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FOREIGN TRADE AND ECONOMIC INTEGRATION RELATIONSHIP: EVALUATION OF TURKEY IN TERMS OF EU AND BRICS

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ABSTRACT

Trade policies are important factors in ensuring the welfare and economic stability of countries. It is seen that the power of foreign trade in determining macro and micro plans forces countries to act together and establish integrations based on economic cooperation. Although Turkey wants to become a member of the European Union (EU) to take advantage of the advantages provided by economic integrations, it has not been able to realise this desire until today and has decided to gradually diversify its integration policy as of 2024. At the beginning of these decisions, the desire to apply for membership by improving its relations with BRICS can be shown. The aim of this study is to determine the contribution of foreign trade between Turkey and the EU and BRICS to Turkey's economic growth by using the Generalised Method of Moments (GMM) for the period between 1985 and 2023. As a result of the analysis, it is found that Turkey's foreign trade with both integrations has a positive and significant effect on Turkey's economic growth, but foreign trade with BRICS member countries has a stronger effect on Turkey than EU countries

Keywords: Turkey, Foregein Trade, Economic Growth, EU, BRICS

INTRODUCTION

Macro and micro action plans of nations significantly influence economic growth and development, with foreign trade and economic integration being key components of these strategies. Foreign trade acts as a vital driver of a country's economic expansion, enabling nations to use their resources more effectively and access growth opportunities beyond their local markets. Economic integration further accelerates growth by promoting trade liberalization and reducing barriers between countries. This process is particularly visible in frameworks like regional trade agreements and unified markets, where countries enhance productivity by forming shared markets and removing trade obstacles.

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Since the economic policy of a state is primarily orientated towards its own national economy, it is a natural consequence that it determines its trade policy in this direction. However, when it comes to foreign trade and economic integration, which are at the heart of the modern economy, acting together and creating trade for its own benefit appear as a paradoxical relationship. Especially after the great devastation caused by the Second World War, the efforts of the countries to act together and revive foreign trade yielded positive results and a rapid recovery was observed in the countries that were party to foreign trade, especially in the European economy, which was affected by the war. Until today, foreign trade and the economic integrations that it brings have continued to exist by developing. Despite the faster development of foreign trade, economic integrations have continued to exist slowly and the reasons for their formation have developed. It is seen that the integration movements, which were initially carried out with the aim of removing the obstacles in front of foreign trade (spatially), evolved over time to the necessity of free movement of entrepreneurs and capital, to become a centre of attraction by establishing a common market, and to the idea of becoming a community of states with supra-state institutions

In today's competitive environment, international trade has entered into new and groundbreaking areas. Increasing economic co-operation among various nations and the elimination of discriminatory practices through the escalation of liberalisation initiatives support the process of integrating the economies of countries around the world. The policies being implemented are particularly orientated towards achieving economic and power advantage, while at the same time seeking to prevent the emergence of unhealthy forms of competition. In this complex arena, international trade and foreign trade stand out as two key players and serve as the most effective instruments to steer this tricky game. Hence, foreign trade and economic integration are closely interlinked and have been chosen as the particular focus of this paper. While the study of economic integration among the various nations of the world has been an ongoing endeavour since the 1950s, it is noteworthy that more intensive research and critical analyses on this important topic have increased significantly since the 1980s. International trade has undergone a significant transformation, evolving from an earlier static perspective towards a more dynamic rationalist approach. While some developed countries have achieved considerable success in optimising the benefits of adhering to established rules, there has also been a shift in the perspectives surrounding trade policy in many developing countries. Within these contextual frameworks, innovative ideologies of international trade have been systematically formulated. Moreover, the international trade regime has become more focused on addressing services and intellectual property IP-related issues, particularly under the broader policy umbrella of intellectual property rights. There are numerous arguments for and against combining these two strategic approaches adopted by developing countries as they navigate the complexities of the global trade environment.

It is quite difficult to say that Turkey has kept pace with foreign trade and economic integration activities, which are important factors in modern economy. Although there have been periods of foreign trade surplus at short intervals since its foundation, the periods of foreign trade deficit are quite high, including today. It is seen that the foreign trade deficit has become chronic due to the main reasons such as the lack of a sustainable political system in macro and micro policies, a very weak economic infrastructure against external shocks, the inability to carry its industrial development to the capacity to produce high-tech products, and its continuous dependence on foreign energy supply. At the same time, in order to overcome these negative systemic problems and to achieve the desired results in foreign trade, the actions of participating in economic integration movements and benefiting from them have not been realised at the desired level. Turkey, which has a foreign trade deficit even in the integration movements of which it is a member, seems to have determined its policy of benefiting from integrations according to political priorities for a long time. Although the starting point of economic integrations is economic reasons, since the highest point is political unity, membership in integration movements can be evaluated from a political point of view, but it is not sufficient alone.

Although the issue of becoming a member of the European Union, which has been Turkey's biggest trade partner since the 1950s, is not on the agenda as much as before, Turkey's desire to become a member of integration movements still continues. As of 2024, the issue of membership to BRICS was put on the agenda and it was openly declared by government officials that the reason for this was the attitude of the European Union (BBC, 2024). Therefore, a question arises here that needs to be answered. Is BRICS an alternative to the European Union, which ranks first as Turkey's trade partner? The answer to this question constitutes the purpose of this study. The studies carried out to determine the benefits of economic integrations to countries are quite diverse. However, in our study, social and political aspirations, which are the aspirations to become a member of integration movements, have been ignored. As stated by Mayes (1978), since the effects on growth will have important reflections on trade, the effect of foreign trade on economic growth has been used in our study as the main indicators for determining integration movements. Since foreign trade and economic integration movements are very important factors for a sustainable growth by getting a larger share from international welfare, in our study, it is planned to present policy recommendations by investigating the effects of EU and BRICS on Turkey's economic growth.

The systematic of the study proceeds as follows; in the second section, the theoretical background is explained, in the third section, Turkey's relations with the EU and BRICS are examined, in the fourth section, a literature review of scientific research on the subject is carried out, in the fifth section, Hypotheses are put forward, in the sixth section, the analysis is carried out with the variables determined in accordance with the purpose of the study, and in the seventh and last section, the results are evaluated.

2. THEORETICAL BACKGROUND

The contribution of the relationship between foreign trade and economic integration movements, which represents the subject of our study, to the growth of a country has actually been tried to be explained by using different indicators in the literature. For example, Solow (1956), in his study, stated that economic growth is related to technology in the long run and found that foreign trade and economic integration play an important role in technology transfer and diffusion of innovations. Through trade, developing countries can accelerate their growth by providing access to more advanced technologies and production techniques (Grossman & Helpman, 1991, p.47). Moreover, economic integration facilitates not only trade in goods but also capital and information flows, which in turn stimulate innovation and technological development (Romer, 1990, p.72). Sachs and Warner (1995) argue that the integration of natural resources with trade can accelerate economic growth, especially when supported by the right policies and institutions. However, trade and integration can also have negative effects; for example, in some cases, increasing trade deficits and strengthening external dependence may adversely affect the economic stability of countries (Rodrik, 1998, p.94). In their study, Acemoglu and Robinson (2012) argue that strong institutions support economic growth, while foreign trade and integration processes offer opportunities for strengthening institutional structures. Economic integration allows countries to harmonise their trade policies, create common markets and create an environment of broader economic cooperation, which in turn strengthens institutional structures and supports development processes (Viner, 1950, p.89). Motta and Norman (1996) analysed the effects of economic integration on foreign direct investment and international trade. As a result of the analysis, they found that the development of regionalism with economic integration will lead to the development of trade for industry between the blocks and an increase in foreign direct investments, and as a result, a moderate growth will be realised in the regional blocks. Bruno et al. (2017) also analysed the relationship between economic integration, foreign direct investment and international trade in terms of the EU. They found that if a country becomes a member of the EU, foreign direct investments will flow to the member country and this will have an increasing effect on international trade.

As a result, foreign trade and economic integration are closely linked to the development resources of countries and these processes stand out as the main instruments that accelerate economic growth, increase welfare and achieve sustainable development goals. In this context, the effects of foreign trade and integration are not only limited to trade liberalisation, but are also shaped by factors such as innovation, capital flows and institutional development.

3. EU and BRICS RELATIONS WITH TURKEY

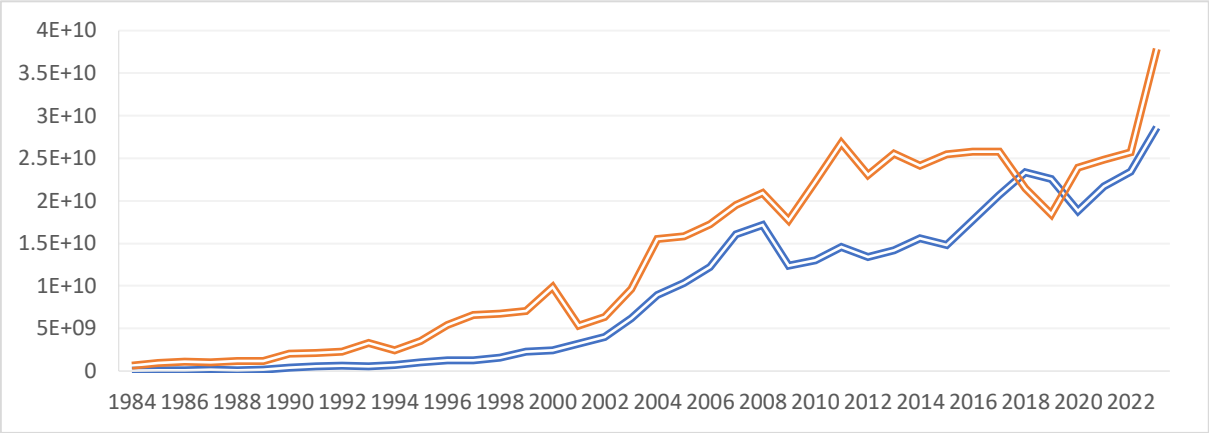
With the collapse of the Ottoman Empire and the establishment of the Republic of Turkey, the founding will has endeavoured to develop policies to raise the state to the level of contemporary civilisations in every field. They set Europe as a target and acted with an understanding based on Westernisation in areas such as law, economy and education. Being between Europe and Asia, as well as its proximity to the Middle East and African countries, the developments in these geographies have been effective in the policies to be determined by Turkey. The 1929 Economic Depression and the outbreak of the second world war centred in Europe led Turkey to follow inward-oriented policies and to a contraction in its foreign trade. Turkey was not indifferent to the fact that the European States established a union of economic interests in order to prevent war and chaos in Europe with the goal of "never again" before the end of the war and joined the Council of Europe as a founding member in 1949. In 1959, Turkey applied for membership to the European Economic Community and clearly showed that it would act economically and politically together with European States. In 1987, Turkey applied for full membership to the European Union and 8 years later, as the first country to sign a Customs Union agreement without being a member, it signed the Customs Union agreement in 1995. Turkey was accepted by the EU as a candidate country at the Helsinki Summit in 1999. After the 2001 crisis, the change of government led to a rapid development of positive relations with the EU in the short term. These warm relations gave way to tensions as a result of paradigm shifts in the geopolitical and geostrategic objectives of the countries, and after a while, relations between Turkey and the EU settled on a political and security ground, leading to the suspension of the membership process in minds, if not officially.

Starting in 2020, this vegetative situation causes the situation to remain stable as a result of the best interests of both sides, and this situation seems to continue in the coming period. Many reasons such as the fact that the intensive migration issue after the Arab Spring has still not been resolved despite the decrease in its severity, the discovery of rich hydrocarbon deposits in the Mediterranean, the countries coming to the point of conflict as a result of the discovery of rich hydrocarbon deposits in the Mediterranean, the negative decisions of the competent bodies of the EU about Turkey, and the stress brought by the Ukraine-Russia war are situations that support the continuation of the differences between these two sides.

Although it is natural for Turkey to disagree with the EU on many issues since its membership application, this ambivalence has gone beyond disagreement as a result of recent developments and has led to a more chronic and security policy-based behaviour.

Despite all the political and diplomatic crises, the EU is of great importance in Turkey's foreign trade. In 2022, it ranked first in total exports with a share of 40.6% with 103.1 billion USD, while it ranked first in imports with 93 billion USD, accounting for 25.6% of total imports (Ministry of Trade, 2022). Although this is not only a situation for 2022 (Graph 1), it can be predicted that this will be the case in the future, regardless of how the membership to the integration is finalised.

Graph 1: Foreign Trade between Turkey and the EU (1984-2023; Billion USD)



Source: Edited By The Author From Turkstat Database.

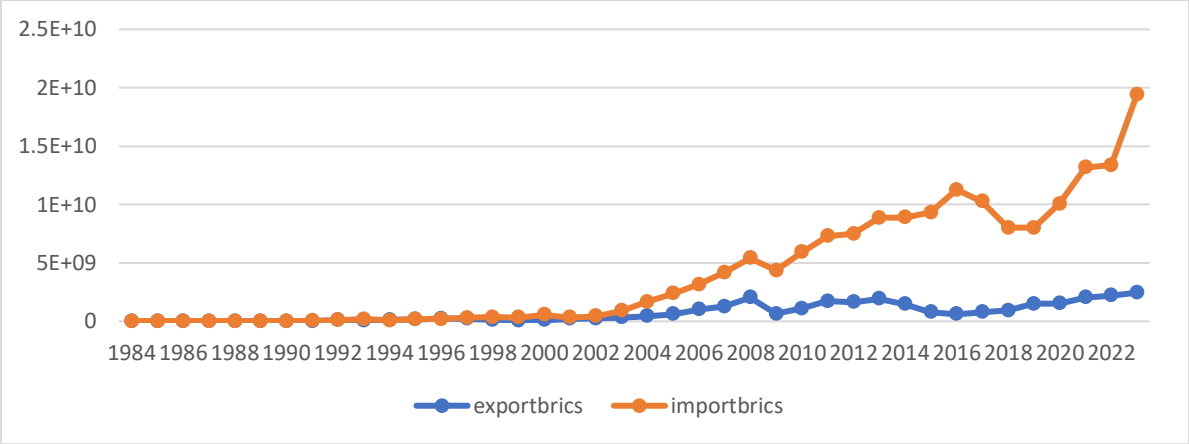
However, Turkey, which does not want to miss the advantages of economic integrations such as trade creation, technology transfer, capital flow, free movement and access to new markets, has stated that it aims to establish an association with Asian countries by using the advantage arising from its geographical location. Foreign Minister Hakan Fidan explained this situation as follows: "If we had membership with the EU, perhaps we would not be in this quest" (BBC, 2024), indicating that opening up to Asia in terms of integration is a change in strategy.

This congestion that Turkey has experienced with the EU has revealed the necessity of diversification in terms of integration without wasting any more time in a period when innovation is progressing in a groundbreaking way. In the Middle East and Africa, the fact that the Middle East is unfavourable in terms of trade due to the Palestinian-Israeli war that started in 2023 and turned into genocide by 2024, while the turmoil in the region is still continuing after the Arab Spring, are the reasons for considering Asia as an alternative for Turkey. Although there are various economic integrations in Asia, BRICS stands out as an integration with extremely important features for Turkey.

The integration, which was established between Brazil, Russia, India and China in 2006 and continued its activities as BRICS with the accession of South Africa in 2011, and at the beginning of 2024, Egypt, Ethiopia, Iran, Saudi Arabia and the United Arab Emirates became members of BRICS, thus increasing the number of members to 10. The fact that the integration, whose members have a total population of approximately 3.5 billion, has approximately 43% of the world population (Battal and Akan, 2019, p.1) and that the majority of the population of BRICS members has a population structure under the age of 35 in the process of decreasing economic productivity due to the aging population in Western countries shows that it will have a great advantage.

In terms of economic size, the fact that they have approximately 30 per cent of the world economy with approximately 29 trillion dollars and that most members have underground riches, especially oil (45 per cent of crude oil), puts BRICS in an important position in terms of energy. Due to these potentials, it is predicted that BRICS member countries will be very powerful countries in the global economic order by 2050 (Güney, 2017, p.31). In addition, another important feature of BRICS that is important for Turkey is that it consists of countries in the development process. Within this integration, trade can have a strengthening effect on the creative effect and cause competition to be fair. Although the foreign trade between Turkey and BRICS member countries has strengthened in terms of trade volume, this situation is in a position to give current account deficit to Turkey's detriment. (Graph 2)

Graph 2: Foreign Trade between Turkey and BRICS Member Countries (1984-2023; Billion USD)



Source: Edited by the author from TurkStat database

It should be taken into account that the disadvantageous situation in foreign trade seen in Graph 1 and Graph 2 occurred without being a member of both integrations. Foreign trade flows, which are deprived of the advantages provided by economic integration such as increase in trade and investments, economic stability, free movement of labour and capital, economic and political cooperation, can turn into a positive structure with the trade-creating effect in case of membership. However, it is of great importance to determine the integration to be a member in order to develop industrial, science and technology policies in a way to adapt to the functioning of the global economic system.

4. LITERATURE REVIEW

Numerous studies in the literature have explored the relationship between foreign trade and economic growth, with Aytaç and Akdoğan (2012) finding a causality from exports to economic growth in Turkey (2001Q1-2011Q3) and noting that changes in imports and exports explain GDP fluctuations, while Uçan and Koçak (2014) identified a long-term relationship between growth and foreign trade in Turkey (1992-2011), observing that short-term deviations reach long-term equilibrium after seven periods; Gül and Kamacı (2012) found a causality from imports to economic growth across 19 countries (1980-2010), Korkmaz, Çevik, and Birkan (2010) highlighted the positive impact of export increases on Turkey's economic growth (1990-2008), and Aktaş (2009) revealed a bidirectional relationship between exports, imports, and growth in Turkey (1996-2006) in the short run, which becomes unidirectional in the long run; Ay, Erdoğan, and Mucuk (2004) identified a reciprocal relationship between foreign trade and economic growth in Turkey (1980-2003), Mercan et al. (2023), Aslantaş, (2024), Berthelon (2004) emphasized the positive role of regional integration agreements on economic growth and introduced a new measure of regional integration based on member countries' share of world GDP, Shahbaz, Azeem, and Ahmad (2011) found a positive link between exports and economic growth in Pakistan (1990-2008), Yılmazer (2010), Aslantas, (2024) reported a bidirectional relationship between imports, exports, and economic growth, with unidirectional causality from imports to exports, and Şahin and Durmuş (2018) identified bidirectional causality between imports and economic growth in Turkey, alongside unidirectional causality from economic growth to exports, supporting import-led growth; Velde (2008) noted that regional integration in 100 developing countries (1970-2004) indirectly boosts economic growth by increasing trade and foreign direct investment, Elbeydi et al. (2010) found a long-term bidirectional causality between exports and economic growth in Libya (1980-2007), highlighting that export growth accelerates economic development, Hameed et al. (2012) observed unidirectional causality from GDP to exports in Pakistan (1960-2009) but no reverse causality, and Shihab et al. (2014) reported causality from economic growth to exports in Jordan (2000-2012).

5. HYPOTHESIS

H1: The contribution of foreign trade with the European Union to Turkey's economic growth is negative.

H2: Foreign trade with the EU contributes positively to Turkey's economic growth.

H3: The contribution of foreign trade with BRICS to Turkey's economic growth is negative.

H4: The contribution of foreign trade with BRICS to Turkey's economic growth is positive.

H5: The contribution of the EU to Turkey's economic growth is higher than that of BRICS.

6. METHODOLOGY, DATA SET AND ANALYSIS

6.1. Methodology

Our study analyses the impact of foreign trade with the EU and BRICS on Turkey's economic growth by using imports, exports and Turkey's GDP data for the period 1984-2023. Crises affecting the general course of the economy between the specified periods are included in the model as dummy variables. Generalised Method of Moments (GMM) is used in accordance with the purpose of the study. GMM is especially preferred in panel data analyses where the past values of the dependent variable should be included and there are records such as continuous variances or autocorrelation.

6.2. Data Set

The data set used in the study is based on Turkey's foreign trade indicators and economic growth indicators for the EU and BRICS countries on an annual basis and in billion dollars ($).

Table 1: Variables and Sources

Variables	Symbols Used	Source
EU and BRICS Exports	exporteu, exportbrıcs	Turkish Statistical Institute (TurkStat)
EU and BRICS Imports	İmporteu,importbrıcs	Turkish Statistical Institute (TurkStat)
Turkey's GDP	eg	Turkish Statistical Institute (TurkStat)

6.3. Analysis

6.3.1. Unit Root Test

Augmented Dickey-Fuller (ADF) unit root test was used to analyse the effect of Turkey's foreign trade variables (EU exports, EU imports, BRICS exports, BRICS imports) with the European Union (EU) and BRICS countries on economic growth with time series data. This test was developed to check whether the variables are stationary and is the most widely used method among unit root tests (Dickey & Fuller, 1979,p.427).

Table 2: Unit Root Test Results of Variables

	Fixed	**t statistic**	**Constant and Trend**	**t statistic**	**1st Difference Constant**	**t statistic**	**1st Difference Constant and Trend**	**t statistic**
exporteu	0.99	0.98	0.44	-4.21	0.00	-4.60	0.00	-4.85
importeu	0,97	0,28	0,33	-2,48	0,00	-5,26	0,00	-5,29
exportbrıcs	0,82	-0,73	0,22	-2,74	0,00	-7,02	0,00	-7,06
importbrıcs	1,00	2,40	0,99	0,06	0,10	-3,51	0,00	-4,29
eg	0,97	0,28	0,70	-1,76	0,00	-4,44	0,00	-4,46

It is observed that the variables are not stationary at constant level but become stationary when the first difference is taken. This means that the variables are at I (1) level and are suitable for long-run relationships in econometric models, especially cointegration analyses.

6.3.2. Johansen Co-integration Test

Johansen co-integration test is a statistical method used to test whether more than one time series have a long-run equilibrium relationship. In particular, it was developed to find out whether there is a cointegration relationship between time series by overcoming the assumption of stationarity of time series. The Johansen test analyses the co-movements between the series and identifies the linear combinations that lead to long-run equilibrium (Johansen, 1988, p.231).

The basic concept underlying the test is that first differences of series are stationary (i.e. I(1) processes) but a linear combination of these series is stationary (i.e. I(0)). The Johansen method relies on a vector autoregression (VAR) model to test this relationship and uses two different hypothesis tests: trace test and maximum eigenvalue test. While the trace test tests all cointegration vectors, the maximum eigenvalue test examines the existence of a specific cointegration vector (Greene, 2012, p.740).

Table 3: Trace Test (Unrestricted Cointegration Rank Test (Trace))

	AB				BRICS			
Default CE Number(s)	**Eigenvalue**	**Trace Statistics**	**Critical Value (0,05)**	**Probability ****	**Eigenvalue**	**Trace Statistics**	**Critical Value (0,05)**	**Probability ****
None	0,603	63.06	47.85	0,001	0,632	76,08	47,856	0,000
Maximum 1	0,388	28.81	29.79	0,064	0,474	39,08	29,797	0,003
Maximum 2	0,237	10.60	15.49	0,236	0,311	15,29	15,494	0,053
Maximum 3	0,015	0,576	3.84	0,447	0,038	1,466	3,8414	0,225

Table 4: Maximum Eigenvalue Statistics (Unrestricted Cointegration Rank Test (Max-eigenvalue))

	AB				BRICS			
Default CE Number(s)	**Eigenvalue**	**Maximum Eigenvalue Statistics**	**Critical Value (0,05)**	**Probability ****	**Eigenvalue**	**Maximum Eigenvalue Statistics**	**Critical Value (0,05)**	**Probability ****
None	0,603	34,25	27,584	0,006	0,632	37,009	27,584	0,002
Maximum 1	0,388	18,20	21,131	0,122	0,474	23,787	21,131	0,020
Maximum 2	0,237	10,03	14,264	0,209	0,311	13,825	14,264	0,058
Maximum 3	0,015	0,576	3,841	0,447	0,038	1,4665	3,8414	0,225

The results of Table 3 Trace Test and Table 6 Maximum Eigenvalue Statistics provide us with information on the determination of the long-run relationship between the EU and BRICS.

Description of Table 3 and Table 4 from an EU perspective:

In Table 3, 63.06> 47.85 and p=0.0010, i.e. the initial assumptions are rejected. This indicates that there is 1 cointegration relationship (cointegration equation) in the model. The other hypotheses are accepted because the test statistics are different from the critical value.

In Table 4, the first hypothesis is rejected (34.25> 27.58, p=0.0060). This indicates that there is at least 1 cointegration relationship in the model. The other hypotheses are accepted, i.e. there is no more than 1 cointegration.

Description of Table 5 and Table 6 in terms of BRICS:

In Table 3, the first assumption tests the claim that "there are no cointegration relationships". p-value was 0.000, these assumptions are rejected. That is, there is at least one cointegration relationship in the data set.

The second hypothesis tests the claim that "there is at most one cointegration relationship". Since the p-value is 0.003, these hypotheses are rejected. The third hypothesis tests the claim that "there are at most two cointegration relationships". p-value is 0.053, which is a borderline acceptable value. The last assumptions tests the claim that "there are at most three cointegration relationships". p-value 0.225 indicates that this hypothesis is accepted. Conclusion: The trace test shows that there are two cointegration relationships (at the 0.05 level).

In Table 4, the first hypothesis tests the claim that "there are no cointegration relationships". p-value 0.002 rejects this hypothesis. The second hypothesis tests the claim that "there is at most one cointegration relationship". p-value 0.020 rejects these hypotheses. The third hypothesis tests the claim that "there are at most two cointegration relationships". p-value is 0.058, this hypothesis is also accepted at the limit. The last assumptions tests the claim that "there are at most three cointegration relationships". p-value 0,225 , this hypothesis is accepted. As a result, the maximum eigenvalue test shows that there are two cointegration relationships (at the 0.05 level).

Table 5: EU and BRICS Johansen Co-integration Test (Short Run)

BRICS				**EUROPEAN UNION (EU)**			
1 Cointegrating Equations				**1 Cointegrating Equations**			
Log Probability: -2574,041				Log Probability: -2664,182			
Normalised cointegration coefficients (standard error in parentheses)				Normalised cointegration coefficients (standard error in parentheses)			
D(eg)	D(Dexportbrıcs)	D(Dimportbrıcs)	CRISIS	D(eg)	Dexporteu	Dimporteu	CRISIS
1.000.	-2.2874	-6.792	6.84E+10	1.000	2.99,0	-3,7161	2.67E+10
	-329,5	-106	(2.4E+10)		-508,8	-429,4	(2.0E+10)
Correction coefficients (standard error in parentheses)				**Correction coefficients (standard error in parentheses)**			
D(eg)	0,0766			D(eg)	-0,2952		
	(0,219)				(0,286)		
D(Dexportbrıcs)	0,0040			Dexporteu	-0,0137		
	(0,001)				(0,008)		
D(Dimportbrıcs)	0,0068			Dimporteu	0,0390		

	(0,004)			D(crisis)	(0,011)		
D(crisis)	-1.64E-12				-9.62E-13		
	(1.5E-12)				(1.8E-12)		
2 Cointegrating Equations				**2 Cointegrating equations**			
Log Probability: -2562.147				Log Probability: -2655.080			
Normalised cointegration coefficients (standard error in parentheses)				Normalised cointegration coefficients (standard error in parentheses)			
D(eg)	D(Dexportbrıcs)	D(Dimportbrıcs)	CRISIS	D(eg)	Dexporteu	Dimporteu	CRISIS
1,000	0,000	-5,815	1.33E+11	1,000	0,000	-3,784	3.94E+10
		-122,4	(2.7E+10)			-446,9	(2.1E+10)
0,000	1,000	0,0427	2.83E+08	0,000	1,000	0,227	-4.25E+09
		(0,067)	(1.5E+08)			(0,318)	(1.5E+09)
Correction coefficients (standard error in parentheses)				**Correction coefficients (standard error in parentheses)**			
D(eg)	0,0814	-1,741.6		D(eg)	-0,358	-1,9177	
	(0,327)	-514,4			(0,246)	-527,128	
D(Dexportbrıcs)	0,0008	-1,004		Dexporteu	-0,0154	-0,5167	
	(0,001)	(0,284)			(0,007)	(0.,65)	
D(Dimportbrıcs)	0,0178	-1,3161		Dimporteu	0,0368	-0,4975	
D(crisis)	(0,005)	(0,90303)		D(crisis)	(0,010)	(0,224)	
	-4.64E-12	3.04E-10			-6.69E-13	8.15E-11	
	(2.1E-12)	(3.3E-10)			(1.7E-12)	(3.7E-11)	
3 Cointegrating Equations				**3 Cointegrating Equations**			
Log Probability: -2555.234				Log Probability -2650.064			
Normalised cointegration coefficients (standard error in parentheses)				Normalised cointegration coefficients (standard error in parentheses)			
D(eg)	D(Dexportbrıcs)	D(Dimportbrıcs)	CRISIS	D(eg)	Dexporteu	Dimporteu	CRISIS
1.000	0.000	0.000	-5.89E+12	1.000	0.000	0.000	-2.25E+11
0.000	1.000	0.000	(1.4E+12)	0.000	1.000	0.000	(7.7E+10)

0.000	0.000	1.000	4.70E+09				-2.66E+09
			(1.2E+09)	0.000	0.000	1.000	(1.2E+09)
			-1.04E+11				-6.99E+09
			(2.5E+10)				(2.2E+09)
Correction coefficients (standard error in parentheses)				**Correction coefficients (standard error in parentheses)**			
D(eg)	-0.3103	-6.318	1.408	D(eg)	-0.581	-1.163.2	1.178.8
	(0.319)	-481.7	-192.9		(0.339)	-949.9	-954.4
D(Dexport brıcs)	-0.0004	-1.153	-0.027	Dexport eu	-0.0049	-0.8739	0.3447
	(0.001)	(0.291)	(0.116)		(0.010)	(0.291)	(0.293)
D(Dimport brıcs)	0.0166	-1.464.	-1.033	Dimport eu	0.0351	-0.4406	-1.488.9
D(crisis)	(0.0063)	(0.964) 5.15E-10 (3.3E-10)	(0.386) 1.93E-10 (1.3E-10)	D(crisis)	(0.014)	(0.4104) 6.57E-11	(0.4124) 3.85E-11
	-2.84E-12				-2.03E-13	(6.7E-11)	(6.8E-11)
	(2.2E-12)				(2.4E-12)		

Table 5 shows the short-run cointegration results of BRICS and EU.

According to Table 5, the short-run cointegration test of BRICS can be interpreted as follows;

1. Coefficients of Co-integration Short Run Correction, D(DEG): The short-run correction coefficient of the DEG variable is 0.076639, which indicates a very low correction rate. D(Dexportbrıcs): The short-run correction coefficient for the BRICS export variable is 0.004054. D(DbrıcsImports): The short-run effect of the BRICS import variable is 0.006899. D(crisis): The short-run correction coefficient for the crisis variable is -1.64E-12, which has a very low value, indicating that the short-run effect of the crisis variable is weak.

2. Coefficients of Co-integration Short Run Correction, D(DEG): In the first vector, the short-term correction coefficient of DEG is 0.081437 and in the second vector, it has a large correction coefficient of 17.41606. D(Dexportbrıcss): The short-run correction coefficient of BRICS exports is 0.000832 and -1.004036 in the second vector.

D(DbrıcsImports): The short-run effect of BRICS import variable is 0.017894 and in the second vector-1.316102. D(crisis): The short-run correction coefficients for the crisis variable are quite small, 4.64E-12 and 3.04E-10, respectively.

3. Coefficients of Co-integration Short Run Correction, D(DEG): The short-run correction coefficients of DEG are observed to be at different levels in three different vectors. D(Dexportbrıcss): The effect of BRICS exports is quite low and sometimes has a negative correction coefficient. D(Dbrıcs imports): The impact of BRICS imports has led to quite large changes in the short run. D(crisis): The short-run effects of the crisis variable are also quite low, with values of -2.84E-12, 5.15E-10 and 1.93E-10.

As a result, the results of the short-run co-integration effect in BRICS countries, the Number of Co-Integration Relationships: These tests indicate that there are 1, 2 and 3 cointegration relationships, but the most significant results are obtained with 2 and 3 cointegration relationships. Short-Run Effects: In the short run, the impact of all three variables (Dbricsexports, Dbricsimports, crisis) on DEG is at different levels.

According to Table 5, the short-run cointegration test of the EU can be interpreted as follows;

1. Coefficients of Co-integration Short Run Correction, D(DEG): Coefficient-0.295287. This indicates that short-term deviations in Deg are corrected at a slow pace. D(Dexporteu): Coefficient-0.013784, implying that exports have a limited effect on the return to equilibrium in the short run. D(Dimporteu): Its coefficient is 0.039002, imports have a slight positive correction effect in the short run . D(crisis): Coefficient-9.62E-13 indicates that the crisis variable has a very weak effect in the short run.

2. Coefficients of Co-integration Short Run Correction, D(Deg): A rather large coefficient (-19.17744) in Vector 2 indicates that Deg responds quickly in short-run corrections. D(Dexporteu): There is a slower correction process (-0.015438 and -0.516769). D(crisis): In Vector 2, the crisis variable has a small correction coefficient (8.15E-11).

3. Coefficients of Co-integration Short Run Correction, D(eg) In vector 1, degt quickly returns to its equilibrium in the short run (-0.5815). In vector 2, a very large negative correction coefficient is persistent (-11.6325), but this value should be interpreted with caution due to the large standard error. The positive coefficient in Vector 3 (11.7883) indicates that liabilities are not destabilised in this vector. D(exports) in Vector 1 shows that exports are recovering from the deviations very slowly (-0.0049). Vector 2 shows a stronger persistence of exports (-0.8739). In vector 3, the positive coefficient (0.3448) indicates that the stabilisation of the balance is not detrimental. D(importeu) The positive coefficient in Vector 1 (0.0352) indicates that imports may disturb the balance in the short run. The negative coefficient in vector 2 (-0.4406) indicates that imports do not return to equilibrium in this vector. A strong negative coefficient in Vector 3 (-1.4890) indicates a rapid return to equilibrium in the short run.

D(crisis); Crisis variable has no effect in Vector 1 (-2.03E-13). In Vector 2, it has a slightly positive effect (6.57E-11), but its size is very small. In Vector 3, the coefficient size (3.85E-11) is again negligible.

As a result; (Deg); Most vectors show a return to long-run characteristics in the short term. However, there is no instability of overcorrection rates in some vectors. (Dexporteus); formation is gradually improving slowly. However, there are faster recovery changes in some vectors (e.g. Vector 2). (DabImports); imports generally do not destabilise in the short run. However, in some vectors, the speed of return to equilibrium is high. (Crisis), the crisis variable is exhaustion at short intervals and does not make a significant contribution.

6.3.3. Generalised Method of Moments (GMM)

Generalised Method of Moments (GMM) is a powerful estimation method used in econometric analyses. Hansen (1982) uses this method to estimate parameters on a moment basis. The main advantage of the GMM is that it eliminates the need to rely on distributions over the data and can control heteroskedasticity and autocorrelation in error conditions (Hansen, 1982, p.1029). GMM is used to solve the problem of endogeneity, especially where error terms of independent variables are transmitted. In such forms, lagged values of independent variables or exogenous variables are used as "instrumental variables" to ensure accurate forecasting (Baltagi, 2008, p.147). The general equation is expressed as follows to minimise the scale function called q:

$$q= m(\theta)'Wmm(\theta) \quad (1)$$

W (weighting matrix) is proportional to the variance m of the moment. However, the optimal weighting matrix is WGMM= $\{Asy.Var[\sqrt{n}\, mn(\theta)]\}$-1. White's method, which solves the heteroskedasticity problem by using period weights, can also be used to calculate GMM weights. At this point, it is important which of the variables considered is exogenously accepted as an instrument variable. In addition, the generalised method of moments introduced by Arellano and Bond (1991), which allows the lagged value of the dependent variable to be included in the model, is used in this study.

$$EGT= \alpha + \beta 1EGt\text{-}1 + \beta 2exporteu_t + \beta 3importeu_t + \beta 4bricsexport_t + \beta 5importbrıcs_t + \beta 6crisis + \varepsilon t \quad (2)$$

It's here;

EGT: Turkey's economic growth,

EGt-1: Lagged value of Turkey's economic growth (dynamic effects)

exporteu: Exports from Turkey to the EU,

importeu Turkey's imports from the EU

exportbrıcs: Exports from Turkey to BRICS countries,

brıcsimports: Turkey's imports from BRICS member countries

Crisis crises that occurred between the years in question

εt: Error term of the model

Table 6: Generalised Method of Moments (GMM) Results for EU and BRICS

EU RESULTS					BRICS RESULTS				
Variables	**Coefficient**	**Standard Error**	**t Statistic**	**Probability**	**Variables**	**Coefficient**	**Standard Error**	**t Statistic**	**Probability**
Dexporteu	1,7831	4,3335	4,114	0,0002	Dexportbrıcs	3,1727	3,324	9,5441	0,000
Dimporteu	,0801	2,3633	4,570	0,0001	Dimportbrıcs	8,5030	15,64	5,4345	0,000
Crisis	-2,06	1,42E+10	-1,454	0,1547	Crisis	-4,58	1,49E+10	-3,0665	0,004
	1,04	7,83E+09	1,3228	0,1945		1,73	6,76E+09	2,5572	0,015
squared	0,6105	Average dependent variable	2.69E+10		squared	0,6530	Average dependent variable	2,69E+10	
Adjusted R-squared	0,5772	S.D. dependent variable	6.46E+10		djusted R-squared	0,6233	S.D. dependent variable	6,46E+10	
S.E. of regression	,20E+10	Total square residual	6,17E+22		S.E. of regression	3,96E+10	Total square residual	5,50E+22	
Durbin-Watson statistic	1.7169	J-statistic	5,8842		Durbin-Watson statistic	1.8660	J-statistic	5,8360	
Instrument ranking		Prob(J-statistic)	0,0152		Instrument ranking	5	Prob(J-statistic)	0,0157	

Evaluation of the results for the EU in Table 6:

The coefficient of the export variable is 1.7831 and its significance p=0.0002 is statistically significant. This shows that exports to the EU have a positive and strong effect on Turkey's economic growth and each 1% increase in exports to the EU will lead to an increase of 1.783% in economic growth

The coefficient of the importeu variable is 1.0801 and its significance p=0.0001 is statistically significant. It is seen that imports from the EU have a positive effect on Turkey's economic growth and each 1% increase in imports from the EU will lead to an increase of approximately 1.1% in economic growth. However, this has a lower effect compared to exports.

Therefore, according to the results of the analysis of foreign trade with the EU, H1 hypothesis "Foreign trade with the European Union contributes negatively to Turkey's Economic Growth" is rejected. H2 hypothesis "Foreign trade with the EU contributes positively to Turkey's economic growth" is accepted.

Table 6 analyses the results for BRICS:

The coefficient of the BRICS export variable is 8.5030 and its significance p:0.0000 is statistically significant. Exports to BRICS countries have a very high impact on Turkey's economic growth. This shows that Turkey's exports to the BRICS countries are strongly beneficial.

The coefficient of bricsithalat variable is 3.1727 and its significance p:0.000 is statistically significant. The contribution of imports from BRICS countries to Turkey's economic growth is high and has a positive effect.

As a result of the analysis of foreign trade with BRICS, H3 hypothesis "The contribution of foreign trade with BRICS to Turkey's economic growth is negative." is rejected. H4 hypothesis "The contribution of foreign trade with BRICS to Turkey's economic growth is positive" is accepted.

If Table 8 is to be summarised with a general evaluation:

The model with BRICS has R2: 65% and the EU has R2: 61%. With these results, it is seen that the BRICS model is more successful in explaining economic growth. When we look at the export effect, the effect of exports to BRICS countries is 8.503, while the effect of exports to EU is 1.783. According to these results, exports to BRICS countries contribute to Turkey's economic growth about 5 times more than exports to the EU. In terms of imports, imports from BRICS countries are 3,127 and imports from the EU are 1,080. According to these results, imports from BRICS countries provide 3 times more benefit than imports from the EU. When the crisis effects are analysed, the effect of the crisis variable on economic growth is negative in both models, but this effect is significant only in the model including BRICS countries.

According to these results, BRICS member countries have a stronger effect on Turkey's economic growth than the EU. However, it should be noted that foreign trade with the EU has a positive effect on Turkey's economic growth. Therefore, H5 hypothesis "EU's contribution to Turkey's economic growth is higher than BRICS" is rejected

CONCLUSION

Foreign trade is recognised as one of the most important dynamics of economic growth. While exports encourage investments in developing countries by increasing foreign exchange inflows, imports contribute to the modernisation of production capacity through technology and knowledge transfer. For Turkey, the European Union (EU) and BRICS (Brazil, Russia, India, China, South Africa) countries have an important place in foreign trade relations. In this study, the effects of foreign trade with the EU and BRICS countries on Turkey's economic growth are analysed with the Generalised Method of Moments (GMM) and striking results are obtained.

The results of the analysis reveal that trade with BRICS countries is more effective in explaining Turkey's economic growth than the EU. While the effect of exports to BRICS countries on economic growth is 8.503, the effect of exports to the EU is found to be 1.783. This shows that exports to BRICS countries contribute to Turkey's economic growth about five times more than exports to the EU. Similarly, in terms of imports, the effect of imports from BRICS countries on economic growth is 3.127, while the effect of imports from the EU is 1.080. Imports from BRICS countries contribute three times more than imports from the EU. The effect of the crisis variable is found to be negative in both models, but this effect is statistically significant only in the BRICS model. This finding suggests that trade with BRICS countries has a more pronounced negative impact on Turkey's economic growth during periods of global crisis.

These results show that the impact of BRICS countries on Turkey's economic growth is stronger than that of the EU. However, it should not be forgotten that trade with the EU also has a positive contribution to economic growth. Turkey needs to optimise its foreign trade policies accordingly. Expanding the scope of the existing Customs Union agreement with the EU to include sectors such as agriculture, services and e-commerce would increase Turkey's export potential. Moreover, in order to make imports from the EU more efficient, it is important to support this trade with investments in value-added production. On the other hand, considering the strong contribution of trade with BRICS countries to growth, strategic economic cooperation with these countries should be increased. In particular, free trade agreements with fast-growing economies such as China and India could support Turkey's growth strategy.

Turkey can create a more resilient economic structure against global crises by diversifying its foreign trade partners. Strengthening regional integrations and exploring alternative trade markets will play an important role in this diversification process. Moreover, trade volume should be channelled to strategic sectors by investing more in technology and energy.

Future studies may focus on sector-based analyses to examine these findings in more detail. In particular, the impact of foreign trade on different sectors such as agriculture, industry and services can be investigated in detail. Moreover, the effects of foreign direct investments on Turkey's economic growth can be analysed in the context of BRICS and EU countries.

Global trends such as digital trade and green economy should also be analysed as factors that can shape the future of Turkey's trade policies. These studies will contribute to Turkey's achievement of sustainable economic growth targets by optimising its foreign trade strategies.

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