Increasing Importance of Global Value Chain Turkey's Foreign Trade Comparative Analysis

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Abstract

The global value chain has increased its importance with the spread of foreign trade between countries. As a result of this situation, it has provided serious economic returns to the countries. Countries that use the global value chain effectively have become rich in this process. In this study, the comparison of foreign trade between BRIC countries and Turkey has been examined through Grubel Lloyd index. Through this Grubel Lloyd index, the economic effects of the global value chain on the Turkish economy and BRIC countries are detailed. The increasing importance of global value chain, which provides a great factor in the economic development of countries, has been emphasized.

Keywords: Global Value Chain; Grubel Lloyd Index; Foreign Trade; Economic Effects; BRIC Countries

INTRODUCTION

With the increasing importance of the global value chain, the number of countries participating in foreign trade has increased at the same rate. (Jones et al. 2020, p. 25). Global value chains played an important role in boosting network trade. World network trade increased from US$ 988 billion (about 44% percent of total manufacturing exports) in 1990-91 to US$ 4.5 trillion (51%) in 2009-10, accounting for over 60% of the total increment in world manufacturing exports in the global value chain, where low cost is important and competition is high, production is fragmented and technology is the most of the important thing. (Banga, 2013, s. 6). Value chain is the classification of production activities at different stages, starting from the process of providing input to production and other activities carried out in the process until it reaches the final market. (UNIDO Report, 2009: 1). One of the most important factors in the increase of foreign trade is the developing infrastructure technologies and information communication technologies. The barriers between countries have been removed with the developing technology. Technological developments have had an impact on every aspect of trade like production, mechanization, transportation and communication. Transportation between countries provided intermodal or multimodal. Sea, land, air and rail transport, which develops in transportation, managed with minimum cost and minimum time according to the conditions. At the same time, with the developing information and communication technology, instant news is received from the production process and the production chain is completed in a coordinated manner in every field. Thanks to the developing technology, production realized in other countries in the global value chain with the idea of minimum cost. Thus, more than one country can provide employment from the production of a product. Countries can show themselves advantageous in the global value chain.

With the fragmentation of international production, the terms offshoring and outsourcing have emerged. Offshoring is the realization of production or service in another country. Outsourcing is the realization of trade within the country. In both terms, the production chain is fragmented, that is, a single firm does not perform the production. They need other firms for production. The most important reason for this is cost advantage; focus on core competency and skills sharing.

Since foreign trade has become a competitive element for countries, the concept of supply chain has turned into the concept of global value chain over time. One of the most important reasons for foreign trade to become competitive is the enrichment of poor or developing countries with

trade. Multinational firms are involved in upwards of 90% of US trade, the share of imported inputs in total materials use has risen steadily around the world, and China has become "the world's factory" by providing incentives for the production of exports with imported inputs. (Johnson, C.; 2017: 1). Thus, the competition in trade did not only remain between certain countries, but the scope expanded over time. Poor or developing countries using reasonable government incentives and cheap labor have provided significant economic benefits. The importance of the concept of offshoring and outsourcing has increased with the global value chain. Poor or developing countries have become more advantageous than other countries with cheap labor, cheap taxes and various government supports. While focusing only on the final product in the traditional supply chain concept, the global value chain has brought a modern perspective to trade. With the global value chain, production stages have gained importance and maximum performance / minimum cost target at each stage of the chain. In addition, Porter does not explain the concept of value chain only with physical transitions, but also evaluates it together with competitive elements such as product design, input supply, strategic planning, human resources management, internal logistics and external logistics and after-sales services. In this direction, it proposes a value chain analysis with stricter rules to businesses (Porter, 1985; Cited by UK Report, 2008). The most important factors affecting the performance and cost of products or services were technology, cheap labor, country incentives and cheap transportation.

RESULTS

According to OECD data, global value chain measurement is obtained in two ways. These are specified as "indicators based on international trade statics" and "indicators based on input and output tables". However, global value chain measurements do not provide clear data. The reason for this is that the global value chain contains many variables. National accounts are not sufficient to measure the global value chain. While input-output accounts provide a rich description of value chain linkages across industries within a given country, they stop at the border: they contain no information on how exports are used abroad, and they do not tell us anything about how imported goods are produced. (Johnson, 2017, s. 1)

One of the analytical studies for global value chain participation is called "input trade". This analytical study focuses on input trade as global value chains are production and trade networks

between countries. Production factors are detailed with input-output data. Thus, the efficiency of the global value chain can be determined. Input and output data related to value-added product or service part and shows the relationship between supply and demand of an economy. The effective participation of countries with a global value chain can be seen with the input-output study.

According to OECD, the most commonly used global value chain indicators based on international trade statistics. The name of this theoretical work is "trade based global value chain indicators". This study examines the country's import, export and GPA. Thus, an average result is obtained for global value chain participation.

According to OECD, the most commonly used GVC indicators based on international trade statics. This method is linked to Grubel Lloyd index. There are several stages for this GVC measurement share of chosen sector goods in exports and imports, share of chosen sector in total trade, relative importance of the trade in chosen sector goods, chosen sector imports to exports and Grubel Lloyd index.

This empirical analysis will take place in several stages. First, the calculation of "share of manufacturing goods in exports and imports" will be made. In this calculation, the import and export values of the countries are used, at the same time, the import and export values of manufacturing goods are examined in order to estimate the length of the global value chain. The reason for choosing manufacturing goods in particular is that the global value chain does not focus on the final product. Every product or service in the production chain is part of the global value chain. Therefore, it has been studied as manufacturing goods or merchandise goods. On the other hand, the GDP values of the countries were included in the calculation in order to see the impact of the global value chain on the country's economy.

$$XISH_c = \frac{EXGRI_c}{EXGR_c}$$

XISH occurs with the division of total good export and total chosen sector goods export.

EXGRI: Total good export

EXGR: Total manufacturing good export

$$MISH_c = \frac{IMGRI_c}{IMGR_c}$$

MISH occurs with the division of total good import and total chosen sector goods import.

IMGRI: Total good import

IMGR: Total manufacturing good import

$$TISH_c = \frac{EXGRI_c + IMGRI_c}{EXGR_c + IMGR_c}$$

TISH formula shows the share of chosen sector goods in total trade, include in export and import.

As the value approaches 1, the chosen sector can be said to have a good global trade involvement. A value of "1" is the best desired value in share of goods in total trade.

After determining the participation of the manufacturing sector in foreign trade, it was time for the "relative importance of trade in chosen sector goods" analysis. In this analysis, the GDP value of the selected country is used. In the analysis, only the import and export values in the manufacturing sector were concluded. The place of the manufacturing sector trade in the country's economy is determined.

$$RITI_c = \frac{EXGRI_c + IMGRI_c}{GDP_c}$$

The ratio of import and export values in the selected industry (manufacturing) and the GDP value of the country gives the result of "relative importance of trade in chosen sector goods".

CRI, that is, "ratio of manufacturing imports to exports" has been calculated.

$$CRI_c = \frac{IMGRI_c}{EXGRI_c}$$

This ratio of manufacturing imports to exports analysis uses the export and import values of the selected sector. If the result in this formula is low, the result will be the country located at the beginning of the production chain. It is the desired result for the countries. Simply put, the country imports less and exports are more than imports.

Finally, all the required data for the Grubel Lloyd index were found and it was time to calculate the Grubel Lloyd index. It is expressed as GL. The comparison of countries was made using the Grubel Lloyd index.

$$GL_{c,p} = 1 - \frac{\sum_{q \in int} |EXGR_{c,p}(q) - IMGR_{c,p}(q)|}{\sum_{q \in int} (EXGR_{c,p}(q) + IMGR_{c,p}(q))}$$

The index result should always be between 0 and 1.

If import and export are equal, the index becomes one. This means that global trade is reaching its maximum. It is the most ideal point.

Trade increases as the Grubel Lloyd index approaches 1.

Trade decreases as the Grubel Lloyd index approaches

DISCUSSION

In this analysis, Turkey and BRIC (Brazil, Russia, India, China) countries were examined. Total import & export values, GDP values and merchandise goods import & export values of the countries were examined. The data requested in this study are the stages of the global value chain. This merchandise sector includes semi-finished and finished products. In addition, the countries we choose should have a product group with high participation in foreign trade, so merchandise has been researched as a sector. Merchandise sector is the sector in which the selected countries are most concentrated in foreign trade.

Values in 1995,2000,2010,2018 and 2020 are used.

2020

Since only the year 2020 is calculated, it is seen that a single sector, just merchandise sector, is concentrated in 2020. When sectors other than merchandise is taken into account, there would be a huge difference between the share of import and export values. It is not desirable that the share of import value is higher than the share of export value. However, in a single sector which is merchandise, the share of import value is greater than the share of export value, but the difference is very small like, 0,118714662. Turkey has put forward a single sector in foreign trade in 2020.

Table 1: Turkey 2020 values; created by the author.

IMGRI	2,19397E+11	EXGRI+IMGRI	3,88879E+11	EXGRI+IMGRI	3,88879E+11
EXGRI	1,69482E+11	EXGR+IMGR	2,32774E+11	GDP	701101000
=		=		=	
CRI(Turkey)	1,294515052	TISH(Turkey)	1,67063049	RITI(Turkey)	554,6690135

				EXGR-IMGR	-27046418547
				EXGR+IMGR	2,32774E+11
EXGRI	1,69482E+11	IMGRI	2,19397E+11	=	
EXGR	2,05727E+11	IMGR	2,32774E+11	0,116191853	-0,116191853
					1
=		=		=	
XISH(TURKEY)	0,823818407	MISH(TURKEY)	0,94253307	GL(TURKEY)	0,883808147

Share of merchandise goods in total trade (TISH) value in 2020 Turkey is 1,67063049. The TISH value is close to 1, indicating that its participation is sufficient for merchandise sector. It is a good value for global value chain. Participation in global value chain is high in the merchandise sector, as well as in other calculations (MISH& XISH) such as this one (TISH).

With relative importance of the trade in merchandise goods (RITI), gross domestic product has come into play. Thus, empiric analysis will gain an interpretation in terms of the country's economy. With the 2020 GDP value (from World Bank Database), the import and export values of the merchandise sector do not balance each other. One of the reason for this situation, Turkey is just concentrated on merchandise as a sector in foreign trade. There is no sectoral balanced approach in foreign trade. Foreign trade of other sectors other than merchandise remained in the background.

Ratio of merchandise imports to exports analysis (CRI) shows the differences between merchandise imports and exports. If CRI is 1, it shows the equilibrium between import and export which is not desirable. The desired goal is to have more exports and less imports. This ratio of merchandise imports to exports analysis (CRI) shows that merchandise exports are less than merchandise imports in 2020 Turkey. Exports do not cover imports in merchandise sector. According to 2020 Turkey data, there is an account deficit of the merchandise sector which is the highest participation level in global value chain.

Table 2: China 2020 values; created by the author.

EXGR-IMGR	3,66145E+11
EXGR+IMGR	5,08036E+12
=	
	0,072070673
	1
=	
GL(CHINA)	0,927929327

EXGRI	2,59112E+12	IMGRI	2,05575E+12
EXGR	2,72325E+12	IMGR	2,35711E+12
=		=	
XISH(CHINA)	0,951480984	MISH(CHINA)	0,872150945

Table 3: Brazil 2020 values; created by the author.

EXGR-IMGR	20044428576
EXGR+IMGR	4,67433E+11
=	
	0,042881904
	1
=	
GL(BRAZIL)	0,957118096

EXGRI	2,09878E+11	IMGRI	1,66276E+11
EXGR	2,43739E+11	IMGR	2,23694E+11
=		=	
XISH(BRAZIL)	0,861077334	MISH(BRAZIL)	0,743317595

Table 4: Russia 2020 values; created by the author.

EXGR-IMGR	73630224853
EXGR+IMGR	6,83641E+11
=	
	0,107702982
	1
=	
GL(RUSSIA)	0,892297018

EXGRI	3,31748E+11	IMGRI	2,39748E+11
EXGR	3,78636E+11	IMGR	3,05006E+11
=		=	
XISH(RUSSIA)	0,876166378	MISH(RUSSIA)	0,786044523

Table 5: India 2020 values; created by the author.

EXGR-IMGR	-8307246262
EXGR+IMGR	9,56599E+11
=	
0,008684146	-0,008684146
	1
=	
GL(INDIA)	0,991315854

EXGRI	2,76227E+11	IMGRI	3,7192E+11
EXGR	4,74146E+11	IMGR	4,82453E+11
=		=	
XISH(INDIA)	0,582578025	MISH(INDIA)	0,770893462

As in Turkey, there is a current account deficit problem in India as well. The GL India value is one of the closest values to 1. In this case, GVC India is one of the countries with high participation. However, the fact that imports are more than exports is not a desirable situation for the country's economy.

Table 6: 2020 values; created by the author.

GL(TURKEY)	0,883808147
GL(BRAZIL)	0,957118096
GL(CHINA)	0,927929327
GL(RUSSIA)	0,892297018
GL(INDIA)	0,991315854

| 0,5 < | GL(TURKEY) | < | GL(RUSSIA) | < | GL(CHINA) | < | GL(BRAZIL) | < | GL(INDIA) | < 1 |

When the Grubel Lloyd index value is exactly 1, the optimum value is reached. If the index values are less than 0.5, it indicates that the global trade participation is very low.

Global value chain participation of countries are quite high. Brazil, China and Russia has concentrated on exports in global trade. Turkey and India seen that intensity on imports in global trade. This situation raises the current account deficit problem. Current account deficit is the situation where imports are more than exports.

According to the Grubel Lloyd indexes of countries, the country of India closest to 1. In fact, the closer it is to 1, the higher the value can be called a GVC participation. India is the country with the highest GVC participation compared to the countries surveyed by the Grubel Lloyd index. After India, the country with the highest GVC participation according to the GL index is Brazil. The difference of Brazil from India is that it is export-intensive in trade. In other words, it is a desired situation for the country's economy. Since India is import-intensive in trade, there is a current account deficit problem. However, since the important thing in the examined GL index is participation together with imports and exports, such cases are not dealt with in GVC participation.

According to the GL index ranking, China is in the middle of the 5 countries. When the XISH and MISH values of China and Brazil are compared, the XISH and MISH values of China are higher than Brazil. However, the reason why China is behind Brazil in the GL index is the difference between Brazil's XISH and MISH values. In total, China's import and export values are higher than Brazil, especially in export values. However, according to the GL index, the GVC participation volume shows that Brazil is more than China.

According to the GL index, the country closest to 0.5 is Turkey, followed by Russia. Being close to 0.5 is not desirable for GVC participation. According to this index, the country with the lowest participation rate is Turkey. At the same time, there is a current account deficit problem as in India. Like the country of India, Turkey is progressing in trade with an intensity of imports. When the comparison table is examined in general, India is the best country

according to the GL index, but the situation of the country is not desirable if it is examined in economic terms. Because even though India is a country with a high GVC participation volume, the area it concentrates on trade is imports.

2018

Table 7: Turkey 2018 values; created by the author.

				EXGR-IMGR	-1071676477
				EXGR+IMGR	2,43963E+11
				=	
EXGRI	1,77169E+11	IMGRI	2,31152E+11	0,00439278	-0,00439278
EXGR	2,42891E+11	IMGR	2,43963E+11		1
=		=		=	
XISH(TURKEY)	0,729416271	MISH(TURKEY)	0,947487318	GL(TURKEY)	0,99560722

According to 2018 Turkey data, there is a current account deficit problem like the other years examined. According to the GL index result, the closest value to 1 is in 2018. In this case, among the four years (2000-2018-2010-2020) examined, the best period for the GL index is 2018. It indicates that the foreign trade volume is high.

Table 8: Brazil 2018 values; created by the author.

				EXGR-IMGR	7548853249
				EXGR+IMGR	5,53542E+11
				=	
EXGRI	2,39264E+11	IMGRI	1,88564E+11		0,013637375
EXGR	2,80545E+11	IMGR	2,72996E+11		1
=		=		=	
XISH(BRAZIL)	0,852853701	MISH(BRAZIL)	0,690719902	GL(BRAZIL)	0,986362625

Table 9: China 2018 values; created by the author.

				EXGR-IMGR	1,06707E+11
				EXGR+IMGR	5,20448E+12
				=	
EXGRI	2,4867E+12	IMGRI	2,13575E+12		0,02050295
EXGR	2,65559E+12	IMGR	2,54888E+12		1
=		=		=	
XISH(CHINA)	0,936399522	MISH(CHINA)	0,837914687	GL(CHINA)	0,97949705

Table 10: Russia 2018 values; created by the author.

				EXGR-IMGR	1,65826E+11
				EXGR+IMGR	8,54866E+11
				=	
EXGRI	4,43914E+11	IMGRI	2,48856E+11		0,193979034
EXGR	5,10346E+11	IMGR	3,4452E+11		1
=		=		=	
XISH(RUSSIA)	0,869829873	MISH(RUSSIA)	0,722327178	GL(RUSSIA)	0,806020966

Table 11: India 2018 values; created by the author.

				EXGR-IMGR	-1,00378E+11
				EXGR+IMGR	1,17765E+12
				=	
EXGRI	3,24778E+11	IMGRI	5,14464E+11	0,085236015	-0,085236015
EXGR	5,38635E+11	IMGR	6,39013E+11		1
=		=		=	
XISH(INDIA)	0,602964676	MISH(INDIA)	0,80509127	GL(INDIA)	0,914763985

Table 12: 2018 values; created by the author.

					2018					
0,5	<	GL(RUSSIA)	<	GL(INDIA)	<	GL(CHINA)	<	GL(BRAZIL)	<	GL(TURKEY)	<	1

Among the 5 countries examined in 2018, the countries with current account deficit problems are Turkey and India. Turkey is the country with the highest trade volume in 2018 according to the GL index.

2010

Table 13: Turkey 2010 values; created by the author.

EXGR-IMGR		-33458844424	
EXGR+IMGR		1,98136E+11	
=			

EXGRI	1,13883E+11	IMGRI	1,85544E+11	0,168868335	-0,168868335
EXGR	1,64677E+11	IMGR	1,98136E+11		1
=		=		=	
XISH(TURKEY)	0,691554409	MISH(TURKEY)	0,936449149	GL(TURKEY)	0,831131665

Table 14: Brazil 2010 values; created by the author.

EXGR-IMGR		-22994542974	
EXGR+IMGR		5,03008E+11	
=			

EXGRI	2,01915E+11	IMGRI	1,91537E+11	0,045714053	-0,045714053
EXGR	2,40007E+11	IMGR	2,63001E+11		1
=		=		=	
XISH(BRAZIL)	0,841288589	MISH(BRAZIL)	0,728273789	GL(BRAZIL)	0,954285947

Unlike in 2020 and 2018, Brazil was added to the list of countries with current account deficit problems in 2010. According to the latest data (2020&2018), Brazil has increased its export volume in trade and in this case, the current account deficit problem has been closed. Brazil has closed its dependence on foreign trade in time.

Table 15: China 2010 values; created by the author.

EXGR-IMGR		2,224E+11	
EXGR+IMGR		3,08723E+12	
=			

EXGRI	1,57775E+12	IMGRI	1,39625E+12	0,07203861	
EXGR	1,65482E+12	IMGR	1,43242E+12	1	
=		=		=	
XISH(CHINA)	0,953431823	MISH(CHINA)	0,974749737	GL(CHINA)	0,92796139

Table 16: Russia 2010 values; created by the author.

EXGR-IMGR		1,23146E+11	
EXGR+IMGR		7,6788E+11	
=			

EXGRI	4,0063E+11	IMGRI	2,48634E+11	0,160372059	
EXGR	4,45513E+11	IMGR	3,22367E+11	1	
=		=		=	
XISH(RUSSIA)	0,899255082	MISH(RUSSIA)	0,771276911	GL(RUSSIA)	0,839627941

Table 17: India 2010 values; created by the author.

		EXGR-IMGR	-74620847984
		EXGR+IMGR	8,25328E+11
		=	
EXGRI	2,26351E+11	IMGRI	3,50233E+11	0,090413589	-0,090413589
EXGR	3,75353E+11	IMGR	4,49974E+11		1
=		=		=	
XISH(INDIA)	0,60303425	MISH(INDIA)	0,778339971	GL(INDIA)	0,909586411

Table 18: 2010 values; created by the author.

				2010					
0,5	<	GL(TURKEY)	<	GL(RUSSIA)	<	GL(INDIA)	<	GL(CHINA)	<	GL(BRAZIL)	<	1

Brazil was the country with the highest GL index among the 5 countries in 2010. According to the GL index, the country with the highest foreign trade volume is Brazil. However, Brazil kept its import volume high instead of exports in 2010, and this creates an economic problem in the country.

As in 2020, Turkey has been the country in the 5th place according to the GL index. According to the GL index, Turkey is the country with the lowest participation in global value chain.

2000

Table 19: 2000 Turkey values; created by the author.

		EXGR-IMGR	-7110040307
		EXGR+IMGR	61644757198
		=	
EXGRI	27775000000	IMGRI	54503000000	0,11533893	-0,11533893
EXGR	54534716891	IMGR	61644757198		1
=		=		=	
XISH(TURKEY)	0,509308594	MISH(TURKEY)	0,88414656	GL(TURKEY)	0,88466107

In 2000, "The Inflation Reduction Program" was implemented in Turkey. It is aimed to prevent high inflation. However, this method was short-term, and in 2001, "The Inflation Reduction Program" lost its validity due to the economic crisis.

Table 20: 2000 Brazil values; created by the author.

					EXGR-IMGR	-14836530036
					EXGR+IMGR	1,48386E+11
					=	
EXGRI	55119000000	IMGRI	58643000000		0,099986272	-0,099986272
EXGR	66774569992	IMGR	81611100027			1
=		=			=	
XISH(BRAZIL)	0,82544897	MISH(BRAZIL)	0,718566469		GL(BRAZIL)	0,900013728

Table 21: 2000 China values; created by the author.

					EXGR-IMGR	28785851578
					EXGR+IMGR	4,77398E+11
					=	
EXGRI	2,49203E+11	IMGRI	2,25094E+11			0,060297345
EXGR	2,53092E+11	IMGR	2,24306E+11			1
=		=			=	
XISH(CHINA)	0,984633697	MISH(CHINA)	1,003511993		GL(CHINA)	0,939702655

Table 22: 2000 Russia values; created by the author.

					EXGR-IMGR	52012086740
					EXGR+IMGR	1,76847E+11
					=	
EXGRI	1,05033E+11	IMGRI	44862000000			0,294108187
EXGR	1,14429E+11	IMGR	62417348027			1
=		=			=	
XISH(RUSSIA)	0,917884461	MISH(RUSSIA)	0,718742488		GL(RUSSIA)	0,705891813

Russia and China have always increased their trade volume towards export in the four years examined. When growth is achieved by increasing the volume of exports in trade, the economic return to the countries will be higher.

Table 23: 2000 India values; created by the author.

					EXGR-IMGR	-4245767257
					EXGR+IMGR	1,26003E+11
					=	
EXGRI	42379000000	IMGRI	51523000000		0,033695881	-0,033695881
EXGR	60878396866	IMGR	65124164122			1
=		=			=	
XISH(INDIA)	0,696125427	MISH(INDIA)	0,79115027		GL(INDIA)	0,966304119

Turkey, Brazil and India countries that had a current account deficit problem in 2000.

Table 24: 2000 GL comparison; created by the author.

						2000						
0,5	<	GL(RUSSIA)	<	GL(TURKEY)	<	GL(BRAZIL)	<	GL(CHINA)	<	GL(INDIA)	<	1

According to the GL index in 2000, India had the highest participation in GVC. India grew in 2000 based on imports. This situation causes economic problems.

1995

Table 25: 1995 Turkey Values; created by the author.

				EXGR-IMGR	-7558089520
				EXGR+IMGR	41271567686
				=	
EXGRI	21599000000	IMGRI	35710000000	0,183130662	-0,183130662
EXGR	33713478166	IMGR	41271567686		1
=		=		=	
XISH(TURKEY)	0,640663651	MISH(TURKEY)	0,865244574	GL(TURKEY)	0,816869338

Table 26: 1995 Brazil Values, created by the author.

				EXGR-IMGR	-14822283208
				EXGR+IMGR	1,30662E+11
				=	
EXGRI	46506000000	IMGRI	54137000000	0,113439575	-0,113439575
EXGR	57920041190	IMGR	72742324398		1
=		=		=	
XISH(BRAZIL)	0,802934512	MISH(BRAZIL)	0,744229724	GL(BRAZIL)	0,886560425

Among the analyzed countries, Turkey, India and Brazil have a current account deficit in foreign trade.

Table 27: China Values, created by the author.

				EXGR-IMGR	11958000000
				EXGR+IMGR	2,5176E+11
				=	
EXGRI	1,4878E+11	IMGRI	1,32084E+11		0,047497682
EXGR	1,31859E+11	IMGR	1,19901E+11		1
=		=		=	
XISH(CHINA)	1,128327959	MISH(CHINA)	1,101610426	GL(CHINA)	0,952502318

China was determined as the country with higher foreign trade participation compared to other countries examined in 1995. Structural reforms in China yielded positive results in 1995.

Table 28: 1995 Russia; created by the author.

EXGR-IMGR	13428951157
EXGR+IMGR	2,18269E+11
=	
	0,0615248
	1

EXGRI	82419000000	IMGRI	62603000000		
EXGR	1,15849E+11	IMGR	1,0242E+11		
=		=		=	
XISH(RUSSIA)	0,711435135	MISH(RUSSIA)	0,611238158	GL(RUSSIA)	0,9384752

Table 29: 1995 India; created by the author.

EXGR-IMGR		-4249571158
EXGR+IMGR		82387290734
=		
	0,051580421	-0,051580421
		1

EXGRI	30630000000	IMGRI	34707000000		
EXGR	39068859788	IMGR	43318430946		
=		=		=	
XISH(INDIA)	0,784000356	MISH(INDIA)	0,801206305	GL(INDIA)	0,948419579

Table 30: 1995 GL Comparison; created by the author.

				1995						
0,5	<	GL(TURKEY)	<	GL(BRAZIL)	<	GL(RUSSIA)	<	GL(INDIA)	<	GL(CHINA)	<	1

Among the countries examined in 1995, the two countries that did not experience a current account deficit in foreign trade were Russia and China. China has a high share in foreign trade participation. Turkey is seen as the last one. Turkey joined the Customs Union in 1995. Especially after this year, Turkey will intensely trade with European countries.

Within the framework of these empirical statistical calculations, although Turkey's participation in the global value chain converges to the BRIC countries, Turkey's distinctive feature has been determined as the structural current account deficit.

CONCLUSION

The main hypothesis in this thesis is to determine the effects of Turkey's participation in the global value chain on the country's economy. At the same time, Turkey's global value chain participation values were compared with BRIC countries.

Beginning in the 1990s, global value chains experienced accelerated growth following the opening of China, India, and other emerging economies that offer very cheap labor. Economic balances have changed with the global value chain. Certain poor countries got richer, rich countries got richer. The global value chain makes a great contribution to the national economies. Similarly, the development of telecommunications and information technology has strongly increased its growth, as it is possible to significantly reduce the costs of coordination worldwide.

Since the economic contribution of the global value chain to the countries is quite high, this commercial term is mentioned a lot. Many studies are carried out to analyze the global value chain well. The main goal in the global value chain is minimum cost, maximum benefit. Although there is no more complete global value chain measurement, since the global value chain covers all stages of a product or service, various types of measurement are assisted.

GVC participation was measured with the GL index. The important thing in the GL index is the foreign trade volume. There is no distinction made in the foreign trade volume as import or export. As a result, it enters a foreign trade in imports and exports. However, among the countries examined, countries with current account deficit problems have been identified in terms of variability over the years.

The sector in which Turkey concentrates most in its global trade is the merchandise sector. The merchandise sector meets 82,38% of Turkey's exports. This is a serious rate. Turkey is concentrated in a single sector which is merchandise. There is an imbalance as Turkey progresses on a single sector basis in global trade. At the same time, this issue creates a current account deficit problem because of its high import rate. In general, Turkey's participation in global value chain is quite high, but this participation is concentrated on imports. This situation is seen to be influential on the national economy, through GDP. Countries should keep exports high for their own economy like China and Russia. China that has significantly raised the country's economic development level in a short time. China's foreign trade and the global value chain strategies have played an essential role in this success.

 Global value chain participation of BRICS countries and Turkey are quite high. However, in this case, the difference between Turkey& India and the other countries like China is the style of trade. China is a country that keeps high production and exports higher than imports. At the same time, China produces products with high added value. In this case, China is in the position of a country that gains from global value chain. Production is essential for the development of

countries and this production should be based on value-added products. The products with high innovation yield more to the countries.

Turkey and India should increase production in this regard. Turkey and India should reduce foreign dependency as much as possible. Incentive policies for production should be reviewed because there is not enough production to cover imports. The current account deficit problem is closed by increasing production, but value added products are needed for the country's economy to compete with developed countries. Brazil had a current account deficit problem only in 2000 and 2010 among the years studied (2020-2018-2010-2020). However, when it comes to the present, it is seen that the current account deficit problem has been completed according to the data in 2018 and 2020. This has had a positive impact on the country's economy.

Global value chain participation is important for countries. Turkey and BRIC countries have shown a close global value chain participation in this regard. However, the important detail that is noticed is the direction of participation. Import and export are indispensable for global value chain. It is beneficial for countries to have more exports than imports in economic terms like China and Russia. Otherwise, countries are dependent on foreign countries when imports are more than exports. In this case, sufficient economic growth is not expected. The current account deficit brings about other problems than indirect problems. While participation in global trade produces different results when viewed at the economic level. Global trade is a large market with many opportunities and countries need to adapt to this market. China has now become the leaders of global trade with growing periodic different strategies.

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