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The Effect Of Grain Prices On Food Inflation: A Forward-Looking Evaluation Among The Russia-Ukraine Conflict

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ABSTRACT
The present study investigates how grain prices have been affecting food inflation in the wake of the recent pandemic and the ongoing Russia-Ukraine conflict. This study examines the effects on inflation of the limitations on exports of wheat, barley and corn products by Russia and Ukraine on the food inflation in Asia and North Africa by using cointegration test. Drawing upon monthly data from the 2000:01–2020:08 period, the study reveals that the food price index and grain prices in both Asia and North Africa are cointegrated in the long term, and that in both country groups wheat price increases in particular are triggering an increase in food prices.

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Tahıl Fiyatlarının Gıda Enflasyonu Üzerindeki Etkisi: Rusya-Ukrayna Çatışmasında İleriye Yönelik Bir Değerlendirme

ÖZET
Bu çalışmada son dönemde yaşanan Pandemi ve Rusya-Ukrayna çatışması odağında hububat fiyatlarının gıda enflasyonunu nasıl etkilediği araştırılmıştır. Bu amaçla Rusya ve Ukrayna'nın en fazla ihraç ettiği buğday, arpa ve mısır ürünlerinin Asya ve Kuzey Afrika ülkelerinin gıda enflasyonu üzerindeki etkileri eşbütünleşme testi ile incelenmiştir. Çalışmada 2000:01-2020:08 dönemi aylık veriler kullanılmıştır. Elde edilen bulgulara göre, hem Asya hem de Afrika ülkelerinin gıda fiyat endeksi ile hububat fiyatları uzun dönemde eşbütünleşik çıkmışlardır. Özellikle buğday fiyat artışları her iki ülke grubunda da gıda fiyat artışını yukarı yönlü tetiklemektedir.

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INTRODUCTION
Global economies, including those of developed nations, have entered an inflationary process that does not seem likely to regress in the near future. While there are many factors contributing to this, two in particular stand out: food prices and energy prices. The increase in food prices since 2000 has been driven by five main agricultural commodity groups, one of which is grain products, the gradual decrease in the global supply of which has forced food prices upwards.

The Russia-Ukraine conflict that broke out in February 2022 has led to an increase in the price particularly of grain products. These two countries hold an important place in the global trade of some grain products, being responsible, for example, for some 30 percent of the global wheat exports, and this situation exasperates the already insufficient grain reserves around the world, forcing prices upward.

The present study investigates the effect of grain price increases on food inflation, and looks for an answer to the question of how the recent pandemic and the Russia-Ukraine conflict will reflect on grain prices and inflation in the future. To this end, the first part of the study evaluates the effect of food prices on inflation since 2000, followed in the second part with a discussion of the effects on grain prices of the COVID-19 pandemic and the 2022 Russia-Ukraine conflict. After reviewing existing literature addressing this issue, the effect of grain prices on food inflation in Asia and North Africa is analyzed econometrically with time-series tests, and the obtained results are interpreted and suggestions are

presented in the final section.

Reflection of The Increase in Food Prices After 2000 on Inflation

Global food prices have witnessed a rise in volatility since 2000 that has been attributed to four main factors (Mittal, 2009:3): stalled agricultural production growth, decreased global grain stocks, rising energy prices and increasing demand from emerging economies.

The rise in global food prices is depicted in Figure 1, in which it can be seen that nominal food prices witnessed a sharp rise in the 1970s. After following a calmer upward trend until the 2000s, a further rapid increase was seen in 2003, and the nominal increase in food prices in 2008 and 2011 reached a 30-year high. The World Food Price Index increased by 109.3% in the 2003–2011 period (Çaşkurlu, 2011), with strong price increases witnessed particularly in oils and fats, as well as grains. The price indices for these commodity groups in March 2008 were almost triple of those seen in the 1998–2000 period (UNCTAD, 2008).

The 2020 pandemic period created a shock in the commodity markets by affecting both supply and demand. When compared to other sectors, the agricultural commodity group was the least affected by the pandemic, with the only commodity in demand at the time being agricultural stock due to the severe limitations on outdoor mobility imposed around the world for 3–6 months. The agricultural commodity group is considered to be affected in terms of agricultural products and transportation costs used in industry and biofuels during the pandemic (Rajput et al. 2021).

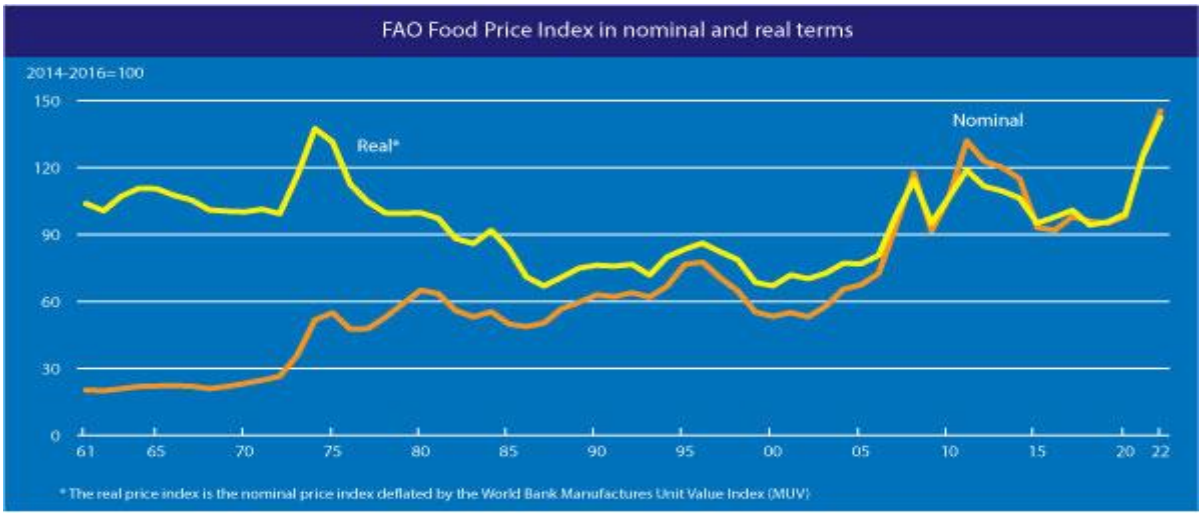

Figure 1: Nominal and Real World Food Price Index
Şekil 1: Nominal ve Reel Dünya Gıda Fiyat Endeksi
Source: FAO, https://www.fao.org/worldfoodsituation/foodpricesindex/en/, accessed on 04.28.2022

It is stated that the changes that occurred in the supply and demand of agricultural products were attributable to such factors as the increase in droughts and floods brought on by climate change, and led to an increase in food prices after 2000 (0tt, 2014). In addition to this, the doubling of the prices of the energy-intensive components of production, including fertilizers and fuel, between 2002 and 2007, increased production costs (Mittal, 2009) and caused a decrease in agricultural production. The situation was made worse by the increase in both the demand and prices of such products when grain became a source of energy with the use of agricultural products in biofuel production. High crude oil prices and new energy and agricultural policies, i.e. biofuel mandates in the United States and the European Union, have led to a partial integration of the agriculture and energy markets (Ott, 2014). After 2020, new reasons for the rise in food prices were added to the problems, including the pandemic, sanctions between countries, problems in the supply chain and imbalance in supply-demand.

The United Nations Food and Agriculture Organization (FAO) announced in March 2022 that the food price index had reached its highest level in the last 30 years. According to FAO data, the food price index increased by 17.9 points (12.6%) to reach 159.3 in March 2022 over the February figure, while the grain price index – one of the factors contributing to the food price index – increased by an average of 170.1 points in March, by 24.9 points (17.1%) compared to February, reaching its highest level on record since 1990. The increases were blamed on the interruptions to exports brought about by the Ukraine-Russia conflict (FAO, 2022, https:// www.fao.org/ worldfoodsituation/foodpricesindex/en/).

An important characteristic of agricultural prices is the sharp fluctuations they experience over time when compared to non-farm prices, as in agricultural production supply cannot adapt immediately to changes in demand. Furthermore, flexibility in the demand for most agricultural products is so low that a small change in supply while demand remains constant or a small change in demand when supply remains unchanged can lead to a large change in prices (Sasmal, 2015:31).

The share of food products in the consumer's basket is larger in developing countries than in developed countries, with food expenditures in developing countries representing approximately 60–80 percent of consumer expenditures (UNCTAD, 2008), and so crises related to food products have a stronger effect on developing countries. The recent rise in food prices thus affected developing countries the most, particularly those with low-income food deficits (Maros & Martin, 2008).

World Grain Analysis and The Effects of The Ukraine-Russia Conflict

The total global grain production in 2021/22 is estimated to have reached a record level of 2.287 million tons, corresponding to an annual increase of 3%, and this increase has been attributed to an increase in corn production. According to International Grains Council (IGC) data, a recent increase in the IGC Grains and Oilseeds Index (GOI) in March 2022 reached to the highest level in its 22-year history. It is claimed that the damage to logistics and infrastructure linked to Russia's military action in Ukraine will have immediate and potentially long-term consequences on the global trade of grain and oilseed, and the supply to such sensitive areas as Africa, the Near East and Asia (IGC, 2022a). When the conflict in the Black Sea region is taken into consideration, it has been estimated that the global grain supply will shrink by 1%, despite the increase in production. It is further claimed that total grain production will decrease by 13 million tons in 2022/23, predominantly due to decreases in the production of corn, wheat and sorghum (IGC, 2022b). World grain information is shown in Table 1, 2.

Russia and Ukraine are among the leading producers of agricultural commodities such as barley, wheat and corn in particular in the world. Russia and Ukraine together account for approximately 30% of global wheat exports, 20% of corn, mineral fertilizers and natural gas, and 11% of oil (OECD, 2022a). In 2021, they were among the world's three largest global exporters of products such as wheat and corn.

Table 1. Global Grain Figures (million tons)
Çizelge 1. Dünya Hububat Bilgileri (milyon ton)

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22*	2022/23*
Production	2.092	2.058	2.187	2.142	2.139	2.185	2.221	2287	2275
Consumption	2.045	2.013	2.126	2.152	2.164	2.190	2.236	2281	2302
Trade	322	346	353	369	364	395	427	416	407
Stock	553	598	658	648	625	617	601	608	581

Source: IGC, https://w.ww.igc.int/en/gmr_summary.aspx#

*Estimated values.

Table 2. World's Largest Wheat Exporters and Importers (Thousand tons)
Çizelge 2. Dünyanın En Büyük Buğday İhracatçıları ve İthalatçıları (Bin ton)

Exporter Countries	Export season		Importer Countries	Import season	
	2021-2022	2022-2023*		2021-2022	2022-2023*
Russia	33.000	39.000	Indonesia	11.000	11.200
EU	31.000	36.000	Egypt	12.000	11.000
Australia	27.000	25.000	Türkiye	9.300	10.000
Canada	15.500	24.000	China	9.700	9.500
USA	21.750	21.000	Algeria	7.800	7.900
Argentina	16.000	14.000	Bangladesh	7.500	7.500
Ukraine	19.000	10.000	Morocco	5.200	7.000
Kazakhstan	7.000	8.000	Nigeria	6.200	6.500
India	10.000	8.000	Philippines	6.300	6.300
Türkiye	6.500	6.750	Iran	7.200	5.500

Source: US Department of Agriculture
*Estimated figures.

The above table shows the world's largest exporters and importers of wheat for 2021, with Russia and Ukraine ranking 1st and 7th respectively. The leading importer countries are in Asia and Africa.

The conflict that broke out between Russia and Ukraine at the beginning of 2022 has raised concerns regarding the harvests of these products, meaning export quantities are uncertain. The inability to get to their fields to harvest their crops may result in decreased productivity, restricted agricultural production and, subsequently, a global supply deficit. This shortfall in supply is bringing about a rise in the prices of commodities in which the two countries have an important export share, and the magnitude of this rise will be determined by the supply elasticities of the alternative suppliers, and the relative demand elasticities of the commodities. It is expected that this situation will also trigger an increase in food and fertilizer prices attributable to the 2020 COVID-19 pandemic. According to FAO estimations, the increase in the prices of the commodities that are exported by the two countries may increase the global supply gap of food and feed prices by 8% to 22% (FAO, 2022b).

The agricultural sector is labor-intensive, and has high energy demands in developed regions, directly through its use of gas, fuel and electricity, and indirectly through the use of such agricultural chemical products as fertilizers and pesticides. When considered from this point of view, the conflict in which Russia is engaged has also triggered rises in energy prices, given its important contributions to the energy market, and these high energy prices lead to high input prices, and consequently, to increases in food prices.

The impact of the conflict differs from region to region and from country to country. In particular, the European countries with borders with Russia and Ukraine and those with close economic relations are more affected. Explanatory simulations show that global inflation may increase by close to 2½ percentage points in the first full year following the onset of conflict (OECD, 2022b), as depicted in Figure 2.

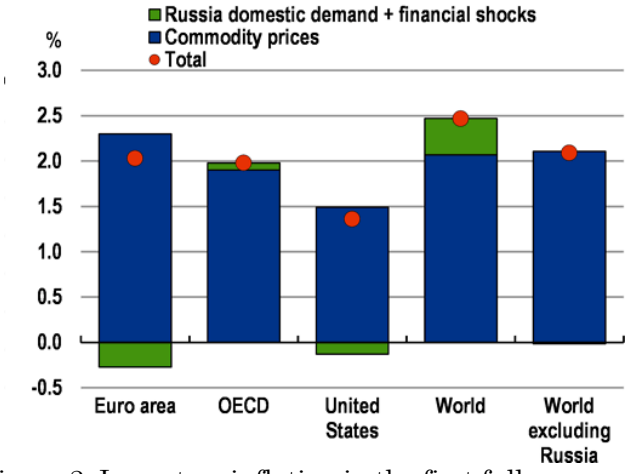

Figure 2. Impact on inflation in the first full year
Şekil 2. İlk tam yılda enflasyon üzerindeki etkisi
Source: OECD, 2022b: 7

LITERATURE

The relationship thought to exist between agricultural prices, food prices and the consumer price index is also supported statistically. Since food prices have a significant share in inflation, they have been the subject of many academic studies. In addition to the studies of how food prices affect inflation, there are also studies taking oil prices and exchange rates into account, and studies evaluating food prices more specifically and clarifying the relationship between grain prices and inflation.

Akçelik and Tuğer (2015) investigated the relationship between grain prices and domestic prices through a VAR analysis of the Turkish context, and noted that a 10 percent increase (decrease) in grain prices resulted in an average increase (decrease) of 0.084 points in consumer inflation.

Furceri et al. (2016) analyzed the effect of global food prices on domestic inflation on a large group of developed and developing countries, and concluded that a 10% increase in global food prices would lead to an increase in domestic inflation in developed economies by approximately 0.5 percentage points a year later. They found this effect to be greater in the period prior to 1980, as after 1980 the magnitude of the effect dropped to 0.25% and its permanence decreased, with no effect remaining one year later. They attributed this situation to the absence of significant food shocks in the 1980s and 1990s, the decrease in the share of food in the consumption basket, changes in the structure of economies (such as greater wage flexibility preventing a wage-price spiral), and the increase in the credibility of monetary policy to overcome changes in inflation expectations as a result of unexpected increases in inflation due to events such as food price shocks. They also analyzed the differences between developed and developing countries by using a second dataset, and concluded that global food price shocks have a much greater effect on the developing economies than on developed economies that they attributed to the high share of food in the consumption baskets of developing countries and the low reliability of implemented monetary policies.

Kaltalıoğlu and Soytaş (2011) discussed the increase in food prices and the relationship with oil prices, and

concluded that the recent increase energy demand may have an effect on the price of food products used in energy generation and the price of oil, but reported that oil prices are not linked to food prices.

In their study, Lee and Park (2013) made a comprehensive evaluation of the transfer of global food prices and volatility to national food prices and their volatility in the 2000–2011 period. The obtained findings revealed that higher economic growth rates, the appreciation of the local currency, greater political stability and higher income levels lead to lower inflation in domestic food prices.

Tule et al. (2019) reviewed the role of agricultural commodity prices in the forecasting model of inflation in Nigeria, both theoretically and methodologically, and concluded that agricultural commodities were better able to forecast both headline and food inflation than the Random Walk theory, being the reference model for forecasting for inflation literature.

Ciner (2011) studied both simultaneous and causal connections between commodity prices and consumer inflation between 1983 and 2010, and determined a long-term causal relationship between the two.

Varlık and Yeşil Balıkçıoğlu (2021) studied the effect of food prices on inflation in the fragile five countries, adopting a dynamic and static panel data analysis approach to the assessment of the 2013–2020 period. The Fragile Five countries have determined that the transition effect from the FAO food price index to the FAO consumer price index is 22%, based on the static panel findings, and 18% according to the Arellano-Bond dynamic panel findings.

Nazlıoğlu and Soydaş (2012) studied the relationship between the prices of 24 agricultural commodities and the oil and dollar exchange rates, and carried out panel cointegration and causality tests based on monthly data from between 1980 and 2010. They reported the effect of oil prices on agricultural commodity prices to be strong, and that an increase in oil prices led to an increase in domestic agricultural commodity prices in globally integrated markets.

Jalil and Zea (2011) investigated the effect of international food-price shocks on local inflation in Brazil, Chile, Colombia, Mexico and Peru after 2000. Carrying out an impulse-response analysis using a cointegrated VAR approach, they determined that it takes between one and six quarters for international food inflation shocks to spur domestic headline inflation, depending on the country.

Table 3. Explanation of Variables
Çizelge 3. Değişkenlere Ait Açıklamalar

Abbreviation	Name of the variable	Source
Wheat	Global wheat price	
Corn	Global corn price	Word Bank Commodity Price Data (The Pink Sheet)
Barley	Global barley price	
Oil	Crude oil price	
Africa	Food price index of North African countries	
Asia	Food price index of Asian countries	FAOSTAT

MATERIALS and METHODS

Fluctuations in agricultural commodity prices were observed after 2000, and the fluctuations in grain prices spurred by the 2008 global food crisis continued into the 2020 COVID-19 pandemic and the 2022 Russia-Ukraine conflict period. This study investigates the effect of grain-price increases on food inflation, analyzing the effect of changes in the prices of selected grain products[1] on food inflation in the North African and Asian nations that are Russia and Ukraine's largest grain export markets through the adoption of a time-series approach based on monthly data from the 2001:01–2020:08 period.Price of oil, which is export product of Russia, is also included in the model as an important cost item in agricultural production. Two separate models have been created for the Asian and North African country groups, and the logarithms of all variables have been taken and added to the model. Explanations of the variables are provided in Table 3.

In a time-series analysis, a stationarity test should first be performed. Stationarity is expressed for situations in which there is fluctuation around a fixed mean and where the variance of the fluctuation remains constant, particularly during the time (Sevüktekin and Nargeleçekenler, 2010). In time series that are not subjected to a stationarity test, a spurious regression problem may occur, confusing the relationships between variables (Granger and Newbold, 1974). The unit root test applied to the series is presented in Table 4.

In the study, an ADF unit root test was applied to test the stationarity of the variables. According to the

[1] Wheat, barley, corn, rice, rye and oats are included in the Grain group. In the present study, the most exported grain products of the two countries (barley, wheat and corn) were taken into consideration to understand the effects of the Russia-Ukraine conflict.

test results, all the variables aside from the Asian food price index contain a unit root in the level value, and so the variables are not stationary. A finding the difference process was applied to make the series stationary, and the series became stationary at the first difference I (1).

Before moving on to the cointegration analysis, a VAR model was established and tested to ascertain whether or not it satisfied the stability conditions. For this reason, the VAR model was first established and the length of the delay was determined. The optimum length of the delay is presented in Table 5.

Table 4. ADF Unit root test
Çizelge 4. ADF Birim kök testi

Variables		ADF unit root test	
No. of observations: 236		I(0)	I(1)
Wheat	t-statistics	-2.531130	-11.80522
	Prob	0.1096	0.0000*
Barley	t-statistics	-1.963361	-10.45917
	Prob	0.3030	0.0000*
Corn	t-statistics	-1.980689	-11.68983
	Prob	0.2953	0.0000*
Oil	t-statistics	-2.695147	-10.30153
	Prob	0.0765	0.0000*
Africa	t-statistics	-2.719461	-17.01066
	Prob	0.0722	0.0000*
Asia	t-statistics	-3.206628	-
	Prob	0.0208	-

Table 5: Determining the Length of Delay
Çizelge 5. Gecikme Uzunluğunun Belirlenmesi

Delay	FPE	AIC	SC	HQ	Autocorrelation LM test result
VAR: Africa					
1	1.83e-11	-10.53484	-10.08361*	-10.35279	0.0875
2	1.38e-11*	-10.81523*	-9.987973	-10.48146*	0.2371
3	1.47e-11	-10.75204	-9.548761	-10.26655	0.2180
VAR: Asia					
1	1.76e-09	-8.807483	-8.506663*	-8.686111	0.0775
2	1.47e-09*	-8.984286*	-8.442810	-8.765817*	0.3509
3	1.56e-09	-8.928873	-8.146741	-8.613306	0.7980

As can be understood from Table 5, among the four information criteria, FPE, AIC and HQ show a length of the delay of two. The detected length of delay should provide for all known assumptions of the error term (Tarı, 2011). VAR (2) was established and tested for compliance with the characteristic polynomial roots and autocorrelation stability conditions. All inverse roots were located inside the circle (Annex 1), and no autocorrelation issue was identified in the model. The results of the autocorrelation test are presented in Table 5.

Cointegration refers to the statistical presentation of the long-term relationship between economic variables. Whether or not a long-term relationship exists between two or more non-stationary variables depends on the cointegration state of the variables. A cointegration analysis is based on the assumption that there may be a long-term relationship between the series, even in non-stationary cases, and this relationship can be in a stationary structure in which the variables are in equilibrium and act together in the long-term. The Johansen cointegration test is preferred, as there may be more than one cointegration relationship when there are more than two variables, and more than one cointegrated situation may be revealed among the variables by developing a multi-equation approach (Sevüktekin & Nargeleçekenler, 2010). Studies conducted to date have shown that the Johansen cointegration technique provides stronger results than other methods in cases where there are more than two variables in the model (Gonzalo, 1994).

The results of the Johansen cointegration test applied to the series are presented in Table 6, revealing a cointegration relationship between the variables in both models. Lütkepol et al. (2000) reported the powers of the Eigenvalue and Trace tests to be close to each other, although in some cases the Trace test is

superior, indicating the existence of a long-term relationship between variables.

The cointegration vector data are presented in Table 7. There are two different interpretations of the long-term equation. While the coefficients obtained from the equation are interpreted in some studies, only the sign of the coefficients is interpreted in others (Juselius, 1999).

Table 6. Johansen Co-Integration Test Results
Çizelge 6. Johansen Eş Bütünleşme Test Sonuçları

	Trace statistic	Prob	Max-Eigen Statistic	Prob
Africa				
r=0*	77.21627	0.0479*	38.11834	0.0194*
r ≤ 1	39.09793	0.5161	15.44527	0.7848
Asia				
r=0*	64.41064	0.0046*	37.04369	0.0033*
r ≤ 1	27.36696	0.2707	13.99012	0.4629
r=0*	Trace statistic Critical value	76.97277	Max-Eigen Statistic Critical value	34.80587
r ≤ 1		54.07904		28.58808

The * sign indicates that it is significant at level 5%.

Table 7. Normalized Co-integration Coefficients
Çizelge 7. Normalize Edilmiş Eşbütünleşme Katsayıları

	Barley (-1)	Wheat (-1)	Corn (-1)	Oil (-1)	VECM
Africa (-1)	-11.85367	-144.7113	85.77981	30.10903	-0.001874
	(17.5050)	(23.9359)	(22.1979)	(10.2975)	(0.00089)
	[-0.67716]	[-6.04579]*	[3.86433]*	[2.92391]*	[-2.10148]**
Asia (-1)	-0.866121	-10.02924	6.026312	1.394536	-0.033371
	(0.98852)	(1.34086)	(1.25633)	(0.57949)	(0.01472)
	[-0.87618]	[-7.47973]*	[4.79676]*	[2.40648]**	[-2.26682]**

Note: Values in brackets give standard deviations, and the values in square brackets give t statistical values. * indicates significance at a 1% level. ** sign indicates significance at a 5% level.

The long run equation can be written as:

Africa = 11.85 Barley + 144.71 Wheat - 85.77 Corn – 30.10 Oil

Asia = 0.86 Barley + 10.02 Wheat -6.02 Corn – 1.39 Oil

Considering the normalized long-term equations:

-The African food price index is effected positively by wheat and barley prices, and negatively by corn and oil prices. The sign of the barley and wheat coefficients was consistent with expectations, and the coefficient of wheat was found to be statistically significant. Although the coefficient of corn and oil prices was found to be significant, the sign was opposite to what was expected. The variable that most affects the African food price index was found to be wheat price.

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After a long-term analysis, error correction models were estimated with the dependent variables being the food indexes of Asia and Africa, in order to assess the short-term dynamics among the variables. The presence of deviations from the long-term equilibrium and how deviations converge to the means in each period are being investigated. The VECM (Vector Error Correction Model) estimation results are presented in Table 7.

For the VECM model to be significant, the coefficient of the error term should be negative and statistically significant. The statistical significance of the coefficient indicates the presence of deviations, while its negative sign indicates the operation of the error correction mechanism and the convergence of deviations towards the long-term value. The value of the coefficient indicates the rate at which short-term imbalances can be corrected after a certain period (Tarı, 2011:435). The ECT(-1) coefficient is found to be -0.0018 for the food price index of Africa and -0.0333 for the food price index of Asia. The error term coefficients are found to be both negative and statistically significant as desired. This situation

indicates that the error correction mechanism is operating in our model and deviations are converging towards equilibrium.

CONCLUSION

The present study assesses the effect of grain prices, which have contributed significantly to the increase in food prices in recent times, on food inflation. It further seeks an answer to the question of how the recent pandemic and the Russia-Ukraine conflict will be reflected in grain prices and inflation. To this end, the influence of three grain products exported by Russia and Ukraine on food inflation in Asia and North Africa were examined with a cointegration test, making use of monthly data for the 2000:01–2020:08 period. Russia and Ukraine's contributions to the global grain sector consist primarily of barley, wheat and corn, leading to their selection as the focus of the present study. The scope of the study was restricted to North African and Asian countries due primarily to their import of grain from the two countries, making them the countries that will be most affected by disruptions in the supply chain.

The application of the Johansen cointegration test revealed grain products and the food price index of the countries to be cointegrated in the long-term. When the obtained results are evaluated, wheat prices can be seen to have a positive effect on food inflation in Asian and North African countries. Consequently, increases in wheat prices increase food inflation in the country groups, and the grain product that mostly drives food inflation is wheat. While increases in barley prices have a positive effect on food inflation in the countries, the difference is not statistically significant. Increases in corn prices, in contrast, have a negative effect on food inflation in the country groups, which can be attributed to the fact that the countries covered in the analysis import wheat rather than corn from Russia and Ukraine. Furthermore, the increases in oil prices have a negative effect on food inflation in the country groups, and this statistically significant result can be attributed the low dependence of Asian and African countries on oil and the limited oil trade with Russia.

Under the effects of the Ukraine-Russia conflict, imports of basic food products have decreased and energy prices have increased, with a knock-on effect on other costs and prices. While some countries have sought to obtain similar products from different countries, the higher transportation costs of alternative suppliers and the different quality of the obtained products expedite the increase in food prices. Food prices have risen as an effect of the pandemic, and as a result of the Russia-Ukraine conflict. The increase in the prices of products such as wheat, barley and corn, which have already reached a certain level, is a greater issue in low-income countries where the share of food in consumption expenditures is high. Based on the results of the empirical analysis, it can be said that food price increases will continue in the future in line with the rising prices of grain. To address the issue, Türkiye is involved in a grain corridor project in a bid to secure the transportation of grain products to the required regions. This project that will mitigate the supply issue to a certain extent, and can be expected to have a positive effect on food prices.

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Contribution Rate Statement Summary of Researchers

The authors declare that they have contributed equally to the article.

Conflict of Interest Statement

The authours report no conflict of interest.

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