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AN ANALYSIS OF BILATERAL TRADE RELATION BETWEEN TURKEY AND RUSSIA: CHALLENGES AND OPPORTUNITIES OF RUSSIA-UKRAINE WAR

Research

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Marina KRAMSKOVA, lisans eğitimini Rusya St.Petersburg Politeknik Üniversitesi İşletme bölümünde tamamlamıştır ve Dokuz Eylül Üniversitesi İngilizce Dış Ticaret Programında yüksek lisans eğitimi almıştır. Bu makale Marina Kramskova'nın yüksek lisans tezine dayanmaktadır.

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AN ANALYSIS OF BILATERAL TRADE RELATION BETWEEN TURKEY AND RUSSIA: CHALLENGES AND OPPORTUNITIES OF RUSSIA-UKRAINE WAR

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Abstract

Purpose: This study examines Turkey's bilateral trade intercourse with Russia in order to identify potentialities and problems for Turkey caused by the Russia-Ukraine War.

Method/Design/Methodology/Approach: In the course of the study, with the help of descriptive statistics and calculations of trade indices such as trade intensity and trade complementarity indices, the current state of Russian-Turkish trade was examined. Afterwards, commodity sectors in which supply is expected to fall due to international companies' suspension of businesses were identified. Next, the revealed comparative advantage index and its dynamic form were calculated to assess Turkey's potentialities to export commodities of the identified sectors to Russia and to highlight commodities groups where export policy should be improved. Thus, the study considers Russia and Turkey not as competitors, but as partners.

Findings: It has been concluded that the countries have tight-connections and, to a certain extent, are dependent on one another. Both Russia and Turkey can benefit from further intensifying bilateral trade and improving partnership in other spheres as well.

Originality: There is substantial literature comparing Russia and Turkey with other countries, trade blocks or with each other, mainly these two countries are counterposed from a competition perspective. This article, on the contrary, evaluates how cooperation and bilateral trade can improve the economic situation of both Russia and Turkey.

Keywords: Bilateral Trade, Trade Intensity, Trade Complementarity, Revealed Comparative Advantage

JEL Classification: F10, F14

TÜRKİYE-RUSYA İKİLİ TİCARET İLİŞKİSİNİN ANALİZİ: RUSYA-UKRAYNA SAVAŞININ ZORLUKLARI VE FIRSATLARI

Özet

Amaç: Bu araştırma, Rusya-Ukrayna Savaşı'nın Türkiye için yarattığı potansiyelleri ve sorunları tespit etmek için Türkiye'nin Rusya ile ikili ticari ilişkilerini incelemektedir.

Yöntem/Tasarım / Metodoloji / Yaklaşım: Çalışma kapsamında, tanımlayıcı istatistikler ve ticaret yoğunluğu ve ticaret tamamlayıcılık endeksleri gibi ticaret endekslerinin hesaplamaları yardımıyla, Rusya-Türkiye ticaretinin mevcut durumu analiz edilmiştir. Ardından, uluslararası şirketlerin faaliyetlerini durdurması nedeniyle arzın düşmesinin beklendiği emtia sektörleri belirlendi. Türkiye'nin belirlenen sektörlere ait malları Rusya'ya ihraç etme potansiyelini değerlendirmek ve ihracat politikasının iyileştirilmesi gereken mal gruplarını vurgulamak için açıklanmış karşılaştırmalı üstünlük endeksi ve onun dinamik formu hesaplandı. Bu nedenle çalışma, Rusya ve Türkiye'yi artık rakip, ancak ortak olarak görmektedir.

Bulgular: Ülkelerin sıkı bağlara sahip olduğu ve bir ölçüde de birbirine bağımlı olduğu sonucuna varılmıştır. Hem Rusya hem de Türkiye, ikili ticaretin daha da yoğunlaştırılmasından ve diğer alanlarda da ortaklığın geliştirilmesinden yararlanabilir.

Özgünlük: Rusya ve Türkiye'yi diğer ülkelerle, ticaret bloklarıyla veya birbirleriyle karşılaştıran önemli bir literatür vardır, esas olarak bu iki ülke rekabet perspektifinden karşı karşıya getiriliyor. Bu makale, aksine, işbirliğinin ve ikili ticaretin hem Rusya hem de Türkiye'nin ekonomik durumunu nasıl iyileştirebileceğini değerlendiriyor.

Anahtar Kelimeler: İkili Ticaret, Ticaret Yoğunluğu, Ticari Tamamlayıcılık, Açıklanmış Karşılaştırmalı Üstünlük

JEL Sınıflandırması: F10, F14

INTRODUCTION

Russian-Turkish trade history has experienced significant fluctuations from confrontation to agreements and back. From an economic point of view, Russia has remained a more favourable position as a net exporter and a leading energy supplier for Turkey due to its large reserves of mineral resources. However, Turkey aiming to balance its export-import values and gain influence on the global market has been increasing trade in services and has started to emerge as a vital energy storage and an international transport hub (Hamilton & Mikulska, 2021).

Current relations between Russia and Turkey are described as 'cooperative rivalry' (Bechev, 2021, para. 10) and 'adversarial collaboration' (Yildiz, 2021, p. 3) so the countries are 'frenemies' to each other (Pearson, 2022, para. 2). As NATO member, Turkey is viewed suspiciously in Moscow as a backbone of an expanding western alliance bent on encircling Russia. However, Russian-Turkish geopolitical cooperation has deepened significantly over the last decades to some degree due to shared dissatisfaction with Western policies resulting in alienation from other influential actors in the global arena (Balta, 2019). Besides, there is a bilateral dependency in the energy sector: Turkey needs Russian energy supply while it acts as a strategic energy corridor to the West. Moreover, the countries are tied by the tourism sector and investments in common projects.

In February 2022, Russia invaded Ukraine provoking unprecedented condemnation expressed by various sanctions and exposing itself to a financial crisis. Over 1,000 international businesses have expressed their solidarity with Ukraine by withdrawing, suspending, or limiting their operations in the Russian market. Turkey criticized Russia's invasion and hosted several negotiations between conflicting countries. Ankara played a mediator role to balance close ties with both Russia and Ukraine, to develop political authority, and to prevent war's negative effects on its economy (Diaz-Prinz & Çuhadar, 2022). Turkey acceded only to sanctions regimes approved by the UN and retained its trade connections with Russia. The research objective was to highlight the effect of the war on trade between Turkey and Russia, what ways open for Turkish traders and what kind of challenges appear. Will Turkey benefit from enhancing trade with Russia, a country under unprecedented economic sanctions?

This study has a practical implication, first, for Turkey: the research reveals trade related potentialities and problems caused by the Russia-Ukraine War that might affect Turkey's international trade sector so the results can be taken into consideration when developing export-import related policies on the state level. Secondly, the paper identifies 18 commodities sectors of Russian market where a decrease in supply is expected due to the sanctions and withdrawal of foreign companies. According to conducted RCA analysis, Turkey demonstrates export potential in 12 out of these 18 commodity categories thus Turkish exporters can benefit from focusing on released market shares.

HISTORICAL CONTEXT OF RUSSIAN-TURKISH TRADE

The history of interaction between Russia and Turkey, dating back several centuries, not only includes factors that strengthen trade and diplomatic relations but also plenty of crises. During the XVI—XX centuries the Ottoman and Russian Empires experienced several recurrent military disputes, mainly on religious and territorial grounds due to Russia's attempts to access the Black Sea and control of the Bosporus and Dardanelles Straits.

Russian-Turkish bilateral relations are based on a contractual legal framework. There are more than 60 fundamental documents at present that regulate their interaction in various areas, such as the Treaty of Moscow (1921). It was a friendship declaration between the Assembly of Turkey under the leadership of Mustafa Kemal Ataturk and Bolshevist Russia led by Vladimir Lenin. The leaders agreed on cooperation since both had similar goals such as to gain international recognition, improve territorial integrity, and ensure order in the economic and political arenas.

A sharp deterioration in bilateral relations occurred during the Second World War due to Turkey's collaboration with Germany. Soviet-Turkish relations continued to worsen after Turkey joined NATO in 1952 and agreed on placing the US nuclear weapons bases in 1959. After the Cold War, a gradual improvement in the economic and political fields encouraged development of the bilateral relations. Russia and Turkey made an agreement on the promotion of investment (1990) and on trade, economic, scientific, and technical cooperation (1991).

For both countries, the 1990s was a challenging period: Russia experienced difficulties in its transition to market capitalism while Turkey dealt with economic and political crises. However, during these years considerable steps were taken towards establishing sustainable partnership. After the dissolution of the Soviet Union, the Republic of Turkey and the newly established Russian Federation entered an "Agreement on the Fundamentals of Relations Between the Russian Federation and the Republic of Turkey" (1992-1993). The sides agreed on comprehensive development of all common sectors, respecting the sovereignty and territorial integrity of each other.

In 1992 the Joint Intergovernmental Russian-Turkish Commission on Trade and Economic Cooperation was signed and it remains to be the main coordination framework for trade and economic ties. The Commission analyses relations between the two countries and opportunities for their development, helps organizations, firms and businesspeople to expand trade and economic cooperation, and works on the development of the sector. There are seven working groups: on trade, investment and interregional cooperation, on energy, on transport, on manufacturing industry, on tourism, on financial and banking cooperation, and on agriculture. During 1992-1997 Turkey's exports to Russia demonstrated a significant growth. To some extent, it is explained by the fact that Turkey's developed textile and food industries managed to respond to a sharp increase in Russia's demand for consumer goods (Hodunov, 2016).

The beginning of the XXI century is called a “golden period” in Russian-Turkish relationships, firstly, due to an establishment of new political systems that provided a balanced and effective foreign policy in the region, and secondly, because of a significant progress in bilateral trade and cooperation (Arafat & Alnuaimy, 2011, p. 104). In 2001 Turkey suffered an unprecedented financial crisis, however, Turkish exporting companies had a chance to benefit from devaluation of the Turkish currency (Koch et al., 2001). This led to growth in Turkey’s export values to Russia. But in 2005 on health safety grounds Russia banned the importation of Turkish poultry products, fruits, vegetables, and flowers.

The annexation of Crimea in 2014 became one more stumbling block in Russia-Turkey relations since Turkey criticized Russian actions in Ukraine and did not recognize Crimea as a part of Russian territory. Moreover, Turkey claimed that the human rights of the Turkic Tatars ethnic group were abused (Pearson, 2022).

The Syrian crisis became another test for Russian-Turkish relations. In 2015 Russian Sukhoi Su-24M attack aircraft was shot down by a Turkish fighter jet near the Syria–Turkey border. Turkey claimed the pilots of a Russian jet were warned multiple times but did not respond, so it was their legal right to defend their country’s airspace. Russia reacted immediately by taking various measures to make pressure on Turkey: economic sanctions, restrictions on trade and travel, threats to cease investment into its nuclear energy infrastructure. Bilateral relations were literally terminated for several months. Russian media referred to Turkey only in a negative way, and Russians were recommended not to travel there. Turkish tourism sector demonstrated a sharp drop by 76,26% in 2016, revealing Turkey’s high dependency on Russia (Agha, 2021). However, in a few months the conflict was resolved after an official apology letter from Turkey. This episode demonstrated that in that Moscow had more options to affect Turkey economically and politically than vice-versa (Yildiz, 2021).

Forthwith most of the Russian sanctions were lifted and Russian-Turkish energy projects were relaunched. After the relations were resumed and, following the coup d'état attempt in 2016, Ankara purchased S-400 missile defense systems from Russia, despite strong opposition from the USA and NATO. This purchase led to a growing tension between Turkey and its Western allies but to a further convergence with Russia.

Thus, despite all problems mentioned both states agreed that cooperation is more beneficial than confrontation which is why an intense bilateral political dialogue has been successfully re-established in a short period.

TURKEY’S ROLE IN THE RUSSIA-UKRAINE WAR

After the Russian invasion of Ukraine in 2022, Ankara did not make attempts to cease contacts with Moscow as several other NATO members did. Turkey acceded only to sanctions regimes approved by the UN and did not close its airspace to Russian civil flights. So, Turkey became almost the only possible communication channel between the warring sides.

However, it is incorrect to assume that Turkey is on the Russian side, the country voted in the UN to condemn the invasion and closed the Dardanelles and the Bosporus straits to military ships after Ukraine had requested to block them. Moreover, Turkey alongside humanitarian aid provided Ukraine with Turkish-made unmanned military combat drones Bayraktar that are successfully used for surveillance of and attacks on Russia's troops and even became an iconic weapon for Ukrainians. Russia has always been following all communications between Turkey and Ukraine closely, threatening to reconsider its agreements with Turkey if Ankara continues to tighten its military cooperation with Kyiv.

There are a few reasons behind Turkey's attempts to mediate the warring sides communication and stop military action. Firstly, Turkey does not want Russia to seize the southern Ukraine coastline and gain more power in the Black Sea, a region that historically was a subject of dispute. Secondly, the war worsens Turkey's existing economic crisis which is already the worst in last the 20 years. Turkey is located in close proximity to war zones such as military conflicts in Georgia, Nagorno-Karabakh, and wars in Iraq and in Syria, so Ankara knows from its personal experience the economic cost of war (Diaz-Prinz & Çuhadar, 2022).

Furthermore, the war threatens Turkey's tourism sector which is still recovering after the COVID-19 pandemic which, according to Turkey's Ministry of Culture and Tourism, resulted in a dramatic drop of 72% in the number of tourists from 45,1 million people in 2019 to 12,7 million in 2020. In 2021 this number grew to 24,7 million tourists who were mostly Russians (19%) and Ukrainians (8,5%) (Ministry of Culture and Tourism, 2021). Meanwhile, thousands of Ukrainian refugees and Russian opponents of the war fleeing their motherland who were equally welcomed (Pearson, 2022) crossed the Turkish border looking for support and social security. Although Turkey has experience helping refugees from eastern countries, any state support now exacerbates existing economic tension in the country and irritates residents who are tired of refugees and illegal migrants (Makovsky, 2019).

Then, the war disrupted agricultural exports that exposes the market to "heightened risks of tighter availabilities, unmet import demand and higher international prices" (*FAO*, 2022: 20). Russia and Ukraine account for up to 30% of world wheat exports, 19% of world maize exports and about 80% of world sunflower oil exports. In 2020 export shares of wheat, corn and sunflower in total exports of Russia and Ukraine to Turkey reached about 15% (2 billion USD) and 18% (0,5 billion USD) relatively (The Observatory of Economic Complexity, 2022).

Thus, Turkey demonstrates solidarity with most of the world and criticizes Russian military actions in Ukraine, but nevertheless, Ankara decided not to confront Russia and remain a communication channel for Russia and Ukraine. No doubt Turkey pursues its own interests in ending the war some of which were mentioned above. Now Turkey is among a sparse group of countries who are eager to do business with Russia whose economy is exposed to sanctions and expected to shrink, political and social stability is disrupted, and the Russian rouble is not sustainable (Shakhov, 2022).

ENERGY PARTNERSHIP

Turkey shows a steady growth in energy demand that cannot be met by existing domestic fossil fuel resources. That is why there is heavy dependency on energy import (3/4 of its total energy needs), especially oil and gas: 93% and 99%, respectively (International Energy Agency, 2021). In the 2000s Russia was the dominant energy supplier for Turkey and, although since then Turkey found several new suppliers and discovered new energy sources, a position of leading supplier was preserved by Russia. Additionally, several projects in energy field such as the Blue Stream, the TurkStream and the Akkuyu Nuclear Power Plant tightened Russian-Turkish relations.

Enhanced cooperation with Russia guaranteed Turkey a role of a major energy corridor from East to West (Turkey Becomes Major, 2020). This position leads to more independent Turkish policy initiatives on the way to become a regional 'soft power' and a regional energy hub, which provides Turkey with increasing bargaining power from the political point of view.

TRADE INDICATORS

For decades Russia has remained its position as one of the top-three importers for Turkey. Total Russian exports in 2021 is twice as high as Turkey's export. Since Russia demonstrated a positive trade balance the country can be called a net exporter, while Turkey is, on the contrary, a net importer. Turkey has a high dependency on the Russian energy supply, while Russian exports to Turkey is not diversified enough either. This dependency is one of the reasons behind constantly growing trade imbalance between the countries (Ulchenko & Shlikov, 2014).

Table 1. Russia-Turkey Trade Indicators, 2021

	Russia	Turkey
Total Exports, million US $	492314	225221
Share of World Exports, %	2,29	1,05
Total Imports, million US $	293502	271423
Trade Balance, million US $	198812	-46202
	Russia to Turkey	Turkey to Russia
Exports, million US $	28959	5774
Share in country's total exports, %	5,88	2,60
	Russia from Turkey	Turkey from Russia
Imports, million US $	5774	28959

Share in country's total imports, %	1,97	10,70

Source: International Trade Center (https://www.trademap.org)

LITERATURE REVIEW

There is substantial literature comparing Russia and Turkey with other countries or trade blocks. Turkey as a potential European Union member is analysed in relation to the UN members or other candidates, and compared to the Commonwealth of Independent States, where Russia is a member. A detailed comparison of Turkey and Russia's export performance in their common commodities sectors made by Güneş and Tan (2017) is based on a competitive analysis of Turkey and European countries by Yılmaz (2003). Both studies implement Hufbauer and Chlas's sectoral classification (1974).

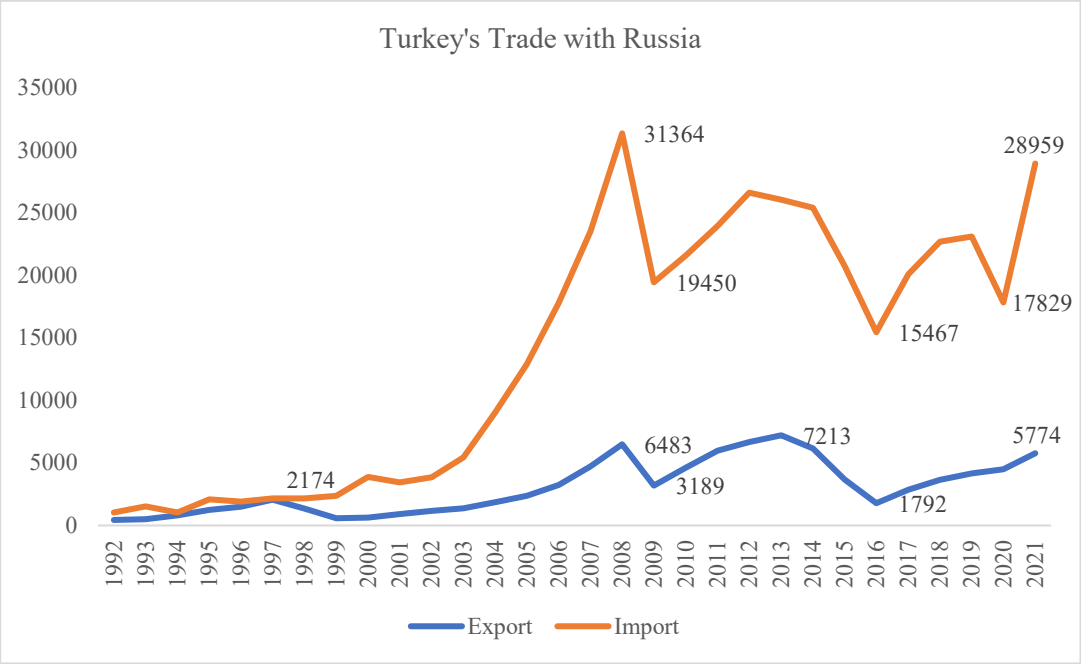

Figure 1. Turkey-Russia Bilateral Trade, 1992-2021, million USD
Source: UN Comtrade (https://comtradeplus.un.org)

A large number of articles compare Russia and Turkey from a competition perspective, for example, Güneş and Tan (2017) studied both static and dynamic RCA to analyse 14 common goods sectors exported by both Russia and Turkey in 2007-2014. The results demonstrated "a strong advantage of Turkey over Russia" in all sectors at both bilateral and multilateral levels and forecasted that Russia might overcome Turkey in a long-term perspective. The article underlines the necessity to make a shift to production and exporting goods with high added value in order to improve country's prosperity.

Seeing that this study aims to estimate potentiality of Turkish exports to meet needs of Russia experiencing a significant readjustment of its international supply it would be relevant to provide an evaluation of Turkey's export capabilities in particular sectors and compare it with the rest of the world. For this purpose, static and dynamic RCA coefficients are used during further empirical

analysis. Another trade index analysing bilateral relations is Trade Complementarity Index introduced in 1996 by Michaely. It shows to what extent the export pattern of one trade partner overlaps the import pattern of another partner.

Table 2. Studies on Turkey and Russia

Authors, covered period	Countries	Methods used
Şimşek, N., Şimşek, H. A., & Zhanaltay, (2017) 1992–2014	Russia and Turkey	Trade Intensity, Trade Complementarity, Revealed Comparative Advantage, Bilateral Revealed Comparative Advantage
Simay Karaalp, (2011) 1996-2008	Turkey and CIS countries: Russia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova and Ukraine	Revealed Comparative Advantage, Intra-Industry Trade, Trade Intensity
Güneş & Tan, (2017) 2007-2014	Russia and Turkey	Revealed Comparative Advantage, Dynamic Revealed Comparative Advantage

Source: Prepared by authors

Simay Karaalp (2011) compares Turkey's competitiveness in relation to the nine CIS countries: Russia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova and Ukraine over 1996-2008. Turkey has a competitive advantage in 6 out of 16 product groups: agricultural products, food and manufacturing sector such as textiles, clothing, iron and steel, and automotive products. The most significant products of Turkish manufacture industry with high RCA are textiles, clothing, iron and steel. The comparative disadvantage is shown in production of fuels and mining products, fuels, chemicals, pharmaceuticals, machinery and transport equipment, office and telecom equipment, electronic data processing and office equipment, telecommunications equipment and integrated circuits and electronic components in the world market.

Şimşek et al. (2017) carry out an analysis of Russian-Turkish bilateral trade using trade the intensity index, trade complementarity index and revealed comparative advantage between 1992 and 2014. The findings present that the countries have an intense import relationship, and strong complementarity of trade patterns, Turkey has a comparative advantage in labour-intensive goods and increases its exports of difficult-to-intimate goods to Russia. The authors conclude that further development of bilateral relations is expected to be economically beneficial for both countries.

To conclude, there is a large number of approaches used by authors in their studies to analyse, compare and evaluate trade relations between a country and its partner or group of partners. The most

commonly used, though, are Revealed Comparative Advantage, Trade Intensity, and variations of Trade Compatibility. Also, to classify commodities the Standard International Trade Classification is widely adopted. Thus, it has been decided to implement these approaches in this research paper as well.

RESEARCH OBJECTIVE AND LIMITATIONS

This study examines Turkey-Russia trade intercourse to identify potentialities and problems for Turkey caused by the Russia-Ukraine War. The analysis period is from 1991, the declaration of the Russian Federation, to June 2022, when data collection was completed. Due to availability limitations of data, the analysis covers only trade of commodities. The indices calculated are affected by anything that distorts the trade pattern, e.g., trade barriers, trade policy instruments, et cetera. Russia has stopped publishing economic reports since February 2022, so the analysis relies on previous years data, the outlook is built on identified tendencies and trends.

METHODOLOGY AND DATA

To analyse the Turkey-Russia bilateral trade the following methodologies were adopted:

- trade intensity index (Kojima, 1964),
- trade complementarity index (Michaely, 1996),
- stative and dynamic revealed comparative advantage (Balassa, 1965; Edwards & Shoer, 2002),
- sectoral classification of commodities based on their technological characteristics (Hufbauer & Chlas, 1974; Yılmaz, 2002).

The secondary data sets are obtained from the online database UN COMTRADE: amounts of exports and imports of Turkey and the world, of Russia and the world, as well as export-import numbers between Russia and Turkey. Data at the 3-digit level, according to SITC Rev. 3, is used to classify traded commodities and to conduct the calculations of indices.

Trade Intensity

Trade Intensity Index (TII) allows to compare an export size of a particular country or region and world exports to a given destination.

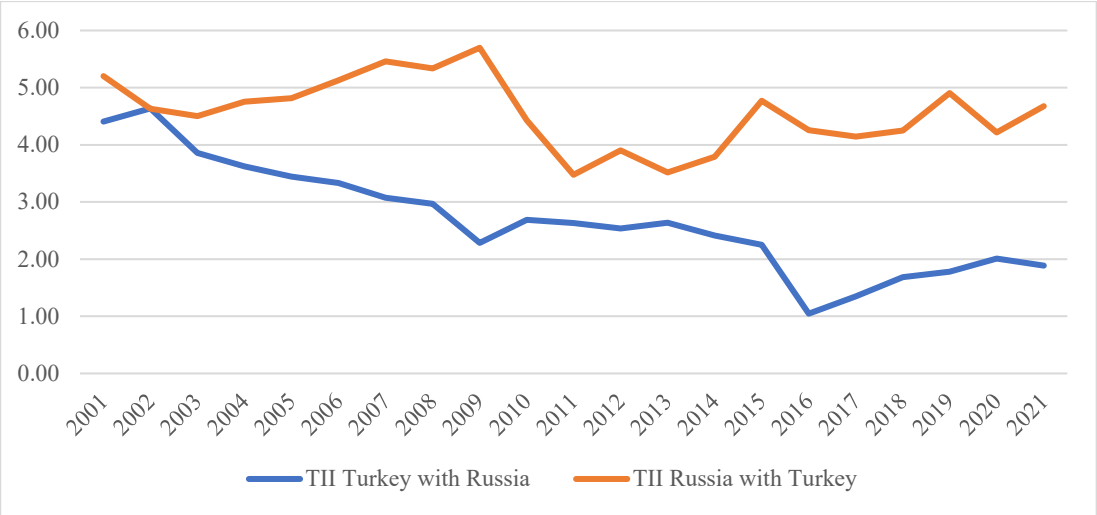

Figure 2. Trade Intensity Indices, 2001-2021
Source: Calculated by authors using SITC Rev.3 from UN Comtrade (https://comtradeplus.un.org)

Steady growth of Russian TII was observed from 2003 to 2009, with a peak of intensity in 2009, then followed by a decrease related to the global financial crisis. Since 2011 Russia has been gradually increasing the intensity of trade with Turkey. Turkey demonstrates quite the opposite tendency – a gradual decline since 2002. After 2015 Turkey's TII dropped sharply which to a certain degree could be explained by the Fighter Jet Crisis and consequent trade barriers. Overall, it can be concluded that TII remained over unity throughout the observed period indicating active cooperation between Russia and Turkey.

Trade Complementarity

The complementarity index measures to what extent two countries are "natural trading partners" in the sense that the export pattern of one country matches or overlaps the import pattern of another.

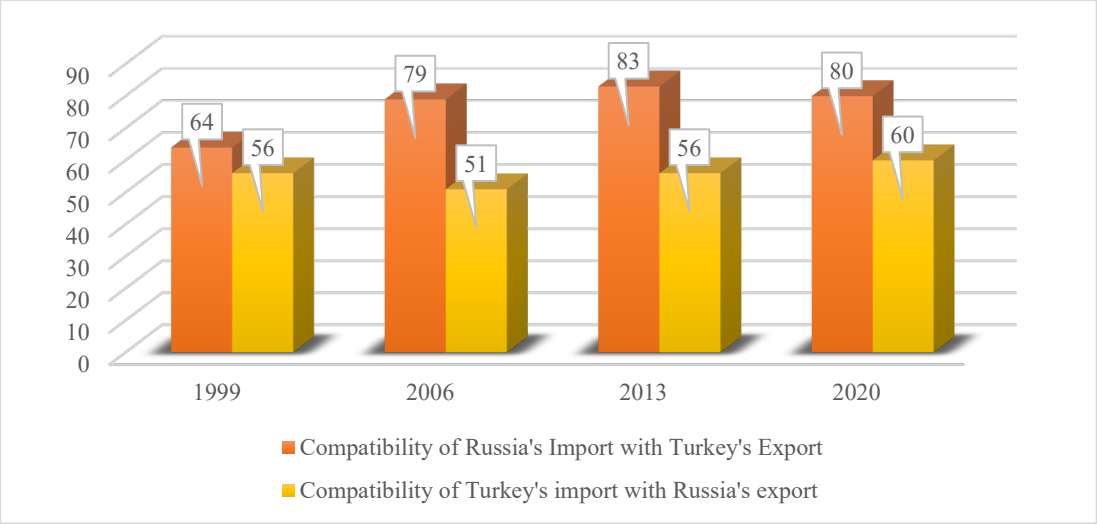

Figure 3. Trade Complementarity Indices of Turkey and Russia, 1999-2020
Source: Calculated by authors using SITC Rev.3 from UN Comtrade (https://comtradeplus.un.org)

Russia and Turkey meet each other trade demands quite successfully. Russia's import pattern matched Turkey's export pattern to a great extent with a slight decrease from 2013 to 2020. Turkey as well increased its import compatibility after 2006. However, since the higher value of the index indicates

not only a higher similarity of trade patterns of home-country and a partner but a stronger potential of displacement of imports from the rest of the world by imports from this partner, the current situation is risky for both sides. To avoid possible overdependence Turkey could diversify its imports from Russia and look for new suppliers in the sectors where Russia is the major exporter.

Sectoral Classification of Commodities

The export commodities are classified in accordance with their technological characteristics (Hufbauer & Chilas (1974); Yılmaz (2002)). The trade sectors "Standard International Trade Classification (SITC)" values were divided into four groups:

1. raw-material intensive goods (RMIG);
2. labour-intensive goods (LIG);
3. capital-intensive goods (CIG);
4. easy-to-imitate research-intensive goods (EIRG);
5. difficult-to-imitate research-intensive goods (DIRG).

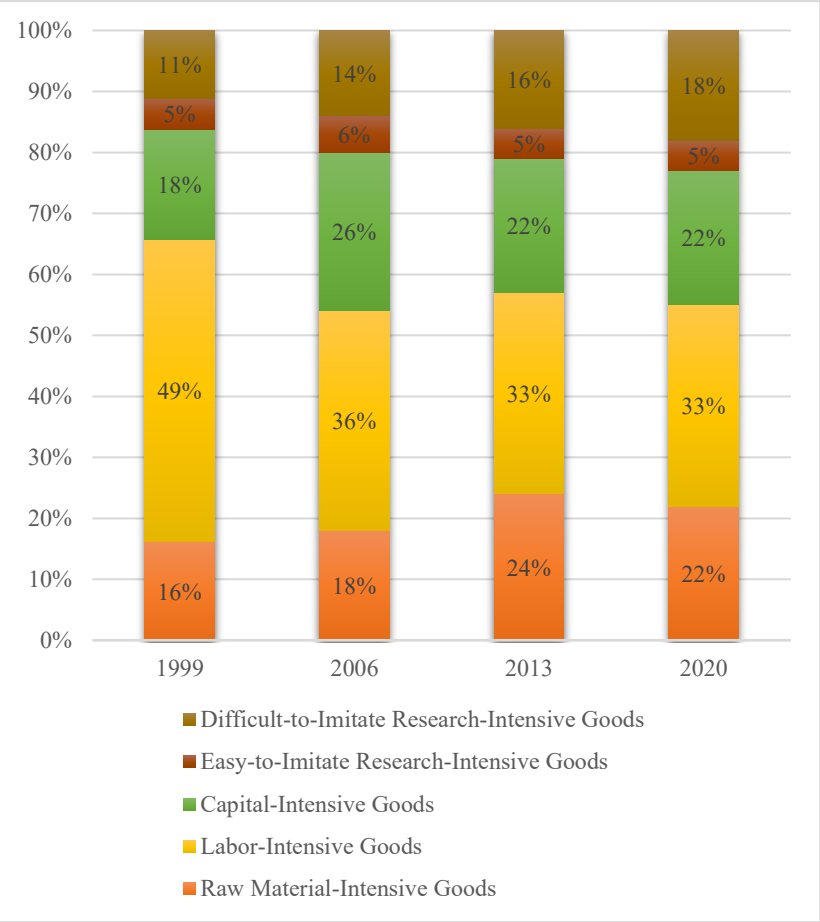

Figure 4. Sectoral Structure of Turkey's Total Exports, 1999-2020
Source: Calculated by authors using SITC Rev.3 from UN Comtrade (https://comtradeplus.un.org)

Figure 5. Sectoral Structure of Turkey's Total Imports, 1999-2020
Source: Calculated by authors using SITC Rev.3 from UN Comtrade

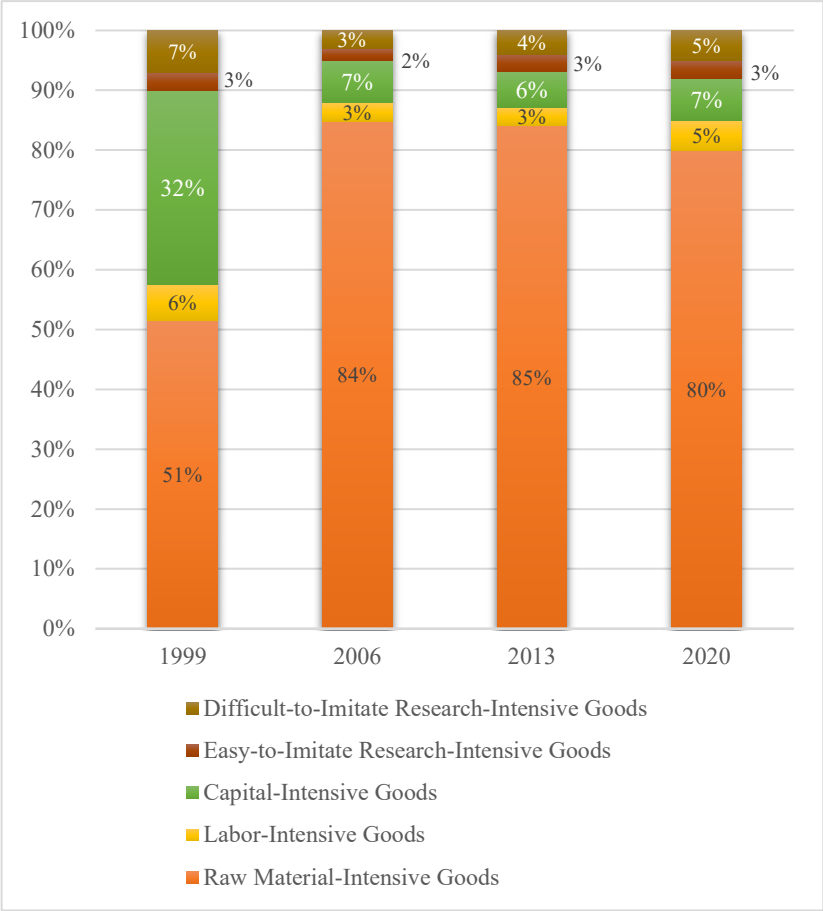

Figure 6. Sectoral Structure of Russia's Total Exports, 1999-2020
Source: Calculated by authors using SITC Rev.3 from UN Comtrade

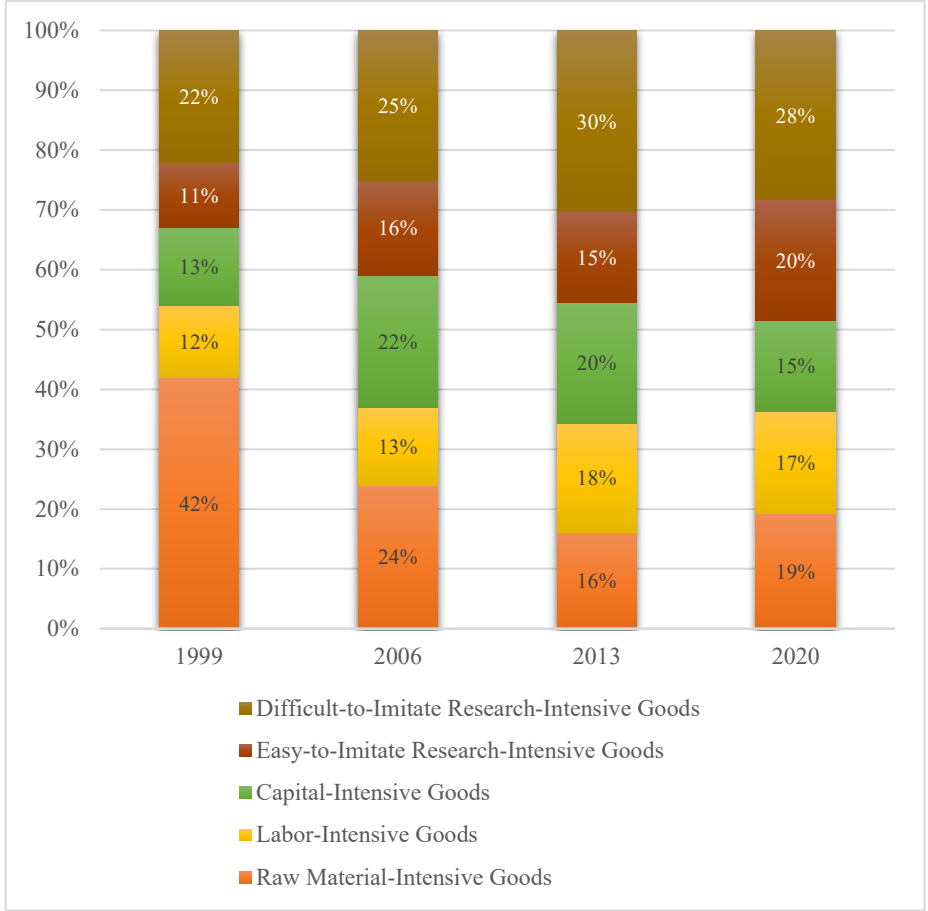

Figure 7. Sectoral Structure of Russia's Total Imports, 1999-2020
Source: Calculated by authors using SITC Rev.3 from UN Comtrade

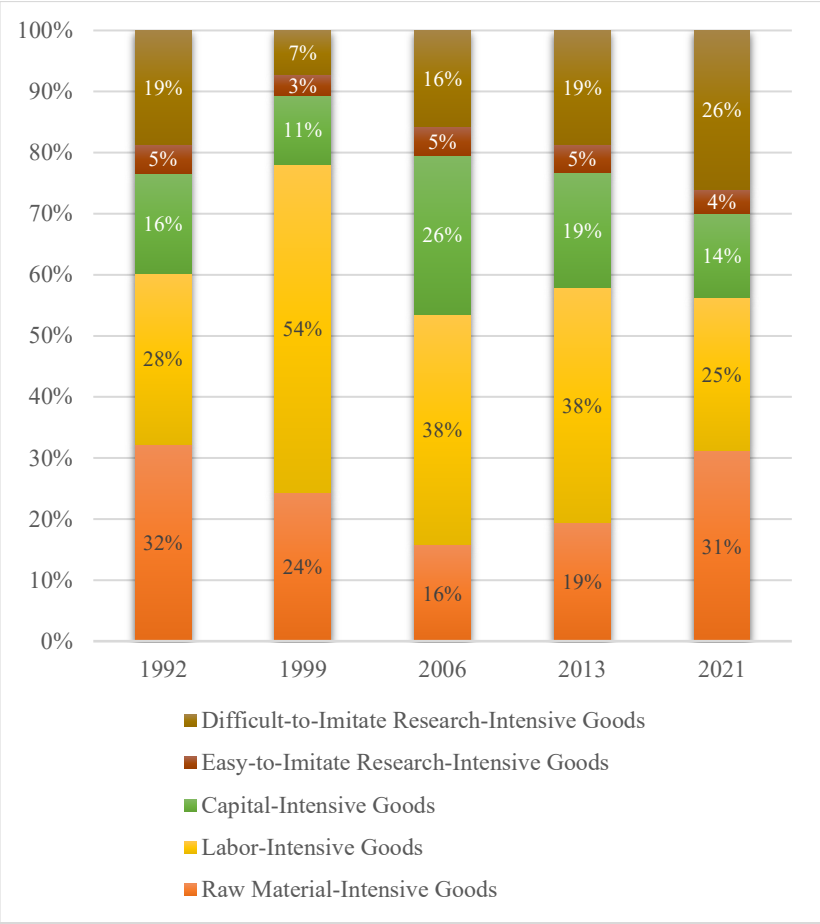

Figure 8. Sectoral Structure of Turkey's Exports to Russia, 1992-2021
Source: Calculated by authors using SITC Rev.3 from UN Comtrade

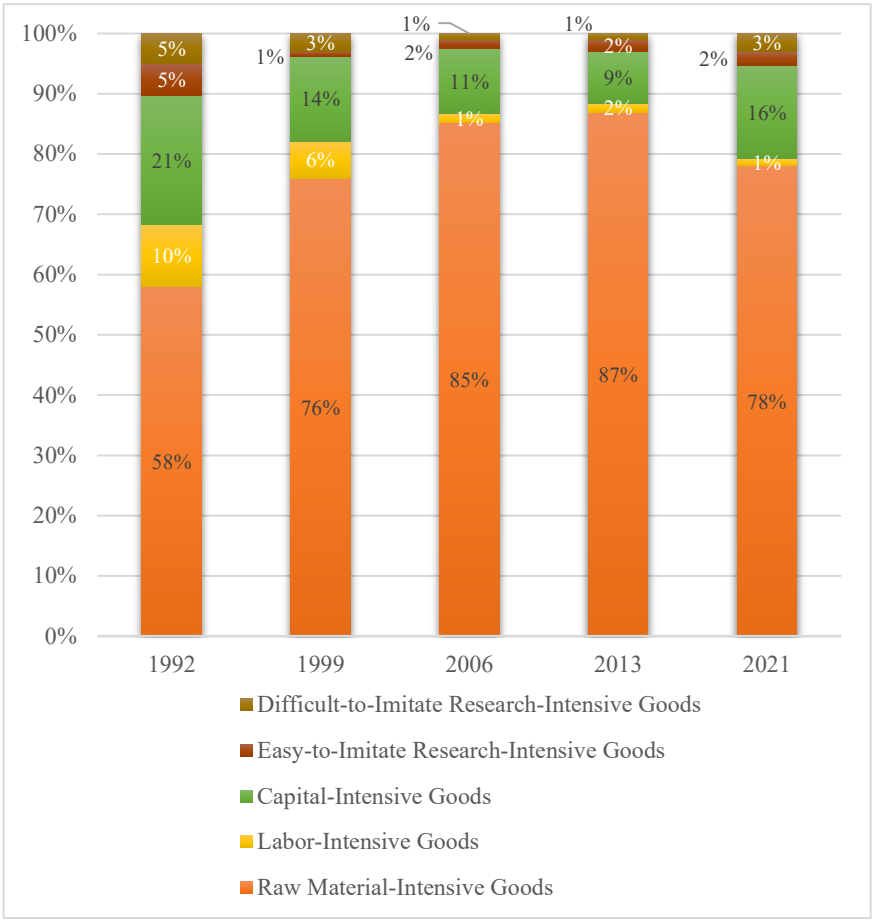

Figure 9. Sectoral Structure of Turkey's Imports from Russia, 1992-2021
Source: Calculated by authors using SITC Rev.3 from UN Comtrade

Over the studied period there was no evidence of significant structural changes in Turkey's exports (Figure 4). A growth of DIRG group from 11% to 18% is a positive trend since goods with high added value (EIRG and DIRG) accumulated almost a quarter of total exports (23%), however, to provide sustainable economic growth policies oriented to increase this share must be taken. Sectoral structure of Turkey's total imports (Figure 5) has had positive changes since 1999, share of pricy goods (EIRG and DIRG) decreased from 45% to 36% in favour of raw-material goods that are averagely cheaper.

Figure 6 demonstrates the main problem of Russian economy - an extreme dependency on energy export. RMIG (energy sources and food (cereals, corn, sunflower) were 80% of total exports in 2020. Russia needs to diversify its exports and develop production of research-intensive good. Meanwhile, the structure of total Russian imports is more diversified there is a negative tendency as well (Figure 7). An increase of all research-intensive goods from 33% to 48% means higher spending. One of the reasons behind it is overall simplification of production.

The sectoral share of Turkey's exports to Russia is very similar to Turkey's total exports (Figure 8). There is a decline of LIG's share from 54% to 25% while research-intensive goods shares grew from 10% to 30%. Turkey's top exports to Russia are vegetables, fruits and nuts - RMIG (31%), then machinery, motor vehicles and plastic - DIRG (26%) and CIG (14%), textiles - LIG (25%). Russian top exports to Turkey are energy sources and cereals, corn and sunflower - RMIG (78% in 2021), then iron, steel and aluminium - CIG (16%) (Figure 9).

Thus, Turkey as an exporter to Russia is in a more favourable position since the sectoral structure of its exports is quite diversified with research-intensive goods accumulating 30% (2020), which is a key to sustainable economic growth. Russia's exports are one-dimensional. RMIG constitute almost two-thirds of Russian exports to Turkey. Russian-Turkish trade pattern is structurally limited and outdated while leading economies aspire to deepen the internationalization of production and build global value chains (Ulchenko & Shlikov, 2014). To stimulate experience exchange the countries should intensify cooperation in the field of high-tech production.

The Russian invasion of Ukraine was condemned by most of the world, followed by various sanctions imposed on Russia. The largest economies such as the USA, the UK, France, Germany, Italy, and Japan, as well as international organizations like the UN and NATO, demonstrated significant criticism of the invasion. Over 1000 international companies publicly announced folding their operations in Russia. The Yale School of Management provides research collecting the latest data about foreign companies' operation status in Russia. They aim to encourage businesses to halt Russian engagements and leave its market.

Table 3. The Largest Foreign Companies Suspended or Limited their Business in Russia

	Company	Sales in Russia in 2020, billion rubles	SITC Section	Group of Goods
1	Volkswagen AG	319,7	78	CIG
2	Renault S.A.	310,0	78	CIG
3	Toyota Motor Corporation	263,9	78	CIG
4	Apple Inc	266,3	76	EIRG
5	Samsung Electronics Co., Ltd	246,0	76, 77	EIRG, DIRG
6	IKEA Group	245,6	26, 65, 69, 82, 89	LIG
7	PepsiCo Inc.	217,6	11	CIG
8	British American Tobacco	197,0	12	CIG
9	Mercedes-Benz	191,8	78	CIG
10	Nestlé S.A.	186,6	0	RMIG
11	Bayerische Motoren Werke AG (BMW)	179,7	78	CIG
12	Hyundai Motor	176,3	78	CIG
13	The Procter & Gamble Company	108,8	55	CIG
14	Royal Dutch Shell	102,3	33	RMIG
15	Nissan Motor Co., Ltd.	98,7	78	CIG
16	LG Electronics Inc	95,2	74, 76, 77	DIRG, EIRG, DIRG
17	Robert Bosch GmbH	87,4	71, 72, 74, 77, 78	DIRG, CIG
18	Henkel AG & Co	84,1	55	CIG
19	Industria de Diseño Textil, S.A. (Inditex)	82,8	65	LIG
20	Uniliver plc	81,0	0, 55	RMIG, CIG
21	Carlsberg A/S	75,8	11	CIG
22	Coca-Cola Hellenic Bottling Company	72,8	11	CIG
23	Volvo	65,3	78	CIG
24	Johnson & Johnson	64,4	55	CIG
25	Mondi plc	61,1	64	LIG

26	Komatsu Ltd.	60,4	72, 74	DIRG
27	Novartis International AG	60,1	54	EIRG
28	Mondelez International, Inc.	59,4	0	RMIG
Total		4060,1 (approx. 24% of total import)		

Source: Forbes Media; Yale CELI List of Companies Leaving and Staying in Russia

In order to evaluate structural changes in Russian market the "Yale CELI List" was compared with the list of 50 the largest international companies in the Russian market in 2020 (*Forbes Media*, 2021) The largest companies that totally or to a great extent suspended their business in Russia are ranked by amount of sales in this country (Table 3). In 2020 sales of these 28 companies generated approximately 24% of total Russian imports. Types of their products were categorized with SITC, and 18 sections were revealed:

- SITC 0 Food and live animals,
- SITC 11 Beverages,
- SITC 12 Tobacco and tobacco manufactures,
- SITC 26 Textile fibres,
- SITC 33 Petroleum, petroleum products and related materials,
- SITC 54 Medicinal and pharmaceutical products,
- SITC 55 Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations,
- SITC 64 Paper, paperboard and articles of paper pulp, of paper or of paperboard,
- SITC 65 Textile yarn, fabrics, made -up articles, n.e.s., and related products,
- SITC 69 Manufactures of metals, n.e.s.
- SITC 71 Power-generating machinery and equipment,
- SITC 72 Machinery specialized for particular industries,
- SITC 74 General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.,
- SITC 76 Telecommunications and sound-recording and reproducing apparatus and equipment,
- SITC 77 Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof (including non-electrical counterparts, n.e.s., of electrical household type equipment),
- SITC 78 Road vehicles,
- SITC 82 Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings,
- SITC 89 Miscellaneous manufactured articles, n.e.s.

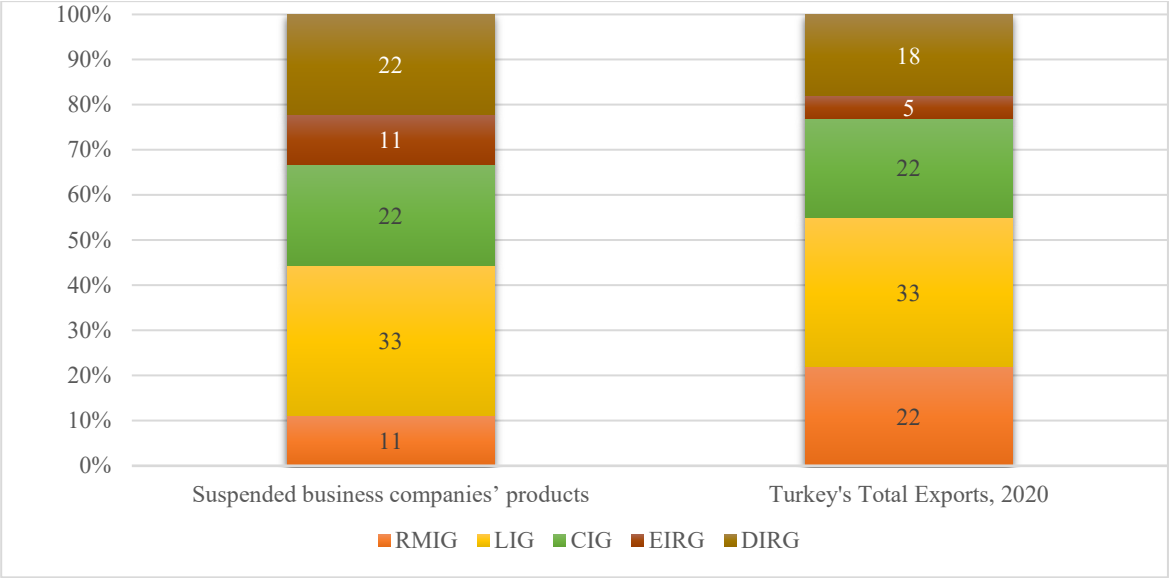

Figure 10. Turkey's Exports Prospects
Source: Calculated by authors using SITC Rev.3 from UN Comtrade (https://comtradeplus.un.org)

These are types of commodities that are expected to experience a drop in foreign supply in the following months, new sellers willing to work in the Russian market will be needed. Distribution of identified sections into 5 groups demonstrated that 6 out of 18 sections are LIG (33%), while CIG (22%) and DIRG (22%) include 4 sections each (Figure 10). The rest 4 sections are either RMIG (11%) or EIRG (11%). Thus, Turkey's export structure is compatible with the structure of identified commodity groups. This similarity demonstrates that Turkey could replace a number of retreated companies and supply Russia with deficient goods.

Revealed Comparative Advantage

The RCA measures how much a country exports a particular good relative to its total trade, in comparison to the export share of that good in the world trade. This index was used to analyse Tukey's export potential in 18 identified sectors. Turkey is revealed to have a comparative advantage in 12 out of 18 commodity categories (Table 4).

Table 4. Revealed Comparative Advantage Index for Identified Sectors, Turkey, 2021

SITC Section	Types of Goods	RCA
65	Textile yarn, fabrics, made-up articles, n.e.s., and related products	4,51
12	Tobacco and tobacco manufactures	2,30
69	Manufactures of metals, n.e.s.	2,01
82	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	1,86
26	Textile fibres (other than wool tops and other combed wool) and their wastes (not manufactured into yarn or fabric)	1,80
78	Road vehicles	1,74

0	Food and live animals	1,70
89	Miscellaneous manufactured articles, n.e.s.	1,58
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard	1,52
55	Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations	1,15
71	Power-generating machinery and equipment	1,07
74	General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.	1,00
72	Machinery specialized for particular industries	0,91
33	Petroleum, petroleum products and related materials	0,87
77	Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof (including non-electrical counterparts, n.e.s., of electrical household type equipment)	0,65
11	Beverages	0,36
54	Medicinal and pharmaceutical products	0,25
76	Telecommunications and sound-recording and reproducing apparatus and equipment	0,24

Source: Calculated by authors using SITC Rev.3 from UN Comtrade (https://comtradeplus.un.org)

Dynamic Revealed Comparative Advantage

The DRCA was constructed by Edwards and Shoer (2002) as an improved version of Balassa's to identify changes in country's competitiveness over time as well as to estimate this measure's stability. The index was calculated for 12 sections covering two periods, 2014-2017 and 2018-2021, wherein the first period reflects the impact of the Jet Crisis and following trade bans and the second period includes the COVID-19 pandemic and the post-pandemic recovery times (Table 5).

Sections 0 - food and live animals, 12 - tobacco and tobacco manufactures remained in the category "falling stars" meaning that Turkey demonstrates poor restructuring of exports of these commodities. However, this category is not the least desirable for an exporter and Turkey can benefit from a considerable gain in its market share. Section 71 - power-generating machinery …, and section 74 - general industrial machinery and equipment, …, made a shift to the "falling stars" as well. A "falling stars" category describes a situation when commodity's j share in world export is increasing and market experiences a stagnation, but since we study a situation where leading suppliers are leaving the market and an imbalance of supply-demand size is expected, it is possible to conclude that Turkey can increase its income in these sectors.

Road vehicles (78) and Furniture and parts thereof, … (82) also did not change their market positions remaining in a "lagging retreat" category, where section 55 - essential oils and … and section 65 - textile yarn, fabrics, … were transferred as well. This market position can turn into an opportunity for

Turkey because over studied time Turkey was decreasing Russian exports of these categories slower than the rest of the world so, in case Russian demand grows, Turkey should not reduce exporting amounts (as it would be recommended in normal conditions).

Section 26 - Textile fibres, …, made a shift from "rising stars" to "leading retreat", which is explained by a decrease in world exports of these goods to Russia; and section 64 - Paper, paperboard and …, transferred from "lagging retreat" to "leading retreat". In normal conditions, this category refers to a successful restructuring of exports but in the conditions where a rise in demand is expected, it is not logical to slow down Turkey's exports. To benefit in these two sections Turkey should push them to a "falling stars" category by increasing its export values to Russia.

Table 5. Dynamic Market Positions of Turkey in Relation to Russia, 2014-2021

SITC Section	Types of Goods	Dynamic market position	
		2014-2017	2018-2021
0	Food and live animals	falling stars	falling stars
12	Tobacco and tobacco manufactures	falling stars	falling stars
71	Power-generating machinery and equipment	leading retreat	falling stars
74	General industrial machinery and equipment …	lagging opportunity	falling stars
26	Textile fibres (other than wool tops and other combed wool) and their wastes …	rising stars	leading retreat
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard	lagging retreat	leading retreat
55	Essential oils and resinoids and perfume materials; toilet, polishing and …	falling stars	lagging retreat
65	Textile yarn, fabrics, made-up articles, n.e.s., and related products	leading retreat	lagging retreat
78	Road vehicles	lagging retreat	lagging retreat
82	Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar …	lagging retreat	lagging retreat
89	Miscellaneous manufactured articles, n.e.s.	falling stars	lagging opportunity
69	Manufactures of metals, n.e.s.	falling stars	rising stars

Source: Prepared by authors on a base of Edward and Shoer (2002) classification

Miscellaneous manufactured articles (89) shifted from "falling stars" to "lagging opportunity", this is a potential opportunity for Turkey in the current situation, Turkey needs to enlarge amounts of its imports to Russia and push this goods section to "rising stars".

The only goods section in a "rising stars" is category 69 - manufactures of metals, which is a very promising commodities group for Turkey in the situation where big competitors leave the market.

EVALUATION AND CONCLUSION

Over its history, bilateral trade relations between Russia and Turkey have experienced significant fluctuations from bans and confrontations to promising trade agreements and mutual investments. In the 1990s when both countries were experiencing economic shocks their authorities agreed on

comprehensive development of all common sectors, respecting the sovereignty and territorial integrity of each other and both countries took considerable steps towards the establishment of sustainable partnership in the fields of energy, trade, tourism, and defence. Since 1991 the countries have improved their trade cooperation so that Russia became Turkey's major supplier of energy sources, and in return Turkey provides tourism and construction services.

Russia is a leading energy supplier for Turkey, and enhanced cooperation with Russia guaranteed Turkey a role of a major energy corridor from East to West. This position leads to more independent Turkish policy initiatives on the way to become a regional 'soft power' and a regional energy hub, which provides Turkey with increasing bargaining power not just in the face of Russia, but also of the EU.

The analysis of trade intensity reveals intense bilateral trade flows between Russia and Turkey over the whole studied period between 2001 and 2021. While Russia gradually intensifies its exports to Turkey despite political and economic obstacles such as the Global Financial Crisis, the Fighter Jet Crisis, or the COVID-19 pandemic, Turkey demonstrates the opposite tendency and steadily reduces its trade intensity with Russia. A similar tendency was discovered by Simay Karaalp (2011) in their study covering the 1996-2008 period, and by Şimşek et al. (2017) research over 1992-2014. Both articles observed high trade intensity between Russia and Turkey. Overall, it can be concluded that the TI index remained over unity throughout the observed period indicating active cooperation between the countries.

Trade complementarity evaluation demonstrates an improvement of economic and political ties, intensified bilateral trade, and their export-import patterns are well-matched all of which frame favourable terms for further trade. Russia's import pattern matches Turkey's import pattern to a great extent over the studied period 1999-2020, the same result was found by Şimşek et al. (2017) over the 1992-2014 period. Turkey as well is gradually rising its import compatibility. However, since the higher value of the index indicates not only a higher similarity of trade patterns of home-country and a partner but a stronger potential of displacement of imports from the rest of the world by imports from this partner, the current situation can turn into a risky one for both sides. To avoid possible overdependence Turkey could diversify its imports from Russia and, at the same time, look for new suppliers in the sectors where Russia is the major exporter.

Turkey's export structure in 2020 was as follows: RMIG 22%, LIG 33%, CIG 22%, EIRG 5%, and DIRG 18%. A growth of DIRG from 11% in 1999 to 18% in 2020 is a positive trend for Turkey since goods with high added value (EIRG and DIRG) accumulated almost a quarter of total exports (23%), to provide sustainable economic growth Turkey needs policies oriented to increase this share.

Turkey's import structure in 2020 was as follows: RMIG 40%, LIG 10%, CIG 14%, EIRG 12%, and DIRG 24%. The structure has had positive changes since 1999, the share of pricy goods (EIRG and DIRG) decreased from almost a half of total imports (45%) to 36% in favour of raw-material goods

that have comparatively lower prices on average.

Russia's export structure in 2020 was as follows: RMIG 80%, LIG 5%, CIG 7%, EIRG 3%, and DIRG 5%. The main problem of the Russian economy is an extreme dependency on energy export. In the current situation when countries supporting Ukraine (including major European consumers of Russian energy and wheat) are trying to find alternative supplier or energy sources to reduce trade with Moscow, Russia extremely needs to diversify its exports and develop production of research-intensive goods.

Russia's import structure in 2020 was as follows: RMIG 19%, LIG 17%, CIG 15%, EIRG 20%, and DIRG 28%. If in 1999 Russia imported 33% of research-intensive goods, up to 2020 this number grew to 48% which means higher spending. One of the reasons behind this growth is overall simplification of production.

There is a high similarity in the total export-import patterns of the countries. The sectoral structure of Turkey's exports to Russia is similar to Turkey's total export pattern, while sectoral structure of Turkey's imports from Russia correlates to Russian total export pattern. As noted, Turkey's top exports to Russia are vegetables, fruits and nuts which are RMIG (31% in 2021), then machinery, motor vehicles and plastics which are DIRG (26%) and CIG (14%), textiles grouped to LIG (25%). Russian top exports to Turkey are energy sources and cereals, corn and sunflower all of which are RMIG accumulated 78% in 2021, then iron, steel and aluminium which are CIG accumulated 16% of total Russian imports to Turkey.

Russia and Turkey export non-competing goods and have all reasons to be trade partners. Clearly, it is not only about trade, but the countries also have multidimensional partnership. Russian authorities trapped by sanctions and economic instability are willing to get any offered help, thus given Ankara's mediating role, Russia has a chance to tighten its relations with Turkey and by intensifying bilateral trade channels find an ally in the struggle against the Western sanctions. This study highlights the commodities sectors where Turkey has comparative advantages so Russia can imply policies encouraging trade of these goods. The obtained results can be applied for further study of commodity groups and analysis of Turkey's export capacities.

Since Russia and Turkey are large, neighbouring economies the ascending cooperation can be jointly beneficial for both of them and essential for their welfare and security. The partners should support local companies and encourage them to export, to initiate bilateral agreements, and continue lowering trade barriers. More intense trade cooperation will establish more trustful relationships between the countries, which is a necessity for de-escalation of any potential conflicts.

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