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COMPARISON IN TRADE OUTCOME PERFORMANCE BETWEEN THE EUROPEAN UNION MEMBERSHIP CANDIDATE COUNTRY - TURKEY AND EUROPEAN UNION MEMBER COUNTRIES

AVRUPA BİRLİĞİNE ADAY ÜLKE TÜRKİYE VE AVRUPA BİRLİĞİNE ÜYE ÜLKELER ARASINDAKİ TİCARET GELİR PERFORMANSININ KARŞILAŞTIRILMASI

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ABSTRACT

Turkey, as a membership candidate country to the European Union(EU) and as a developing country, has a significant effect in European trade-related trade's policies. In this regard, Turkey's trade performance in term of outcome compared to other European Union member's countries has also a remarkable importance. The purpose of this study is to compare Turkey's trade performance with the 28 member countries of the European Union, to find out which of them are similar or different (remote) from Turkey's. The data set for this study was taken from the World Bank's web site. To perform this paper Multidimensional scaling analysis(MDS) was used to reveal similarities or differencies between countires. The empirical results from this study reveals that Turkey is closer to some European Union member's countries such as Germany (the biggest economy country in EU), Romania, and Latvia and far from the United Kingdom, Ireland and Belgium.

Key Words: *EU, Turkey, Trade outcome performance, World Bank, Multidimensional Scaling*

Jel Codes: *F10, F11, F14.*

ÖZET

Türkiye, Avrupa Birliği(AB)'ne aday olan ve gelişmekte olan bir ülke olarak Avrupa Birliği'nin ticaretle ilgili politikalarında önemli bir etkiye sahiptir. Bu bakımdan Türkiye'nin diğer Avrupa Birliği ülkelerine oranla ticaret performansının da kayda değer bir öneme sahip olduğu görülmektedir. Bu çalışmanın amacı, Avrupa Birliği'ne üye olan 28 ülke ile aday olan Türkiye'nin ticaret performansları bakımından hangi ülkelerle benzer, hangi ülkelerden farklı olduğunu belirlemektir. Avrupa Birliği'ne üye olan ülkelerle Türkiye'nin ticaret performansını karşılaştırabilmek için gerekli veriler dünya bankasından alınmıştır. Çalışmanın analizinde; sosyal bilimlerde yaygın olarak kullanılan, çok boyutlu uzayda verilerin ilişki yapısını grafiksel olarak ortaya koyarken birimler arasındaki benzerlikleri ya da farklılıkları dikkate alan çok boyutlu ölçekleme analizi kullanılmıştır. Bu çalışmanın sonucunda Türkiye'nin ticaret gelir performansı bakımından Avrupa Birliği üyesi Almanya, Romanya ve Litvanya ile benzer iken İngiltere, İrlanda ve Belçika'dan uzak olduğu sonucuna ulaşılmıştır.

Anahtar Kelimeler: *AB, Türkiye, Ticaret performansı, Dünya Bankası, Çok boyutlu ölçekleme analizi*

Jel Kodları: *F10, F11, F14.*

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1. INTRODUCTION

This study aims to determine which of the 28 EU member countries have similar trade performances with Turkey and which of them do not.While comparing the trade performance of EU member countries and Turkey,it is beneficial to examine ;trade with in EU,trade with in Turkey,trade relations between Turkey and EU and the status of the international trade in world market.

1.1. European Union's Trade

The Union is one of the world's most outward-oriented economies and intends to remain so. Trade with the restof the world doubled from 1999 to 2010, and currently almost three quarters of imports into the EU pay no, or reduced, duties. Where duties are still payable, the average rate in 2012 was just 1.6 % for industrial products and 4 % for all goods overall. The EU is the biggest trading partner for 80 countries including Turkey. EU's trade key figures[13] in these last times were as follows: EU share of world exports and imports: 17.2 % in 2011, Foreign direct investment in EU accounted for €3 807 billion in 2011, EU outbound foreign direct investment accounted for €4 983 billion in 2011, Manufacturing trade surplus, oil excluded: accounted for almost €300 billion in 2012; Services trade surplus accounted for €120 billion in 2011 and EU development aid accounted for €53 billion in 2012

1.2. Turkey's Trade

At the beginning of 1980s, a more liberal trade regime has been taken in Turkey. The main

objective of this regime was to promote export and to encourage private sector attending the regime. Together with Turkey, many Middle East and North African (MENA) countries have experienced a considerable progress in liberalization. On the other hand, Central and East European Countries (CEECs), Russian Federation and Turkic Republics have transformed from planned economy to capitalist and more liberal economy. They are still on the way of this severe transformation progress. Turkey is a candidate country and a strategic partner for the European Union. Turkey, with its large, dynamic economy, is an important trading partner for the EU and a valuable component of EU competitiveness through the Customs Union. Turkey has a strategic location, including energy security, and plays an important regional role.

On the other hand Turkey will progressively adjust any state monopoly of a commercial character so as to ensure that no discrimination exists in the conditions under which goods are produced or marketed between nationals of EU member countries and Turkey. Turkey has harmonised its laws with EU legislation eliminating technical barriers to trade. There is now effective co-operation between Turkey and the EU in the fields of standardisation, calibration, quality, accreditation, testing and certification. Turkey has also harmonised its legislation on intellectual, industrial and commercial property to EU standards and has implemented laws covering consumer protection, and the protection of competition. Both sides are banned from using internal taxes as indirect protection mechanisms and from using tax rebates as export subsidies:

1.3. EU and Turkey trade relation fields

The Positive Agenda launched in 2012 continued to support and complement the accession negotiations through enhanced cooperation (EU *2013 Progress Report on Turkey*) in a number of areas of joint interest: political reforms, alignment with the acquis, dialogue on foreign policy, visas, mobility and migration, trade, energy, counter-terrorism and

[3] EU trade: http://ec.europa.eu/trade

participation in EU programs. The Commission assessed progress made in the framework of the working groups and informed Turkey and the Member States which benchmarks it considers to be met. The Commission also acknowledged progress achieved on important requirements as regards the judiciary and fundamental rights. It is clear that the Customs Union had a certain impact on the increase in imports. Turkey's export to the EU totalled $11.5 million; an increase of 3.7%, below the 7.4% increase in total exports. This is due to the economic stagnation in continental Europe, especially in Germany, because Germany has the biggest share of Turkey's exports in the EU. Meanwhile, export of textile Turkey's most competitive sector, also increased by only 4.2%. EU countries have always played an important role in the foreign trade of Turkey, having a share of over 45-50% in the overall trade. Especially the adoption of Turkish economy to EU's competition affects an increase in Turkish production quality and it improves the trade between Turkey and EU. Bilateral trade between the EU and Turkey totaled €123 billion in 2012. Turkey continues to be the EU's sixth biggest trading partner, while the EU is Turkey's biggest. 38% of Turkey's total trade is with the EU and almost 71% of foreign direct investment in Turkey.

1.4 World trade

The pace of global trade integration over the past two decades has been nothing short of extraordinary. Developing countries have been the biggest beneficiaries of trade expansion and the pursuit of"export-led" growth. But leveraging trade for broad-based economic growth is no simple matter—some paths may be better than others, and different countries have had varying degrees of success in achieving this. While the rapid expansion of trade in recent decades was supported by trade policy reforms across the globe, improved market access has not translated into sustainable export growth and diversification for many developing countries. At the same time, in high-income countries (World Bank,2010) that have benefited greatly from an open trading system, trade with developing nations is often viewed more as a threat than as an opportunity. Clearly, openness to trade and low levels of trade protection, although necessary and important, is not sufficient to ensure sustained export growth and greater diversification. The recent global crises and associated policy responses have shown that most countries remain strongly committed to trade integration, but complementary policies are critical to manage adjustment costs and the effects of volatility. Reflecting this, in recent years the focus of governments has turned toward a broader "trade competitiveness" agenda, aimed at addressing supply-side constraints to investment and trade expansion as well as ensuring an open trade regime. Trade competitiveness is a core pillar of the World Bank's new Trade Strategy, and is also an important dimension of its approach to private sector development(World Bank,2010).

Foreign trade is considered as an essential factor for accelerating the path of economic growth. Most countries are involved in foreign trade to create employment, raise propensity to save, increase foreign exchange earnings, and raise the productivity of investment moving from less productive use to high productive use. Foreign trade has been regarded as an engine of growth, lead to steady improvement in human status by expanding the range of people's standard and preference. Since no country has grown without trade, foreign trade plays a vital role in restructuring economic and social attributes of countries around the world. Experience of economies suggesting that countries which are active at the international exchanges tend to be more productive compared to the countries that produce only for the domestic market. Hence, considering the above, a study on comparing Turkey's trade performance to that of the European Union member countries, especially on the trade outcome performance, will show the similarities between them.

The aim of this study is to compare the trade outcome performance of the 28 European Union member countries with that of its membership candidate country, Turkey, in order to determine differences among countries. To reach the goals of this study, we would ask the following questions: What is the position of Turkey, in trade outcome performance compared to European Union countries? In other words, which European Union member countries are in the same group with Turkey? Which variables are considered? Which countries are most remote or far away? To reach this objective, we will use Multidimensional Scaling analysis to find out the position of EU membership candidate country, Turkey, with the twenty height member countries of EU in term of trade outcome performance.

The paper consists of five sections. The second section presents the literature review, the third section presents the data and methods and the fourth section the empirical Results and Discusion before to conclude in the fith section.

2. THE LITERATURE REVIEW

The effect of foreign trade on economic growth, empirically, has been an important and controversial subject for several decades. A number of studies, using different approaches, have found growth to be enhanced by trade openness, or liberalization (Krueger, 1978; Feder, 1983; Ram, 1985 and 1987; Balassa, 1978 and 1985; Dollar, 1992; Edwards, 1998; Ben-David et al., 2000; among others). On the other hand, some studies like Singer (1950), Prehisch (1962), Kavoussi (1985), Singer and Gray (1988), Sachs (1987 and 1989) and Taylor (1991) have argued that trade or trade expansion may not be beneficial for the economic growth of all countries at all times. Goldberg and Pavcnik (2007) investigate the relationship between trade and income growth in developing countries and conclude that globalization benefits are country, time, and case specific. Rodriguez and Rodrik (2001) analyze the relationship between trade policies, trade volume, and output growth and find no substantial evidence to suggest trade increases economic growth. In fact, the conclusions in past literature regarding empirical benefits from international trade are mixed. Some of empirical studies on the relationship between export and economic growths have found export growth to be associated with increase in output or GDP (Michaely, 1977; Tyler, 1981 and Balassa (1985). Michaely (1977) used simple regression and correlation analysis to investigate the relationship between exports and growth. They found that in less developed countries, there was a weak correlation. They, however, raised an important issue to determine the minimum level of development a country has to attain in order to benefit from trade. Jiles and Williams (2000) noted that not all authors support export-led growth theory because of the vast empirical differences between the growth in the East and Southeast Asian countries and Latin America. Panas and Vamvoukas (2002) showed that the export led growth is not valid in the case of Greece and findings suggest a strong and consistent causation from output growth to export performance in long run. Frankel and Romer (1999) found significant impact of trade openness on level of per capita income. They argued that trade possibilities enhance growth through greater capital stock, stock of education and higher total factor productivity. They, however, warned explicitly against drawing inferences for trade policies based on their results as it brings different factors into play. However, the empirical analysis of the relationship between trade openness and economic growth has generated mixed results.

Some studies also argued that foreign trade impacts the economic growth of countries through the attraction of foreign direct investment (FDI). According to Lall (2000) and Te Velde (2001), the main channels through which FDI contributes to economic growth are

technology transfer, capital accumulation, access to international market, job creation and managerial and marketing practices; and Blomstrom and Kokko (2003) added that trade and FDI can only facilitate growth after the minimum level of human capital, infrastructure and technology have been met. Kruger (1983) states that decrease in imports of capital goods declines the GDP growth rate and in contrast, decrease in import of raw materials and intermediate goods, has positive impact on production and employment. Coe and Helpman (1995) using time-series data show that trade affect economic growth positively through technological transfer. Levine and Renelt (1992) and Wacziarg (2001) showed that international trade influences growth through investment (factor accumulation).Frankel and Romer (1999) specifically found trade to influence growth through human capital accumulation.

3. DATA AND METHODS

3.1 Data

The original data was taken from the World Bank data base published in 2010, concerning trade outcome performance of 148 different countries from 2006 to 2009. According to World Bank, there were five indicators of trade performance such as: Trade Policy, External Environment, Institutional Environment, Trade Facilitation and Trade Outcome. For this paper, we choose outcome indicator that constitutes the final palpable result of the four first indicators and that can judge countries in term of returns of their trade activities that constitutes the bedrock of their economic growth.

3.2 Methods

Multidimensional Scaling (MDS) method was used to perform this paper. Multidimensional scaling (MDS) is a means of visualizing the level of similarity of individual cases of a dataset. It refers to a set of related ordination techniques used in information visualization, in particular to display the information contained in a distance matrix. An MDS algorithm aims to place each object in *N*-dimensional space such that the distances between the objects are preserved as well as possible. Each object is then assigned coordinates in each of the *N* dimensions. The number of dimensions of an MDS plot *N* can exceed 2 and is specified a priority. Choosing *N*=2 or 3 optimizes the object locations for a two- or three dimensional scatter plot .

The usage of MDS in data analyses has several advantages. Namely, MDS is an extremely flexible technique, one that can model non-linear relationships and is not bound by the numerous assumptions associated with general linear models or even with factor analyses. MDS also known as perceptual mapping is a procedure that allows a researcher to determine the perceived relative image of a set of objects (firms, products, ideas, or other items associated with commonly held perceptions).

The multidimensional scaling solvable general purpose with minimum size must reveal that objects structure (using the distance values) is closed to its original shape. The MDS, Clusters and discriminant analysis are like one of Q analysis techniques, also due to the size reduction feature; R is located between analysis techniques (Tatlidil, 2002:353).

To perform a MDS analysis of data within SPSS there are a three main options; the ALSCAL, the PROXSCAL and PREFSCAL procedures. As Leydesdorff and Vaughan (2006) state, ‘the ALSCAL procedure assumes that the input is a dissimilarity matrix, PROXSCAL allows one to specify whether the proximities are similarity or dissimilarity measures’, while PREFSCAL minimizes penalized Stress, an approach that successfully

avoids degenerate solutions in most circumstances(*Frank M.T.A. Busing,* Leiden University). PREFSCAL aims at the same functionality as PROXSCAL.

Multidimensional scaling is often used in marketing practice, but it has been used less frequently in academic research (Azabagaoglu et al., 2002; Oraman and Inan 2005; Huber, 2008; Gurcaylilar, 2008). However there are several important research papers that used MDS as a research technique (Gallivan and Jgarkava,2008). Most of them use a MDS as a technique to measure the perceptions of customers about different subjects.

The aim of this study is to compare dissimilarities between the 28 European Union member countries with the European Union membership candidate, Turkey, in term of the trade outcome performance.

Prefscal is used in this study. The solution was derived using MDS analysis involving distance matrices. Therefore, appropriate distance matrices should be calculated according to the type of data(Doğan, 2003). Euclidean distance (d) is used in this study, as seen on Equation 1.

$$d = \sqrt{\sum_{i=1}^{n} \left(x_i - y_i \right)^2} \qquad \text{(Equation. 1)}$$

Stress dimension (Equation 2 has a common use in MDS analysis and it is as a criterion for correlation or positive correlation and used in determining whether the dimension number is appropriate that was used in graphical organizing gathered at the end of the analysis. (Filiz ve Çemrek, 2005).

$$stress = \sqrt{\sum \left(\hat{d}_{ij} - d_{ij} \right)^2 / \sum \left(d_{ij}^2 \right)} \qquad \text{(Equation. 2)}$$

i. and j. data distance between individuals,= i. and j. are shown as configuration distance between individuals (Doğan, 2003). Stress ratio is used as a criterion in determining suitability of MDS analysis. A low stress value shows the correlation of the analysis; a good stress value shows a poor correlation. Kruskal provided a guide indicating correlation of analysis to interpret of stress value in 1964 (Table 1; Wickelmaier, 2003).

The data to be analyzed is a collection of I objects (colors, faces, stocks, . . .) on which a *distance function* is defined, $\delta_{i,j}$:= distance between *i* th and *j* th objects. These distances are the entries of the *dissimilarity matrix*.

$$\Delta := \begin{pmatrix} \delta_{1,1} & \delta_{1,2} & \cdots & \delta_{1,\mathrm{I}} \\ \delta_{2,1} & \delta_{2,2} & \cdots & \delta_{2,\mathrm{I}} \\ \vdots & \vdots & \cdots & \vdots \\ \delta_{\mathrm{I},1} & \delta_{\mathrm{I},2} & \cdots & \delta_{\mathrm{I},\mathrm{I}} \end{pmatrix}$$

The goal of MDS is, given Δ, to find I vectors $x_1, x_2, ..., x_{\mathrm{I}} \in R^N$ such that

$$\left\| x_i - x_j \right\| \approx \delta_{i,j} \text{ for all } \quad i, j \in \mathrm{I}$$

where $\|.\|$ is a vector norm. In classical MDS, this norm is the Euclidean distance, but, in a broader sense, it may be a metric or arbitrary distance function. In other words, MDS attempts to find an embedding from the I objects into R^N such that distances are preserved. If the dimension N is chosen to be 2 or 3, we may plot the vectors x_i to obtain a visualization of the similarities between the I objects. Note that the vectors x_i are not unique: With the Euclidean distance, they may be arbitrarily translated, rotated, and reflected, since these transformations do not change the pair wise distances $\|x_i - x_j\|$

(Note: The symbol $\mathbb{R}$ indicates the set of real numbers, and the notation $\mathbb{R}^N$ refers to the Cartesian product of n copies of $\mathbb{R}$, which is an n-dimensional vector space over the field of the real numbers.) There are various approaches to determining the vectors x_i. Usually, MDS is formulated as an optimization problem, where $(x_1, x_2, ..., x_I)$ is found as a minimizer of some cost function, for example:

$$\min_{x_1,...,x_I} \sum_{i<j} \left(\|x_i - x_j\| - \delta_{i,j} \right)^2 .$$

A solution may then be found by numerical optimization techniques. For some particularly chosen cost functions, minimizes can be stated analytically in terms of matrix Eigen decompositions . Stress ratio is used as a criterion in determining suitability of MDS analysis. A low stress value shows the correlation of the analysis; a good stress value shows a poor correlation. Kruskal provided a guide indicating correlation of analysis to interpret of stress value in 1964.

Table 1: Stress Value

Stress-Value	**Goodness Of Fit**
0.10 -0.20	Poor
0.05 - 0.10	Fair
0.025-0.05	Good
0 -0.025	Excellent

Source: (Wickelmaier, 2003)

3.3. Definition Of Variables

The World Trade Indicators (WTI) database contains about 450 trade-related policy and outcome indicators for 211 countries. It is organized around five thematic categories or pillars, namely (i) Trade Policy, (ii) External Environment, (iii) Institutional Environment, (iv) Trade Facilitation and (v) Trade Outcome. In this study, we used the d of the variables from one the five trade indicators namely '' World trade indicators 2009/10 '' as Trade Outcome published in 2010 by the World Bank. This data is founded on World Bank internet web site on www.worldbank.org. Trade outcomes indicators is a tool developed by the International Trade Unit of the World Bank that reviews the country-level performance of exports along various dimensions which together give a fairly comprehensive picture of trade competitiveness(*World Bank*.) .

Table 2: Description Of Variables

Symbol	Variables	Definitions
X1	**Real growth in trade (%)**	Nominal Growth in Total Trade (g+s, %) is the average annual growth rate of the total exports and imports of goods and services at current U.S. dollars. It is noted that goods are concerning agricultural and non-agricultural sectors while services are transport, travel, other commercial services, and government services
X2	**Nominal growth in trade (%)**	Goods Trade Share of Total Trade (g+s, %) represents the share of goods exports and imports as a percent of total exports and imports of goods and services. It is noted that goods are concerning agricultural and non-agricultural sectors while services are transport, travel, other commercial services, and government services. Source: (World Bank Development Economics Prospects Group (DECPG))
X3	**Trade Composition (share of goods *and* services)**	Agricultural Exports/Imports Share of Goods Exports/Imports (%) represents the share of agricultural exports/imports as a percent of goods exports/imports (food) A subcategory of this • Non-Agricultural Exports/Imports Share of Goods Exports/Imports (%) represents the share of non-agricultural exports/imports as a percent of goods exports/imports. (: This concerns manufactures, fuels, ores and metals). • Transport Exports/Imports Share of Services Exports (%) represents the share of transport exports/imports as a percent of services exports/imports. • Travel Exports/Imports Share of Services Exports/Imports (%) represents the share of travel exports/imports as a percent of services exports/imports. • Other Commercial Services Exports / Imports Share of Services Exports / Imports (%) represents the share of other commercial services exports/imports as a percent of services exports/imports. This concerns financial services, computer and information services, and "other business" services.
X4	**Trade Integration (% GDP)**	Trade Integration (% of GDP) is the sum of exports and imports in goods and services expressed as a percent of GDP in current U.S. dollars. It is noted that goods are concerning agricultural and non-agricultural sectors while services are transport, travel, other commercial services, and government services
X5	**Trade Balances (%)**	• Current Account Balance (% of GDP) is the sum of the goods and services balance, income balance and current transfers balance, expressed as a percent of GDP. • Trade Balance (% of GDP) represents the difference between exports and imports of goods and services, expressed as a percent of GDP.This indicator have included into goods and services balance.• Food Balance (g+s, % of GDP) and• International Reserves (% of Imports of Goods and Services) represents international reserves excluding gold, expressed as a percent of imports of goods and services.
X6	**Shares of World Trade (%)**	• Total Trade Share of World Total Trade (g+s, %) represents total exports and imports of goods and services of a country, expressed as a share of world total exports and imports. It is noted that goods are concerning agricultural and non-agricultural sectors while services are transport, travel, other commercial services, and government services
X7	**Growth in Shares of World Trade(%)**	Growth in Trade Share of World Total Trade (g+s, %) represents the average annual growth rate of trade share of world total trade in nominal terms. This indicator is also disaggregated into goods trade and services. It is noted that goods are concerning agricultural and non-agricultural sectors while services are transport, travel, other commercial services, and government services

Symbol	Variables	Definitions
X8	**Product and Market Diversification (%)**	• Number of Products Exported / Imported is calculated at the 3-digit SITC, Revision 3 level, and includes only those products whose value exceeds $ 100,000 or 0.3 percent of the country's total exports/imports, whichever one is smaller. • Share of Top 5 Exports/Imports Products of Total Goods Exports/ Imports measures the total value of the largest (by value) five major export products of a country divided by the value oftotal goods exports at SITC 3-digit level, Revision 3.Available years Source U.N. COMTRADE database as calculated by the World Bank Institute using WITS. • Export/Import Product Concentration Index (0100, most concentrated) represents the Herfindahl-Hirschmann index measure of the degree of export/import product concentration within a country. Calculated at the SITC 3 digit level, • Share of Top 5 Exports/Imports Markets of Total Goods Exports/Imports measures the total value of the top five (by value) major exports/imports markets of a country divided by the totalgoods exports/imports at SITC 3-digit level, Revision 3. U.N. COMTRADE database as calculated by the World Bank Institute using WITS. • Export Market /Import Source Concentration Index (0100, most concentrated) represents the Herfindahl-Hirschmann index measure of the degree of concentration of exports markets and import sources of a country. Calculation of the concentration indices is based on SITC revision 3, at the 3 digit level and includes products whose national export or import value is higher than 100.000 or represents more than 0.3% of total national exports or imports.
X9	**Tourism, FDI, and Remittances (%)**	• Growth in Tourist Arrivals/Departures (%) represents the average annual growth rate of the number of tourist arrivals/departures in a country. (World Bank WDI – World Tourism Organization) • FDI Inflows (% of GDP) represents net foreign direct investment (FDI) inflows divided by the value of GDP in the reporting country. FDI is the sum of equity capital, reinvestment of earnings, and other short and long-term capital. FDI Outflows (% of GDP) represents net outflows of investment from the reporting country to the rest of the world, as a percent of GDP of the reporting country. FDI inflows are also reported as a share of exports of goods and services, as well as a share of world FDI Inflows. World Bank WDI for FDI Inflows (% of World FDI Inflows) • Total Remittances Inflows/Outflows (% of GDP) represents a country's receipts/payments of worker remittances, compensation of employees, and migrant capital transfers expressed as a percent of GDP. Inflows are also expressed as a share of exports of goods and services, share of world total remittances inflows, and share of FDI inflows. 1995-2009; 1995-2008 for Total Remittances Inflows as a share of exports of goods and services • Worker Remittances Inflows/Outflows (% of GDP) represents a country's receipts/payments of worker remittances, defined as current transfers by migrants who are employed or intend to remain employed for more than a year in another country in which they are considered residents.

Symbol	Variables	Definitions
X10	**Other Variables (%)**	•Real GDP Growth (%) is the average annual growth rate of a country's GDP at constant 2000 U.S. •Real GDP per Capita Growth (%) is the average annual growth rate of a country's GDP per capita at constant 2000 U.S. dollars. •Nominal Trade (g+s) per Capita represents the exports and imports of goods and services per capita, in current U.S. dollars.

Source: (World Bank Development Economics Prospects Group (DECPG))

4. EMPIRICAL RESULTS AND DISCUSSION

Results Obtaıned From Multi-Dimensional Scaling Analysıs

Stress measure indicates the proportion of the variance of the disparities not accounted for by the MDS model. This measurement varies according to the type of program and the data being analyzed. Kruskal's stress is the most commonly used measure for determining a model's goodness of fit, and is provided in SPSS. Stress is minimized when the objects are placed in a configuration so that the distances between the objects best match the original distances. R2 measure as an index of fit, indicating the proportion of variance of the disparities accounted for by the MDS procedure.

Multidimensional scaling analysis: due to the presence of a fully closed compliance graph, 3 dimensions were made. In the 3 dimensions of multidimensional scaling analysis, Young's S-Stress 1 and Kruskal's Stress 1 value = 0 A-7 and Speerman's Rho value of 0.9673915 were found. As a result, multi-dimensional scaling analysis coming out of the stress values close to 0 and rate Spearman's Rho values close to 1 based on the three dimension data indicates that three-dimensional scaling is appropriate for this study. In other words, the analysis of the MDS results determines the appropriated dimensionality and portrays the results in a perceptual map.

Table 3: Dimensions Coordinate Values in each country.

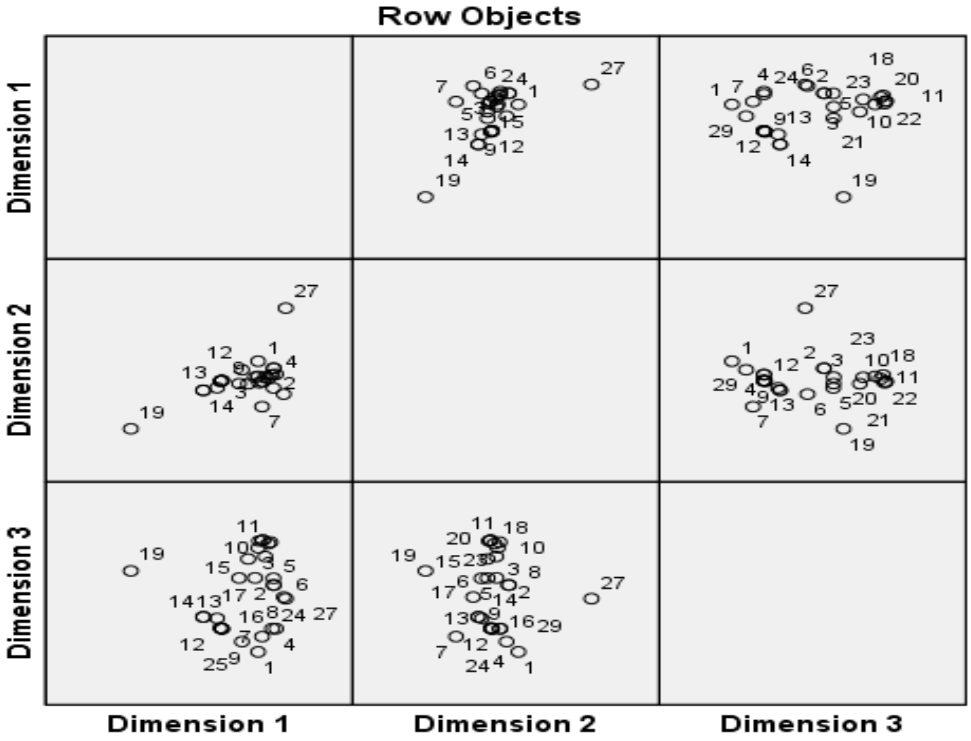
Country's name	Dimension				Dimension		
	1	2	3	Country's name	1	2	3
Belgium	1,101	,910	-1,501	**Slovenia**	,424	,046	-,908
				Spain	,077	-,397	-,605
Czeck Republic	1,389	,596	,214	**Sweden**	1,290	,131	1,274
Danemark	1,044	,197	,395	**United Kingdom**	-1,271	-2,118	,576
Estonia	1,433	,322	-,905	**Germany**	1,186	-,001	1,363
Finland	1,385	-,289	,385	**Italy**	,915	-,097	,882
France	1,576	-,565	-,094	**Turkey**	1,121	-,056	1,342
Greece	1,175	-1,124	-1,109	**Austria**	1,232	,189	,943
Hungary	1,390	,596	,214	**Bulgaria**	1,363	,302	-,905
Lithuania	,424	,046	-,908	**Croatia**	,399	,014	-,886
Luxemburg	1,105	,236	1,165	**Cyprus**	,406	,023	-,892
Malta	1,332	,298	1,313	**Ireland**	1,614	3,294	-,137
Netherlands	,425	,047	-,909	**Latvia**	1,186	-,001	1,363
Poland	,335	-,284	-,641	**Slovakia**	,800	,526	-1,238
Portugal	,077	-,397	-,605	**Romania**	,746	-,092	,392

Source: SPSS 20.0

According to the Table 3, due to the non marked positive or negative sign coordinates andmagnitudes of the countries, comments about their relative positions could be done. Therefore, examining the axis' coordinates will facilitate this interpretation.

Base on Figure 1, the coordinate points of the axis has been examined.

Figure 1: The Tree Dimensional MDS graphics coordinate points of the axis



Source: SPSS 20

When illustrating the trade performance of the countries, ten variables coordinates in three dimensions are given in the table 4. With the help of these coordinates in this table, the relative positions of the variable of the all countries can be determined.

Table 4: Variables For Coordinates In The Three Dimensional MDS

Variables	Dimension		
	1	2	3
Real growth in trade	1,566	-1,362	,299
Nominal growth in trade	-1,731	,199	-1,189
Trade Composition (share of goods and services)	-8,976	3,296	-,404
Trade integration (% GDP)	-6,761	-7,303	,481
Trade Balances	,296	-1,883	-1,912
Shares of World Trade	,654	-,072	-,323
Growth in Shares of World Trade	-,411	,670	1,005
Product and Market Diversification	-9,492	2,760	,458
Tourism, FDI, and Remittances	-,411	,670	1,005
Other Variables	-,411	,670	1,005

Source: SPSS 20

As seen from Table 4, Tourism, FDI and Remittances, Other Variables, and Growth in Shares of World Trade are the variables that show similarities in characteristic to each other.

The first dimension is defined by the Product and Market Diversification variables, the second dimension is defined by Trade integration (%GDP) and the third is defined by Trade Balances variable.

In the Figure 1, when we examined the impact or effect of countries, it shows these results as follows:

According to 1st and 3rd dimension, the United Kingdom is located in different positions. According to the 1st and 2nd dimension, the United Kingdom and Ireland are located in the different positions when compared to the other countries.

According to the 2nde and 3rde dimension, it is markedly shown again that the United Kingdom and Ireland were in different positions when compared with the other 27 countries.

Base on the coordinate values, we will find out the position of Turkey in the different dimensions; which countries are the most remote to it and which countries are the closest to it. In this light, countries' coordinates in each dimension are separately taken into account. After which the role played by each variable will be examined one by one.

The countries rank in the first dimension is shown in the Table 4.

Table 4: Countries Ranking Based On The Coordinates Values In The First Dimension

Country	Coordinate Values	Country	Coordinate Values	Country	Coordinate Values
United Kingdom	-1,271	Slovakia	0,800	Sweden	1,290
Spain	0,077	Italy	0,915	Malta	1,332
Portugal	0,077	Danemark	1,044	Bulgaria	1,363
Poland	0,335	Belgium	1,101	Finland	1,385
Croatia	0,399	Luxemburg	1,105	Czeck Republic	1,389
Cyprus	0,406	Greece	1,105	Hungary	1,390
Slovenia	0,424	Latvia	1,186	Estonia	1,433
Lithuania	0,424	Germany	1,186	France	1,576
Netherlands	0,425	Turkey	1,121	Ireland	1,614
Romania	0,746	Austria	1,232		

Source: SPSS 20

Ranking countries basing on the first dimension, indicates that the most distant country to Turkey is United Kingdom and the closest countries are Germany and Latvia.

Table 5: Data for Turkey, United Kingdom, Germany and Latvia

Country	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Turkey	-13,40	16,34	49,992	34,873	12,830	1,003	-3,997	69,747	5,126	-6,000
United Kingdom	-9,30	14,36	49,997	41,316	,431	4,250	-7,780	71,426	2,916	-3,450
Germany	-10,40	15,94	50,005	56,033	5,470	8,456	-2,200	71,601	5,115	-5,00
Latvia	-6,10	26,20	50,090	66,643	4,226	,083	-3,406	73,188	7,053	-12,70

Source: (World Bank Data 2010 (Authors compilation))

In the Table 5, according to the first dimension, the variable that show much difference between Turkey and its most remote country United Kingdom is X5 (Trade Balances). Between Turkey and Germany, the closest variables are X2 (Real Growth in Trade), X3 (Nominal Growth In Trade), X7 (Growth In Share Of World Trade), X8 (Product and Market Diversification), X9 (Tourism FDI and Remittances), X10 (Other Variables). Finally, according to the first dimension, the closest variables between Turkey and Latvia are X3 (Nominal Growth in Trade), X6 (Shares of World Trade), X7(Growth in Share of World Trade), X9(Tourism FDI and Remittances)

Table 6: Countries Ranking According To Their Coordinates Values In The Second Dimension

Country	Coordinate Values	Country	Coordinate Values	Country	Coordinate Values
United Kingdom	-2,118	Germany	-0,001	Luxemburg	0,236
Greece	-1,124	Latvia	-0,001	Malta	0,298
France	-0,565	Croatia	0,014	Bulgaria	0,302
Spain	-0,397	Cyprus	0,023	Estonia	0,322
Portugal	-0,397	Slovenia	0,046	Slovakia	0,526
Finland	-0,289	Lithuania	0,046	Hungary	0,596
Poland	-0,284	Netherlands	0,047	Czeck Republic	0,596
Italy	-0,097	Sweden	0,131	Belgium	0,910
Romania	-0,092	Austria	0,189	Ireland	3,294
Turkey	-0,056	Danemark	0,197		

Source: SPSS 20

According to second dimension, the most distant country to Turkey is Ireland and the closest country is Romania.

Table 7: Data For Turkey, Ireland and Romania

Country	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Türkiye	-13,40	16,34	49,992	34,873	12,830	1,003	-3,997	69,747	5,126	-6,000
Ireland	-5,70	7,70	49,957	100,710	2,366	1,053	-7,630	81,936	-1,467	-8,350
Romania	-11,10	23,64	50,300	53,840	10,193	,390	6,093	75,500	15,06	-4,450

Source: (World Bank, 2010 (Authors compilation))

In the Table 7, according to second dimension, the variable that causes the most difference between Turkey and its most distant country Ireland is X4 (Trade Integration GDP). The variables that make Romania to be the closest country to Turkey are X3 (Nominal Growth In Trade) and X6 (Shares Of World Trade).

Table 8: The Rank Of The Countries Coordinates Value According To The Dimension 3.

Country	Coordinate Values	Country	Coordinate Values	Country	Coordinate Values
Belgium	-1,501	Poland	-0,641	United Kingdom	0,576
Slovakia	-1,238	Portugal	-0,605	Italy	0,882
Greece	-1,109	Spain	-0,605	Austria	0,943
Netherlands	-0,909	Ireland	-0,137	Luxemburg	1,165
Lithuania	-0,908	France	-0,094	Sweden	1,274
Slovenia	-0,908	Hungary	0,214	Malta	1,313
Estonia	-0,905	Cezck Republic	0,214	Turkey	1,342
Bulgaria	-0,905	Finland	0,385	Germany	1,363
Cyprus	-0,892	Romania	0,392	Latvia	1,363
Croatia	-0,886	Danemark	0,395		

Source: SPSS 20

The Table 8 shows that according to the third dimension, the most remote country to Turkey is Belgium and the closest country are Germany and Latvia.

Table 9: Data for Belgium, Germany and Latvia

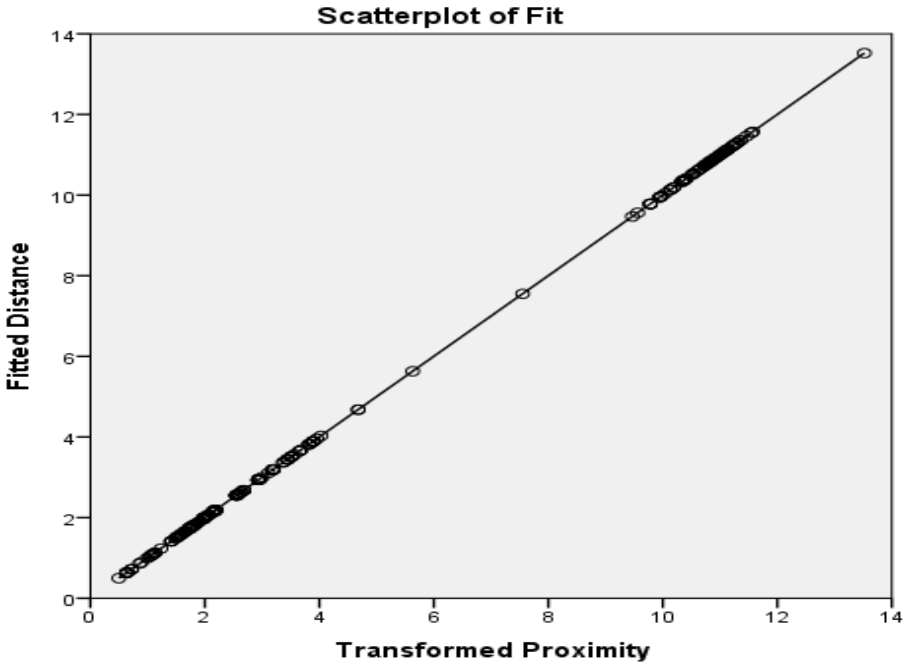
Country	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
Turkey	-13,40	16,34	49,992	34,873	12,830	1,003	-3,997	69,747	5,126	-6,000
Belgium	-5,50	7,04	49,985	113,83	,093	2,416	3,766	76,584	2,971	-3,700
Germany	-10,40	15,94	50,005	56,03	5,470	8,456	-2,200	71,601	5,115	-5,000
Latvia	-6,10	26,20	50,090	66,64	4,226	,083	-3,406	73,188	7,053	-12,70

Source: (World Bank, 2010)

In the Table 9, according to the third dimension, the variable that shows the greater difference between Turkey and its most remote country Belgium is X4 (Trade Integration GDP). According to the dimension 3, the variables that enable Germany to be one of the closest countries to Turkey are variable such as X2 (Real Growth in Trade), X3 (Nominal Growth in Trade), X7 (Growth in Share of World Trade), X8 (Product and Market Diversification), X9 (Tourism FDI and Remittances) and X10 (Other Variables). Moreover, of the other remaining country, Latvia is close to Turkey with variables such as X3 (Nominal Growth in Trade), X6 (Shares of World Trade), X7 (Growth in Share of World Trade) and X9 (Tourism FDI and Remittances).

In the last phase of the multi-dimensional scaling analysis, the relationship between the Euclidean distance and the estimated distance values can be examined with the values of the actual distances. Concerning the fit of the solution in a Scatterplot of actual distances (scaled similarity values) versus fitted distance from the perceptual map, it is shown below that this plot identifies true outliers that are well represented by the current solution. Therefore the initial impression of this particular scatterplot is very good; the density indicated by the plotting symbols reveals that the scatter is not dense along the diagonal.

Figure 2: Euclidean Distance Point Clouds Model Diagram



Source: SPSS 20

5. CONCLUSION

The European Union is one of the world's most outward-oriented economies and intends to remain so. Trade with the rest of the world doubled from 1999 to 2010, and currently almost three quarters of imports into the EU pay no, or reduced, dutiest the performance of EU share of world exports and imports was 17.2 % in 2011, the foreign direct investment in EU account for €3 807 billion in 2011, the EU outbound foreign direct investment account for €4 983 billion in 2011, its Manufacturing trade surplus, oil excluded: account almost for €300 billion in 2012;Its Services trade surplus accounted for €120 billion 2011 and EU development aid accounted for €53 billion in 2012.

In other hand Turkey trade performance was remarkable in this last year, Turkey's export to the EU totalled $11.5 million; an increase of 3.7%, below the 7.4% increase in total exports. This is due to the economic stagnation in continental Europe, especially in Germany, because Germany has the biggest share Turkey's exports in the EU. Meanwhile, export of textile Turkey's most competitive sector, also increased by only 4.2%. EU countries have always played an important role in the foreign trade of Turkey, having a share of over 45-50% in the overall trade. Especially the adoption of Turkish economy to EU's competition affects an increase in Turkish production quality and it improves the trade between Turkey and EU.

Elsewhere, Turkey and EU are doing trade in many fields such textile, technology, services, machines, agriculture and others. Furthermore, it is noted that the bilateral trade between the EU and Turkey totaled €123 billion in 2012. Turkey continues to be the EU's sixth biggest trading partner, while the EU is Turkey's biggest. 38% of Turkey's total trade is with the EU and almost 71% of the foreign direct investment in Turkey comes from EU.

Trade outflow performance variables were taken from the World Bank web site using Multidimensional Scaling Analysis (MDS) to compare EU 28 countries members with EU candidate country Turkey in the trade outcome performance in regard to find out with which countries turkey has similarities, with which countries Turkey has differences .As a result of the multidimensional scaling analysis, Turkey's trade performance outcome compared with that of the EU countries using the variables taking into account above, the positions of these countries was illustrated on a graph of three dimensional.

The three dimensions analysis indicates that the most distant countries to Turkey according to the first dimension is United Kingdom; according to the second dimension Ireland, and according the third dimension Belgium. Elsewhere, the closest countries to Turkey are Latvia and Germany according to the first dimension, Romania according to the second dimensions and Lativia and Germany according to the third dimension.

Taking into all sectors, any comparative analysis had not been done in the past on the Turkish's trade performance outcome compared with the EU member countries. Indeed, this study, taking into all sectors, stating which countries are closest to Turkey, which countries are most remote, permit to contribute to the literature review for the future reseachers.

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