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Amerikan Pamuk Vadeli Piyasaları ve Dövizin BİST Tekstil Deri Sektörü ile İlişkisi

American Cotton Future Markets and the Relationship of Currency with BIST Textile Leather Industry

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Abstract

By the effect of globalization, the importance that countries attach to foreign trade is increasing, and therefore every market that contributes to foreign trade is carefully examined. One of the indispensable market for both national and international economies is the textile sector. The materials used in this sector, which has a large share in foreign trade, are also economically important factors. For example, cotton plant is one of the most important input used in production processes for the textile industry. For this reason, in this work, studies are carried out on important indices that are traded on the Turkish stock market, especially with the theme of "cotton". The aim of this study is to reveal the cointegration and causality relations of BIST Textile Leather (XTEKS) index, American Cotton Futures Markets (CTZ2) and Dollar rate using daily data between 2.1.2019-31.12.2021 with Engle Granger cointegration test and VAR Granger causality test. According to the results of the study, an Engle Granger cointegration relationship has been found between the BIST Textile Leather (XTEKS) index with the American Cotton Futures Transactions (CTZ2) and the Dollar exchange rate and it has been determined that these variables come to equilibrium and act together in the long term. According to the VAR Granger causality test related to the variables, no statistical causality relationship could be detected.

Keywords: American Futures Cotton, Dollar, BIST Textile Leather Index.

Jel Code: G00, G10, G15

Öz

Küreselleşmenin etkisiyle ülkelerin dış ticarete verdiği önem artmaktadır ve bu nedenle dış ticarete katkı sağlayan her pazar dikkatle incelenmektedir. Hem ulusal hem de uluslararası ekonomiler için vazgeçilmez pazarlardan birisi de Tekstil sektörüdür. Dış ticarette büyük bir paya sahip olan bu sektörde kullanılan malzemeler de ekonomik açıdan önemli unsurlardandır. Örneğin pamuk bitkisi tekstil sektörü üretim süreçlerinde kullanılan en önemli girdilerden biridir. Bu nedenle bu çalışmada Türkiye borsasında özellikle "pamuk" temalı işlem gören önemli endeksler üzerinde çalışma yapılmıştır. Bu çalışmanın amacı BIST Tekstil Deri (XTEKS) endeksi ile Amerikan Vadeli Pamuk İşlemleri (CTZ2) ve dolar kurunun eşbütünleşme ve nedensellik ilişkilerini 2.1.2019-31.12.2021 tarih aralığında günlük veriler kullanarak Engle Granger Eşbütünleşme testi ve VAR Granger nedensellik testi ile ortaya koymaktır. Çalışma sonuçlarına göre, BIST Tekstil Deri (XTEKS) endeksi ile Amerikan Vadeli Pamuk İşlemleri (CTZ2) ve dolar kuru arasında Engle Granger eşbütünleşme ilişkisi bulunmuş olup bu değişkenler uzun dönemde dengeye gelip birlikte hareket ettikleri tespit edilmiştir. Değişkenlerle ilgili VAR Granger nedensellik testine göre istatistiki açıdan herhangi bir nedensellik ilişkisi tespit edilememiştir.

Anahtar Kelimeler: Amerikan Vadeli Pamuk, Dolar, BIST Tekstil Deri Endeksi.

Jel Kodu: G00, G10, G15

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Introduction

The demand for cotton products is increasing day by day in countries with rising incomes due to the developments in the world economy. Depending on consumption, foreign trade of cotton fiber has started to occupy an important place all over the world. On the other hand, the weight of the liberalization trend in world trade has increased the importance of policies for the trade of cotton fiber, especially from agricultural products (Özer and İlkdoğan, 2013: 13). Cotton, which acts as a locomotive for many sectors, has an important place in the country's economy. Despite this importance, since the manufacturers could not reach their profit maximization targets, it has recently started to be replaced by alternative products. Considering Turkey's ecological structure, its place in world production, its competitive power and other sectors fed by cotton, the necessity of giving importance to cotton production comes to the fore (Önder, 2017:83).

Cotton, which is one of the few basic products of the industrial revolution, which can be considered as a milestone in the evolution of economic and social life, depending on its use in yarn production, continues to be a strategic industrial product in terms of national economies today. Because cotton, through the fiber, is a product that can create added value in terms of its other components, as well as serving to meet a mandatory need such as dressing. For example, since its seed is used in the production of vegetable oil, it has the feature of being an oil plant. The remaining pulp has a special importance as animal feed with high protein value (Telatar et al. 2002: 55). It is a strategic agricultural product that provides significant employment opportunities and added value with the value chain it creates in the cotton, fiber and seed, food and textile industries for producer countries (Küçük and Aydoğdu, 2020: 77). There are basically two types of cotton production in the world. These are long staple cotton and short staple cotton. While long-staple cotton constitutes approximately 5% of the world cotton production, short-staple cotton production constitutes 95% (Özer and İlkdoğan, 2013: 13).

Looking at the world cotton trade, as of 2020/21, a few large producers such as India, USA, China, Pakistan and Brazil realize approximately 70 percent of the total world exports. However, countries such as the World Trade Organization (WTO) members USA and EU countries and China, which try to discipline the international cotton trade with certain provisions, develop policy tools based on economic and political power to protect their own farmers. In this case, high agricultural subsidies applied by developed countries put pressure on world cotton prices and make it more difficult for cotton producers in underdeveloped countries such as African countries, which are trying to take their place in the world cotton market but are under heavy economic conditions. Finally, the Covid-19 epidemic, which has been experienced on a global scale, has adversely affected cotton agriculture and economy, as in all areas of the economy throughout the world, and it is thought that this negative effect will continue in the next few years (Tokel, 2021: 1022).

Although cotton is primarily the raw material of the textile and ready-made clothing industry with its fiber, it is an important industrial plant that is also used in the fields of oil, feed and energy. More than 80% of cotton produced in nearly eighty countries globally is produced in only seven countries, including Turkey (Özüdoğru, 2021: 149). Turkey has a developed cotton sector and has an important place in the country's economy is holding. Cotton production is mainly carried out in the Aegean, Çukurova and Southeastern Anatolia regions (Oğuz and Veziroğlu, 2021: 305). In parallel with the developments in the textile and ready-made clothing sector, which occupies a very important place in production, employment and exports in Turkey, which is an important part of industrialization and presence in global markets, the need for cotton is also increasing and increasing production is of critical importance. From the perspective of cotton producing countries; In order to compete in international markets and to ensure the sustainability of production, the most important factor is the cost of production. When we looking at the world average, 1 kg of unpacked cotton costs an average of 0.44 $. Countries producing 1 kg of seed cotton with the highest cost are respectively; China ($0.75), Turkey ($0.59), Bangladesh ($0.58), USA and Greece ($0.56). Cost increases and low product prices observed in cotton agriculture in recent years have led countries to take measures to increase productivity and reduce production costs. It is estimated that the approximate value of the total support reached 8 billion dollars in the 2019/20 production season in 11 countries that reported their support for cotton. The countries that support cotton the most are China, USA, India and Turkey. There are four different types of support for seed cotton in Turkey in 2020 as difference payment support (1.10 TL/kg), soil analysis support (40 TL), diesel support (62 TL/da) and fertilizer support (8 TL/da) support has been given. Cost coverage ratio of supports is 23% in 2019/20 season (Özüdoğru, 2021: 149).

The cotton consumed in the textile sector is transformed into garment products, which are the final product with high added value. Research & development and innovation activities, fashion trends and changes in people's consumption habits increase the demand for textile products day by day. When the annual export values of our country are examined, the export of textile products has a share of approximately 35%. Since the most important raw material of the textile industry is cotton fiber, the value and importance of this fiber is increasing day by day (Cevheri and Şahin, 2020: 71). Cotton and its textile industry have an important place in Turkey in terms of employment and its share in exports. Cotton, which is the most important raw material of the textile industry, is produced especially in the Aegean, Mediterranean and Southeastern Anatolia regions (Özer, et al., 2014:

830). The textile industry interacts with the agriculture and livestock industry due to natural fibers such as cotton and wool, and with the petrochemical industry due to synthetic fibers (Tekstil, Hazır giyim ve Deri Ürünleri Sektörleri Raporu, 3 aylık: 14). Cotton, which is used as the vegetable raw material of the textile sector, has a strategic importance in agriculture, industry and trade both in our country and in the world. Cotton trade between countries is carried out through cotton exchanges. The state determines the value of many agricultural products in our country. However, cotton is one of the few products whose price is determined by the exchanges (Can and Gerşil, 2018: 1017).

The textile industry is one of the locomotive sectors of Turkey with the employment it creates, its share of Gross Domestic Product, current investments and high exports (Uyanık ve Çelikel, 2019: 32). The textile, ready-made clothing and leather products sectors continue to cooperate with many different sectors from agriculture to the retail sector and have a 6 % share in world exports. In the sectors, production in standard products is directed to countries where labor is relatively cheap, and investments of European Union (EU) countries, United States of America (USA), Japan and China continue in qualified products, technical and smart textiles. Of course, the general economies of the countries also affect the textile, ready-made clothing and leather products sectors. From the perspective of our country, it is seen that market diversification and sustainability issues come to the fore in the textile, ready-made clothing and leather products sectors. Textile, ready-made clothing and leather products sectors in our country provide 29.5 billion dollars of exports and employment for approximately 1 million people (registered). The point reached by the sectors in terms of quality and innovation today cannot be underestimated (Tekstil, Hazır giyim ve Deri Ürünleri Sektörleri Raporu 2020: 6-7).

Two important functions of futures markets are risk transfer and discovery of spot (cash) prices. The function of the risk transfer of futures markets are provided by the protectionists finding market participants against whom they can transfer the risk. Although this method dates back to ancient times in history, it has become more widespread in our recent past as a result of technology and globalization. In recent years, futures markets have attracted the attention of investors in order to be a portfolio diversification tool and to provide benefits (Özaydın, 2020: 302).

The dollar is a very important subject in the price formation of goods and services in international trade and national economies. Therefore, increases and decreases in the dollar exchange rate have a great impact on both micro and macroeconomic instruments.

When the national and international literature is examined; No studies have been found that include BIST Textile Leather (XTEKS) index, American Cotton Futures (CTZ2) and Dollar prices variables. The following studies are stand for some of the financial and economic related to the cotton product;

In the study written by Telatar et al. (2002), in order to measure the effectiveness of the prices formed in the cotton exchanges, the relations between in Turkey and international cotton prices were investigated in case of short significant price fluctuations. In the study, both linear and nonlinear cointegration analyzes were performed. As a result of the analysis, a relationship was found between the prices in Turkey and the prices in international stock markets.

Özaydın and Çankaya (2020) investigated how the future cotton commodity returns between 2009-2018 are affected by the WASDE expected cotton production, consumption and stock data, which is published monthly by the US Department of Agriculture, within the framework of basic supply and demand laws. Due to the ARCH effect of the return data, which is a time series, it has been found that the return and real market dynamic data interact with the mean and variance equations created by using conditionally varying variance models, and the volatility is affected.

Singh and Soni (2021) examine long-term price movements using cointegration and causality tests on price transfer between Chinese futures markets and cotton prices in the USA and India. As a result of the study, it was found that the US cotton futures market is the most dominant market and leads price changes in India and China, cotton prices in India also affect cotton prices in China, bidirectional causality relationship between USA and China detected.

Demir, et al. (2018) explored the interrelationship between spot, futures and cotton futures markets in China. As a result of the examination, it has been determined that the futures market has a dominant role in prices.

Okumuş, (2012) investigated the relationship between cotton production, cotton price in the stock market and diesel price using VAR method. As a result of the study, the previous year's production amount and cotton price were found to be important factors on production. In the causality analysis, a strong relationship was found between the diesel price and production.

The effect of support premium given under the name of Difference Payment and past prices on production was examined with the help of Distributed Delay Autoregressive Model (ARDL) in the study written by Özer, et al., (2014). In the study, annual time series data covering the period 1999-2012 were used. As a result of the boundary test analysis, which reveals the long-term equilibrium relationship, it was found that there is cointegration between cotton production and cotton price and support premium variables. It has been determined that while the dependent variable of cotton production has a negative effect on itself in the long

term but a positive it has a positive effect in the short term. On the other hand, while the support premium payment has a positive and significant effect on cotton production in the short term, no significant relationship could be found between cotton production and cotton price.

The aim of this study is to reveal cointegration and causality relationships between BIST Textile Leather (XTEKS) index and American Cotton Futures (CTZ2) and Dolar prices. There is no national and international literature that includes the variables in this study, co-integration and causality relations, and this situation constitutes the originality of the study.

Table 1. Variables

Variable	Definition	Data Source	Period
(CTZ2)	American Cotton Futures	investing.com	2.1.2019-31.12.2021
(XTEKS)	BIST Textile Leather (XTEKS) index	investing.com	2.1.2019-31.12.2021
DOLAR	USD	investing.com	2.1.2019-31.12.2021

Method

The regression equation created in the research is as follows (Çütçü and Kan, 2018);

$BISTTEX_t = \beta_0 + \beta_1 CTZ2 + \beta_2 DOLAR + \varepsilon_t$

Engle- Granger Cointegration test

The most frequently used cointegration test by researchers (Korkmaz and Açıkgöz, 2010; McLeod and Haughton, 2018; Tunalı and Yalçınkaya, 2017.)is Engle-Granger (1987). This test is a test made by virtue of residues. In the first stage of the Engle-Granger test, a regression is created between two first-order stationary variables as follows (Yılancı, 2009) :

$y_t = a_0 + a_1 x_t + u_t$

In the second stage, an autoregressive model shown below is established with the residues created from this regression and it is examined whether the residues are stationary or not:

$\Delta u_t = + \rho u_{t-1} + e_t$

In this model, if $\rho = 0$, it can be explained that the residues have a unit root, so there is no cointegration relationship between the two variables. (Yılancı, 2009).

Engle-Granger Cointegration test has been used to explain the long-term relationship between the two variables. According to this method, it is assumed that the variables are stationary at the same level. A new regression is created for the variables with a certain stationarity level and the stability of the residuals of the regression, that is, the level value of the error correction model, is investigated. If the level value is stationary, it is mentioned that there is a cointegration relationship between the variables (Dilber and Kılıç, 2018). The Engle-Granger cointegration test is an Extended Dickey-Fuller unit root test for the error terms of two equations containing variables integrated at the same level (Kuştepeli and Bilman, 2009).

Granger Causality test

In order to determine the causality relationship between the variables and the direction of this relationship, the causality test developed by Granger (1969) will be performed. The Granger causality test is given by

$Y_t = \sum_{i=1}^{m} a_i Y_{t-1} + \sum_{i=1}^{m} \beta_i X_{t-1} + u_t$ (1)

$X_t = \sum_{i=1}^{m} \gamma_i X_{t-1} + \sum_{i=1}^{m} \delta_i Y_{t-1} + v_t$ (2)

(Öztürk and Sezen, 2018). In the equation m describes the optimal delay. This delay can be established by some information criteria. The Granger causality test is established by testing whether the lag levels of the independent variable are equal to zero at a certain significance level. If the β_i coefficients specified in equation (1) have a value other than zero at a certain significance level, it can be explained that X is a cause of Y. The fact that both the δ_i coefficients in equation (2) have a non-zero value at a certain significance level can also be explained as that Y is a cause of X (Öztürk and Sezen, 2018).

Results

Descriptive statistics for American Cotton Futures (CTZ2), Borsa Istanbul Textile Leather Index (XTEKS) and (DOLAR) prices are given in Table 2.

Table 2. Descriptive Statistics of Variables

	(CTZ2)	**(XTEKS)**	**(DOLAR)**
Mean	4.299265	6.354601	1.948565
Median	4.260141	6.363855	1.934719
Maximum	4.790820	7.113753	2.802439
Minimum	3.888345	5.587810	1.640646
Standard Deviation	0.191810	0.488334	0.211754
Skew	0.593532	-0.027020	0.931954
Kurtosis	2.758284	1.463622	4.115237
Jarque-Bera	44.69909	4645.213	1424.401
Probability	0.000000	174.0832	32.73306
Number of Observations	731	731	731

In order for the variables used in the study to be stationary, unit root tests are performed. If a data contains a unit root, it means that the data is not stationary. Augmented Dickey-Fuller (1979) unit root test results are shown in Table 3.

Table 3. ADF Unit Root Test Results

Variables	**Stagnation level**	**ADF Test Statistic**	**Probability**
(CTZ2)	1. Difference	-27.26598	0.0000
(XTEKS)	1. Difference	-26.76822	0.0000
(DOLAR)	1. Difference	-15.74138	0.0000

According to the Augmented Dickey-Fuller unit root test results in Table 3, it is seen that (CTZ2), (XTEKS) and (DOLAR) variables are stationary at the 1st difference values (Dereli, 2018: 284).

For the Engle-Granger cointegration test results, the regression equation values of the relevant variables and the ADF probability values of the error term for the regression analysis are created.

(CTZ2) and (XTEKS) variables regression equation values are shown in Table 4.

Table 4. Regression Equation Values of (CTZ2) and (XTEKS) Variables

Regression Equation Values	**F statistical probability value**	**Probability value**
(CTZ2) and (XTEKS) Values	3.715569	0.0002

According to the regression equation values of BIST Textile Leather index (XTEKS) and American Cotton Futures (CTZ2) variables indicated in Table 4, the regression equation is established (XTEKS) because the statistical probability of F and the general probability value of the equation are less than 0.05 (Çetin, 2020: 34). The error term values of the (CTZ2) variables regression analysis are shown in Table 5.

Table 5. Error Term Values of Regression Analysis of (CTZ2) and (XTEKS) Variables

Error Term of Regression Analysis of (CTZ2) and (XTEKS) Variables	t Statistical Value	ADF Probability Value (Level)
Constant Term	-27.17076	0.0000
Constant Term and Trending	-27.27595	0.0000
No Constant Term and No Trend	-27.18951	0.0000

According to Table 5, BIST Textile Leather Index (XTEKS) and American Cotton Futures (CTZ2) values are among the variables, since the ADF probability value is less than 0.05 in the cases with constant term, constant term and trend, no constant term and no trend. Cointegration relationship is mentioned and these variables come to equilibrium together in the long term (Alhan and Yüksel, 2018: 144).

The regression equation values of (DOLAR) and (XTEKS) variables are shown in Table 6.

Table 6. Regression Equation Values of (DOLAR) and (XTEKS) Variables

Regression Equation Values	F statistical probability value	Probability value
(DOLAR) and (XTEKS) Variables	-2.976339	0.0030

According to the regression equation values of the (DOLAR) and (XTEKS) index variables indicated in Table 6, the statistical probability of F and the general probability value of the equation are less than 0.05, (Çetin, 2020: 34) so the regression equation is established and the error term of the (DOLAR) and (XTEKS) regression analysis values are shown in Table 7.

Table 7. Error Term Values of Regression Analysis of (DOLAR) and (XTEKS) Variables

Error Term of Regression Analysis of (DOLAR) and (XTEKS) Variables	t Statistical Value	ADF Probability Value (Level)
Constant Term	-15.58153	0.0000
Constant Term and Trending	-15.58221	0.0000
No Constant Term and No Trend	-15.58495	0.0000

According to Table 7, since the (DOLAR) and (XTEKS) index values are less than 0.05 at the level of ADF probability value, in cases with constant terms, with constant terms and with a trend, without a constant term and without a trend, there is a cointegration relationship between the variables, and these variables in the long run. Comes into balance together. (Alhan and Yüksel, 2018: 144).

The causality relationship between the variables will be analyzed with the Granger causality test. Appropriate lag lengths are determined for the series before proceeding to the Granger causality test. Appropriate lag lengths between BIST Textile Leather index (XTEKS), American Cotton Futures (CTZ2) and Dolar are shown in Table 8.

Table 8. Appropriate Lag Lengths of Series

Lag	LogL	LR	FPE	AIC	SC	HQ
0	509.3455	NA	4.98e-05	-1.392972	-1.374036	-1.385665
1	5768.919	10461.27	2.66e-11	-15.83747	-15.76172*	-15.80824*
2	5778.060	18.10578*	2.66e-11*	-15.83785*	-15.70530	-15.78670
3	5784.121	11.95598	2.68e-11	-15.82977	-15.64040	-15.75670
4	5789.508	10.58068	2.70e-11	-15.81983	-15.57365	-15.72483

According to Table 8 (CTZ2), the appropriate lag lengths between (XTEKS) Dollar series are found to be 2 lags according to the Akaike information criterion (Değneli, 2020: 31). After finding the appropriate lag length, the Granger causality test based on the relevant lag length is performed.

Table 9. Granger Causality Test of (XTEKS) Variable

Dependent Variable (XTEKS)	Chi-Square	df	Probability
(CTZ2)	3.485855	2	0.1750
(DOLAR)	2.029955	2	0.3624
All Variables	6.571397	4	0.1603

According to Table 9, no causal relationship is found between the (XTEKS) index as the dependent variable and the (CTZ2) index and (DOLAR) prices at the 5% significance level (Erkekoğlu and Gül, 2020: 34).

Conclusion and Discussion

The globalization of world economies has facilitated access to financial instruments and has led to an increase in transaction volumes in these instruments. In addition, investors have more information about economic events and financial instruments that occur in any country in the world. Stocks, indices to which stocks are linked, other markets and other financial investment instruments that are thought to be related to these markets attract a lot of attention from investors. The fact that investors have more information about financial instruments and all related elements may affect their investment decisions. In today's economies, the textile industry in the countries and the cotton plants are one of the largest input items of this industry, have come to a very important position. The Textile Leather (XTEKS) index in BIST is also among the invested stock markets. Some of the factors that are thought to directly affect this index are the American Cotton Futures Markets (CTZ2) and the exchange rate. In the study, cointegration and causality relations of BIST Textile Leather (XTEKS) index, American Cotton Futures Markets (CTZ2) and Dollar exchange rate are analyzed by Engle-Granger Cointegration test and Granger Causality test. In the study, first the model of the research is established, then descriptive statistics, unit root test are performed and Engle-Granger co-integration test and Granger Causality test are used in order to reveal the cointegration and causality relations between the related variables. Searching the national and international literature, no studies has founded that included variables related to the BIST Textile Leather (XTEKS) index, and examined cointegration and causality relationships. From this perspective, it is thought that the study can present originality and contribute to the literature.

According to the findings obtained in the study, an Engle-Granger cointegration relationship is found between the BIST Textile Leather (XTEKS) index and the American Cotton Futures Markets (CTZ2) and the Dollar rates, and it has been determined that these variables come to equilibrium and act together in the long term. According to the VAR Granger causality test regarding the variables, no statistical causality relationship could be detected.

It is thought that the results obtained in the study can help the companies in the BIST Textile Leather (XTEKS) index, the investors who want to invest, and other relevant factors in their investment decision. In this study, the relations between the American Cotton Futures Markets (CTZ2) and the Dollar exchange rate with the BIST Textile Leather (XTEKS) index are investigated, and it can be a guide for new researches by adding the Chinese Cotton Market and different macroeconomic factors as a variable in future studies.

References

Alhan, O. & Yüksel, S. (2018). Kadın çalışanların banka büyüklüğü ve karlılığına etkisi: Engle-Granger eş bütünleşme analizi ile Türkiye üzerine bir uygulama. İş'te Davranış Dergisi, 3(2), 140-147.

Can, Ş. & Gerşil, M. (2018). Manisa pamuk fiyatlarının zaman serisi analizi ve yapay sinir ağı teknikleri ile tahminlenmesi ve tahmin performanslarının karşılaştırılması. Yönetim ve Ekonomi Dergisi, 25 (3), 1017-1031.

Cevheri, C.İ. & Şahin, M. (2020). Dünya' da ve Türkiye' de pamuk üretiminin tekstil sektörü açısından önemi. Harran Üniversitesi Mühendislik Dergisi, 5(2), 71-81.

Çetin, A.C. (2020). Türkiye'de kıymetli maden depo hesapları ve altın fiyatları ile ilişkili faktörlerin analizi. Burdur Mehmet Akif Ersoy Üniversitesi Oğuzhan Sosyal Bilimler Dergisi, 2(1), 17-45.

Çorlu Ticaret ve Sanayi Odası, (2020). Tekstil, Hazır giyim ve Deri Ürünleri Sektörleri Raporu 2020,

Çütçü, İ. & Kan, E. (2018). Doğrudan yabancı sermaye yatırımlarını etkileyen faktörler: Türkiye örneği. Sakarya İktisat Dergisi, 7(3), 1-21.

Değneli, A. P. (2020). Türkiye ekonomisi için finansal çevrimler ve iş çevrimleri: Granger nedensellik testi. Pamukkale Journal of Eurasian Socioeconomic Studies, 7 (1), 18-38.

Demir, M., Martell, T. F. & Wang, J. (2018). The trilogy of China cotton markets: The lead–lag relationship among spot, forward, and futures markets. J Futures Markets, 39, 522–534.

Dereli, D. D. (2018). Türkiye'de ekonomik büyüme ile dış ticaret arasındaki nedensellik ilişkisi (1969-2016). Yönetim ve Ekonomi Araştırmaları Dergisi, 16(3), 279-289.

Dilber, İ. & Kılıç, J. (2018). Türkiye'de turizm gelirleri ile ekonomik büyüme ilişkisi: ENGLE GRANGER eşbütünleşme testi ve VAR model. TESAM Akademi Dergisi, 5(2), 95-118.

Engle, R. F. & Granger, C. W. J. (1987). Co-Integration and error correction: Representation, estimation, and testing. Econometrica, 55(2), 251-276.

Erkekoğlu, H. & Gül, G. (2020). 2003-2017 dönemi için Türkiye'de ekonomik büyüme, reel döviz kuru ve dış ticaret ilişkisi: Granger nedensellik analizi. Aydın İktisat Fakültesi Dergisi, 5 (2), 25-39.

Granger, C. W. J. (1969). Investigating causal relations by econometric models and cross-spectral methods, Econometrica, 37(3), 424-438.

Korkmaz, T. & Açıkgöz, E. (2007). VOB'da işlem gören döviz futures sözleşmelerinin değeri ile piyasadaki likit döviz miktarı arasındaki ilişki. Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 29, 63-81.

Kuştepeli, Y. & Bilman, M. (2009). Türkiye'de vergiler ve büyüme arasındaki uzun dönem ilişkisi. Dokuz Eylül Üniversitesi İşletme Fakültesi Dergisi, 10(1), 119-130.

Küçük, N. & Aydoğdu, M. H. (2020). Türkiye'de pamuk üretiminin son dönemlerdeki genel analizi. Euroasıa Journal of Mathematıcs-Engıneerıng Natural & Medıcal Scıences, 8, 77-82.

McLeod, R. C.D. & Haughton, A. Y. (2018). The value of the US dollar and its impact on oil prices: Evidence from a non-linear asymmetric cointegration approach. Energy Economics, 70, 61-69.

Oğuz, İ. & Veziroğlu, S. (2021). Türkiye'de Sürdürülebilir Pamuk Değer Zincirlerinin Desteklenmesi Projesi Söke - Bergama Örneği. 3. Uluslararası Tarım ve Gıda Etiği Kongresi, 305-311.

Okumuş, M. (2012). Tarım politikaları ve zaman serileri analizi: Türkiye'de pamuk fiyatlarına bir uygulama, Adnan Menderes Üniversitesi Fen Bilimleri Enstitüsü Tarım Ekonomisi Anabilim Dalı, Yüksek Lisans tezi, Aydın, 1-62.

Önder, K. (2017).Pamuk arzını etkileyen faktörlerin panel veri ile analizi: 2000-2015. Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilimler Dergisi, 12 (1) , 83-98.

Özaydın, O. & Çankaya, S. (2020). Vadeli pamuk emtiası getirisi ile pamuk reel piyasa dinamiklerinin etkileşimi. İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi, 19 (37), 733-767.

Özaydın, O. (2020).Vadeli pamuk emtiasında kontrat pozisyonlarının ve pamuk reel piyasa dinamiklerinin vadeli pamuk emtiası getirisi üzerine etkileri. Maliye ve Finans Yazıları, 113, 301 – 326.

Özer, O. O., & İlkdoğan, U. (2013). Box-Jenkins modeli yardımıyla dünya pamuk fiyatının tahmini. Tekirdağ Ziraat Fakültesi Dergisi, 10(2), 13-20.

Özer, O. O., Özçelik, A. & Kayalak, S. (2014). Geçmiş fiyatlar ile fark ödeme sisteminin pamuk üretimine etkisi, XI. Ulusal Tarım Ekonomisi Kongresi 3-5 Eylül 2014, Samsun, 830-835.

Öztürk, S. & Sezen, S. (2018). Ekonomik büyüme ile işsizlik arasındaki ilişkinin analizi: Türkiye örneği. Mustafa Kemal Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 15(41), 1-14.

Özüdoğru, T. (2021). Dünya ve Türkiye' de pamuk üretim ekonomisi. Tekstil ve Mühendis, 28(122), 149-161.

Singh, Amrinder. & Tarun Kumar Soni. (2021). Price transmission in cotton futures market: evidence from three countries. Journal of Risk and Financial Management, 14: 444.

T.C. Bilim, Sanayi ve Teknoloji Bakanlığı, Sanayi Genel Müdürlüğü, Sektörel Raporlar ve Analizler Serisi (2018). Tekstil, hazır giyim ve deri ürünleri sektörleri raporu, 3 aylık rapor, 1-49.

Telatar, E. , Türkmen, Ş. & Teoman, Ö. (2016). Pamuk borsalarında oluşan fiyatların etkinliği. Dokuz Eylül Üniversitesi İktisadi İdari Bilimler Fakültesi Dergisi, 17 (2) , 55-74.

Tokel, D. (2021).Dünya pamuk tarımı ve ekonomiye katkısı. MANAS Sosyal Araştırmalar Dergisi, 10(2), 1022-1037.

Tunalı, H. & Yalçınkaya, Y. (2017). Dolar Kuru, Enflasyon ve TCMB Ağırlıklı Ortalama Fonlama Maliyeti Arasında Granger Nedensellik Analizi. Uluslararası Ekonomik Araştırmalar Dergisi, 3(3), 461-466.

Uyanık, S. & Çelikel, D. C. (2019). Türk tekstil endüstrisi genel durumu. Teknik Bilimler Dergisi, 9 (1), 32-41.

Yılancı, V. (2009). Fisher hipotezinin Türkiye için sınanması: Doğrusal olmayan eşbütünleşme analizi. Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi, 23(4), 205-213.