THE DETERMINANTS OF TURKEY'S EXPORT PERFORMANCE: CONSTANT MARKET SHARE ANALYSIS[1]

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ABSTRACT

The purpose of this paper is to investigate the export performance of Turkey by Constant Market Share method for the period 1995-2011. Turkey's trade with its major trading partners (the first 20 countries with largest shares in Turkey's export) is analysed by using SITC Rev.3 three digit data. The evaluation of Turkey's export performance was based on market share effect, commodity composition effect and commodity adaptation effect. The results reveal that the increase in Turkey's export performance stemmed from positive market share and commodity composition effects. The commodity adaptation effect was mostly negative during the same period. These findings lead us to conclude that Turkey may improve its export performance further by adapting its export commodity group to the changing demand structure of these markets.

Keywords: Turkey, Export Performance, Constant Market Share Analysis.

TÜRKİYE'NİN İHRACAT PERFORMANSININ BELİRLEYENLERİ: SABİT PAZAR PAYI ANALİZİ

ÖZ

Bu çalışmanın amacı, Sabit Pazar Payı (SPP) yöntemini kullanarak Türkiye'nin 1995-2011 dönemindeki ihracat performansını incelemektir. Türkiye'nin ihracat performansı pazar payı etkisi, mal bileşimi etkisi ve mal uyum etkisine dayanarak açıklanmıştır. Bu etkileri belirlemek için, Türkiye'nin en büyük ticaret ortakları (ihracatta en büyük paya sahip ilk yirmi ülke) ile gerçekleştirdiği ihracatının gelişimi, SITC. Rev. 3 sınıflamasına dahil 3 basamaklı mal gruplarına ilişkin veriler ile analiz edilmiştir. Analiz sonuçlarına göre, ele alınan dönemde ülkemizin ihracat performansını artırdığı, bu artışın da büyük oranda pazar payı ve mal bileşimi etkisiyle ortaya çıktığı söylenebilir. Ancak mal uyum etkisi açısından büyük ölçüde bir olumsuzluk söz konusudur. Bulgularımız, Türkiye'nin ihracat performansını arttırması için bu pazarların değişen talep yapısına uygun mal ihracatını artırması ve geliştirmesi yönündedir.

Anahtar Kavramlar: Türkiye, İhracat Performansı, Sabit Pazar Payı Analizi.

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INTRODUCTION

The concept of export performance is described as the relative success of a country to sell domestically produced goods and services in other countries. It is also regarded as an indicator of a nation's competitiveness in global markets. In a broader sense, the export performance notion also includes the combination of various factors such as, access to international markets, increasing the market share and the price competitiveness, diversifying the export goods and becoming a brand. In the 1980s, the international trade pattern of Turkey changed and an export-led economic development strategy was implemented. Hence, the improvement in Turkey's export performance became a crucial factor of economic growth. Therefore, various studies have been carried out to determine Turkey's export performance and its competitiveness. Most of these studies investigate the changes of Turkey's market share in its major trading countries' and in the world export market.

The objective of this paper is to analyze Turkey's export performance with its major trading partners[2] (the first 20 countries with highest share in its total exports) by using Standard International Trade Classification three digit data (SITC Rev.3) over the 1995-2011 period. This period is divided into three sub-periods by taking into consideration the effects of economic and financial crises. The export performance of Turkey is evaluated with the Constant Market Share (CMS) Analysis method. In this method, the increase in the market share of a country in world exports in a particular time period is measured by three main effects: Market Share Effect (MSE), Commodity Composition Effect (CCE) and Commodity Adaptation Effect (CAE). This paper aims to determine how these three effects contributed to Turkey's export performance in the world market.

The contributions of this paper are twofold. First, it provides a more detailed CMS analysis since SITC Rev.3 digit data is used. Second, in our analysis, the three main effects are comparatively evaluated in 3 sub-periods.

This paper is organized as follows; following the introduction, the second section explains the general structure of Turkey's trade with its major trading partners. A literature survey and some previous studies are presented in the third section. Section four and five provide detailed information about the CMS Analysis method, describe the data set and reveal the empirical results. Finally, in the last section, Turkey's export performance with its trading partners is evaluated and in the light of the findings, the potential sectors and commodity groups that contribute to Turkey's export performance are identified.

[2]All EU-27 members, 8 of first 20 countries represented, Azerbaijan, United Arab Emirates (UAE), China, Iraq, Iran, Israel, Libya, Russian Federation, Saudi Arabia, United States of America (USA), Egypt, and Algeria.

I. THE GENERAL STRUCTURE OF TURKEY'S FOREIGN TRADE WITH ITS MAJOR TRADING PARTNERS

In this section, firstly the rate of changes in Turkey's and world exports are included for the period 1995-2011. Secondly, Turkey's exports to its major trading partner countries' (and to groups of countries) in its total exports, and the market share of Turkey in these countries' imports are examined.

This method first compares the rate of changes of Turkey's exports with the rate of change of world exports. Over the period 1995-2011, the rate of change of Turkish exports was higher than that of total world exports with an average of 13.3 percent. The world average rate was only 9 percent for the same period (Table 1).

Table 1: Exports Figures of Turkey and the World (1995-2011)

Years	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
TR Total Export (Bill. $)	21.6	23.2	26.2	26.9	26.6	27.8	31.3	36.1	47.3
TR Growth Rate of Export (%)	19.3	7.6	13	2.4	-1.1	4.5	12.8	15.1	31
World Total Export (Bill.$)	5173.8	5408.2	5598	5509.2	5719.9	6446.6	6191.6	6496.5	7586
World Growth Rate of Export (%)	19.8	4.5	3.5	-1.6	3.8	12.7	-4	4.9	16.8
Years	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	
TR Total Export (Bill. $)	63.2	73.5	85.5	107.3	132.1	10.22	113.9	134.9	
TR Growth Rate of Export (%)	33.7	16.3	16.4	25.4	23.1	-22.6	11.5	18.5	
World Total Export (Bill. $)	9218.3	10495.2	12120.4	14012.9	16140.7	12545.9	15289.7	18291.5	
World Growth Rate of Export (%)	21.5	13.9	15.5	15.6	15.2	-22.3	21.9	19.6	

Source: Computed by authors using UNCTAD data.

As seen in Table 2, the largest share in Turkey's total exports with its major trading partner countries belongs to EU-27 with an average 54.6 percent over the 1995-2010 period. EU-27 was followed respectively by the USA, the Russian Federation, Iraq and the UAE. When the figures are evaluated on the basis of annual change instead of an average change for the entire 1995-2011 period, a remarkable shift is observed in Turkey's exports to Iraq, China and the UAE markets, especially in recent years.

Turkey's market share also significantly decreased in European markets due to considerable demand contraction as a result of the 2008 global crisis.

The share of Turkey's total exports in its trading partners' imports was calculated for 1995-2011. Table 3 shows that Iraq is ranked the highest with its share of 15.35% which has gradually increased during the last nine years. It is followed respectively by Libya (3.80%), Algeria (3.5%), Israel (2.51%), Iran (2.47%), Egypt (2.29%) and the Russian Federation (2.06%).

Table 2: Changes in the Market Share of Major Trading Partners in Turkey's Total Export (%) (1995-2011)

Years/Countries	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Av.per.
Azerbaijan	0.7	1.0	1.2	1.2	0.9	0.8	0.7	0.6	0.7	0.6	0.7	0.8	1.0	1.3	1.4	1.4	1.5	1.0
China	0.3	0.3	0.2	0.1	0.1	0.3	0.6	0.7	1.1	0.6	0.8	0.8	1.0	1.1	1.6	2.0	1.8	0.8
Iran	1.2	1.3	1.2	0.7	0.6	0.8	1.2	0.9	1.1	1.3	1.2	1.3	1.3	1.5	2.0	2.7	2.7	1.4
Iraq	0.6	0.8	0.2	0.0	0.0	0.0	0.0	0.0	1.8	2.9	3.7	3.0	2.7	3.0	5.0	5.3	6.2	2.1
Israel	1.1	1.1	1.5	1.8	2.2	2.2	2.6	2.4	2.3	2.1	2.0	1.8	1.6	1.5	1.5	1.8	1.8	1.8
Libya	1.1	1.1	0.7	0.4	0.5	0.3	0.2	0.5	0.5	0.5	0.5	0.6	0.6	0.8	1.8	1.7	0.6	0.7
Rus. Fed.	5.7	6.4	7.8	5.0	2.2	2.3	3.0	3.2	2.9	2.9	3.2	3.8	4.4	4.9	3.1	4.1	4.4	4.1
Saudi Arabia	2.2	1.9	2.0	1.8	1.4	1.4	1.6	1.5	1.6	1.2	1.3	1.2	1.4	1.7	1.7	2.0	2.1	1.6
UAE	0.9	0.9	1.0	0.9	1.5	1.1	1.2	1.3	1.5	1.8	2.3	2.3	3.0	6.0	2.8	2.9	2.8	2.0
USA	7.0	7.0	7.7	8.3	9.2	11.1	10.0	9.3	7.9	7.7	6.7	5.9	3.9	3.3	3.2	3.3	3.4	6.8
Egypt	1.1	1.4	1.2	1.8	1.8	1.3	1.4	0.9	0.7	0.8	0.9	0.8	0.8	1.1	2.6	2.0	2.1	1.3
Algeria	1.3	1.2	1.2	1.8	1.5	1.4	1.4	1.4	1.2	1.3	1.1	1.2	1.2	1.2	1.7	1.3	1.1	1.3
EU-27	57.4	54.5	52.0	55.8	58.9	56.9	56.6	56.8	58.7	58.6	57.3	57.1	57.2	48.8	46.8	47.2	47.0	54.6

Source: Computed by authors using UNCTAD data.

Table 3: Turkey's Total Export Share in its Major Trading Partners' Total Import (%) (1995-2011)

Years/Countries	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Av.per.
Azerbaijan	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
China	0.11	0.07	0.05	0.03	0.03	0.06	0.09	0.10	0.13	0.11	0.09	0.10	0.14	0.17	0.17	0.23	0.18	0.11
Iran	2.04	1.89	2.18	1.82	1.55	1.65	1.86	1.61	1.94	2.25	2.18	2.53	2.57	2.80	3.66	4.72	4.73	2.47
Iraq	18.05	49.44	2.57	0.35	0.00	0.70	0.36	0.22	19.26	19.88	22.09	21.59	19.65	21.72	20.70	19.63	24.67	15.35
Israel	0.94	0.89	1.34	1.67	1.84	1.83	2.35	2.64	3.15	3.18	3.22	3.12	3.10	2.90	3.34	3.65	3.53	2.51
Libya	4.30	3.30	2.58	1.46	3.00	2.28	1.79	2.99	4.11	4.06	4.15	4.56	4.77	5.21	6.18	4.90	4.90	3.80
Rus. Fed.	1.68	2.27	2.79	2.09	1.43	1.34	1.78	2.06	1.92	1.98	2.01	2.19	2.28	2.50	2.18	2.17	2.30	2.06
Sau. Ar.	1.50	1.08	1.17	1.17	0.94	0.74	1.13	1.22	1.34	1.26	1.41	1.22	1.39	1.66	1.76	2.00	2.37	1.37
UAE	0.68	0.60	0.95	0.82	1.25	0.93	1.02	0.89	1.50	1.75	1.74	1.86	2.38	4.53	2.28	2.28	1.94	1.61
USA	0.25	0.23	0.25	0.28	0.26	0.26	0.28	0.31	0.31	0.35	0.32	0.30	0.24	0.23	0.24	0.22	0.24	0.27
Egypt	1.53	1.94	1.32	3.01	2.23	1.37	1.82	1.74	1.32	1.54	2.77	1.43	1.23	2.43	5.22	3.55	4.41	2.29
Algeria	3.02	3.50	3.61	4.37	3.68	3.12	3.83	3.28	3.54	3.21	2.98	3.31	3.33	3.41	4.44	3.76	2.96	3.49
EU-27	0.60	0.61	0.65	0.69	0.73	0.69	0.79	0.90	1.01	1.10	1.12	1.14	1.20	1.14	1.12	1.10	1.12	0.93

Source: Computed by authors using UNCTAD data.

II. LITERATURE SURVEY

The CMS analysis method was first used by Tyszynski (1951) to analyze the changes of export performance of a country. Tyszynski analysed the changes of exports of manufacturing industries of eleven countries with 16 commodity groups for the period 1899-1950. In his model, he tried to explain the export performance by the changes of the competitiveness effects of countries. This model has been extended by adding the market share and the commodity effects by Leamer and Stern (1970). Fagerberg and Sollie (1987) contributed to this model by adding market share, commodity composition and commodity adaptation effects (Tatater, 2004:3-4). In our study, we used the Fagerberg and Sollie model (1987).

Othaman and Rashid (1993) used CMSA to measure ASEAN (Association of Southeast Asian Nations) export growth performance relative to average growth in the world export of wood products for the period 1979-1987. This study's findings revealed that both commodity and market effects were negative.

Drysdale and Lu (1996) analyzed the Australian export performance in the East Asian market over 1980-1994 in terms of trade expansion, commodity composition, geographic market structure and competitiveness effects by using Richardson's model (1971). The trade expansion effect indicated the potential growth of Australia's exports to East Asia if overall market share had remained constant. This study was divided into the following two sub- periods: 1980-1985 and 1985-1994. In parallel with overall trade expansion in East Asia, Australia's exports substantially increased to this market, especially in the ten years after 1985. Since Australia specialized in commodities, for which the demand grew relatively slowly in East Asia's market, the commodity composition effect was negative for both periods. In terms of the effect of geographic market structure, a negative effect was found over 1980-1985, while the same effect was not significant for the 1985-1994 period. The competitiveness effect was positive over the period of 1980-1985, and Australia's exports rose by 60 percent. Although this effect was positive, Australia's export growth remained at 9 percent for the period 1985-1994.

Juswanto and Mulvanti (2003) used this method to identify the problems in Indonesian manufacturing industries' exports. They concluded that Indonesia, while increasing its market share, could not achieve the same success in commodity diversification.

Ahmadi-Esfahani (2006) analysed the export performance of the Australian processed food sector in the South-East Asian (SEA) region over the 1980–2003 period. He found that the export performance of Australia in SEA's market has

been determined by market share effect but its export performance has been different in sub-periods. The increase of the Australian processed food export was quite low in the 1980-1985 period. In the two fast-growing periods, 1985–1990 and 1990–1997, the scale effect played an important role. In 1985–1990, Australia's weighted market share did not change, but in 1990–1997, the weighted market share improved significantly.

Batista (2008) investigated Brazil's exports of manufactured products to the US market, in comparison with twenty-five OECD countries over the 1992-2004 period. Brazil lost its market share in the period between 1992-1999 and relatively increased its competitiveness in the manufacturing industry in the period between 1999-2004. While Brazil increased its market share vis-à-vis industrialized countries in exports of non high tech products during both periods, its competitiveness was quite low in the world exports market. The gains and losses of Brazil to OECD countries have been explained by changes in the relative unit labour cost of these countries.

Nilsson, F.O.L., Lindberg E. and Surry Y. (2007), used the CMS method to assess the fresh fruit and vegetable export performance of the Mediterranean Countries. Two different measures were used: the competitiveness of these countries both in world export markets and their competitiveness in European markets (their major trading partner countries). The results demonstrated that their competitiveness gradually got worse over time. The performance of some countries, which increased the market share in both markets, derived from market share effects.

Amador and Cabral (2008) examined the evolution of Portuguese market shares in world exports over the 1968-2006 period, in comparison with other Southern European countries and Ireland by taking into account the impact of commodity and geographical composition. Overall, during this period, the market share effect was negative due to Portuguese low-technology exports products in the world market. The impact of geographical composition of Portuguese exports adversely affected its market share.

Skriner (2009) used CMS analysis to investigated the development of competitiveness, market and product structure of the Austrian merchandise exports from 1990 to 2006. The long term trend of the indicaters suggest that Austrian foreign trade sector was able to maintain its market share in the world market however, the market and product structure effects showed negative trends after 2000.

Gilbert (2010) analyzed the export growth of ASEAN 6 economies (Indonesia, Philippines, Singapore, Thailand, Malaysia and Vietnam) for the period 2000-2009, based on four different components: world trade effect, commodity

effect, market effect and competitiveness effect. Four (Indonesia, Singapore, Thailand, and Vietnam) of the economies displayed a higher export growth than that of the world export. Indonesia's and Vietnam's contributions had been sourced by commodity effect. Except for the Philippines, the market share effect was positive for the other countries. The competitiveness effect was only positive in Singapore, Thailand and Vietnam.

Rahmaddi and Masaru (2012) investigated the evolution of export structure and competitiveness in Indonesia'smanufacturing sectors from 1987 to 2008. The findings of their CMS anaysis revealed that Indonesia export performance was deteriorated by negative contributions of commodity composition, market distribution, and competitiveness effects.

Various studies have also been carried out to analyze the export performance of Turkey, using the CMS model. Erlat and Erlat (2004) analyzed the export performance of Turkey to Middle East countries over the 1990-2000 period. Their results show that Turkey's market share decreased due to negative commodity adaptation effect. Even in the case of a rising market share, the commodity adaptation effect contribution was negative. They concluded that Turkey was not able to adapt its exports to changes of import composition of these countries.

Tatarer (2004) examined Turkey's manufacturing industry's export performance in the East-Asian countries over the 1992-2002 period. The composition effect was found positive for Malaysia and China and negative for Singapore, South Korea and Japan. The opposite is true in terms of the market adaptation effect, since it was negative for China and Malaysia and positive for the other three countries. When three periods and five countries are considered altogether, it is observed that except for Malaysia and Singapore, Turkey's market shares decreased before the Asian Crisis of 1997. After 1997, Turkey lost its share even in the Malaysia and Singapore markets.

Klasra and Fidan (2005) investigated the competitiveness of major exporting countries and Turkey in the world Fishery Market by using CMS analysis for the sample period (1980-2000) .Turkey benefited from the growth of world export like other major exporters. The findings of their analysis of commodity composition and market effects reveal that countries like Canada, the United States, Iceland and Turkey were pursuing the product differentiation policy and were penetrating in those markets, which have been growing relatively faster.

Aytemiz (2011) investigated the export performance of the Turkish Manufacturing Industry in the world export market over the 1995–2010 period. In this period, Turkey's market share increased because of the positive competitiveness effect. Commodity effect was negative over time. Her study concludes that the

main reason behind the increase of Turkey's manufacturing industry exports was price competitiveness. Furthermore, the increase in Turkey's exports was relatively slow during this period, due to the high proportion of labor-intensive sectors in Turkey's manufacturing industry export.

Şahan (2012) examined the source of changes of Turkey's export market share over 2003-2008. In this period, the structure of its export market significantly changed because of positive structural market effect. In terms of technologies, the high tech industries contributed positively to these changes over the 2003-2008 period. He concluded that, although low technology industries still have strong positive effects, Turkey's export structure is changing towards high tech and dynamic industries gradually.

III. METHODS AND DATA

In this study, Turkey's trade with its major trading partners is analysed by using SITC. Rev.3, three digit data covering 259 product groups for the period 1995-2011. This data was obtained from UNCTAD's statistic database and analysed using the CMS method[3]. CMS Analysis is used to explain the causes of the change in the market shares of the exports of a certain country over time. According to this method, the increase of a country's market share in the world exports for a given time period is mainly determined by three effects. These are; the *market share effect (MSE), commodity composition effect (CCE)* and *commodity adaptation effect (CAE)*.

If the change in the market share of the home country is analyzed in only one country, the market share in question, s_{km}, is found by dividing the value of home country's exports of commodity k by the value of the partner country's (m) total imports. Accordingly;

$$s_{km} = \frac{X_{km}}{\sum M_{km}} = a_{km} \cdot b_{km} \qquad (1)$$

where,

s_{km} = market share of home country exports of commodity k in country m's total imports

X_{km} = home country's exports of commodity k to partner country m

M_{km} = country m's imports of commodity k

This market share, s_{km}, consist of two ratios. The first ratio, a_{km}, is the number which is found by the division of the value of home country's exports of

[3] The formulations of the CMS method are taken from Tatarer (2004).

commodity $k(X_{km})$, to country *m* by the value of country *m*'s imports of commodity *k* (M_{km}).

$$a_{km} = \frac{X_{km}}{M_{km}} \quad (2)$$

Second ratio, bij, is the share of the partner country *m*'s imports of commodity *k* (M_{km}) in country *m*'s total imports

$$b_{km} = \frac{M_{km}}{\sum M_{km}} \quad (3)$$

(2) and (3) equations are basic equations that are used to calculate the market share. If we denote the first and the second periods by "0" and "1" respectively, then, the change in the $s_{km}(\Delta s_{km})$ from one period to another can be expressed as:

$$\Delta s_{km} = s_{km2} - s_{km1} = a_{km2}b_{km2} - a_{km1}b_{km1} \quad (4)$$

The equation above can be written as an identity and it can be separated into three different effects;

$$\Delta s_{km} \equiv (a_{km2} - a_{km1})b_{km1} + (b_{km2} - b_{km1})a_{km1} + (a_{km2} - a_{km1})(b_{km2} - b_{km1}) \quad (5)$$

Market Share Effect, means that change in s_{km} from one period to another is measured only by changes in the a_{km}'s. In other words, this effect indicates what the change in the market share of a country may be if the change was only due to the change in the ratio of home country exports of commodity *k* to partner country imports of that commodity.

Commodity Composition Effect; means that change in s_{km} from one period to another is measured only by changes in b_{km}'s. This effect indicates what the difference between two periods may be if the change was only due to the change in the ratio of partner country's imports of a particular commodity to partner country's total imports.

Commodity Adaptation Effect; defines whether the home country can adapt her exports to changes in the commodity composition of her partner's imports. If both $(a_{km2} - a_{km1})$ and $(b_{km2} - b_{km1})$ have equal signs, the commodity adaptation effect will be positive. Using the above methodology, firstly the change in the market share of Turkey is investigated with respect to each major trading partners separately and Turkey's export performance is evaluated in terms of three effects. Then the changes in the market share of Turkey is analyzed by taking the sum of values for each commodity *k* that has been calculated for each country. In other words, this analysis is generalized for Turkey's total exports to "a" country and country groups "*m*".

IV. THE FINDINGS OF CMS ANALYSIS

Considering the effects of financial crises (2000 November-2001 February economic crises in Turkey and 2008 global financial crises), the 1995-2011 period is divided into 3 main sub-periods (1995-2001, 2002-2009 and 2010-2011). The columns represent respectively *market share effect*, *commodity composition effect* and *commodity adaptation effect*. The last column shows *the changes in total effect* of the first three columns (Δs_{km}).

As stated earlier, by using SITC Rev 3 digit data the magnitude of export figures of commodities are taken into account and the calculation is made for each commodity (k) in these sectors. Finally by aggregating the data, the factors that affect the changes in Turkey's export performance with its trading partners are determined.

The findings from Table 4 can be summarized as follows;

- In the first sub- period between 1995-2001, Turkey's export performance decreased because of a decrease both in *commodity composition effect* and *commodity adaptation effect*. In this period, an increase in *market share effect* is observed, especially in Israel, Azerbaijan, Egypt and EU-27 markets. Overall, the same result is found (as an average of all trading partners). C*ommodity composition effect* was the main reason behind the decline of Turkey's export performance.
- In the second sub-period between 2002-2009, Turkey's overall export performance increased and all three effects contributed positively. This mainly stemmed from a crucial contribution of EU-27 markets in all three effects. There has been a slight decrease in *market share effect* in China, Russian Federation and USA markets while a strong *market share effect* has been observed for Saudi Arabia, Libya, Azerbaijan and EU-27 markets. In Egypt and EU-27 markets, *commodity composition effect* was the most dominant effect. The negative effects of this period were outweighed by the positive effects of EU-27 markets. The magnitude and the positive contribution of EU-27 markets in all three effects was the main reason behind the rising export performance of Turkey in this period. Therefore, EU-27 markets can be regarded as the right market where Turkey exported right goods. Moreover, Turkey was also able to adapt its exports to the changing demand structure of EU-27 markets during this period.

During the last sub-period between 2010-11, Turkey's foreign trade and real sector were affected to a great extent by the global financial crisis. Especially in EU markets, the substantial contraction of demand lead to a decrease in

Turkey's export to this major trading partner. In this period, *commodity composition effect* and *market share effect* were negative in EU-27 markets, while the *commodity adaptation effect* was positive. Although Turkey adapted its commodity exports to the changing demand structure of EU markets, the positive *commodity adaptation effect* of this period could not compensate for the negative impact of *commodity composition effect* and *market share effect.* On the other hand, *commodity composition effect* was the most dominant negative effect while *market share effect* was positive in Azerbaijan, China, Iraq, Iran and Egypt. In other trading partners' market *commodity composition effect* was also positive except Egypt, Algeria and EU-27 markets. The overall average of this period is mainly determined by the negative effects (MSE and CCE) of EU-27 markets. There has been at least one negative effect in all countries, except China, which caused a decrease in Turkey's export performance in this period.

Table 4: CMS Analysis of Turkey's Exports to Major Trading Partners (%)

	MSE			CCE			CAE			Changes in the Total Effect		
Years / Countries	1995 2001	2002 2009	2010 2011	1995 2001	2002 2009	2010 2011	1995 2001	2002 2009	2010 2011	1995 2001	2002 2009	2010 2011
Azerbaijan	19.32	28.11	0.87	-7.76	1.4	0.12	-20.15	-22.43	-3.47	-8.58	7.07	-2.47
China	-0.03	-0.01	0.01	0.02	-0.02	0	-0.09	0	0	-0.1	-0.04	0.01
Iran	0.05	2.91	0.74	21.61	-0.17	1.24	-21.45	-0.69	-1.4	0.22	2.05	0.59
Iraq	-4.12	2.52	1.15	0	1.65	0.12	1.38	2.3	-0.22	-2.75	6.47	1.05
Israell	2.51	0.45	-0.32	-0.26	0.32	0.05	-0.68	-0.12	-0.01	1.57	0.65	-0.28
Libya	-1.41	10.93	-6.24	-1.25	0.33	0.15	-0.54	2.98	2.58	-3.2	14.24	-3.51
Russian Federation	-0.56	-0.35	-0.19	0.72	-0.31	0.02	-0.39	0.2	0	-0.22	-0.47	-0.18
Saudi Arabia	0.19	25.3	-1.11	-0.2	0.29	4.73	0.13	-22.02	-1.87	0.11	3.58	1.76
UAE	0.21	0.44	-0.37	-0.11	-0.04	0.49	-0.03	0.14	-0.19	0.07	0.55	-0.07
USA	0.06	-0.04	0.01	0	-0.02	0	0.01	-0.02	0	0.07	-0.08	0.01
Egypt	5.58	0.13	0.84	-0.29	173.62	-0.37	-4.13	-170.49	-0.06	1.17	3.26	0.41
Algeria	1.53	0.29	-0.34	0.33	0.39	-0.07	-0.14	-1.24	-0.14	1.72	-0.56	-0.55
EU-27	160.3	2620.92	-742.15	-1572.84	10514.16	-105237.32	-51.58	4732.35	715.84	-1464.12	17867.43	-105263.63
Average per sub-period	14.13	207.05	-57.47	-120.00	822.43	-8094.68	-7.51	347.77	54.70	-113.39	1377.24	-8097.45
Average for the whole period	54.57			-2464.08			131.65			-2277.87		

Source: Computed by authors using UNCTAD data.

Table 5: The First 10 Commodities Contributing Turkey's Export Performance in the Major Trading Partners Market

Countries	Azerbaijan	China	Iran	Iraq	Israel	Libya	Rus.Fed.	Sau.Arabia	UAE	USA	Egypt	Algeria	EU-27
SITC Rev.3, 3 Digits Codes	061	793	676	676	676	046	057	659	971	792	676	679	263
	691	652	634	431	793	676	655	672	334	781	334	723	278
	782	764	792	046	773	581	054	773	897	661	672	773	621
	897	611	784	057	775	659	653	771	335	714	041	691	713
	723	653	821	012	893	042	781	676	771	679	841	728	812
	773	273	775	691	662	048	334	783	681	659	679	041	665
	661	579	737	773	334	012	793	057	811	793	652	655	775
	679	898	653	025	842	073	581	048	821	784	673	771	784
	351	278	057	048	642	893	897	661	773	897	697	741	657
	821	613	061	421	682	334	728	625	772	621	842	811	581

Source: Computed by authors using UNCTAD data

Table 5 is constructed with respect to SITC Rev.3, 3.digit commodity groups. The findings are interpreted for each country considering the overall average of the same period. The results helped us to determine the potential sectors and commodity groups that may increase the competitiveness of Turkey. For this purpose, the first 10 commodity groups[4] that contribute the most to Turkey's exports are determined and the factors (*MSE, CCE, CAE*) that influence this performance are evaluated for the first three commodity groups.The results are summarized and illustrated in Table 6 as follows:

- The commodity groups that contribute most to Turkey's export performance according to ***MSE*** in ***EU-27*** markets are "263-Ores and concentrates of base metals, n.e.s.,", "287-Cotton" and "713-Internal combustion piston engines, and parts thereof, n.e.s."; the ***CCE*** has a positive effect on "278-Other crude minerals", "621-Materials of rubber (e.g., pastes, plates, sheets, rods, thread, tubes, of rubber) and "678-Other textile fabrics, woven" commodity groups. In terms of ***CAE*** "Ores and concentrates of base metals, n.e.s.", "Materials of rubber" and "Other crude minerals" commodity groups contributed positively to Turkey's export performance.

- In the ***Azerbaijan*** market, commodities with the strongest *MSE* are "593-Explosives and pyrotechnic products", "046-Meal and flour of wheat and flour of melsin" and "533-Pigments, paints, varnishes and related materials"; the *CCE* has a positive effect on "764-Telecommunications

[4] For more information see Appendix Table 1.

equipment, n.e.s., and parts, n.e.s. and accessories of apparatus falling within division 76", "716-Rotating electric plant, and parts thereof, n.e.s." and "728-Other machinery and equipment specialized for particular industries; parts thereof, n.e.s." commodity groups. There is a positive effect in terms of *CAE on "091*-Margarine and shortening", "351-Electric current" and "897-Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s" commodity groups contributed positively to Turkey's export performance.

- Commodities with the strongest *MSE* in the **China** market are "611-Cotton fabrics, woven (not including narrow or special fabrics), abrics, woven, of man-made textile materials (not including narrow or special fabrics)", "Leather"; the *CCE* has a positive effect on "672-Ingots and other primary forms, of iron or steel; semi-finished products of iron or steel", "682-Copper" and "057-Fruit and nuts (not including oil nuts), fresh or dried" commodity groups. In terms of *CAE* "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "273-Stone, sand and gravel" and"062-Sugar confectionery" commodity groups contributed positively to Turkey's export performance.

- The commodity groups with the strongest *MSE* in the ***Iran*** market are "784-Parts and accessories of the motor vehicles of groups 722, 781, 782 and 783", "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)" and "061-Sugars, molasses and honey"; the *CCE* has a positive effect on "122-Tobacco, manufactured (whether or not containing tobacco substitutes)", "056-Vegetables, roots and tubers, prepared or preserved, n.e.s". and "091-Margarine and shortening" commodity groups. In terms of *CAE* "792-Aircraft and associated equipment; spacecraft (including satellites) and spacecraft launch vehicles; parts thereof", "431-Animal or vegetable fats and oils, processed; waxes; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s." and "634-Veneers, plywood, particle board, and other wood, worked, n.e.s." commodity groups contributed positively to Turkey's export performance.

- In the ***Iraq*** market, commodities with the strongest *MSE* are "431-Animal or vegetable fats and oils, processed; waxes; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s.", "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)" and "691-Structures and parts of structures, n.e.s., of iron, steel or aluminium"; the *CCE* has a positive effect on"334-Petroleum oils and oils obtained from bituminous minerals", "676-Iron and steel bars, rods, ang-

les, shapes and sections (including sheet piling)" and "048-Cereal preparations and preparations of flour or starch of fruits or vegetables" commodity groups. In terms of *CAE* "046-Meal and flour of wheat and flour of melsin", "091-Margarine and shortening" and "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)" commodity groups contributed positively to Turkey's export performance.

Table 6: According to MSE, CCE, CAE the First 3 Commodities Contributing Turkey's Export Performance

Countries	Market Share Effect	Commodity Compositon Effect	Commodity Adaptation Effect	Countries	Market Share Effect	Commodity Compositon Effect	Commodity Adaptation Effect
Azerbaijan	593 046 533	764 716 728	091 351 897	**China**	611 652 653	672 682 057	676 273 062
Iran	784 676 061	122 056 091	792 431 634	**Iraq**	431 676 691	334 676 048	046 091 676
Israel	793 676 682	676 334 679	841 845 842	**Libya**	046 897 581	421 122 697	676 581 431
Russian Federation	655 057 653	845 841 842	679 781 062	**Saudi Arabia**	697 699 721	672 676 043	783 773 771
UAE	971 334 897	676 897 672	334 971 122	**USA**	781 792 661	334 122 679	792 842 845
Egypt	841 334 321	841 842 781	676 334 672	**Algeria**	046 655 679	676 782 781	679 773 761
EU-27	263 287 713	278 621 658	263 278 621				

Source: Computed by authors using UNCTAD data.

- The commodities with the strongest *MSE* in the ***Israel*** market are "793-Ships, boats (including hovercraft) and floating structures", "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)" and "682-Copper"; the *CCE* has a positive effect on "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "334-Petroleum oils and oils obtained from bituminous minerals" and "679-Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel" commodity groups. In terms of *CAE* "841-Men's or boys' coats, capes, jackets, suits, blazers, trousers, shorts, shirts, underwear,

nightwear and similar articles of textile fabrics, knitted or crocheted" and "845-Womens or girls' coats, capes, jackets, suits, trousers, shorts, shirts, dresses and skirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted" commodity groups contributed positively to Turkey's export performance.

- In the ***Libya*** market, commodities with the strongest *MSE* are "046-Meal and flour of wheat and flour of melsin", "897-Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s." and "581-Tubes, pipes and hoses, and fittings therefor, of plastics"; the *CCE* has a positive effect on "421-Fixed vegetable fats and oils, "soft", crude, refined or fractionated", "122-Tobacco, manufactured (whether or not containing tobacco substitutes)" and "697-Manufactures of base metal, n.e.s."commodity groups. In terms of *CAE* "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "581-Tubes, pipes and hoses, and fittings therefor, of plastics" and "431-Animal or vegetable fats and oils, processed; waxes; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s."commodity groups contributed positively to Turkey's export performance.
- The commodities with the strongest *MSE* in the ***Russian Federation*** market are "655-Knitted or crocheted fabrics", "057-Textile yarn" and "653-Motor vehicles for the transport of goods and special-purpose motor vehicles"; the *CCE* has a positive effect on "845-Articles of apparel, of textile fabrics, whether or not knitted or crocheted, n.e.s.", "841-Men's or boys' coats, capes, jackets, suits, blazers, trousers, shorts, shirts, underwear, nightwear and similar articles of textile fabrics, knitted or crocheted" and "842-Women's or girls' coats, capes, jackets, suits, trousers, shorts, shirts, dresses and skirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted commodity groups. In terms of *CAE* "679-Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel", "781-Motor cars and other motor vehicles principally designed for the transport of persons" and "062-Sugar confectionery" commodity groups contributed positively to Turkey's export performance.
- In the ***Saudi Arabia*** market, commodities with the strongest *MSE* are "697-Household equipment of base metal, n.e.s.", "699-Manufactures of base metal, n.e.s." and "721-Agricultural machinery (excluding tractors), and parts thereof"; the *CCE* has a positive effect on "672-Ingots and other primary forms, of iron or steel; semi-finished products of iron or steel", "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)" and "043-Barley, unmilled"commodity groups. In

terms of *CAE* "783-Road motor vehicles, n.e.s.", "773-Equipment for distributing electricity, n.e.s." and "771-Electric power machinery (other than rotating electric plant of group 716), and parts thereof" commodity groups contributed positively to Turkey's export performance.

- Commodities with the strongest *MSE* in the ***United Arab Emirates (UAE)*** market are "971-Gold, non-monetary (excluding gold ores and concentrates)", "334-Petroleum oils and oils obtained from bituminous minerals" and "897-Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s."; the *CCE* has a positive effect on "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "897-Jewellery, goldsmiths' and silversmiths' wares; and other articles of precious or semiprecious materials, n.e.s.", and "672-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)" commodity groups. In terms of *CAE* "334-Petroleum oils and oils obtained from bituminous minerals", "971-Gold, non-monetary (excluding gold ores and concentrates)" and "122-Tobacco, manufactured (whether or not containing tobacco substitutes)"commodity groups contributed positively to Turkey's export performance.

- In the ***United States of America (USA)*** market, commodities with the strongest *MSE* are "781-Motor cars and other motor vehicles principally designed for the transport of", "792-Aircraft and associated equipment; spacecraft (including satellites)" and "661-Spacecraft and Lime, cement, and fabricated construction materials (except glass and clay materials)"; the *CCE* has a positive effect on "334-Petroleum oils and oils obtained from bituminous minerals", "122-Tobacco, manufactured (whether or not containing tobacco substitutes)" and "679-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)" commodity groups. In terms of *CAE* "792-Aircraft and associated equipment; spacecraft (including satellites) and spacecraft launch vehicles; parts thereof", "842-Women's or girls' coats, capes, jackets, suits, trousers, shorts, shirts, dresses and skirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted" commodity groups contributed positively to Turkey's export performance.

- In the ***Egypt*** market, commodities with the strongest *MSE* are "841-Men's or boys' coats, capes, jackets, suits, blazers, trousers, shorts, shirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted", "334-Petroleum oils and oils obtained from bituminous minerals" and "321-Coal, whether or not pulverized, but not agglomerated". The *CCE* has a positive effect on "841-Men's or boys' coats, capes,

jackets, suits, blazers, trousers, shorts, shirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted", "842-Women's or girls' coats, capes, jackets, suits, trousers, shorts, shirts, dresses and skirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted" and "781-Motor vehicles" commodity groups. In terms of *CAE* "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "334-Petroleum oils and oils obtained from bituminous minerals and Ingots and other primary forms, of iron or steel" and "672-Semi-finished products of iron or steel" commodity groups contributed positively to Turkey's export performance.

- The commodities with the strongest *MSE* in the ***Algeria*** market are "Wheat (including spelt) and meslin, unmilled", "Knitted or crocheted fabrics" and "Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel". The *CCE* has a positive effect on "Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel", "Motor vehicles for the transport of goods and special-purpose motor vehicles" and "Road motor vehicles, n.e.s." commodity groups. In terms of *CAE* "Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel", "Equipment for distributing electricity, n.e.s." and "Television receivers"commodity groups contributed positively to Turkey's export performance.

CONCLUDING REMARKS

In this paper, Turkey's export performance with its major trading partners is analysed and the findings are evaluated. Turkey's export performance increased except during the period 2010-2011. The main reason behind the decrease in this perioD, was the contraction of European countries' import demand. *Commodity composition effect* and *market share effect* were negative in EU-27 markets. This negative situation is partly reversed with a positive *commodity adaptation effect*. This shows that Turkey is able to adapt its exports goods easily to the changing demand of this market.

After 2003, Turkey focused on new export markets and thus market share effect in some Middle East countries (Iraq, Iran, UEA, Libya, Syria) increased substantialy along with *commodity composition effect.* However, the *commodity adaptation effect* has been negative for the same countries. Therefore, Turkey needs to improve and adapt its exports goods to the changing demand of these countries to increase its export performance further.

Considering Turkey's major trading partners individually, the commodity groups that contributes positively to its export performance are as follows:

- 057-Fruit and nuts (not including oil nuts), fresh or dried (Iran, Iraq, Russian Federation, Saudi Arabia),
- 334-Petroleum oils and oils obtained from bituminous minerals (other than crude); preparations, n.e.s., containing by weight 70% or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations (Israel, Libya, Russsian Federation, UAE, Egypt)
- 676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling) (Iran, Iraq, Saudi Arabia, Israel, Libya, Egypt)
- 773-Equipment for distributing electricity, n.e.s. (Iraq, Saudi Arabia, Israel, UAE, Cezayir, Azerbaijan)
- 793-Ships, boats (including hovercraft) and floating structures (China, Israel, USA, Russsian Federation)
- 897-Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s. (UAE, Azerbaijan, Russsian Federation, USA)

Turkey's s export performance is also analysed in these markets in terms of three effects;

- when *market share effect* is considered, the main commodity groups that contributes positively to its export performance are "Meal and flour of wheat and flour of meslin", "Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s". Generally, the *market share effect* is positive for the textile, iron and steel and motor vehicles commodity groups.
- In terms of positive *CCE*, "Tobacco, manufactured (whether or not containing tobacco substitutes)", "Petroleum oils and oils obtained from bituminous minerals (other than crude); preparations, n.e.s., containing by weight 70% or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations", "Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "Motor vehicles", "Men's/boys' and women's/girls' coats, capes, jackets, suits, blazers, trousers, shorts, shirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted" are the main commodity groups. Again, the textile, iron and steel and motor vehicles commodity groups contributed positively to Turkey's export performance.

- Finally, there is a quite large group of sectors such as "Parts and accessories of the motor vehicles of groups", "Iron and steel", "Electrical machinery and apparatus" and "textile" with a positive *CAE* that enhances Turkey's performance.

When the whole period and all the results of the CMS analysis are considered, the most dominant effects that contribute positively to Turkey's export performance are *market share effect* and *commodity adaptation effect*. Turkey also focused on new exports markets such as the Middle East and North Africa, in order to overcome the negative effects of the global financial crisis and external shocks. According to the Turkish Central Bank Report and the projection for 2030, it is expected that these countries will increase their share in Turkey's export market from 13% to 30%. Furthermore our exports to Asia-Pacific and to Commonwealth of Independent States countries are expected to increase, and exports to EU countries are expected to decline because of the demand contraction in EU markets.

Consequently, the main results of our CMS analysis indicate that Turkey's export performance is mainly determined by *market share effect* and *commodity adaptation effect*, while the *commodity composition effect* needs to improve. Turkey's export competitiveness should also be enhanced by producing more advanced technology-embedded products. Furthermore, Turkey's exports products should also be diversified to meet the demand of new alternative markets. Therefore, Turkish exporters need to be supported in their production, marketing and financial process, to further improve their performance in world markets.

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APPENDIX:

Table 1: The Commodity Group that Conributes Most to Turkey's Export Performance in its Major Trading Partners' Markets

Countries	SITC Rev.3, 3 digits Codes
Azerbaijan	"061- Sugars, molasses and honey", "691- Structures and parts of structures, n.e.s., of iron, steel or aluminium", "782- Motor vehicles for the transport of goods and special-purpose motor vehicles", "897- Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s.", "723- Civil engineering and contractors' plant and equipment; parts thereof", "773- Equipment for distributing electricity, n.e.s.", "661- Lime, cement, and fabricated construction materials (except glass and clay materials)", "679- Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel", "351- Electric current", "821- Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings"
China	"793- Ships, boats (including hovercraft) and floating structures", "652- Cotton fabrics, woven (not including narrow or special fabrics)", "764- Telecommunications equipment, n.e.s., and parts, n.e.s., and accessories of apparatus falling within division 76", "611- Leather", "653- Fabrics, woven, of man-made textile materials (not including narrow or special fabrics)", "273- Stone, sand and gravel", "579- Waste, parings and scrap, of plastics", "898- Musical instruments and parts and accessories thereof; records, tapes and other sound or similar recordings (excluding goods of groups 763 and 883)", "278- Other crude minerals", "613- Furskins, tanned or dressed (including heads, tails, paws and other pieces or cuttings), unassembled, or assembled (without the addition of other materials), other than those of heading"
Iran	"676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "634-Veneers, plywood, particle board, and other wood, worked, n.e.s.", "792- Aircraft and associated equipment; spacecraft (including satellites) and spacecraft launch vehicles; parts thereof", "784-Parts and accessories of the motor vehicles of groups 722, 781, 782 and 783", "821-Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings", "775-Household-type electrical and non-electrical equipment, n.e.s.", "737-Metalworking machinery (other than machine tools), and parts thereof, n.e.s.", "653-Fabrics, woven, of man-made textile materials (not including narrow or special fabrics)", "057-Fruit and nuts (not including oil nuts), fresh or dried", "061-Sugars, molasses and honey
Iraq	"676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "431-Animal or vegetable fats and oils, processed; waxes; inedible mixtures or preparations of animal or vegetable fats or oils, n.e.s.", "046- Meal and flour of wheat and flour of melsin", "057-Fruit and nuts (not including oil nuts), fresh or dried", "012- Other meat and edible meat offal, fresh, chilled or frozen (except meat and meat offal unfit or unsuitable for human consumption)", "691- Structures and parts of structures, n.e.s., of iron, steel or aluminium", "773- Equipment for distributing electricity, n.e.s.", "025- Eggs, birds', and egg yolks, fresh, dried or otherwise preserved, sweetened or not; egg

	albumin", "048- Cereal preparations and preparations of flour or starch of fruits or vegetables", "421- Fixed vegetable fats and oils, "soft", crude, refined or fractionated"
Israel	"676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "793- Ships, boats (including hovercraft) and floating structures", "773- Equipment for distributing electricity, n.e.s.", "775- Household-type electrical and non-electrical equipment, n.e.s.", "893- Articles, n.e.s., of plastics", "662- Clay construction materials and refractory construction materials", "334- Petroleum oils and oils obtained from bituminous minerals", "842- Women's or girls' coats, capes, jackets, suits, trousers, shorts, shirts, dresses and skirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted", "642- Paper and paperboard, cut to size or shape, and articles of paper or paperboard", "682- Copper"
Libya	"046- Meal and flour of wheat and flour of melsin", "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "581-Tubes, pipes and hoses, and fittings therefor, of plastics", "659-Floor coverings, etc.", "042- Rice", "048-Cereal preparations and preparations of flour or starch of fruits or vegetables", "012- Other meat and edible meat offal, fresh, chilled or frozen", "073-Chocolate and other food preparations containing cocoa, n.e.s.", "893-Articles, n.e.s., of plastics", "334- Petroleum oils and oils obtained from bituminous minerals"
Russian Federation	"057- Fruit and nuts (not including oil nuts), fresh or dried", "655- Knitted or crocheted fabrics", "054- Vegetables, fresh, chilled, frozen or simply preserved", "653- Fabrics, woven, of man-made textile materials (not including narrow or special fabrics)", "781- Motor cars and other motor vehicles principally designed for the transport of persons", "334- Petroleum oils and oils obtained from bituminous minerals", "793- Ships, boats (including hovercraft) and floating structures", "581- Tubes, pipes and hoses, and fittings therefor, of plastics", "897- Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s", "728- Other machinery and equipment specialized for particular industries; parts thereof, n.e.s."
Saudi Arabia	"659- Floor coverings, etc.", "672-Ingots and other primary forms, of iron or steel; semi-finished products of iron or steel", "773-Equipment for distributing electricity, n.e.s.", "771-Electric power machinery (other than rotating electric plant of group 716), and parts thereof", "676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "783- Road motor vehicles, n.e.s.", "057- Fruit and nuts (not including oil nuts), fresh or dried", "048- Cereal preparations and preparations of flour or starch of fruits or vegetables", "661- Lime, cement, and fabricated construction materials (except glass and clay materials)", "625- Rubber tyres, interchangeable tyre treads, tyre flaps and inner tubes for wheels of all kinds"
UAE	"971-Gold, non-monetary (excluding gold ores and concentrates)", "334-Petroleum oils and oils obtained from bituminous minerals", "897-Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s.",

	"335-Residual petroleum products, n.e.s., and related materials", "771-Electric power machinery (other than rotating electric plant of group 716), and parts thereof", "681- Silver, platinum and other metals of the platinum group", "811-Prefabricated buildings", "821-Furniture and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings", "773-Equipment for distributing electricity, n.e.s.", "772-Electrical apparatus for switching or protecting electrical circuits or for making connections to or in electrical circuits"
USA	" 792-Aircraft and associated equipment; spacecraft (including satellites) and spacecraft launch vehicles; parts thereof", "781-Motor cars and other motor vehicles principally designed for the transport of persons", "661-Lime, cement, and fabricated construction materials (except glass and clay materials)", "714-Engines and motors, non-electric (other than those of groups 712, 713 and 718); parts, n.e.s., of these engines and motors", "679-Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel", "659-Floor coverings, etc.", "793-Ships, boats (including hovercraft) and floating structures", "784-Parts and accessories of the motor vehicles of groups 722, 781, 782 and 783", "897-Jewellery, goldsmiths' and silversmiths' wares, and other articles of precious or semiprecious materials, n.e.s.", "621-Materials of rubber (e.g., pastes, plates, sheets, rods, thread, tubes, of rubber)"
Egypt	"676-Iron and steel bars, rods, angles, shapes and sections (including sheet piling)", "334-Petroleum oils and oils obtained from bituminous minerals", "672-Ingots and other primary forms, of iron or steel; semi-finished products of iron or steel", "041-Wheat (including spelt) and meslin, unmilled", "841-Men's or boys' coats, capes, jackets, suits, blazers, trousers, shorts, shirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted", "679-Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel", "652-Cotton fabrics, woven (not including narrow or special fabrics)", "673-Flat-rolled products of iron or non-alloy steel, not clad, plated or coated", "697-Household equipment of base metal, n.e.s.", "842- Women's or girls' coats, capes, jackets, suits, trousers, shorts, shirts, dresses and skirts, underwear, nightwear and similar articles of textile fabrics, not knitted or crocheted"
Algeria	"679-Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel", "723-Civil engineering and contractors' plant and equipment; parts thereof", "773-Equipment for distributing electricity, n.e.s.", "691-Structures and parts of structures, n.e.s., of iron, steel or aluminium", "728-Other machinery and equipment specialized for particular industries; parts thereof, n.e.s.", "041-Wheat (including spelt) and meslin, unmilled", "655- Knitted or crocheted fabrics", "771- Electric power machinery (other than rotating electric plant of group 716), and parts thereof", "741- Heating and cooling equipment, and parts thereof, n.e.s.", "811- Prefabricated buildings"
EU-27	"263 Cotton", "278 Other crude minerals", "621 Materials of rubber", "713 Internal combustion piston engines, and parts thereof, n.e.s.", "812 Sanitary, plumbing and heating fixtures and fittings, n.e.s.", "665 Glassware", "775 Household-type electrical and non-electrical equipment, n.e.s.", "784 Parts and accessories of the motor vehicles of groups 722, 781, 782 and 783", "657 Special yarns, special textile fabrics and related products", "581 Tubes, pipes and hoses, and fittings therefor, of plastics".

Source: Computed by authors using UNCTAD data