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How does the rise in export prices affect the market share?

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TEPAV Evaluation Note
February 2011

How does the rise in export prices affect the market share?¹

In the face of the constant intensification of the global competition, understanding the price and market share movements in the prominent export sectors for Turkey is critical to devise prospective export strategies. Identification of the sectors which maintained (even increased) the market share despite increasing prices more than the rivals – due to the factors like quality improvement – will give hints that can guide the policy makers for an effective export strategy.

The objective of this evaluation note is to understand how relative prices and market shares per tones vary in selected sectors with an effort to identify how competitiveness evolves in the sectors that fuel Turkey's exports. In line with this objective, the note firstly examines whether the ranking of the major export goods changed over the last decade. Then, the note analyzes how prices and market shares changed compared to export leader countries in respective sectors. In this regard, it is possible to divide the sectors fueling Turkey's exports to four categories:

- 1) **Winner Sectors:** Sectors in which prices relative to rival countries' prices as well as market share increased
- 2) **Price-competitor Sectors:** Sectors in which Turkey increases market share through cutting prices relative to rival countries' prices
- 3) **Sectors that Lost Competitiveness:** Sectors which increased prices relative to rival countries and as a result lost their market share
- 4) **Loser Sectors:** Sectors which despite price cuts relative to rival sectors lost market share

To make a comparison over the unit prices, sectors were analyzed at 6-digit numerical codes under the HS 1996 classification. Using the BACI (BASE POUR L'ANALYSE DU COMMERCE INTERNATIONAL VERSION 1994-2007)² dataset that provides codes at this level, market shares and relative price levels were calculated. Since the mentioned dataset ends with the year 2007, the present analysis covers the 1998-2007 periods.

Ranking of the leading export sectors of Turkey over the last decade

The most striking point revealed in the analysis of the ten sectors – at 6-digit division – that generated highest export revenues between 1998 and 2007 is that agricultural products such as nuts and cotton are no longer among the top-ten sectors and are replaced by the motor vehicles sector and its subsectors (Table 1 and Table 2). It is also possible to conclude that the technological content of the top export sectors has been improved. On the other hand, it is seen that textile and steel-iron sectors maintained

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¹ We would like to thank to TEPAV Intern Engin Çangal for his contributions.

² Gaulier et Zignago (2010) "BACI: International Trade Database at the Product-level The 1994-2007 Version"
<http://www.cepii.fr/anglaisgraph/workpap/pdf/2010/wp2010-23.pdf>

their importance over the last decade. The underlined dynamics in the export sector have become more evident after 2004.

Table 1: Sectors that Generated the Highest Export Revenues in Turkey, 1998

Rank	Definition	Share in Turkey's Exports	Share in World Market
1	T-shirts, singlets, tank tops etc, cotton (knitted or crocheted)	3.04%	9.19%
2	Sweaters, pullovers etc, cotton (knitted or crocheted)	3.02%	8.96%
3	Rods (with deformation)	2.53%	26.80%
4	Color TV receivers and parts	2.49%	3.48%
5	Nuts (no shell)	2.21%	79.18%
6	Tobacco (rooted and ribbed)	1.75%	24.40%
7	Men's/boys' trousers, shorts, etc. of cotton	1.38%	3.14%
8	Women's/girls' trousers, shorts, etc. of cotton	1.20%	4.22%
9	Passenger motor vehicles diesel / semi-diesel motor	1.05%	5.25%
10	Women's/girls' trousers, shorts, etc. of cotton (knitted or crocheted)	1.04%	18.16%

Table 2: Sectors that Generated the Highest Export Revenues in Turkey, 2007

Rank	Definition	Share in Turkey's Exports	Share in World Market
1	Rods (with deformation)	3.75%	26.84%
2	Oil from petroleum and bituminous minerals	3.34%	0.74%
3	T-shirts, singlets, tank tops etc, cotton (knitted or crocheted)	2.44%	11.63%
4	Motor vehicles, diesel/semi-diesel motor (capacity < 5 tons)	2.36%	5.97%
5	Color TV receivers and parts	2.04%	3.23%
6	Motor vehicles, spark ignition (1500cm ³ < engine capacity= < 3000 cm ³)	1.90%	0.98%
7	Motor vehicles, diesel/semi-diesel (1500cm ³ < engine capacity = < 2500cm ³)	1.87%	1.76%
8	Crude oil (oil from petroleum and bituminous minerals)	1.83%	0.19%
9	Motor vehicles, diesel/semi-diesel (engine capacity = < 1500cm ³)	1.33%	8.03%
10	Women's/girls' trousers, shorts, etc. of cotton	1.29%	7.23%

Do prices per ton increase relative to other countries?

Table 3 presents the 20 sectors that generated the highest export revenue in Turkey in 2007. The examination of \$ prices in 15 sectors among these that are suitable for unit price comparison reveals that between 2000 and 2007 unit prices increased in all of the analyzed sectors. The mentioned increase in unit prices can refer to the exchange rate effect, the rise in input prices or a sector-specific development as well as improvements in product quality. To analyze the increases in prices net of the global trends in respective sectors, relative unit price index was used instead of unit prices in US \$. Relative unit price (RUP) index for each sector corresponds to the export prices per ton in respective sector as a percentage ratio of the unit prices in top 10 leader countries of the world in the regarding sector. Positive index values imply that the sector in question in Turkey charged higher prices for its products than all of the 10 leader countries in the

sector within the respective year. Negative index values indicate that Turkey charges lower prices than the leader countries for exports in the sector in question.

Since it is supposed that consumers will not purchase products that has lower-quality at the same price under the assumption that they are sufficiently informed about the product they will use, relative unit price index is used as a quality indicator in the literature on international trade frequently.³ Nevertheless, the literature generally tends to calculate relative price indices on the basis of the average price across the world. In order to have a better understanding of the competitiveness of the sectors in question, the present study calculates the RUP index relative to 10 leader countries in the market.⁴

As the relative unit price index calculated in the context of the study suggests, out of the 15 sectors that generated the highest export revenues for Turkey, relative prices increased in nine and decreased in six sectors. Therefore, given that the RUP index can be considered as a quality indicator, it can be concluded that in the last decade the major export sectors of Turkey improved the quality they provide more than the rival countries.

Table 3: 20 Sectors that Generated the Highest Export Revenues in Turkey in 2007

Rank	Definition
1	Rods (with deformation)
2	Oil from petroleum and bituminous minerals
3	T-shirts, singlets, tank tops etc, cotton (knitted or crocheted)
4	Motor vehicles, diesel/semi-diesel motor (capacity < 5 tons)
5	Color TV receivers and parts
6	Motor vehicles, spark ignition (1500cm ³ < engine capacity= < 3000 cm ³)
7	Motor vehicles, diesel/semi-diesel (1500cm ³ < engine capacity = < 2500cm ³)
8	Crude oil (from petroleum and bituminous minerals)
9	Motor vehicles, diesel/semi-diesel (engine capacity = < 1500cm ³)
10	Women's/girls' trousers, shorts, etc. of cotton
11	Passenger motor vehicles diesel / semi-diesel motor
12	Motor vehicles, spark ignition (1000cm ³ <1500 cm ³)
13	Jewelry and parts thereof, of other precious metal
14	Parts and equipments for motor vehicles
15	Men's/boys' trousers, shorts, etc. of cotton
16	Vessel tanks (tankers)
17	Sweaters, pullovers etc, cotton (knitted or crocheted)
18	Land vehicles parts and accessories
19	Gold, other unwrought (nonmonetary)
20	Nuts (no shell)

³ "Trade Performance Indexes, Technical Notes", May 2007, International Trade Center.

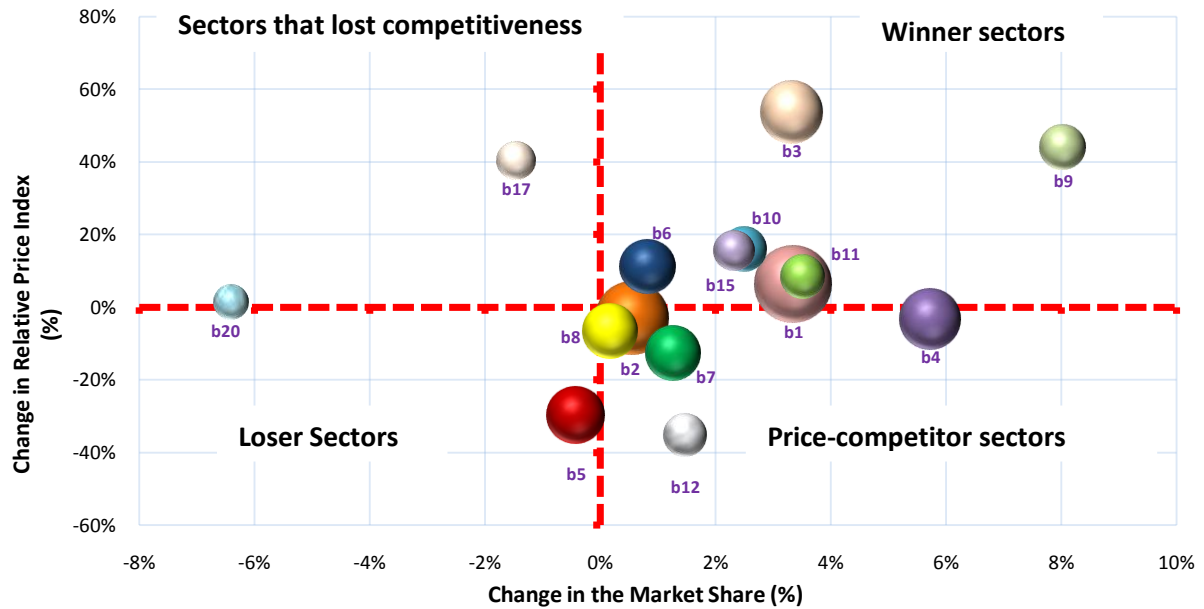
⁴ The market share of the 10 sector leading countries is above 60 percent in all of the studied sectors except the manufacturing of oil from petroleum and bituminous minerals.

Relative unit price indices and market shares

Figure 1a and 1b compares the increases in the relative unit price index and in the market share in Turkey's export goods for the period between 2000 and 2007. The sectors can be categorized as follows in this regard.

- Winner sectors: The most prominent sectors among those that increased both relative prices and market shares are manufacturing of diesel motor vehicles and manufacturing of cotton apparels sectors. These are followed by manufacturing of rods, manufacturing of passenger motor vehicles with diesel motors and manufacturing of spark ignition motor vehicles (1000cm³<1500 cm³) sectors. Considering the fact that input costs and exchange rate effect in the listed sectors will not change at high degrees compared to other export sectors, it can be argued that these winner sectors produce higher-quality products and/or enjoy more efficient export policies. The success of these sectors deserves more comprehensive analysis for the identification of suitable export strategies to be implemented in the future.
- Sectors that Lost Competitiveness: In this group which lost market share after increasing relative prices are knitted textiles and nuts sectors. In the textiles sector, the world leader China held a market share of 33.2% in 2007 whereas Turkey ranked the third with a market share of 4.7% and competed with the countries in the low-income group. In that respect, it is evident that the sector can be strengthened and fueled via structural measures. In the nuts sector in which Turkey was the world leader with a market share of 66.7% in 2007, market share appears to have decreased upon negligible increase in prices. However, it should also be noted that despite the drop in the market share, Turkey's exports in this sector increased.
- Price-competitor sectors: In this group that cut relative prices and increased the market share are sub-sectors of petroleum by-products, diesel/semi-diesel motor vehicles (capacity < 5 tons or 1500 < engine capacity = < 2500cm³), and spark ignition motor vehicles. Turkey has maintained the competitiveness and improved the market share in the petroleum by-products sector in which a market share of 0.2-0.4% is held and in the above mentioned sub-sectors of the motor vehicles sector which are dominated by developed countries. This fact can be associated with keeping relative prices low given the presence of economies with high scales advantage.
- Loser Sectors: This group includes sectors that lost both competitiveness and share in the global market despite offering lower relative prices. Color TV receivers and parts sector, the export revenues of which tended downwards, is among the sectors in this group.

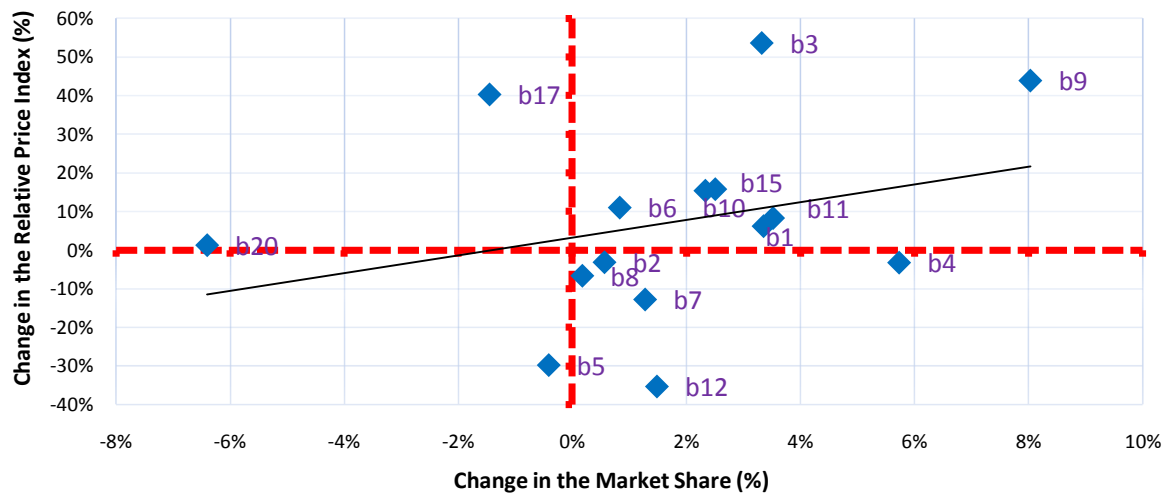
Figure 1a: Export Structure in Turkey in the 2000-2007 Period 2000 -2007*



*: Size of the balloons represents the market share of respective sectors.

- b1 Rods
- b2 Oil from petroleum and bituminous minerals
- b3 T-shirts, singlets, tank tops etc, cotton
- b4 Motor vehicles, diesel/semi-diesel motor (capacity < 5 tons)
- b5 Color TV receivers and parts
- b6 Motor vehicles, spark ignition (1500cm³ < engine capacity= < 3000 cm³)
- b7 Motor vehicles, diesel/semi-diesel (1500cm³ < engine capacity = < 2500cm³)
- b8 Crude oil (from petroleum and bituminous minerals)
- b9 Motor vehicles, diesel/semi-diesel (engine capacity = < 1500cm³)
- b10 Women's/girls' trousers, shorts, etc. of cotton
- b11 Passenger motor vehicles diesel / semi-diesel motor
- b12 Motor vehicles, spark ignition (1000cm³<1500 cm³)
- b15 Men's/boys' trousers, shorts, etc. of cotton
- b17 Sweaters, pullovers etc, cotton (knitted or crocheted)
- b20 Nuts (no shell)

Figure 1b: Export Structure in Turkey in the 2000-2007 Period



Concluding remarks

This evaluation note has sought the correlation between the relative unit prices in the top export sectors of Turkey and market shares of these sectors. Relative unit prices index is of key importance for showing how export prices in Turkey changed relative to rival countries in respective sectors.

The findings of this study suggest that out of fifteen sectors suitable for data analysis, seven increased both relative prices and market share over the examined period. Among these, manufacturing of diesel motor vehicles and manufacturing of cotton apparels sectors demonstrated the best performance. Considering the fact that input costs and exchange rate effect in the listed sectors did not change much relative to other export sectors in question, examining the developments in these sectors as well as the strategies implemented in these sectors will be of critical importance in devising the correct export policies. This issue will be addressed in the coming evaluation notes with different export indices.

In addition, the study revealed that in some sub-groups of the textiles sector export revenues increased although the rise in relative prices gave way to market share losses. It is identified that diesel/semi-diesel motor vehicles and spark ignition motor vehicles sectors among the sub-sectors of motor vehicles sector have improved their market share through price competition. On the other hand, color TV receivers and parts sector lost market share even with cutting prices probably since the required technological transformation and technology investments were not realized.

Finally, examining the top ten sectors that generate the highest export revenues, the study identified that in the last decade agricultural products such as nuts and tobacco were replaced by sub-sectors of motor vehicles sectors. These findings support the fact that technology intensity of Turkey's exports has improved.