (The Pink Sheet), author's calculations
Oil price	Δp^{w}_{oil}	World Bank Commodity Price Data (The Pink Sheet)
Exchange rate (ALL/EUR)	Δer	Bank of Albania for the nominal exchange rate (ALL/EUR), INSTAT for domestic inflation, EUROSTAT for inflation in Euro Area, and author's calculations

Table A2. Stationarity test results.
H0: The variable has a unit root.

	Unit Root Test Results (p-value)	
Variable	Level	First difference
Money supply	0.939	0.0001***
GDP	0.113	0.0001***
Exchange rate (ALL/EUR)	0.969	0.0018***
Public debt	0.801	0.0001***
Primary fiscal deficit	0.069	0.0000***
Domestic food price	0.853	0.0001***
Domestic non-food price	0.762	0.0000***
World food price	0.756	0.0000***
World non-food price	0.671	0.0000***

* *Null hypothesis rejected on 10% level of significance; ** Null hypothesis rejected on 5% level of significance; *** Null hypothesis rejected on 1% level of significance.*

Table A3. Co-integration test results.

	Data trend	None	None	Linear	Linear	Quadratic
	Test type	No Intercept No Trend	No Intercept No Trend	No Intercept No Trend	Intercept Trend	Intercept Trend
Monetary sector	Trace	1	1	1	2	3
	Max-Eigen	1	1	1	1	1
Food sector	Trace	1	1	0	0	0
	Max-Eigen	1	1	0	0	0
Non-food sector	Trace	1	0	1	0	2
	Max-Eigen	1	0	1	1	2