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N11 Ülkelerinin AB Pazarında Net Ticaret İndeksine Göre Rekabet ve Uzmanlaşma Analizi

Competition and Specialization Analysis of N11 Countries in the EU Market According to Net Trade Index

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Özet

Bu çalışma, 2000-2022 yılları arasındaki verilerle Net Ticaret İndeksi (NTI) kullanarak N11 (Bangladeş, Mısır, Endonezya, İran, Güney Kore, Meksika, Nijerya, Pakistan, Filipinler, Türkiye ve Vietnam) ülkelerinin dış ticarette uzmanlaşma düzeylerini ortaya koymayı amaçlamaktadır. Bu kapsamda bahsi geçen ülkelerin dış ticaretindeki uzmanlaşma düzeyi ISIC Rev. 3 sınıflandırmasına göre teknoloji bazında sektörel olarak incelenmektedir. İncelenen ülkelerden birkaçı belirtilen dönemde sadece belirli ürün sektörlerinde dış ticarette rekabet avantajı ve karşılaştırmalı üstünlük elde edebilmiştir. Diğer ürünlerde olan dezavantaj ise incelenen dönem boyunca ilgili ülkelerin dış ticarette rekabet gücünü olumsuz etkilemektedir. Gelecek dönemlerle ilgili bir analiz yaptığımızda ülkelerden birkaçının teknoloji yoğun sektörlere yatırım yapması halinde dış ticaret çerçevesinde karşılaştırmalı bir avantaj elde edebileceği sonucuna ulaşılmaktadır.

Anahtar Kelimeler: Uzmanlaşma, Dış ticaret, Karşılaştırmalı üstünlük, N11.

Abstract

This study aims to reveal the level of specialization in foreign trade of N11 countries (Bangladesh, Egypt, Indonesia, Iran, Iran, South Korea, Mexico, Nigeria, Pakistan, Philippines, Turkey and Vietnam) by using the Net Trade Index (NTI) with data for the period 2000-2022. In this context, the level of specialization in the foreign trade of these countries is analyzed sectorally on the basis of technology according to ISIC Rev. 3 classification. A few of the countries examined were able to gain competitive advantage and comparative advantage in foreign trade only in certain product sectors during the period under review. The disadvantage in other products negatively affects the competitiveness of the countries in foreign trade throughout the period analyzed. When we make an analysis for the future periods, it is concluded that if a few of the countries invest in technology-intensive sectors, they can gain a comparative advantage in the framework of foreign trade.

Keywords: Specialization, Foreign Trade, Comparative avantage.

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1. INTRODUCTION

Since 1980, with globalization, the boundaries between countries have lost importance for economic activities, while the number of buyers and sellers in world trade is increasing, the volume of global trade is expanding and more competition is involved. In particular, the information and added value levels of the products and services of foreign trade are increasing day by day and these products are offered to global markets in a more qualified way. In this context, countries, companies and industries competing in international markets with more value -added and qualified products and services can get more shares than the foreign trade volume and can dominate the global markets. This change and development in foreign trade shows that the importance of foreign trade has increased further. This leads to new opportunities and threats for companies and industries. Countries, companies and industries that can fight in global markets and fight threats gain competitive advantage in foreign trade against their competitors. As a matter of fact, the more they catch these opportunities and the more they can eliminate the threats, the more superior they can be in foreign trade. Countries that can provide this competitive advantage by producing and exporting technology intensive, high value added products can provide a more sustainable development and welfare level in global markets.

Within this framework, N11 countries, which are estimated to increase the threat level in the future in the future, are analyzed in this study. The main reason for the analysis of N11 countries is that they pose potential threats for both other powerful developing countries (BRICS economies) and for developed countries. In this context, competition analysis was performed in the foreign trade of N11 countries using a net trade index and the level of global competition of these countries was tried to be measured.

1.1. N11 Countries

N11 (Next Eleven) countries (Bangladesh, Egypt, Indonesia, Iran, South Korea, Mexico, Nigeria, Pakistan, Philippines, Turkey and Vietnam) are defined as 11 major developing economies promising by Goldman Sachs. It is predicted that these countries may have a competitive advantage based on factors such as low -cost labor force, natural resources and rapidly growing population. In global trade, the EU (European Union) market is one of the largest markets worldwide and includes intensive competition (Wilson and Stupnytska, 2007, 1-11).

Various indexes and indicators can be used to evaluate the competitive advantage of the foreign trade of N11 countries in the EU market. This study aims to demonstrate the global competitive advantages of high -tech, medium -high technology, medium low -technology and low -technology products subject to foreign trade according to the calculated index scores and the return of these advantages in foreign trade. In this context, in this study, it is aimed to analyze the competitiveness of the N11 countries in the EU market and the earnings from the global market on a sectoral basis with the data between the years 2000-2022. In the analysis, the NTI scores of these countries were calculated and interpreted.

2. LITERATURE EXAMPLES OF NET TRADE INDEX

Erkan and Bozduman (2019a) measured the competitiveness of four product groups in foreign trade, according to NTI of Kazakhstan for the 2000-2016 period. According to the analysis scores, there is full competitiveness in natural gas foreign trade (full advantage in export), while there is a relative export advantage in oil and oil products, irons non-iron mines, processed skin and fur.

Erkan and Bozduman (2019b) examined the product groups specialized by the members of the Shanghai Cooperation Organization for the 2000-2016 period. According to the results of the NTI analysis, countries specialize in the following products: Russia; organic and inorganic chemical products, Kazakhstan; inorganic chemical products, India; medicine and pharmacy products and motor vehicles, China; inorganic chemical productsd, medicine and pharmacy products, other general industrial machinery devices components, office and automatic machines, communication and audio recorder devices, motor vehicles and optical items and watches. Pakistan and Kyrgyzstan could not specialized specifically specialized in any product.

Erkan, Kara and Altınay (2020) analyzed the competitiveness and specialization level of exports for the automotive companies in Borsa İstanbul in Turkey with the data of 2007-2017 period.

According to the results of NTI analysis, it was concluded that these companies have competitiveness in exports.

Özçalık and Okur (2013) compared Turkey's competitiveness in the textile and clothing sector with the EU member states. According to the NTI scores obtained, it was concluded that Turkey had partially competitiveness in the exports of the textile sector in the period examined and specialized. In the clothing sector, Türkiye had competitiveness against other EU countries except Portugal.

Balassa and Noland (1989) examined the competitiveness of the US and Japan's advanced technology product group and manufacturing industry according to the NTI scores. According to the results obtained for the period of 1967-1983, both countries increased their competitiveness in advanced technology product group. In addition, it was found that Japan's expertise shifted from unqualified labor to qualified labor intensive products during the examination period. It was concluded that the US expertise was in qualified labor intensive products during the examination period.

Prasad (2004) measured the export competitiveness and specialization levels of Fiji and selected developing small island countries using data from 1998-2002 with some other indexes. According to the scores obtained, it was found that Fiji had export competitiveness in only a few product groups. In general, it was concluded that Fiji had a weak export competitiveness and specialization in most export goods.

Bahimow (2017) analyzed the competitiveness of the Turkish textile and ready-made clothing sector against the ASEAN 5 countries with its foreign trade data for 2000-2014. According to the NTI analysis scores obtained, all of the countries discussed in the examination period were net importer. In the clothing sector, Türkiye, Indonesia, Malaysia, Thailand and Philippines specialized.

Amightini (2005) measured the competitiveness of China's information communication technologies industries using data from the 1991-2001 period according to the NTI. As a result of the analysis, China had a competitive advantage in China's products in question.

Raymond (2004) measured Fiji's export competitiveness in the 1998-2002 period. According to NTI analysis results, a weak specialization had been determined in most export products.

Utkulu and Seymen (2004) measured the export competitiveness of Turkey in the EU market with the data of the 1990-2003 period. According to the results of the analysis, the competitive advantage in 63 goods groups was relatively existed. However, it was concluded that there was a significant competitiveness in vegetables and fruits, sugar, tobacco, honey, clothing and clothing accessories, textile yarn, fabric and related products.

Müftüoğlu and Kayacan (2019) analyzed the competitiveness of Turkey's tree mushrooms, wood and timber foreign trade with the data of the 1995-2009 period. According to the analysis scores obtained, competitiveness could not be determined in these products during the examination period.

Sarıçoban and Kaya (2021) measured the competitiveness and specialization levels of ten countries exporting wood and wooden products. According to the analysis scores; Poland, Malaysia, Austria, Vietnam, Canada, Indonesia, Germany and the United States had competitiveness and specialized in wood and wooden products.

3. NET TRADE INDEX

In the literature, there are many indexes used when measuring countries' competitiveness in foreign trade. These indexes have advantages and disadvantages at certain points. One of the most well -known of these is the NTI method, one of the frequently used in the literature to measure internal competition and specialization in foreign trade.

3.1. Conceptual Framework

The NTI takes into account not only export data but also import data. This index also allows the measurement of intra -industrial trade and comparative advantages in foreign trade. In this respect, NTI is superior to many indexes and methods that analyze comparative advantages and competitiveness in foreign trade. The NTI is obtained by dividing the net exports of a particular sector

or product group into the foreign trade volume in the same sector and product group (Balassa ve Noland, 1989). The calculation of NTI is as follows:

$$(NTI_{kt}^{j}) = \frac{X_{kt}^{j} - M_{kt}^{j}}{X_{kt}^{j} + M_{kt}^{j}}$$

The symbols in the formula can be explained as follows: k, product group; j, related country; t, time. NTI scores receive value between -1 and +1. If NTI scores are greater than zero (NTI> 0), the country's exports in that sector are intensive. On the contrary, if index scores are smaller than zero (NTI <0), the country's imports in that sector are more intense (Amighini, 2005). While the NTI score is +1 or -1, there is no intra-industry trade at all. As the index value approaches 0, intra-industry trade increases. In summary;

- If NTI_{kt}^{j} =1, the country is full exporter and fully comparative advantage. In this case, there is no intra-industry trade.
- If NTI_{kt}^{j} is a value between 0 and 1, the country is intensive exporter. In other words, the country is partially comparative advantage. It is also relatively intra-industry trade.
- If NTI_{kt}^{j}=0, the country is as importer as well as exporters in the product group in question. In other words, there is no comparative disadvantage or advantage. In this case, there is exactly intra-industry trade.
- If NTI_{kt}^{j} is a value between 0 and -1, the country is intensive importer in the product group in question. In other words, the country has a partial disadvantage in foreign trade. In this case, intra-industry trade is relatively in question.
- If NTI_{kt}^{j}= -1, the country is full importer in the foreign trade of this product group. In other words, the country has a fully comparative disadvantage. As a matter of fact, there is no intra-industry trade.

3.2. Methodology and Data

In the study, NTI is used to analyze the foreign trade competitive forces of N11 countries. In this way, it is aimed to analyze the competitiveness of these countries with both export and import data. The study covers the 2000-2022 period. However, the products calculated in the study are divided into 4 according to ISIC Rev3 classification: Low -technology products, medium low -technology products, medium high -tech products, high -tech technology products. At the same time, according to the calculated NTI scores, it has been tried to reveal the stage of the in -industrial trade of countries in the examined sectors.

In order to calculate the competitive forces in the foreign trade of N11 countries, export and import data in the previously mentioned sectors should be obtained. These data were received from the World Bank's data set (https://wits.worldbank.org/). These foreign trade data and NTI scores are calculated and comparative graphs on a country basis. As a result of the study, the sectors in which N11 countries are advantageous in the foreign trade were determined. In addition, technology levels in foreign trade of these countries have been tried to be determined. Since the data of certain years of examined countries can not be obtained, the NTI score of those periods is reflected in the graph as 0. The internal trade situation of these countries for those periods is not evaluated.

4. SPECIALIZATION AND COMPETITION ANALYSIS

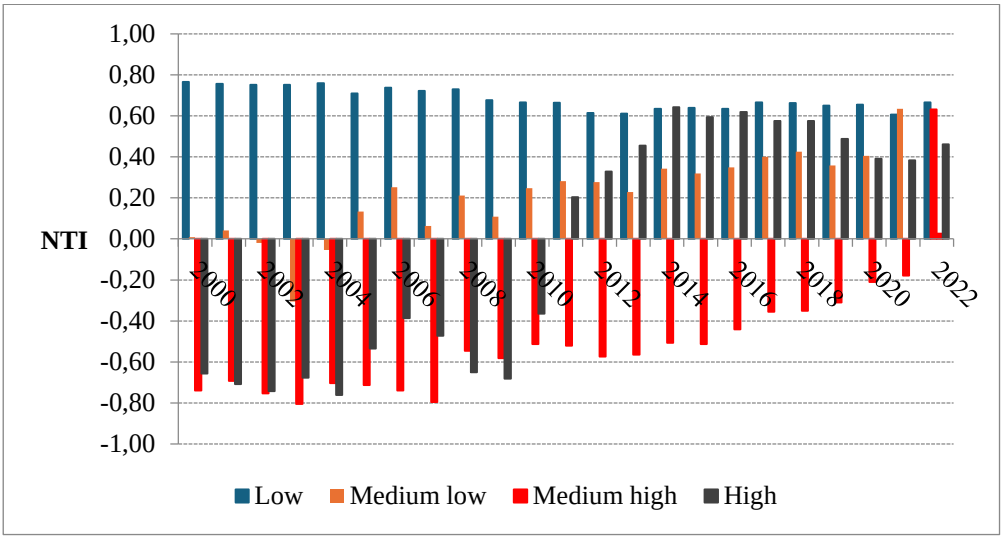
According to NTI scores, the advantages or disadvantages obtained by N11 countries compared to goods groups in the EU market have been evaluated separately on the basis of technology classification. After this stage, the existing specialization and competition analysis of the countries is handled comparatively with the graphics.

4.1. Bangladesh's Analysis

According to the results of NTI analysis, which is accepted as an important indicator of both intra-industrial trade and global competition level in foreign trade; Bangladesh has a comparative advantage in foreign trade only one of the 4 product groups with low-technology, medium low-technology, medium high-technology and high-technology groups. The country is only able to achieve competitiveness in the foreign trade of low-technology product group. In the foreign trade of the other 3 product groups higher, the country has a comparative disadvantage in the foreign trade. The country

has a significant disadvantage in foreign trade of medium -high technology and high -tech product groups. This shows that the superiorities in the country's foreign trade consist of more added value relatively low raw materials and labor intensive products. As a matter of fact, the country is dependent on external products in relatively expensive products that require high level R & D and technology.

Figure 1: Bangladesh's Net Trade Index Scores (2000-2022)

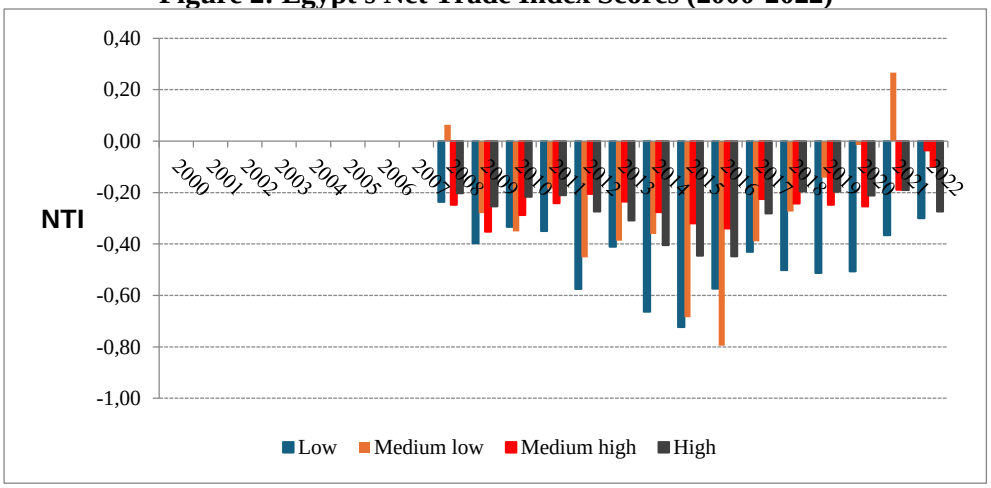


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.2. Egypt's Analysis

According to the NTI scores in foreign trade; Egypt has a disadvantage of global competition in the entire 4 product groups subject to examination. The country has only achieved competitive advantage for only a few years in medium low -technology industries. However, the competitive advantage in question has not been sustainable. The competition disadvantage in the country's medium-high and high-tech product foreign trade is stable. It is an important handicap in terms of economic development that the country has a disadvantage of the competition in foreign trade of relatively high value added value.

Figure 2: Egypt's Net Trade Index Scores (2000-2022)



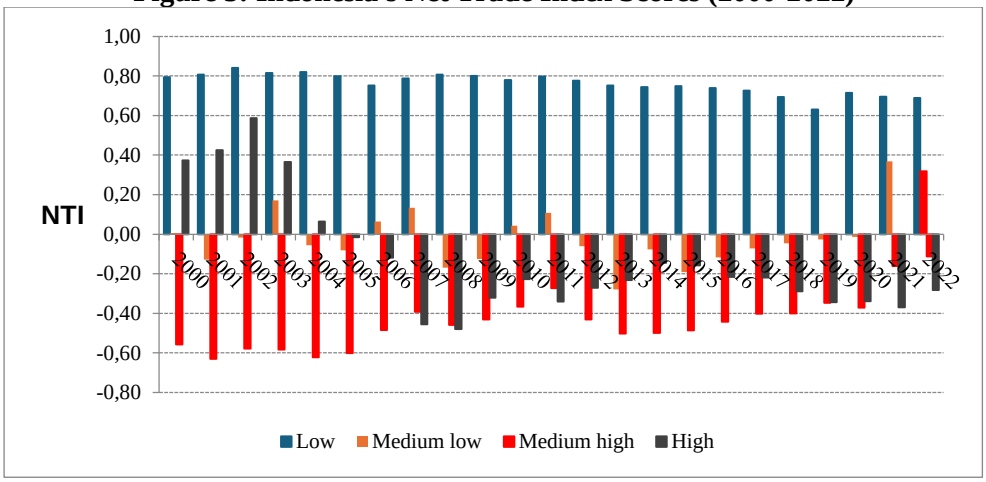
Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.3. Indonesian's Analysis

Indonesia has a comparative advantage in the foreign trade of low-technology industries in 4 product groups subject to examination. This product group, which is relatively low value, has a stable competitive advantage in foreign trade. In the foreign trade of the other 3 product groups, the country mainly has a disadvantage of competition. However, although the country gained a competitive

advantage in high-tech product foreign trade in the first years that were subject to examination, this advantage has disappeared in other years. In recent years, the development of NTI scores in the country's medium-low and medium-high technology in foreign trade has been positive. This shows that the country's added value is increasing the competitiveness in the foreign trade of relatively high products.

Figure 3: Indonesia's Net Trade Index Scores (2000-2022)

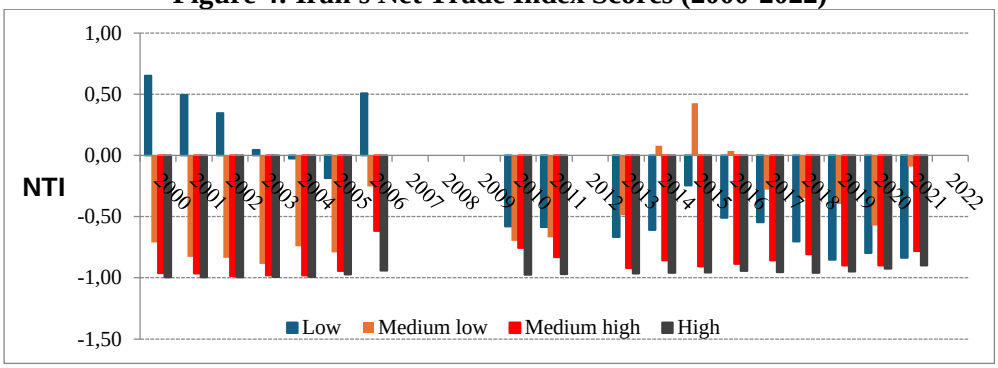


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.4. Iran's Analysis

When the competition in Iran's foreign trade is examined, it is seen that the country is disadvantageous in all product groups subject to examination. Especially in the foreign trade of medium-high and high-tech industries, the country's comparative disadvantage is quite high. In other words, global competitiveness in the foreign trade of relatively high value-added product groups of the country is very weak. In certain years, the country has a comparative advantage in foreign trade of low-technology and medium-low technology. However, this does not follow a sustainable course. Iran's competition table shows that it is seriously dependent on external external products, especially in technology intensive product groups.

Figure 4: Iran's Net Trade Index Scores (2000-2022)



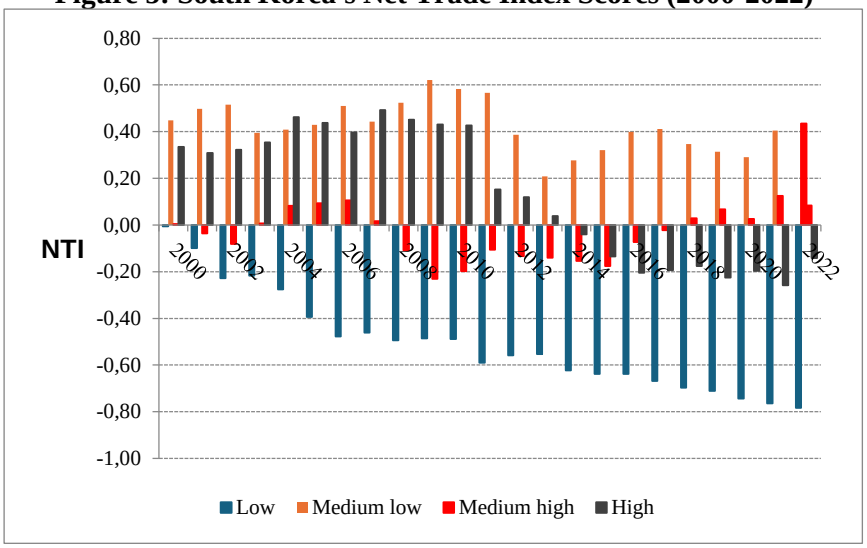
Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.5. South Korean's Analysis

South Korea's foreign trade competitiveness and NTI scores have a very variable appearance. First of all, the country has a comparative disadvantage in the foreign trade of low-technology industries and has not specialized. When interpreted in terms of added value, it is obvious that this situation is in favor of the country. For the first 13 years, the country had achieved an obvious competitive advantage in the foreign trade of high-tech products. However, the superiority has been replaced by a disadvantage in recent years. Instead, the country gained a global competitive advantage in the foreign trade of medium-low and medium-high technology product groups. In general, it can be

said that South Korea is at the forefront of N11 countries in terms of competition of technological products.

Figure 5: South Korea's Net Trade Index Scores (2000-2022)

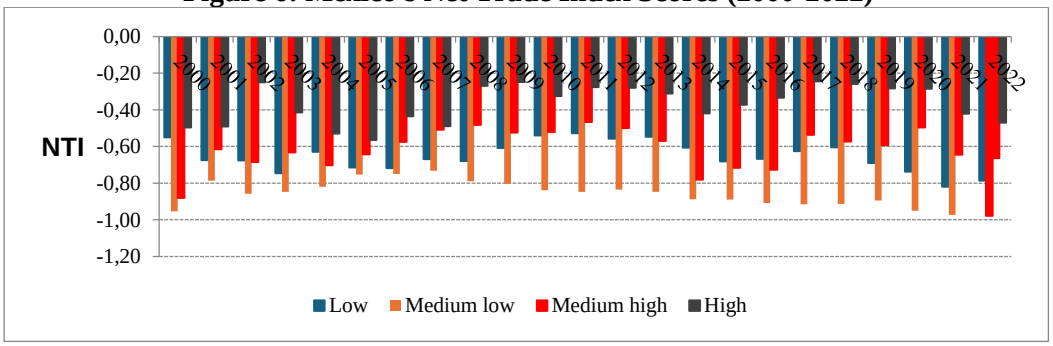


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.6. Mexico's Analysis

According to NTI analysis results, Mexico has a comparative competitive disadvantage in the entire 4 industrial group with low -technology, medium low technology, medium-high technology and high-tech. However, the product group with relatively low comparative disadvantage of the country is high -tech industries. Competition disadvantage in the country's medium low and medium -high technology product groups is quite high. These results primarily show that Mexico's specialization level in industrial groups is low. Because the country has not specialized in the foreign trade of any product group.

Figure 6: Mexico's Net Trade Index Scores (2000-2022)

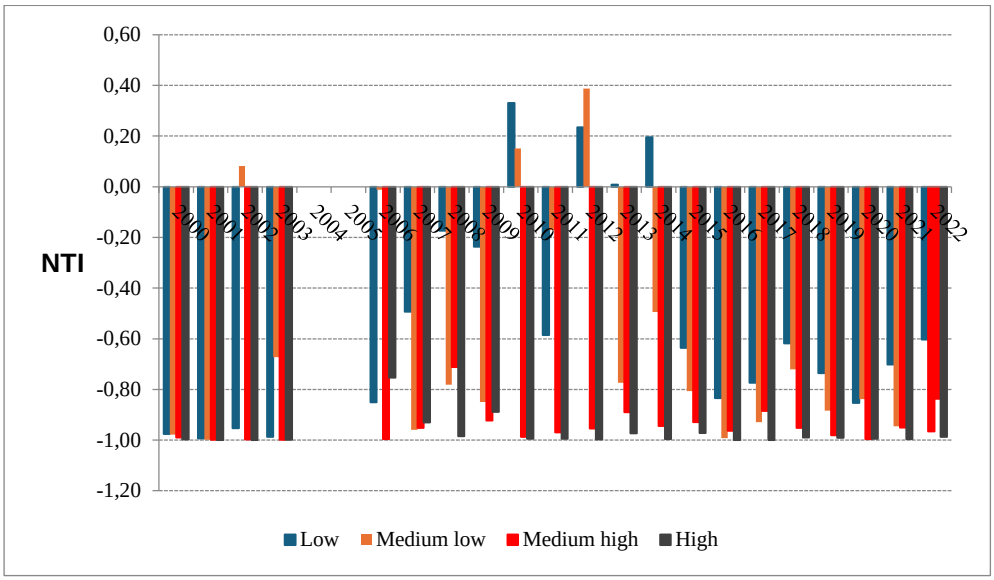


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.7. Nigeria's Analysis

Nigeria's scores are similar to the course of the scores of Meksaka according to product groups. In general, Nigeria has not specialized in the foreign trade of all product groups and has a disadvantage of competition. The country's disadvantage in foreign trade of low-technology products is relatively lower. In fact, in certain years (2010, 2012, 2014), the country gained a global competitive advantage in low -technology product groups. In 2010 and 2012, the country provided a competitive advantage even in the foreign trade of medium low-technology products. However, stability has not been achieved in specialization in both product groups. These results reveal the commitment to the country's competitiveness mainly to the intensive products of raw materials that are mainly added. The added value of the country has a significant and stable competition disadvantage in foreign trade of relatively high product groups.

Figure 7: Nigeria's Net Trade Index Scores (2000-2022)

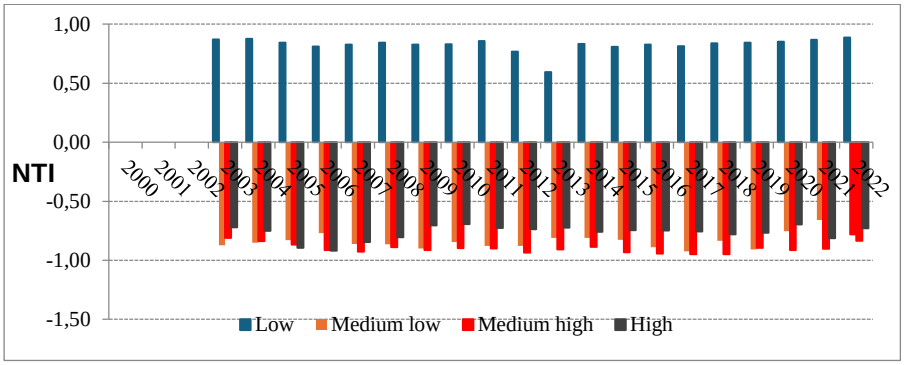


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.8. Pakistan's Analysis

According to Pakistan's scores, the country has a competitive advantage only in the foreign trade of low-technology product groups during the examination period. However, considering that the value added value of these products is low, it cannot be said that this specialization has a positive effect on the welfare level of the country. The added value of the country is negative in all other other product groups. In other words, the country is largely dependent on the external in these product groups and has a stable competition disadvantage.

Figure 8: Pakistan's Net Trade Index Scores (2000-2022)

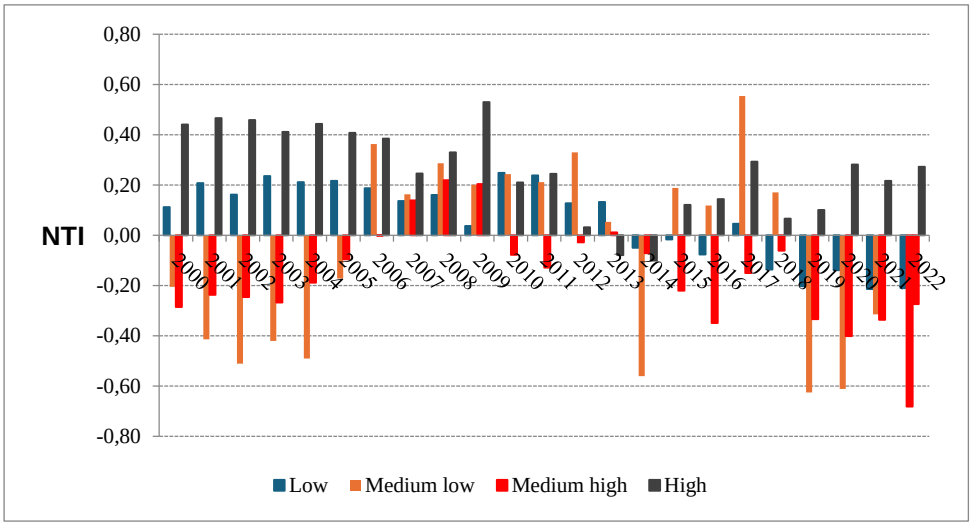


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.9. Philippines' Analysis

When the course of the Philippines' scores is examined, a unstable and playful appearance is noteworthy. However, the country mainly has a competitive advantage in the foreign trade of high-tech product groups. Except for 2013, the scores of high -tech product groups in all other years are positive. The country also provided a competitive advantage in the foreign trade of low-technology product groups until 2013. However, the scores of low-technology products received negative value after this year. Except for the years 2007, 2008, 2009, the country has a disadvantage in medium high-tech product groups in all other years. The scores in medium low -technology product groups have a very playful appearance.

Figure 9: Net Trade Index Scores of the Philippines (2000-2022)

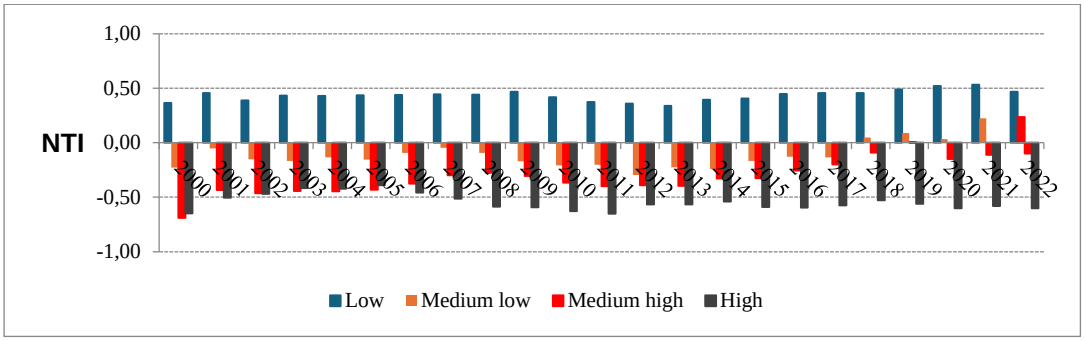


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.10. Turkey's Analysis

There is a stable competitive advantage in the foreign trade of Turkey's low-technology product groups. Because in all years examined, the country's scores are positive. This shows that there is a problem of added value in Turkey's foreign trade. In the foreign trade of medium low -technology product groups, the country has started to gain competitive advantage in recent years. In medium high-tech product groups, LI scores continuously exhibited a positive tendency and showed the competitive advantage in 2022. This course is positive for the development of the country's global competitiveness. However, industries, the country's scores are steadily negative in high-tech.

Figure 10: Turkey's Net Trade Index Scores (2000-2022)

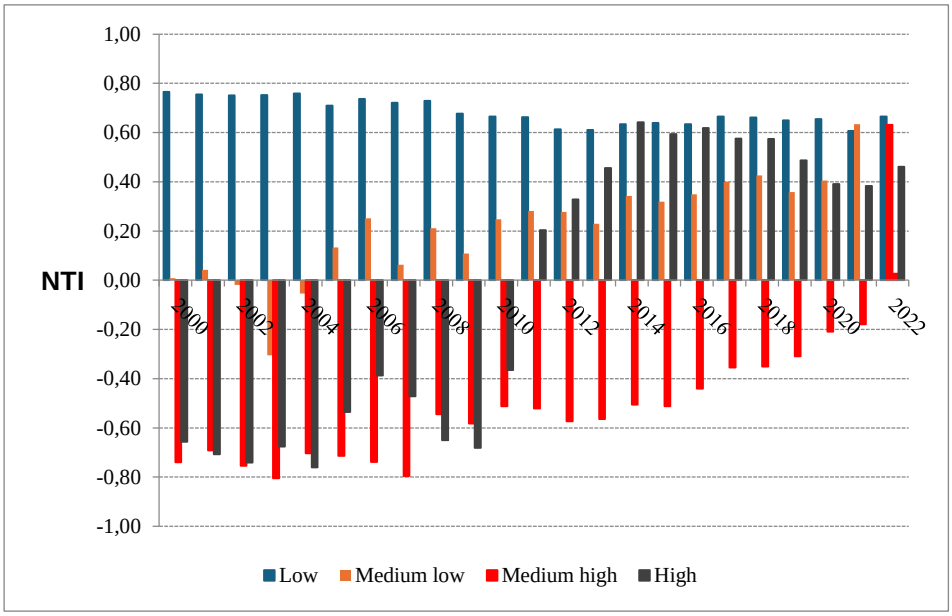


Source: It is prepared by using the data received from https://wits.worldbank.org/.

4.11. Vietnam's Analysis

Vietnam first has the competitive advantage in the foreign trade of low-technology products. Because the country's scores are steadily positive. However, the country's scores of the country have been constantly positive in the foreign trade of medium low-technology products after 2005. The scores of medium high-tech products were also significantly negative in the early years and became positive in 2022. In addition, the country has started to obtain a competitive advantage with the year 2011 in high-tech product groups. It is striking that the country has a competitiveness in foreign trade of all product groups in 2022. The course of the scores of medium high and high-tech product groups reveals that the country's global competition level has increased especially in recent years.

Figure 11: Vietnam's Net Trade Index Scores (2000-2022)



Source: It is prepared by using the data received from https://wits.worldbank.org/.

5. CONCLUSION

With the continuous increase of the technology level in our era, global competition and trade wars are on the agenda. In this environment, the main goal of countries is to increase the export levels, especially in relatively high and stable markets such as the EU. Countries with high competitive power in exports to these developed countries will naturally also provide a competitive advantage on a global scale.

It is quite natural that the countries with higher global competitiveness in the world are also in the group of developed countries. However, many developing countries, especially the BRICS countries (Brazil, Russia, India, China, South Africa), have also been increasing their global competitiveness over the years. In fact, according to the projections made for the future, some of the developing countries in question (N11 countries) will increase the share they have received from global value added every passing year. In this study, the competitiveness of foreign trade in the EU market of N11 countries, which are considered as shining stars in global markets, was analyzed.

According to the foreign trade competitiveness results calculated according to the Lafay index, the competitiveness of N11 countries in general is weak in the EU market. The main reason for this is that these countries specialize mainly in products with low added value in their production and export. Because these countries are more specialized in foreign trade of low and/ or medium-low-technology products and have achieved competitive power. Of these countries, only South Korea, Vietnam and the Philippines have managed to achieve competitiveness in foreign trade of medium-high and high-tech products, especially in recent years. For this reason, these three countries differ from other N11 countries, especially in terms of value added in exports.

However, in order to achieve competitive advantage in this market, these countries need to pay attention to various factors. In summary, we can collect these factors in five headings:

1. Product quality and standards
2. Trade treaties
3. Innovation and technology
4. Logistics and distribution network
5. Marketing and brand awareness

In particular, the prerequisite for developing countries to increase their income and welfare levels is to increase their competitiveness in foreign trade. For this purpose, the countries in question

definitely need to increase the level of value added in their production and exports. From this point of view, these countries should give priority to high-tech industries in their tax and incentive policies. In other words, policy makers in these countries should positively discriminate against industries that produce high added value through selective credit and tax policies. Only in this case will the developing countries in question be able to have a say on the global platform.

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