RIVALRY IN THE EU MARKET: CHINA, INDIA AND TURKEY

Gulcin Elif YUCEL[1]

ABSTRACT

The rapid economic growth of China and India is having a major influence on the world economy. Being already the USA's main economic rival, China is an emerging global power. On the other hand, India get involved in the international trade much more energetically and it is an emerging power on a global scale, too. By using benchmarking method, this paper deals with Turkish export competitiveness besides its export similarities and differences with China and India. The paper uses the revealed comparative advantage framework to analyse the extent of export competition. For empirical analyses we use highly detailed trade data from UN Comtrade at the 4-digit level of ISIC. The dataset contains annual data on manufacturing exports to EU 5 countries between 2000 and 2010 period. The results show that Turkey continues to specialise inherently in low quality products whereas India and China demonstrate their ability to upgrade their performance in particular sectors. The study therefore says that product differentiation, more specifically improvement in product quality, is lacking in the Turkish manufacturing sector. To be globally competitive, Turkish manufacturing industry needs to invest in quality and reputation.

Keywords: Export, Competitiveness, Manufacturing Industry.

Jel Codes: F14, O57.

AB PAZARI İÇERİSİNDE REKABET: ÇİN, HİNDİSTAN VE TÜRKİYE

ÖZET

Çin ve Hindistan'ın hızlı ekonomik büyümesi, dünya ekonomisinde büyük bir etki yaratmaktadır. Halihazırda ABD'nin başlıca rakiplerinden olan Çin, gelişmekte olan küresel bir güçtür. Diğer yandan, Hindistan ise uluslararası ticarete daha enerjik katılmş ve küresel ölçekte o da gelişmekte olan bir güç olmuştur. Makalede, Türkiye'nin Çin ve Hindistan ile AB 5 pazarında ihracat rekabeti, ihracat benzerlikleri ve farkları incelenmektedir. Makalede, ihracat rekabetinin kapsamını analiz etmek için açıklanmış karşılaştırmalı üstünlükler çerçevesi kullanılmaktadır. Ampirik analizler için UN Comtrade veritabanından alınan 4 basamaklı ISIC verileri kullanılmıştır. Veri seti, 2000-2010 yılları arasında AB 5 ülkelerine yapılan yıllık imalat sanayi ihracat verilerini içermektedir. Sonuçlar, Türkiye'nin esasında düşük kaliteli ürünlerde uzmanlaşmaya devam ettiğini, oysa Çin ve Hindistan'ın belli sektörlerde performanslarını yükseltmeye çalıştığını göstermektedir. Bu nedenle çalışma, ürün farklılaştırmasının, daha spesifik olarak da ürün kalitesindeki ilerlemenin, Türkiye imalat sektöründe eksik olduğunu söylemektedir. Küresel düzeyde rekabet edebilmek için Türk imalat endüstrisinin kaliteye ve saygınlığa yatırım yapması gerekmektedir.

Anahtar kelimeler: Ihracat, Rekabet, Imalat Sanayi.

Jel Kodları: F14, O57.

1. INTRODUCTION

The globalization process increases the importance of competition in trade. Within the globalization context, emerging economies should take the advantage of possible gains in expanding trade. Since globalization

---

[1] Assist. Prof. Dr., Istanbul Yeni Yuzyil University, gulcinelif.yucel@yeniyuzyil.edu.tr.

takes place in a competitive environment, emerging economies' ability to compete in the global economy becomes very crucial.

There are many benefits of improving international competitiveness. Increasing competition in exports creates jobs in the export sector, improves a country's current account deficit, increases demand for exports by exporting relatively cheaper goods and leads to economic growth.

This study has two parts: The first part is about the export competitiveness of China, India and Turkey. In this part, revealed comparative advantage (RCA) has been calculated by static and dynamic analyses. The second part of this study is about the similarity of export between China, India and Turkey in the EU-5 market.

2. COMPARATIVE ADVANTAGE

The theory of comparative advantage is perhaps the most important concept in international trade theory. The theory of comparative advantage is an economic theory about the potential gains from trade. Comparative advantage occurs when one country can produce a good or service at a lower opportunity cost than another. This means a country can produce a good relatively cheaper than other countries.

2.1. Revealed Comparative Advantage

The revealed comparative advantage is an index used in international economics for calculating the relative advantage or disadvantage of a country in a certain type of goods or services as evidenced by trade flows. It is based on the Ricardian comparative advantage concept.

[2.1]
$$RCA_{ij} = \frac{X_{ij}/X_i}{X_{wj}/X_w}$$

i	j	Country
j	i	Commodity
w	w	World[*]

Since there are many tables in which RCA indices are analyzed, these are presented in this study[2].

The tables below show the summarized results of RCA analyses.

Table 2.1 Sectors That Have Comparative Advantage

CHINA						INDIA						TURKEY				
CHI-FRA	CHI-GER	CHI-ITA	CHI-SPA	CHI-UK		IND-FRA	IND-GER	IND-ITA	IND-SPA	IND-UK		TUR-FRA	TUR-GER	TUR-ITA	TUR-SPA	TUR-UK
1512	1512	1513	1512	1512		1512	1512	1512	1512	1512		1513	1513	1512	1513	1513
1513	1513	1520	1513	1513		1513	1520	1531	1513	1513		1531	1531	1513	1532	1541
1533	1533	1533	1520	1532		1514	1531	1711	1531	1520		1541	1541	1541	1711	1543
1543	1543	1543	1533	1533		1520	1533	1722	1711	1531		1543	1543	1543	1729	1552
1544	1544	1544	1543	1543		1531	1711	1723	1722	1541		1711	1544	1711	1820	1554
1551	1711	1552	1544	1544		1711	1722	1729	1723	1600		1722	1551	1722	2430	1711
1552	1722	1554	1552	1552		1722	1723	1911	1911	1711		1729	1552	1729	2519	1722

---

[2] The RCA results of China, India and Turkey for the 4-digit industries take up an enormous part of the study. Therefore, they are not reported in this study but may be provided as excel files upon request.

1554	1723	1711	1711	1711
1711	1729	1722	1722	1722
1722	1820	1723	1723	1723
1723	2022	1729	1729	1729
1729	2029	1820	1820	1820
1820	2102	2022	1911	2022
2022	2211	2029	2022	2029
2029	2219	2102	2029	2102
2102	2221	2211	2102	2211
2211	2320	2219	2211	2219
2213	2413	2221	2219	2221
2219	2421	2413	2221	2413
2221	2422	2422	2421	2422
2413	2423	2423	2422	2423
2422	2430	2424	2423	2424
2423	2519	2519	2519	2430
2424	2692	2692	2692	2519
2430	2695	2695	2695	2692
2519	2696	2696	2699	2695
2692	2699	2699	2720	2696
2695	2720	2720	2811	2699
2691	2811	2811	2899	2811
2699	2812	2813	3120	2813
2720	2899	2899	3130	2899
2811	3120	3120	3430	3120
2899	3130	3130	3512	3130
3120	3430	3599	3599	3430
3130	3511			3511
3430	3512			3512
3511	3599			3599
3512				
3599				

1729	1729	2212	2413	1722
1911	1911	2421	2421	1723
2212	2211	2422	2423	1729
2413	2212	2424	2430	1911
2421	2413	2430	2519	2211
2519	2421	2519	2692	2212
2692	2422	2696	2696	2221
2696	2423	2710	2699	2421
2710	2424	2899	2710	2423
2899	2430	2915	2899	2424
2915	2519	3410	2915	2430
3120	2692	3430	3120	2519
	2696		3410	2696
	2699		3430	2699
	2710			2811
	2812			2813
	2813			2899
	2899			2915
	2915			3120
	3120			3430
	3430			

1820	1554	2422	2694	1729
2102	1711	2430	2696	1820
2430	1722	2519	2710	2102
2519	1729	2694	2720	2422
2692	1820	2720	2812	2424
2694	2102	2812	3410	2430
2720	2211	2899	3430	2519
2811	2212	3120		2694
2812	2213	3130		2695
2899	2219	3410		2696
3120	2424	3430		2710
3410	2430	3512		2812
3430	2519			3130
	2694			3410
	2710			3430
	2720			3512
	2811			
	2812			
	2899			
	3120			
	3130			
	3410			
	3430			

Table 2.2. Common Sectors of Comparative Advantage

CHI	IND	TUR
1513	1512	1513
1533	1531	1711
1543	1711	1729
1544	1722	2430
1711	1911	2519
1722	2519	2694
1723	2696	2812
1729	2899	3410
1820	2915	3430
2022		
2029		
2102		
2211		
2219		
2221		
2422		
2423		
2519		
2692		
2695		

2699		
2811		
2899		
3120		
3130		
3599		

Table 2.2. shows that China has many sectors that have comparative advantage. To assess whether Turkey has been specializing in the same sectors as China and India, we calculate the cross-sector correlations between Turkey's RCAs and those of China and India. Positive values of those correlations indicate that countries have similar specialization patterns and therefore compete in the same markets. On the other hand, negative values indicate that specialization patterns complement each other and the growth of China and India is an opportunity for Turkey, as China's and India's net import demand will be large when Turkey's net export supply is large. Figure 2.1. shows the general result of these correlations. According to the results, China and India are very dissimilar in French market. On the other hand, Turkey has a very similar specialization pattern with China in Italian and Spanish market and with India in German and Italian market.

2.2. Dynamic Comparative Advantage

The Dynamic Comparative Advantage Index is introduced by Edwards and Schoer (2002). The index is formulated as follows:

[2.2]
$$\frac{\Delta RCA_{ij}}{RCA_{ij}} = \frac{\Delta(X_{ij}/X_i)}{X_{ij}/X_i} - \frac{\Delta(X_{wj}/X_w)}{X_{wj}/X_w}$$

The results of the dynamic RCAs of China, India and Turkey for the 4-digit industries take up an enormous part of the study. Therefore, they are not reported in this study but may be provided as excel files upon request.

Table 2.3. Number of Sectors that Have Decreasing Comparative Advantage

	CHI	IND	TUR
FRA	8	15	9
GER	4	10	7
ITA	7	17	7
SPA	7	14	9
UK	5	8	8

Table 2.3. shows the total number of sectors which have a decreasing RCA. According to the results the RCA of Turkey and China has not decreased too much. It can be interpreted as Turkey and China are strong competitors in EU-5 market with their increasing RCAs.

**Table 2.4. Common Sectors of China and Turkey**

FRA	1531	1542	2212
GER			
ITA	1532	2101	

| SPA | 1514 | 1551 | |
| UK | 2213 | | |

Table 2.4. shows the common sectors of China and Turkey where they have decreasing RCAs. As seen above China and Turkey lose their comparative advantage in sector 15 (Manufacture of food products and beverages) in French, Italian and Spanish markets. Also, they lose in sector 22 (Publishing, printing and reproduction of recorded media) in French and UK market.
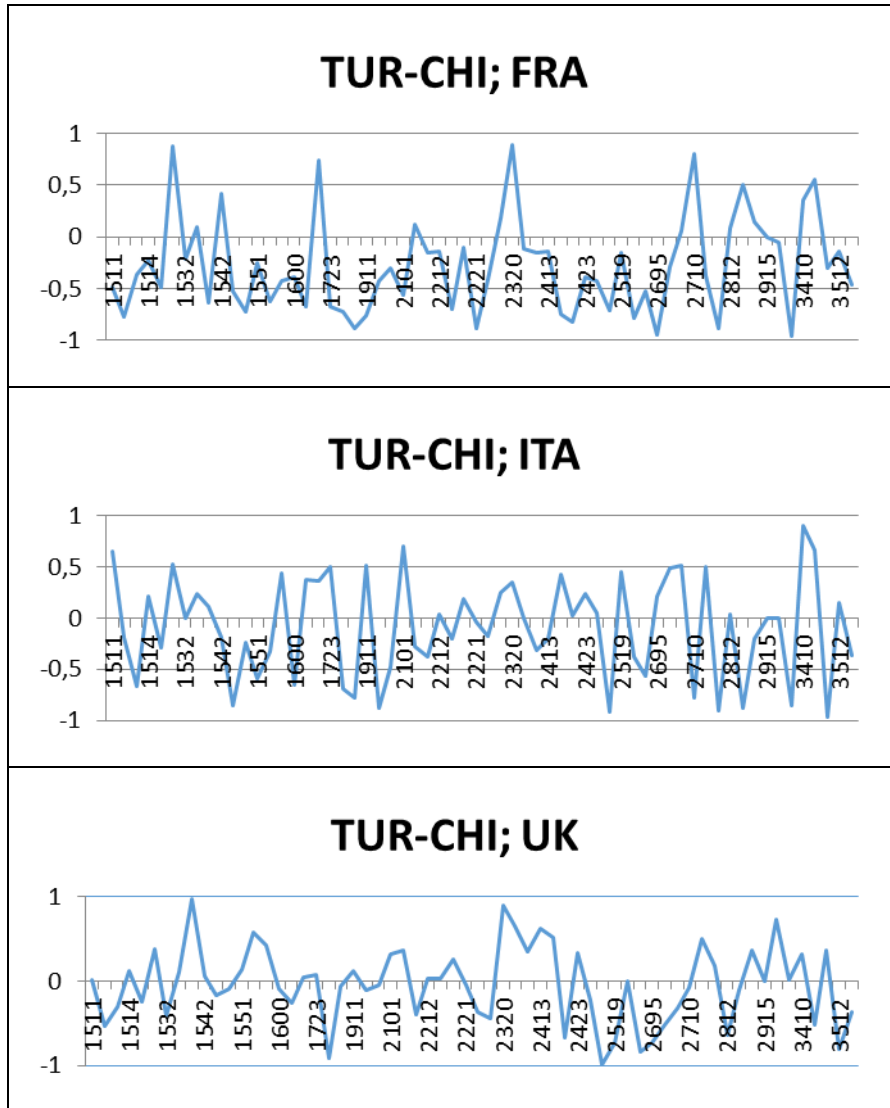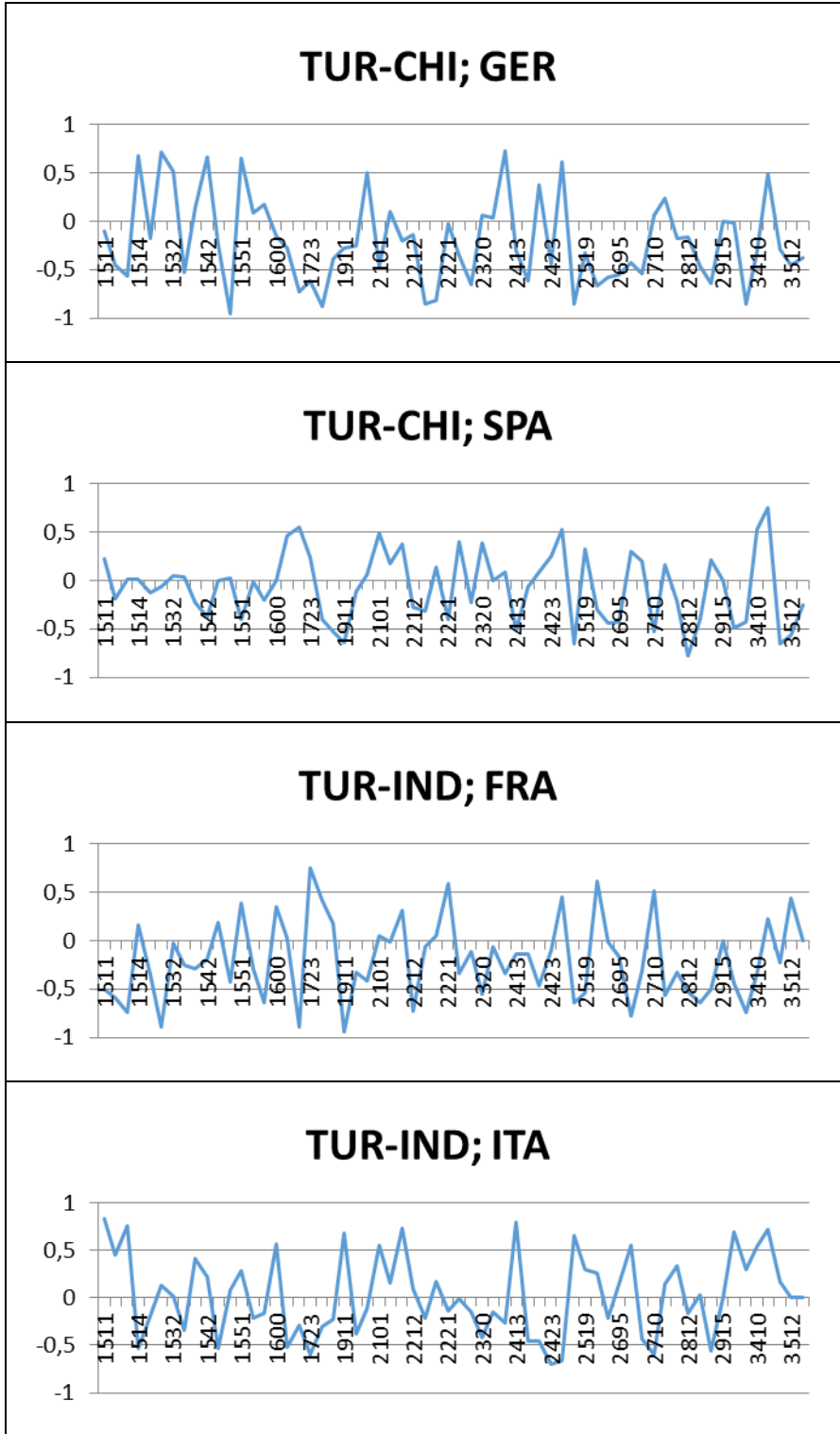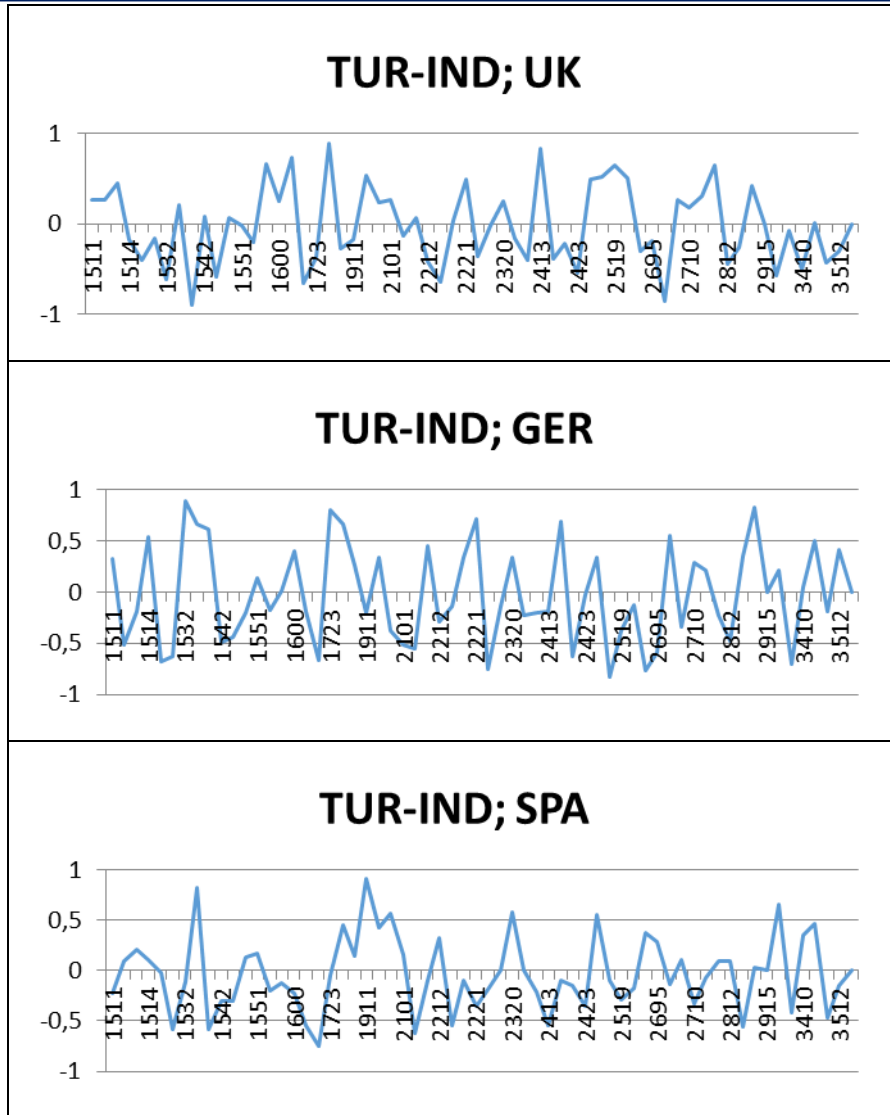
Figure 2.1. Correlation Results of TUR-CHI-IND RCA

2.3. Trade & Opportunity Matrix (Ekmen Ozcelik, 2012)

Table 2.5. Example of CHI-TUR Trade & Opportunity Matrix

	TUR's RCA>1	TUR's RCA<1
CHI's RCA>1	*Threat between TUR and CHI*	*Opportunity for CHI created by TUR*
CHI's RCA<1	*Opportunity for TUR created by CHI*	*No threat/No opportunity*

GJEBS

Global Journal of Economics and Business Studies
Küresel İktisat ve İşletme Çalışmaları Dergisi
www.gjebs.com - ISSN: 2147-415X

Kış-2014
Cilt: 3 Sayı: 6 (13-31)

Winter-2014
Volume: 3 Issue: 6 (13-31)

Table 2.6. Threat between TUR, CHI and IND in French Market (Group I) (2010)

CHI & TUR => FRA	IND & TUR => FRA
1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029-2101-2102-2211-2212-2213-2219-2221	1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600

Table 2.7. Threat between TUR, CHI and IND in German Market (Group I) (2010)

CHI & TUR => GER	IND & TUR => GER
1512-1513-1532-1543-1544-1552-1711-1722-1729-1820-2022-2102-2211-2213-2219-2221-2320-2413-2423-2424-2430-2519-2692-2696-2699-2710-2720-2811-2812-2813-2899-3120-3130-3430	1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029 2101-2102-2211-2212-2213-2219-2221

Table 2.8. Threat between TUR, CHI and IND in Italian Market (Group I) (2010)

CHI & TUR => ITA	IND & TUR => ITA
1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029-2101-2102-2211-2212-2213-2219	1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723

Table 2.9. Threat between TUR, CHI and IND in Spanish Market (Group I) (2010)

CHI & TUR => SPA	IND & TUR => SPA
1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911	1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544

Table 2.10. Threat between TUR, CHI and IND in English Market (Group I) (2010)

CHI & TUR => UK	IND & TUR => UK
1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029-2101	1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022

According to the tables above, the results can be summarized as follows: China's trade to Germany is a threat on Turkey in almost all 4-digit manufacturing sectors. Chinese export to other EU-5 countries is also a therat on Turkey, but it is limited to te sectors between 15-22. India is also a threat on Turkey in EU-5 market. Sectors 1511 (Production, processing and preserving of meat and meat products), 1512 (Processing and preserving of fish and fish products), 1513 (Processing and preserving of fruit and vegetables) and 1514 (Manufacture of vegetable and animal oils and fats) are always a threat on Turkish exports. These sectors are low-tech, marketing driven and low-skill sectors.

3. SIMILARITY OF EXPORT

Since China shows an outstanding performance and has increasingly higher competitive pressure on export markets, in the literature an interest in "export similarity" concept has accelerated in recent years. We analyze the similarity of Chinese, Indian and Tukish export patterns to the EU-5 market with each other for the period of 2000-2010 at the highly disaggregated product level data.

Following the method of Finger and Kreinin (1979), we determine the strongest competitors of Turkey in EU-5 export market by using the Export Similarity Index (ESI).

To analyse the degree of similarity we use the similarity index developed by Finger and Kreinin (1979), who were among the first international economists to develop an "export similarity" indicator and incorporate it into the analysis of export competitiveness.

The index is given by $S = \sum_k min \left(\frac{x_k^a}{X^a}, \frac{x_k^b}{X^b} \right)$, where x_k^a and x_k^b are the exports patterns of product k from countries a and b, respectively. X^a and X^b are the total exports of these countries. The index goes from 0 to 1 as similarity increases. For example, in our sample, "a" and "b" are one of the countries of China, India and Turkey and "c" is a country from EU-5 market. The index ranges from 0 to 100, which reflects totally dissimilar and totally identical exports, respectively.

Finger and Kreinin (1979) gives the following example to the ESI:

$$S(ab,c) = \left\{ \sum_i min \left[X_i(ac), X_i(bc) \right] \right\} . 100$$

	Exporter			
	a		b	
Product	Value	$X_i(ac)$	Value	$X_i(bc)$
1	$ 10	0.1	$ 500	0.5
2	$ 90	0.9	$ 500	0.5
Total	$ 100	1.0	$ 1000	1.0

$$S(ab,c) = [min(0.1; 0.5) + min(0.9; 0.5)].100 = 60$$

This index compares the patterns of exports across product categories. According to the example above Finger and Kreinin (1979) asked "What proportion of a's exports is "matched" by exports of b in the same product category?" ESI is 60 which means 60% of a's exports is "matched" by b's exports.

The export similarity index is an overlap index. It is designed to measure the degree of similarity between the export profiles of two economies. The more similar the export profiles are, the more likely that economies are competitors in global markets. High similarity indices may also indicate limited potential for inter-industry trade with a regional trading arrangement (Mikic and Gilbert, 2007). Mikic and Gilbert (2007) state that there are some limitations of ESI. It does not consider the level of exports, only the structure, so may be misleading when the size of the economies considered is very different and it is subject to aggregation bias. The index is biased upward as the commodity data is aggregated.

On the other hand, export similarity is not a directly related concept to competitiveness and according to Erlat and Ekmen (2009), evaluating the relative competitiveness levels of two countries with very different trade patterns and export structures would not make much sense. According to them, in order to be meaningful and indicative for shaping trade policies of future, competitiveness of a country should be analyzed relative to another country which has more-or-less similar trade structure. Therefore, in this study, we analyze the trade

relation between China, India, Turkey and EU-5 countries, which are emerging and high-income countries, respectively. The results are shown below.

The main findings of these tables[3] are as the following: 2710 (Manufacture of basic iron and steel) and 1711 (Preparation and spinning of textile fibres; weaving of textiles) are the common sectors which are exported to EU-5. These sectors are medium low-tech. and low-tech. sectors, respectively. Sector 34 (Manufacture of motor vehicles, trailers and semi-trailers) is the prominent sector of export to FRA, GER and UK, which is a medium high-tech. industry. High-tech. (2423) (Manufacture of pharmaceuticals, medicinal chemicals and botanical products) and medium high-tech. exports [3410 (Manufacture of motor vehicles) + 3430 (Manufacture of parts and accessories for motor vehicles and their engines)] are observed in the export to GER.

Figure 3.1. presents the results of ESI for the country as a whole and for the manufacturing industry as a whole. According to the tables, countries that are most similar to Turkey is China and India, respectively. Export similarity between Turkey and India has increased in the last period while it has decreased for China.
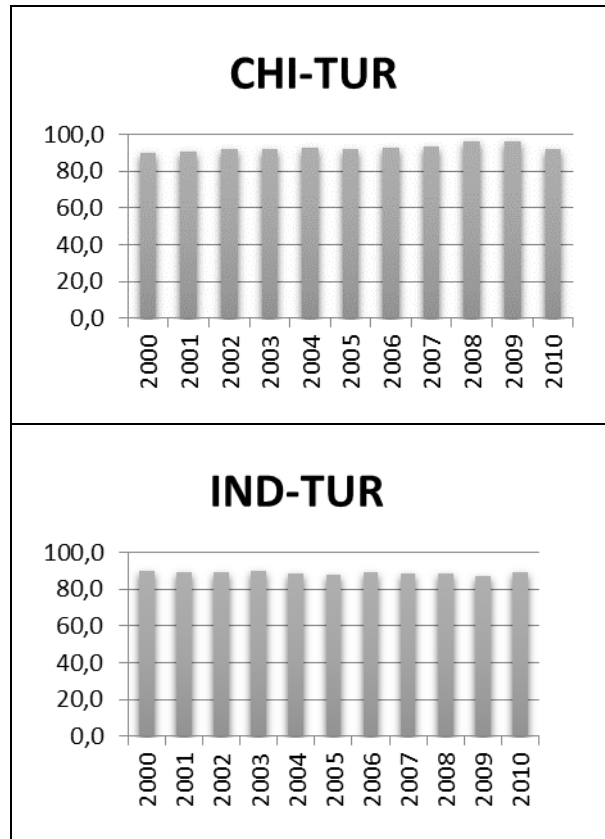

Figure 3.1. ESI Results for TUR, CHI and IND

---

[3] They can be provided upon request.

4. CONCLUSIONS

All the analyses and comparisons in this study indicate that there are three prominent sectors in Turkish manufacturing industry: Manufacture of basic metals, manufacture of motor vehicles and manufacture of textiles. These three prominent sectors of Turkish manufacturing industry are also important for China and Turkey. Even if Turkey loose its comparative advantage in sectors 1711 (Preparation and spinning of textile fibres; weaving of textiles) and 1723 (Manufacture of cordage, rope, twine and netting), it still has a very high comparative advantage in the sectors of 2710 (Manufacture of basic iron and steel), 2720 (Manufacture of basic precious and non-ferrous metals), 3410 (Manufacture of motor vehicles) and 3430 (Manufacture of parts and accessories for motor vehicles and their engines).

The 1995 Customs Union Agreement had a large impact on Turkey and its industries. Especially, Turkish automotive industry accounts for the largest portion of Turkey's exports, eclipsing even textiles and other iron and steel products. The sector is also expected to be one of the pioneers in 2023 strategic plan. In short, Turkey's auto industry has developed into a cornerstone of the modern Turkish economy and it will play a vital part in Turkey's economic future. Even if Turkey's exports have made progress in 10 years period, they still fall behind the desired level. It should be noted that there is a high level of concentration on certain markets. It is certain that the progress in these industries are very important but Turkey needs to produce high-technology goods and increase its product variety. Therefore, Turkey needs to show an intense effort in order to create diversified export markets. The main goal should be to produce high value added, original and high-quality products.

The weak point of all these analyses is that we could not evaluate the trade pattern from the viewpoint of EU-5 countries. In other words, we can not include the demand structure of EU-5 countries. This will necessitate 4-digit ISIC data for EU-5 manufacturing import from Turkey, China and India, and will take a long time to make all the analyses. Therefore, we reserve it for the further studies.

REFERENCES

Edwards, L. and V. Schoer. (2002). Measures of Competitiveness: A Dynamic Approach to South Africa's Trade Performance In The 1990s. *South African Journal of Economics*. 70.6, 1008-1046.

Erlat, G. and S. Ekmen. (17-19 June, 2009). Export Similarity and Competitiveness: The Case of Turkey in the EU Market. *Anadolu International Conference in Economics*. Eskişehir.

Finger, J. M. and M. E. Kreinin. (1979). A Measure of "Export Similarity" and Its Possible Uses. *Economic Journal*. 89.356, 905-912.

Mikic, M. and J. Gilbert. (2007). *Trade Statistics in Policymaking - A Handbook Of Commonly Used Trade Indices And Indicators*. Studies in Trade and Investment. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

Turkish Statistical Institute

UNCTAD

World Bank

World Integrated Trade Solutions

APPENDIX 1. ISIC REV.3 (4-DIGIT LEVEL)

15 - Manufacture of food products and beverages

1511 - Production, processing and preserving of meat and meat products

1512 - Processing and preserving of fish and fish products

1513 - Processing and preserving of fruit and vegetables

1514 - Manufacture of vegetable and animal oils and fats

1520 - Manufacture of dairy products

1531 - Manufacture of grain mill products

1532 - Manufacture of starches and starch products

1533 - Manufacture of prepared animal feeds

1541 - Manufacture of bakery products

1542 - Manufacture of sugar

1543 - Manufacture of cocoa, chocolate and sugar confectionery

1544 - Manufacture of macaroni, noodles, couscous and similar farinaceous products

1549 - Manufacture of other food products n.e.c.

1551 - Distilling, rectifying and blending of spirits; ethyl alcohol production from fermented materials

1552 - Manufacture of wines

1553 - Manufacture of malt liquors and malt

1554 - Manufacture of soft drinks; production of mineral waters

16 - Manufacture of tobacco products

1600 - Manufacture of tobacco products

17 - Manufacture of textiles

1711 - Preparation and spinning of textile fibres; weaving of textiles

1721 - Manufacture of made-up textile articles, except apparel

1722 - Manufacture of carpets and rugs

1723 - Manufacture of cordage, rope, twine and netting

1729 - Manufacture of other textiles n.e.c.

1730 - Manufacture of knitted and crocheted fabrics and articles

18 - Manufacture of wearing apparel; dressing and dyeing of fur

1810 - Manufacture of wearing apparel, except fur apparel

1820 - Dressing and dyeing of fur; manufacture of articles of fur

19 - Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear

1911 - Tanning and dressing of leather

1912 - Manufacture of luggage, handbags and the like, saddlery and harness

1920 - Manufacture of footwear

20 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials

2010 - Sawmilling and planing of wood

2021 - Manufacture of veneer sheets; manufacture of plywood, laminboard, particle board and other panels and boards

2022 - Manufacture of builders' carpentry and joinery

2023 - Manufacture of wooden containers

2029 - Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials

21 - Manufacture of paper and paper products

2101 - Manufacture of pulp, paper and paperboard

2102 - Manufacture of corrugated paper and paperboard and of containers of paper and paperboard

2109 - Manufacture of other articles of paper and paperboard

22 - Publishing, printing and reproduction of recorded media

2211 - Publishing of books, brochures, musical books and other publications

2212 - Publishing of newspapers, journals and periodicals

2213 - Publishing of recorded media

2219 - Other publishing

2221 - Printing

2222 - Service activities related to printing

2230 - Reproduction of recorded media

23 - Manufacture of coke, refined petroleum products and nuclear fuel

2310 - Manufacture of coke oven products

2320 - Manufacture of refined petroleum products

2330 - Processing of nuclear fuel

GJEBS

Global Journal of Economics and Business Studies
Küresel İktisat ve İşletme Çalışmaları Dergisi
www.gjebs.com - ISSN: 2147-415X

Kış-2014
Cilt: 3 Sayı: 6 (13-31)

Winter-2014
Volume: 3 Issue: 6 (13-31)

24 - Manufacture of chemicals and chemical products

2411 - Manufacture of basic chemicals, except fertilizers and nitrogen compounds

2412 - Manufacture of fertilizers and nitrogen compounds

2413 - Manufacture of plastics in primary forms and of synthetic rubber

2421 - Manufacture of pesticides and other agro-chemical products

2422 - Manufacture of paints, varnishes and similar coatings, printing ink and mastics

2423 - Manufacture of pharmaceuticals, medicinal chemicals and botanical products

2424 - Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations

2429 - Manufacture of other chemical products n.e.c.

2430 - Manufacture of man-made fibres

25 - Manufacture of rubber and plastics products

2511 - Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres

2519 - Manufacture of other rubber products

2520 - Manufacture of plastics products

26 - Manufacture of other non-metallic mineral products

2610 - Manufacture of glass and glass products

2691 - Manufacture of non-structural non-refractory ceramic ware

2692 - Manufacture of refractory ceramic products

2693 - Manufacture of structural non-refractory clay and ceramic products

2694 - Manufacture of cement, lime and plaster

2695 - Manufacture of articles of concrete, cement and plaster

2696 - Cutting, shaping and finishing of stone

2699 - Manufacture of other non-metallic mineral products n.e.c.

27 - Manufacture of basic metals

2710 - Manufacture of basic iron and steel

2720 - Manufacture of basic precious and non-ferrous metals

28 - Manufacture of fabricated metal products, except machinery and equipment

2811 - Manufacture of structural metal products

2812 - Manufacture of tanks, reservoirs and containers of metal

2813 - Manufacture of steam generators, except central heating hot water boilers

GJEBS

Global Journal of Economics and Business Studies
Küresel İktisat ve İşletme Çalışmaları Dergisi
www.gjebs.com - ISSN: 2147-415X

Kış-2014
Cilt: 3 Sayı: 6 (13-31)

Winter-2014
Volume: 3 Issue: 6 (13-31)

2893 - Manufacture of cutlery, hand tools and general hardware

2899 - Manufacture of other fabricated metal products n.e.c.

29 - Manufacture of machinery and equipment n.e.c.

2911 - Manufacture of engines and turbines, except aircraft, vehicle and cycle engines

2912 - Manufacture of pumps, compressors, taps and valves

2913 - Manufacture of bearings, gears, gearing and driving elements

2914 - Manufacture of ovens, furnaces and furnace burners

2915 - Manufacture of lifting and handling equipment

2919 - Manufacture of other general purpose machinery

2921 - Manufacture of agricultural and forestry machinery

2922 - Manufacture of machine-tools

2923 - Manufacture of machinery for metallurgy

2924 - Manufacture of machinery for mining, quarrying and construction

2925 - Manufacture of machinery for food, beverage and tobacco processing

2926 - Manufacture of machinery for textile, apparel and leather production

2927 - Manufacture of weapons and ammunition

2929 - Manufacture of other special purpose machinery

2930 - Manufacture of domestic appliances n.e.c.

30 - Manufacture of office, accounting and computing machinery

3000 - Manufacture of office, accounting and computing machinery

31 - Manufacture of electrical machinery and apparatus n.e.c.

3110 - Manufacture of electric motors, generators and transformers

3120 - Manufacture of electricity distribution and control apparatus

3130 - Manufacture of insulated wire and cable

3140 - Manufacture of accumulators, primary cells and primary batteries

3150 - Manufacture of electric lamps and lighting equipment

3190 - Manufacture of other electrical equipment n.e.c.

32 - Manufacture of radio, television and communication equipment and apparatus

3210 - Manufacture of electronic valves and tubes and other electronic components

3220 - Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy

3230 - Manufacture of television and radio receivers, sound or video recording or reproducing apparatus, and associated goods

33 - Manufacture of medical, precision and optical instruments, watches and clocks

3311 - Manufacture of medical and surgical equipment and orthopaedic appliances

3312 - Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment

3313 - Manufacture of industrial process control equipment

3320 - Manufacture of optical instruments and photographic equipment

3330 - Manufacture of watches and clocks

34 - Manufacture of motor vehicles, trailers and semi-trailers

3410 - Manufacture of motor vehicles

3420 - Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers

3430 - Manufacture of parts and accessories for motor vehicles and their engines

35 - Manufacture of other transport equipment

3511 - Building and repairing of ships

3512 - Building and repairing of pleasure and sporting boats

3520 - Manufacture of railway and tramway locomotives and rolling stock

3530 - Manufacture of aircraft and spacecraft

3591 - Manufacture of motorcycles

3592 - Manufacture of bicycles and invalid carriages

3599 - Manufacture of other transport equipment n.e.c.

36 - Manufacture of furniture; manufacturing n.e.c.

3610 - Manufacture of furniture

3691 - Manufacture of jewellery and related articles

3692 - Manufacture of musical instruments

3693 - Manufacture of sports goods

3694 - Manufacture of games and toys

3699 - Other manufacturing n.e.c.

GJEBS

Global Journal of Economics and Business Studies
Küresel İktisat ve İşletme Çalışmaları Dergisi
www.gjebs.com - ISSN: 2147-415X

Kış-2014
Cilt: 3 Sayı: 6 (13-31)

Winter-2014
Volume: 3 Issue: 6 (13-31)

APPENDIX 2. TRADE & OPPORTUNITY MATRIX

CHI & TUR => FRA

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029-2101-2102-2211-2212-2213-2219-2221	2320-2330-2412-2413-2421-2422-2423-2424-2430-2519-2692-2694-2695-2696-2699-2710-2720-2811
2222-2310	2812-2813-2899-2915-3120-3130-3410-3430-3511-3512-3599

IND & TUR => FRA

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600	2320-2330-2412-2413-2421-2422-2423-2424-2430-2519
1711-1722-1723-1729-1820-1911-2022-2029-2101-2102-2211-2212-2213-2219-2221-2222-2310	2692-2694-2695-2696-2699-2710-2720-2811-2812-2813-2899-2915-3120-3130-3410-3430-3511-3512-3599

CHI & TUR => GER

1512-1513-1532-1543-1544-1552-1711-1722-1729-1820-2022-2102-2211-2213-2219-2221-2320-2413-2423-2424-2430-2519-2692-2696-2699-2710-2720-2811-2812-2813-2899-3120-3130-3430	1520-1533-1723-2029-2101-2310-2421-2422-2695-3511-3512-3599
1531-1541-1551-1554-1911-2212-2222-2694-3410	1511-1514-1542-1600-2330-2412-2915

IND & TUR => GER

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029 2101-2102-2211-2212-2213-2219-2221	2692-2694-2695-2696-2699-2710-2720-2811
2222-2310-2320-2330-2412-2413-2421-2422-2423-2424-2430-2519	2812-2813-2899-2915-3120-3130-3410-3430-3511-3512-3599

CHI & TUR => ITA

1511-1512-1513-1514-1520-1531-1532-1533-1541-	2413-2421-2422-2423-2424-2430-2519-2692-2694-2695-2696-2699-2710-2720-2811-2812-2813-2899-

GJEBS

Global Journal of Economics and Business Studies
Küresel İktisat ve İşletme Çalışmaları Dergisi
www.gjebs.com - ISSN: 2147-415X

Kış-2014   **Winter-2014**
Cilt: 3 Sayı: 6 (13-31)   **Volume: 3 Issue: 6 (13-31)**

1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029-2101-2102-2211-2212-2213-2219	2915
2221-2222-2310-2320-2330-2412	3120-3130-3410-3430-3511-3512-3599

IND & TUR => ITA

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723	2413-2421-2422-2423-2424-2430-2519-2692-2694-2695-2696-2699-2710
1729-1820-1911-2022-2029-2101-2102-2211-2212-2213-2219-2221-2222-2310-2320-2330-2412	2720-2811-2812-2813-2899-2915-3120-3130-3410-3430-3511-3512-3599

CHI & TUR => SPA

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911	2211-2212-2213-2219-2221-2222-2310-2320-2330-2412-2413-2421-2422-2423-2424-2430-2519-2692-2694-2695-2696-2699-2710-2720-2811-2812
2022-2029-2101-2102	2813-2899-2915-3120-3130-3410-3430-3511-3512-3599

IND & TUR => SPA

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544	2211-2212-2213-2219-2221-2222-2310-2320-2330-2412-2413-2421-2422-2423-2424-2430
1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029-2101-2102	2519-2692-2694-2695-2696-2699-2710-2720-2811-2812-2813-2899-2915-3120-3130-3410-3430-3511-3512-3599

CHI & TUR => UK

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022-2029-2101	2310-2320-2330-2412-2413-2421-2422-2423-2424-2430-2519-2692-2694-2695-2696-2699-2710-2720-2811-2812-2813
2102-2211-2212-2213-2219-2221-2222	2899-2915-3120-3130-3410-3430-3511-3512-3599

IND & TUR => UK

1511-1512-1513-1514-1520-1531-1532-1533-1541-1542-1543-1544-1551-1552-1554-1600-1711-1722-1723-1729-1820-1911-2022	2310-2320-2330-2412-2413-2421-2422-2423—2424-2430-2519-2692-2694-2695-2696-2699-2710-2720
2029-2101-2102-2211-2212-2213-2219-2221-2222	2811-2812-2813-2899-2915-3120-3130-3410-3430-3511-3512-3599