

**OCCASIONAL MACRO NOTE**

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Turkey's external balance problem has always been a hot issue, and the huge increase in trade volume has been both welcome and greeted with caution at the same time with concerns concentrating mostly around the import content, sustainability, and competitiveness of exports.

This note aims at investigating export competitiveness ex-post in the post-crisis period and attempts to go into the roots of the performance in question and bring an explanation (no predictions, only an ex-post explanation) in a comparative framework.

It is a well known fact that real appreciation in TL, regardless of the extent of the equilibrium movement and productivity increases that left unit labor costs at reasonably competitive levels until very recently, has started giving exporters a tough time as of late. Product and market diversification are two classical remedies that come to mind if there is not much help coming from the exchange rate front, and it should be interesting to see how Turkey has performed in this regard in the post-crisis era.

A rudimentary approach to market diversification could be the investigation of the evolution of the share of top export markets since 2001. Whether we look at the share of the top 5, 10, or 15 export markets for Turkey, we see discernible reductions in all. The share of top 15 going down from 70% to 60% might indeed be telling us more than the share of top 5 going down from roughly 50% to 33% between 2001 and 2008.



Figure.1

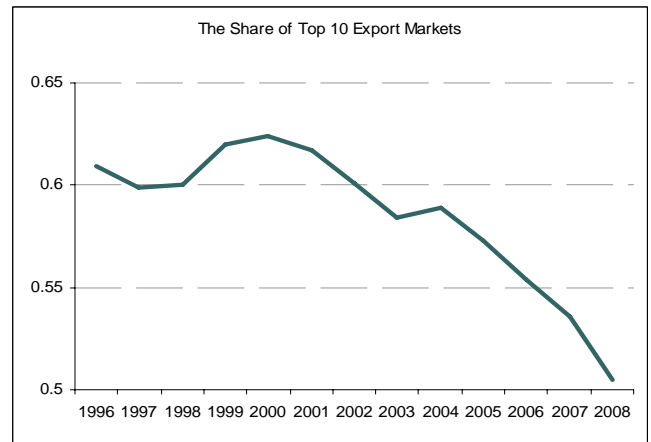


Figure.2

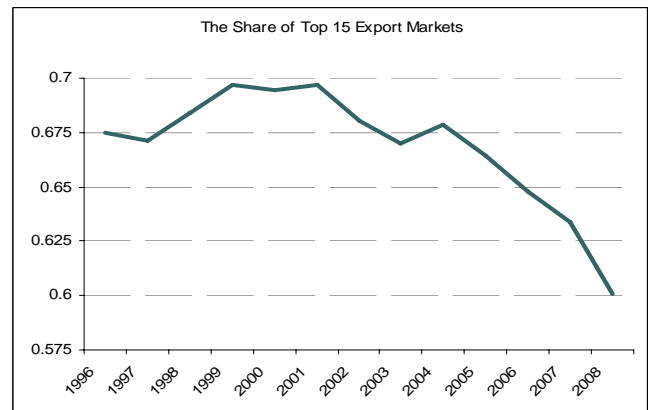


Figure.3

A more formal approach via the Herfindahl index also provides similar results. Index value comes down from 7.3% in 2001 to 3.4% in 2008, and that is by all means a significant change.

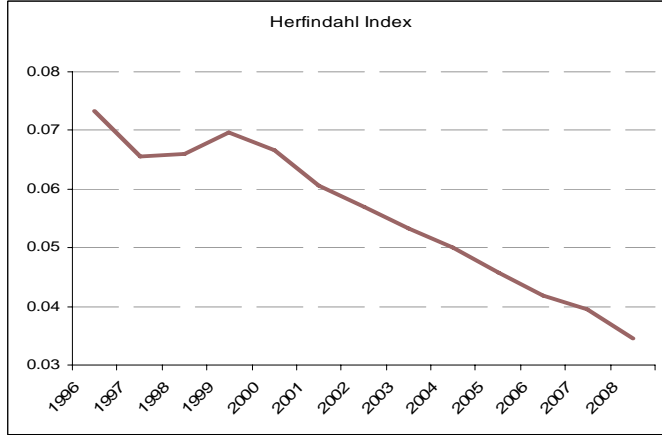


Figure.4

We try to provide a more comprehensive analysis of Turkey's export performance in the post-crisis in a comparative framework using International Trade Centre (ITC) definitions used in their Trade Performance Index.<sup>1</sup>

The data used in this note is taken from the (ITC) website. ITC data base includes trade data from over 200 countries with product and destination decompositions for all. There are 14 major sectors in the ITC classification and stick that categorization in this study. Our analysis is initially restricted to the 2001-2005 period as ITC data extends to 2006 only and Turkey's data at this classification level in 2006 is quite inadequate (nearly half of Turkey's exports are categorized in "Commodities not elsewhere specified" section).

Two peer comparison groups from the Emerging Market realm are composed to come up with some comparative results. The first includes Hungary, Poland, Czech Republic, Bulgaria and Romania (EEEM; Eastern European Emerging Markets) and the second a more eclectic group comprising

Mexico, Korea, Brazil, and South Africa (OSEM; Other Selected Emerging Markets).

A derivative of the Boston Consultancy Group (BCG) Matrix was constructed using export growth per annum for each sector from 2001 to 2005 and each sector's world share in 2005 -taken from ITC. For performance assessment benchmarks, we used the EM averages; weighted average for sector growth rates and simple average for world shares.

Table.1 shows Turkey's stance as of 2005.

2005 Turkey	Exports (in \$1000)	Export growth in value, p.a. (%)**	Share in world market (%)
FRESH FOOD	4,227,167	14%	1.14%
PROCESSED FOOD	3,761,147	21%	1.03%
WOOD PRODUCTS	807,853	23%	0.31%
TEXTILES	7,065,865	15%	3.58%
CHEMICALS	3,842,074	21%	0.33%
LEATHER PRODUCTS	398,091	16%	0.39%
BASIC MANUFACTURES	11,427,514	25%	1.40%
NON-ELECTRONIC MACHINERY	4,156,141	28%	0.44%
IT CONSUMER ELECTRONICS	3,186,218	32%	0.35%
ELECTRONIC COMPONENTS	3,286,250	23%	0.41%
TRANSPORT EQUIPMENT	10,856,936	36%	0.98%
CLOTHING	11,823,310	15%	4.53%
MISC. MANUFACTURING	3,878,484	32%	0.51%
MINERALS	3,538,721	47%	0.22%

Table.1

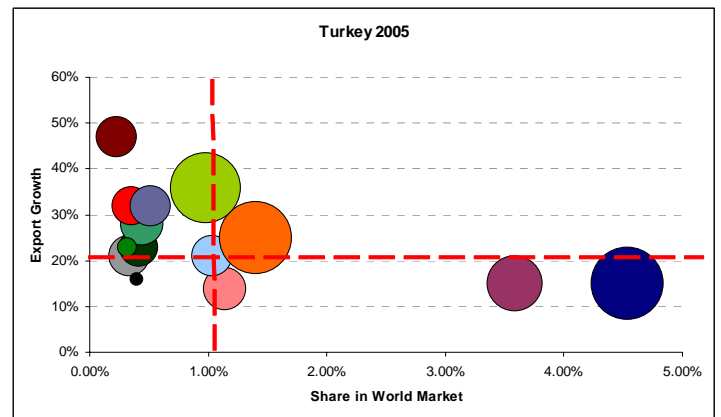


Figure.5

Figure.5 depicts Turkish sectors' performance relative to EM averages a la the BCG matrix (please match the ball color with the sector name color in Table .1) Ball size for each sector is in proportion to the 2005 export figure. Vertical and horizontal benchmark lines divide the performance assessment space into four zones: The upper left territory-Rising sectors [Investable sectors, future's stars], the upper right territory- Star sectors, the lower right territory - Traditional sectors [no new investment, time for

<sup>1</sup>

[http://www.intracen.org/appli1/TradeCom/Documents/TPI\\_Notes.pdf](http://www.intracen.org/appli1/TradeCom/Documents/TPI_Notes.pdf)

collecting the returns of investments], and the lower right territory- Loser sectors [no future for the sectors; time to drop them]. EM averages calculated for growth trend in value p.a. and the share in world market are %20.88 and 1.08% respectively. Textiles, Clothing and Fresh Food sectors fell in the Traditional sectors territory while leather products stood as the sole Loser sector for Turkey. The Rising sectors in the upper left territory are Transport Equipments-the one closest to become a Star sector, Non-Electronic Machinery, Minerals, Electronic Components, and IT-Consumer Electronics (Basic Manufacturing is the Star sector in this setting but it will be joined by others as we extend the sample period later on).

A sector's resilience to shocks increases with increasing diversification, with respect to market or product. ITC takes equivalent number of products for each country and equivalent number of markets that they have penetrated with those products. If a country is product-wise diversified, it is expected to be more resistant to a crisis impacting a sector. Market-wise diversified export structures similarly become resistant to regional shocks (i.e. those affecting an export zone). In the Turkish case, Textiles and Chemicals seem to be the most diversified sectors among the bunch. Basic Metals, Non-Electronic Machinery, Processed Food and Leather sectors are also reasonably well diversified. IT-Consumer Products and Minerals concentrated on limited number of products while Clothing Industry penetrated into a limited number of markets yet with a relatively more diversified product portfolio. (Figure.6)

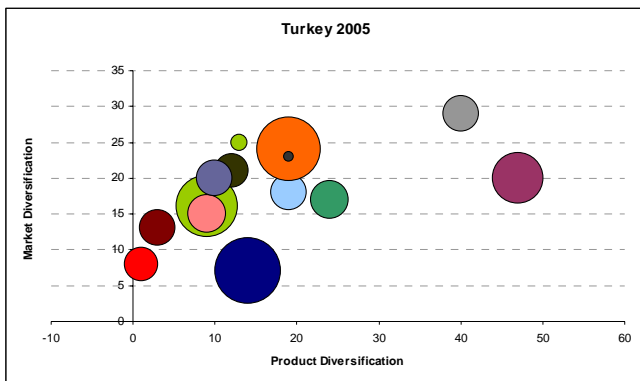


Figure.6

We provide a comparison of Turkey to the two groups we defined previously at this juncture for to gain some perspective. Compared to EEEM, Turkey is more diversified market-wise, i.e. has more “equivalent number of markets” (as defined in the ITC document) with respect to 13 of the 14 sectors in hand. On the other hand, in 12 out of 14 sectors, EEEM’s “equivalent number of products” is higher than Turkey’s and is thus more diversified than Turkey product-wise. For OSEM, Turkey’s market diversification superiority is intact while Turkey picture does not change while on the product diversification front OSEM group beats Turkey in 9 sectors as opposed to EEEM’s 12. (Figure.7 – Figure.8; solid color balls stand for Turkish sectors while striped ones represent the comparison group)

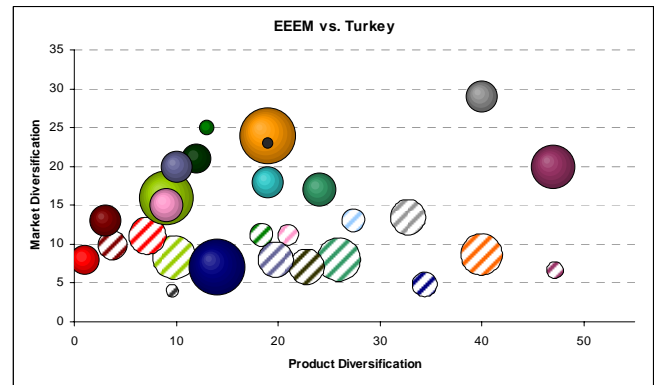


Figure.7

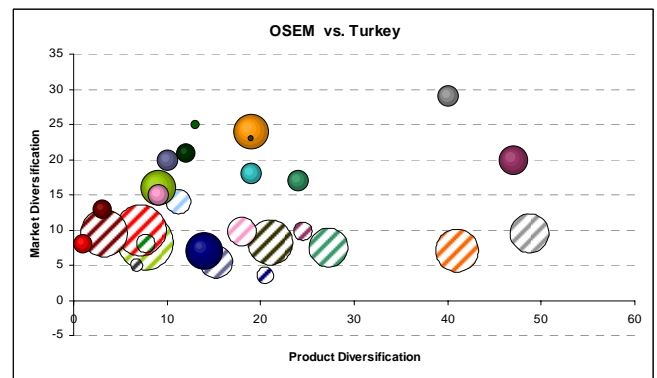


Figure.8

ITC also publishes the decomposition of sources of growth for all sectors in each country for a continuum of 4-year windows. Growth sources are: Competitiveness Effect- hypothetical gains/losses of a country's world market share due to share gains/losses in import markets, Initial Geographic Specialization – hypothetical gains/losses of a

countries market share due to import markets' share gains from the world imports, Initial Product Specialization – hypothetical gains/losses due to positioning of the products in the beginning of the time period (year t-4), and Adaptation Effect-hypothetical gains/losses due to the adaptation ability of the exporting country to the changes of the world demand.

Turkey increased its share in import markets 0.11% per annum in the period 2001-2005. All four effects contributed positively to the total world market share gains for Turkey, but it is stemming mostly from competitiveness effect (0.063). Competitiveness Effect is followed by Initial Product Specialization and Initial Geographic Specialization with 0.024 pp and 0.016 pp p.a. contributions, respectively. Wood Products, Transport Equipment, IT and Consumer Products, Minerals, Misc. Manufacturing and Non-Electronic Machinery sectors are the fastest growing export sectors in Turkey with 0.25, 0.24, 0.20, 0.19, 0.18 and 0.13 pp p.a. growth rates, respectively. Transport Equipment, Non-Electronic Machinery, Misc. Manufacturing and Wood Products gained market share thanks to the competitiveness effect. Initial product specialization substantially contributed to Minerals and IT-Consumer Products while initial geographic specialization was slightly effective across the board on all 14 sectors in a positive way. Adaptation effect has negatively contributed to the performances of Minerals, Leather, and Non-Electronic Machinery, while wood products benefited positively in a discernible way with the rest of the bunch enjoying only insignificant positive contributions.

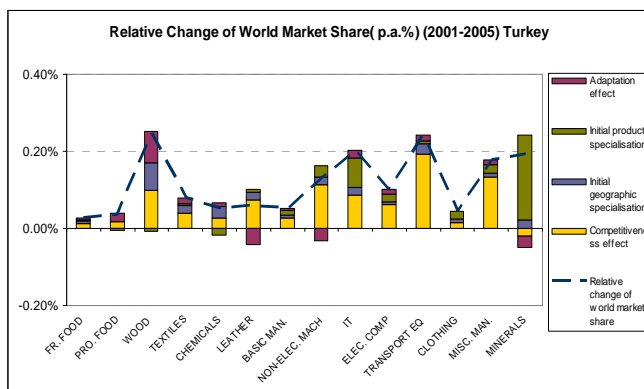


Figure.9

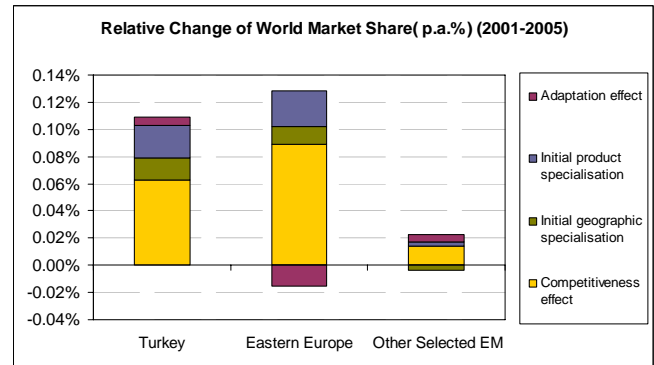


Figure.10

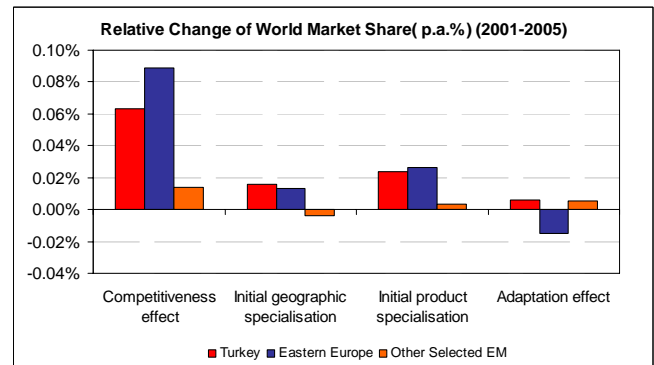


Figure.11

EEEM's contributor dynamics are similar to the Turkish case with the exception of the adaptation effect. EEEM countries increased their world market share by 0.114 pp on average in between 2001 and 2005. The competitiveness effect (0.089 pp) is more dominant in Eastern Europe than in Turkey. Transport Equipment (0.22 contribution from competitiveness effect), IT-Consumer Products, and Electronic Components are the fastest growing sectors with 0.26, 0.13, and 0.17 pp p.a. respective share gains in the world market.

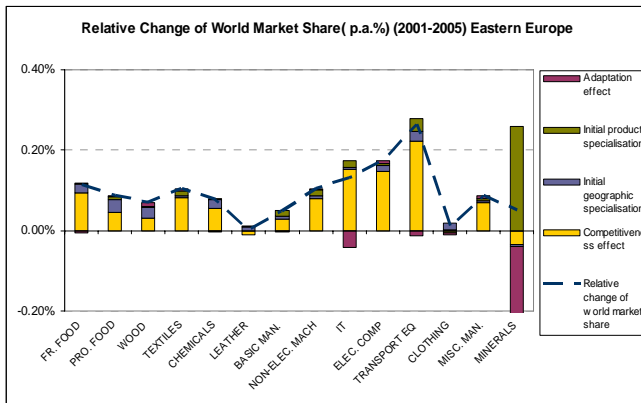


Figure.12

OSEM group has a quite different story; they could not gain substantial market shares as Turkey and EEEM did in the same period. Their p.a share gain on average was as low as 0.019. Half of the sectors in the group lost world share and there seem to be no dominant contributors. Turkey ends up looking much more like the EEEM group rather than the eclectic peer group, but we do not go into the implications of this regarding Turkey's candidacy into the EU at this juncture.

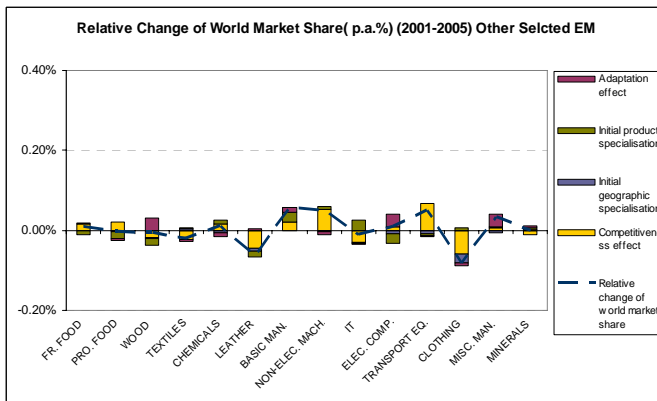


Figure.13

## The Recent Experience

Ending at 2005 naturally kept us wondering how thing had been evolving since then performance-wise, and we tried to extend data to 2008, inevitably making some assumptions, conversions, and transformations. The first assumption we made was

to keep the EM's sector average growth rate p.a. and 2005 average share in world market constant.

We then started creating the data set needed to expand the sample size and extracted related data from Turkstat in SITC Rev.3 format for 2001, 2006, 2007 and 2008. In the next step, we de-fragmented the data in compliance with ITC's sector definitions as provided in the Technical Notes publication and calculated export growth p.a. for the 2004-2008 period (t to t-4 is ITC's default comparison horizon).

To update world market shares, we needed 2007 and 2008 estimates of world export market value for each sector. We used 2002-2006 data and extracted a linear trend to use it in turn to obtain estimates for each sector. The obtained figures were used to calculate Turkish sectors' estimated shares in 2008.

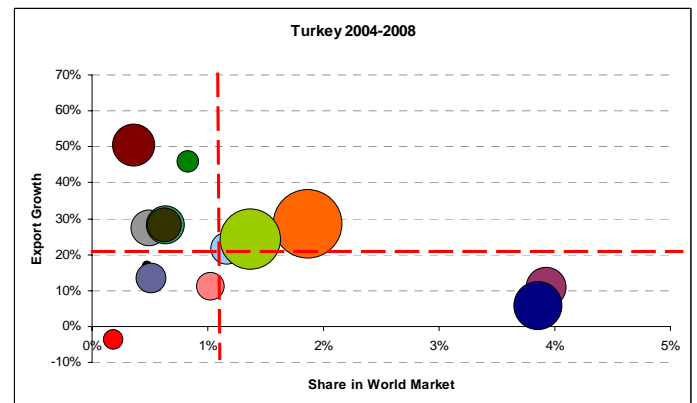


Figure.14

Figure.14 was constructed in compliance with ITC's default comparison period, and hence can be used with Figure.5 to compare sectors' evolution from one sub-period to the next. As you will recall, Figure.5 takes a snapshot of 2005. The most crucial finding in this comparison is that sectors have determined their courses in a clearer fashion and clustering has been reduced; prosperous and loser sectors have become more evident as we reach 2008. The number of Star sectors has increased from one to three (Transport Equipment, Basic Manufactures and Processed Food) and the Number of "Loser" sectors has gone up from one to four (Leather Products, IT & Consumer Goods, Misc. Manufacturing and Fresh Food). There is also detachment in the Rising sectors region: Wood



Products (the front runner to become the next Star sector) and Minerals<sup>2</sup> are growing at a significant pace while Chemicals, Non-Electric Machinery, and Electronic Components have lower growth rates than the two yet still performing better than they did in 2005.

## Conclusion

An analysis of Turkey's export performance in the post-crisis period from 2001 to 2005 suggests that there is a true success story here which is indeed more amplified if a comparative perspective is utilized. This does not mean that prospects are very bright or that the evolution will continue uninterrupted, but merely states that the relevant dynamics should be better understood to come up with any reasonable policy proposition to further enhance and diversify the export base. The resemblance between the EEEM group and Turkey raises two crucial questions, we believe:

- 1) Is the resemblance transitory or is it linked to the convergence play that Turkey has become in the period in hand?
- 2) Does the resemblance hurt or help Turkey in the accession process, taking into account prospects for the evolution path as well?

These remain beyond the scope of this piece but are well worth digging into we believe.

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<sup>2</sup> If the Energy sector's components could be excluded from Minerals, it is highly likely that that Turkish Minerals would be in the Star sectors region)

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