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**Export Competitiveness of Turkey: The New Rising Sectors in Turkey and  
Comparison with Eastern European Countries**

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# **Export Competitiveness of Turkey: The New Rising Sectors in Turkey and Comparison with Eastern European Countries**

## **Abstract**

This paper sheds light on the rising and declining manufacturing sectors in Turkey compared with other Eastern and European Countries considering the recent export and import trend of various manufacturing sectors. Eastern European Countries differ with respect to rising and declining sectors. However, similarities are noticed as well. Except two countries, all countries began to pass more skilled-labor intensive sectors which need more advanced technology. Even though the trade volume of conventional sectors increases in absolute terms, their share in total trade declines in favor of new rising sectors.

**Keywords:** Competitiveness, Export, Import, Export-Import Growth, Sector Based Analysis, Trade Volume, HHI index.

**JEL classification:** F14, J82, O57, L62, L63, L64, L66, L67

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## **Introduction**

In this paper, Turkey and some other Eastern European countries (Slovak Republic, Hungary, Poland, Romania, Ukraine, Slovenia, Bulgaria, Croatia and Czech) are scrutinized in terms of their export competitiveness. Turkey's export in 2004 was 62.9 billion dollars whereas it was 27.8 billion in 2000. Turkey export performance increased steadily over time and this trend seems to persist. Turkey experienced a crisis in 2001 and during the crisis GDP fell 7 percent and inflation soared to 70 percent. However, the export growth did not decrease. During 2000-2001 period Turkey's export performance was admiring. Turkey's share in World export rose 60 percent from 0.4 in 2000 percent to 0.7 percent in 2004.

There are five sections in this paper. In Section 1, the new rising sectors in terms of their export performance are examined and countries compared at the sector level. Here in this section, we find that the export volumes of all the countries are close to each other and moving simultaneously. The Motor vehicles and trailers sector is the most significant sector in as being the major rising manufacturing sector in Turkey. Slovak Republic., Hungary, Poland, Czech Republic and Turkey have high and increasing shares of motor vehicles and trailers in their exports. More considerably, Turkey has the highest growth ratio-over 50% - in the last five years among the comparator counties. Manufacturing of machinery and equipment is another sector that is extensively discussed in the paper. In this sector Turkey and Romania have the highest growth rates over the 30%. However, in Communication and apparatus which is another sector where Turkey is doing well, Hungary is the most successful country among all with its high share of this sector in total exports. In the growth side in communication and apparatus Slovak Rep., Bulgaria, Czech Rep. and Turkey are better than others. In Other transport, Croatia has the highest ratio in the share of total exports, but this share is decreasing. Turkey has 23% growth rate in this sector and its growth rate ranks after

Bulgaria (90%) and Ukraine (40%). The last sector in this section is Furniture. In this sector Poland, Slovenia, Romania and Croatia have higher shares. Even though the highest growth rate in this sector belongs to Ukraine, the volume of this sector is too low. After Ukraine; Turkey, Bulgaria and Croatia come with their high export growth rates.

In Section 2 the role of imports on the exports are taken into consideration. In Motor vehicles and trailers sector there appears persistent fluctuations. However, the common feature is the high share of this sector in total imports. Romania (53%), Ukraine (49%) and Turkey (43%) have the highest growth rates in the last five years. In the Manufacturing of machinery and equipment sector, the shares of this sector in the total import are decreasing in all countries except Bulgaria, Slovenia and Ukraine. However, these shares are still high. Romania, Ukraine and Bulgaria are the leader countries according to import growth (25%-30%, Turkey 17%). Communication and apparatus is a bit different. Hungary has the highest export and import share among the sample countries. In Turkey share of this sector stays almost the same (4%). Other transport is the sector Croatia has the highest share in its total exports, while Bulgaria and Turkey have the highest growth in the last five years. Finally in Furniture, imports generally stay the same and there is a little increase in the shares of this sector in the imports of Slovenia and Croatia. The imports in these countries in this specific sector are also high and this observation points out high intra-industry trade in this sector.

Conventional sectors are also studied in the Section 3. These sectors are Textiles, Food products and beverages and Wearing apparel. These sectors' shares in the total exports are declining but not too much and still protect their prime importance. Moreover, these sectors still have positive growth rates. For example in Food sector almost all countries have 20% average growth rate in their exports in last five years. In Textile Turkey is the leading country

because 20% of its exports realized in this sector. Others have 5% of their exports in this sector. Bulgaria, Romania and Ukraine have the highest yearly export growth rates which are over 20%. In the Wearing apparel sector, Romania has the highest share in its exports (15%-20%). Then Turkey is coming with 15% export share.

The Section 4 analyzes how much countries export to EEC 15. In Section 4, it is noticed that 65% of Turkey's total exports are to EEC 15 countries in Motor vehicles and trailers. In Communication and apparatus this ratio is higher (80%). In other sectors the exports that are going to EEC 15 are about 35%-45%. . In Section 5 the concentration level of countries are exposed. This section shows that Turkey became more fragmented similar to almost all countries in the sample. Only Hungary's HHI index is above 1000 (1042) which is the limit for moderate concentration.

## **SECTION 1: The New Rising Sectors in Turkey and Comparison with Eastern European Countries**

Export of manufacture in Turkey reached 68 billion dollars in 2005. Total export of Turkey was 73 billion dollars in this year. Hence, manufacturing export with 68 billion dollars constituted a major segment of exports (93 percent of export) realized in Turkey. Furthermore, Turkey's export increased at an average rate of 15 % from 1996 to 2005. Only one year in 1996 the increase in exports halted and declined at a rate of 0.4 percent. In the remaining years between 1996 and 2005, Turkey's export increased substantially. In 1996, total export was 23 billion dollars, whereas in 2005 it reached 73 billion dollars.

The export volume of all sub-sectors in manufacturing increased during the period 1996-2005. However, within this period, there were some specific changes with respect to each sub-sector in manufacturing. Although export volumes of some sectors have been very much volatile, increasing and decreasing in certain years; overall export of each sector in manufacturing has increased in this period.

There are 22 sectors in manufacturing, albeit, each of them does not have the same importance in the total export. Hence, this paper primarily examines the sectors whose export share was above 5 % or a little below 5 % and the sectors whose export share increased more rapidly in recent years. Table 1 lists the sectors in manufacturing with these characteristics. Manufacture of machinery and equipment, communication and apparatus, motor vehicles and trailers, other transport, and furniture were among the rising sectors of Turkey with their high export growth and increasing export shares in recent years.

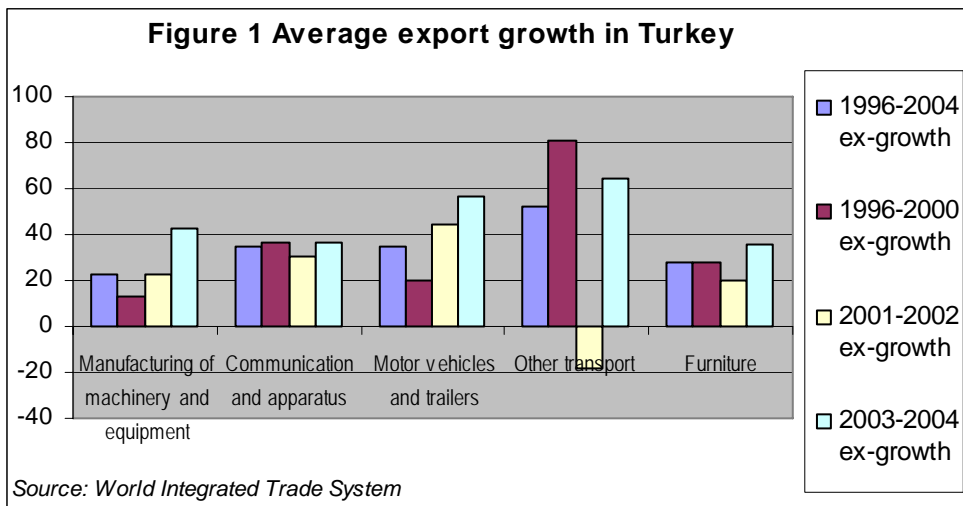
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**Table 1 Average Export Growth and Rankings of New Rising Sectors**

		<b>Manufacturing of machinery and equipment</b>	<b>Communication and apparatus</b>	<b>Motor vehicles and trailers</b>	<b>Other transport</b>	<b>Furniture</b>
1996-						
2004	ex-growth	22,945772	35,051135	35,037005	51,943534	27,855608
	ex-grw-					
	rank	6	3	4	2	5
1996-						
2000	ex-growth	13,335828	36,605382	19,599361	81,12324	27,736744
	ex-grw-					
	rank	8	2	5	1	4
2001-						
2002	ex-growth	22,739603	30,695125	44,095277	-18,39007	20,267733
	ex-grw-					
	rank	6	5	2	21	8
2003-						
2004	ex-growth	42,37183	36,298651	56,854022	63,917725	35,681213
	ex-grw-					
	rank	6	8	2	1	10

*Source: World Integrated Trade System*

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The first similarity among the manufacturing sectors in the Table 1 is concerning to their high rankings in export growth. They were all ranked among the first half of the manufacturing sectors with respect to export growth performance almost in all sub-periods except 2001-2002 period for other transport. Moreover, yearly export growth of these sectors was remarkably high. Manufacture of machinery and equipment's yearly average growth rate was 13 % in 1996-2000 period, while, it raised up to 42 % between 2003 and 2004. From this information, it is apparent that the increase in the rate of growth has also been escalating in an accelerating rate. Export growth rates of motor vehicles and trailers and furniture have also enhanced from 19 % in 1996-2000 to 56 % in 2003-2004 and 27 % in 1996-2000 to 35 % in 2003-2004. Communication and apparatus and other transport were the sectors whose growth rates have started to get poorer in recent years and also with respect to other rising sectors. Yearly growth rate of communication and apparatus was 36 % in the period 1996-2000. Later, it declined to 30 % in the period 2001-2002. The export growth rates of this sector were still high by reaching 36 % between 2003 and 2004. The case for other transport sector was very much the same; its growth rate was 81 % between 1996 and 2000 and later it declined to 63 % in 2003-2004 which was still high with respect to many other sectors in manufacturing.



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**Table 2 Export Shares of New Rising Sectors**

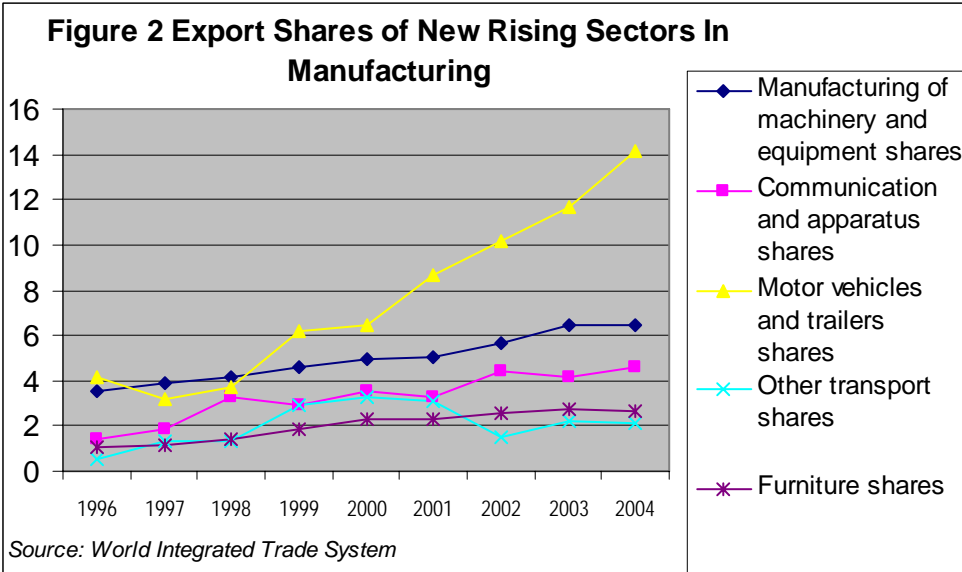
	<b>Manufacturing of machinery and equipment shares</b>	<b>Communication and apparatus shares</b>	<b>Motor vehicles and trailers shares</b>	<b>Other transport shares</b>	<b>Furniture shares</b>
1996	3,5735534	1,3852212	4,1725912	0,5340945	1,0472729
1997	3,875216	1,8163054	3,2084585	1,3692849	1,1607668
1998	4,1772926	3,2570612	3,7247907	1,3530659	1,4333573
1999	4,6287658	2,9313263	6,1467894	2,9320704	1,8526096
2000	4,9092948	3,5315893	6,4424705	3,2629287	2,3350828
2001	5,048316	3,2621765	8,6548451	3,0859073	2,2817236
2002	5,6231103	4,4232002	10,148767	1,4835304	2,5592632
2003	6,4741574	4,1779953	11,66676	2,2250708	2,7023877
2004	6,4178684	4,6130988	14,106403	2,1580544	2,6628517

*Source: World Integrated Trade System*

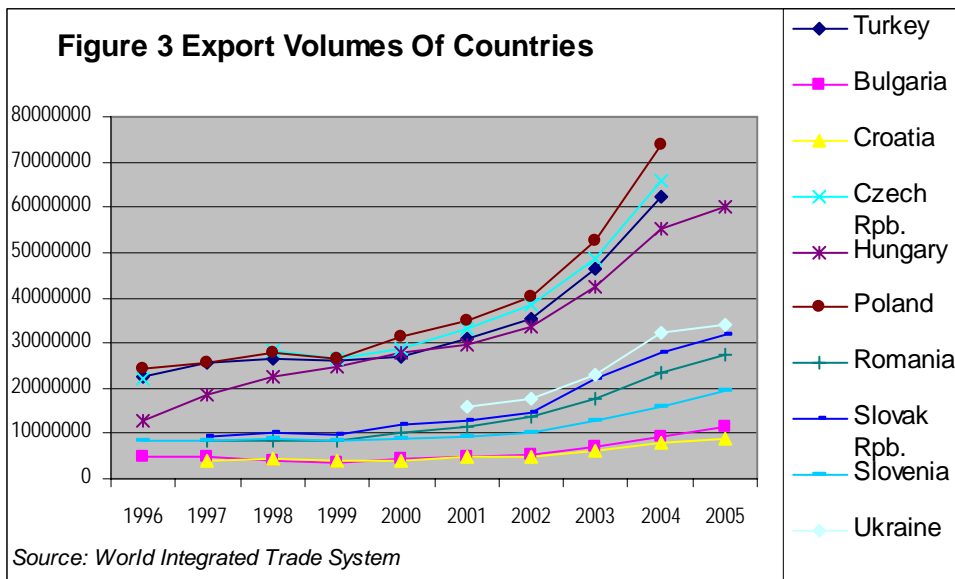
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Table 2 shows the changes in the export shares of these sectors in total manufacturing during 1996-2004. It is palpable that the export shares of all rising sectors increased in this period except in some specific years. Notably, the export volume of motor vehicles and trailers escalated more than the other rising sectors. It rose from 4.1 percent to 14.1 percent. As it is seen in the Table 1 its growth rate increased in all periods. Moreover its export growth rate rank appreciated slightly in the last two periods. The export share of manufacture of machinery and equipment rose steadily year by year, except in 2004 when there was a slim decline of 0.06 percent. The characteristics of communication and apparatus were a bit different. The export shares in this sector increased between 1996 and 1998. Later, between 1998 and 2001 its export share was over 3 % but did not change too much. Subsequently in 2002 it rose to 4 % of total manufacturing export and through the period 2002-2004 it stayed almost unaltered. Another interesting point is related to other transport sector. Its export share

was over 3 % in period 1999-2001 and this was the maximum share it reached. After a decline in its share at the beginning of 2000s, its export share in manufacturing rose to 2.1 % in 2004. There were also some other sectors whose performance in terms of manufacturing export share have increased in recent years like coke and petroleum products. However, their shares were too low in the overall export which makes it tough to derive general conclusions regarding to the export competitiveness of manufacturing sectors of Turkey in recent years.



These findings suggest that in recent years Turkey experienced a structural change and its export shifted from conventional and unskilled labor intensive sectors to more technology intensive sectors requiring more skilled labor. Likewise, there were similar changes in some Eastern European Countries and we attempt to understand the differences and similarities among these countries and Turkey. Table 3 shows the new rising sectors according to countries. Without any knowledge about export volumes, the comparison between countries, we examine, would be unclear. Hence, Figure 3 helps in this direction.



In Figure 3 there are two types of countries which have similar export volumes. Besides; export volumes of these countries move together. The first group is Poland, Czech Republic, Hungary and Turkey. The other group consists of Ukraine, Slovak Republic, Romania, Slovenia, Bulgaria, Croatia. Even though there are two groups, their export volume moves together. These points are very helpful for our research because the differences between export shares of various sectors in these countries can be directly compared. Figure 3 shows that the export volumes of all the countries analyzed have been steadily increasing since 1996.

**Table 3 Rising Sectors With Respect To Countries**

Turkey	Bulgaria	Croatia	Czech Rpb.	Hungary
Manufacturing of machinery and equipment	Textiles	Coke, petroleum products and nuclear fuel	Rubber and plastic products	Office, accounting and computing machinery
Communication and apparatus	Wearing apparel	Manufacturing of machinery and equipment	Office, accounting and computing machinery	Communication and apparatus
Motor vehicles and trailers	Coke, petroleum products and nuclear fuel	Communication and apparatus	Electrical machinery and apparatus	Motor vehicles and trailers

	Manufacturing of basic metals	Other transport	Communication and apparatus	
Other transport				
Furniture	Electrical machinery and apparatus		Motor vehicles and trailers	
	Furniture			
<b>Poland</b>	<b>Romania</b>	<b>Slovak Rpb.</b>	<b>Slovenia</b>	<b>Ukraine</b>
Rubber and plastic products	Coke, petroleum products and nuclear fuel	Electrical machinery and apparatus	Chemicals and chemical products	Coke, petroleum products and nuclear fuel
Electrical machinery and apparatus	Manufacturing of machinery and equipment	Motor vehicles and trailers	Manufacturing of basic metals	Manufacturing of basic metals
Communication and apparatus	Electrical machinery and apparatus	Furniture	Manufacturing of machinery and equipment	Other transport
Motor vehicles and trailers	Motor vehicles and trailers		Motor vehicles and trailers	
Other transport	Rubber and plastic products		Furniture	

*Source: World Integrated Trade System*

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According to the Table 3; Furniture, Other transport, Motor vehicles and Trailers, Communication and Apparatus, and Manufacture of Machinery and Equipment become new leading sectors in Turkey's export. There were similarities and differences between Turkey and the other countries. For example, the common sector which rose in all countries was motor vehicles and trailers, but there are some exceptions. Besides, there were some other common sectors among two or three countries but not in all countries. For instance, communication and apparatus was a rising sector in Turkey and in Czech Republic, Croatia, Poland and Hungary, but not in others. Some sectors like office, accounting and computing machinery, and rubber and plastic products have not significantly changed in Turkey. However, they have gained more importance in the other countries. Electrical machinery and apparatus was another one. This sector was among the rising sectors in Slovakia, Romania, Czech Republic and Poland. In this paper, main objective is to compare the countries with

respect to the sectors in which Turkey's exports have been considerably rising. In this regard, the very first one is the motor vehicles and trailers given that among all of the rising sectors it has the most significant share in total exports.

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**Table 4 Countries' Export Shares of Motor Vehicles and Trailers in Total Exports**

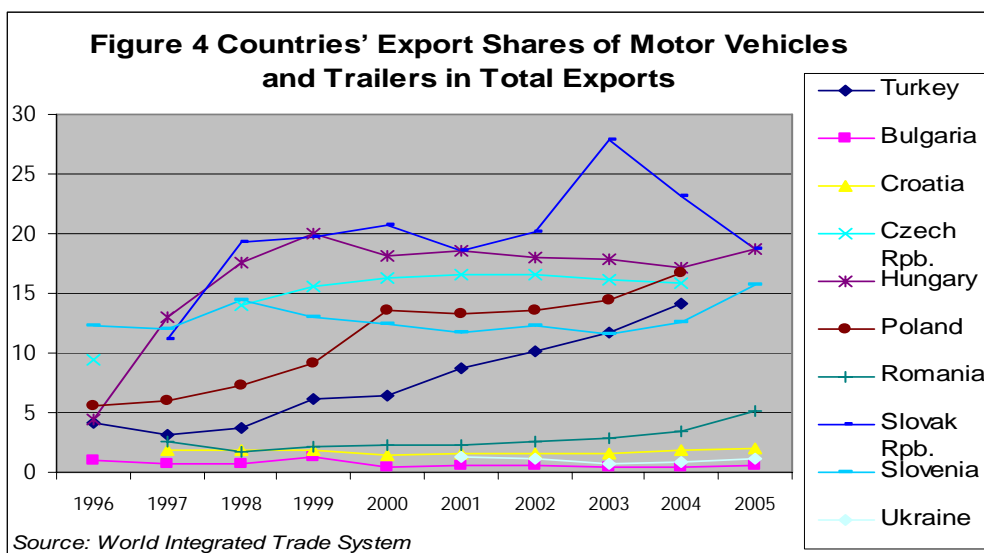
	Czech					Slovak				
	Turkey	Bulgaria	Croatia	Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	Ukraine
1996	4,1725912	0,9800934		9,4572282	4,4943027	5,5690111			12,219746	
1997	3,2084585	0,6448933	1,8000948		13,044713	6,0070257	2,6019761	11,102522	12,001203	
1998	3,7247907	0,6860347	1,8885643	13,998928	17,583416	7,3073921	1,7196939	19,28465	14,481202	
1999	6,1467894	1,3206141	1,8474207	15,625997	19,956256	9,1648693	2,2010624	19,766416	13,054246	
2000	6,4424705	0,474606	1,4736145	16,259034	18,158364	13,517534	2,2411067	20,716217	12,357987	
2001	8,6548451	0,5383377	1,5825879	16,580325	18,601745	13,264862	2,3278293	18,573571	11,693496	1,2529374
2002	10,148767	0,5212504	1,6019119	16,566661	17,990274	13,547842	2,5690366	20,14405	12,350321	1,1129058
2003	11,66676	0,4490563	1,5524035	16,184416	17,79907	14,389685	2,806219	27,870191	11,527468	0,7730237
2004	14,106403	0,4174329	1,7896666	15,910304	17,121054	16,757642	3,420137	23,123057	12,546439	0,8434963
2005		0,5419949	1,9511263		18,742635		5,0934221	18,760421	15,692422	1,0853812

*Source: World Integrated Trade System*

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In Table 4 and Figure 4, the changes in countries' export shares of motor vehicles and trailers are exposed. In almost all countries, this sector was among the rising sectors, except Bulgaria, Croatia and Ukraine. Secondly, Slovakia's export share in motor vehicles and trailers was at the top among these countries. Between 1998 and 2002, Slovakia's share remained same. Then its share increased up to the 27 %. After this tremendous increase this ratio decreased to 18 %. However this represents still the highest share. Turkey's share has increased smoothly almost in all periods from 4 % to 14 %. Hungary experienced a huge growth in the shares between 1996 and 1999, but then the share remained unaltered. Czech

Republic's share increased smoothly similar to Turkey. Poland was somewhat unusual because after an increase between 1996 and 2000, export share of this sector in Poland remained same. Slovenia was another country whose performance was reasonable. The interesting point of this country was that in 1996 its export share of this sector was 12 %. In 2005 it became 15 % and there were only small fluctuations between these years. Countries like Bulgaria, Croatia, Romania and Ukraine were not as good as the other countries in Table 4. Among these countries, Turkey was initially ranked among the last in terms of the share of this sector in the total export in all years. In 2000, export share of this sector in Turkey was just 6.4 % while in all other countries compared, it reached double digit numbers. Turkey has steadily improved its export performance over time. By 2003, the export share of this sector was 11 %. However, there is still great potential in expanding the export share of this sector in Turkey considering that in Slovakia, export share of this sector reached almost 27 % in 2003 and in Hungary it reached 18 %.



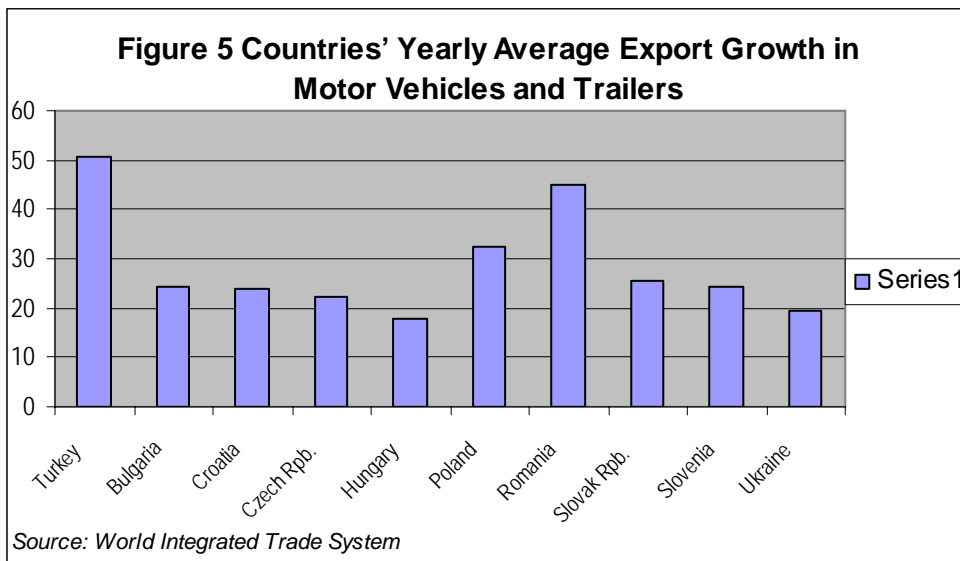


Figure 5 depicts the yearly average export growth of motor vehicles and trailers for each country in the last 5 years. Turkey was ranked at the top with over 50 % percent growth rate. Then, Romania comes. After these two countries, Poland was the third with over yearly average growth rate of 30 percent. The following countries after the first three were Slovak Republic, Slovenia, Bulgaria, Croatia and Czech Republic. Average growth rates in these countries were over 20 %. Hence this shows that all these countries have done quite well in motor vehicles and trailers indicating a cluster in the region. Ukraine and Hungary were the following two countries whose export growth rate below 20 %. Turkey was the best in this sector with respect to export performance. By far, Romania as well attracts attention in its export performance of this sector in the last five years.

After motor vehicles and trailers the next sector whose share has grown more than the other sectors in Turkey was manufacture of machinery and equipment. Table 5 and Figure 6 show the characteristics of this sector in all countries. The shares of this sector in all countries except in Turkey stayed the same. Czech Republic, the country whose export share in this sector was the highest among all countries compared, had an export share between 12-13 % in

all periods. Other countries were very similar. Export share of this sector in Slovakia remained at around 8 %, in Poland, it remained between 6 and 7 % and in Hungary it oscillated between 5 and 8 % without a sensible growth. In Bulgaria this ratio was around 6 % and in Croatia around 4-5 %, but in Croatia in the last three years there was an increase about 2 %. Romania was the same as Croatia, share here remains at 5 % for years and in the last two years it increased by 2 %. Slovenia was a bit different; it was 12 % in 1996 and became 14 % in 2005 in this country, a very good level and growth. Contrary to all these countries in Ukraine the share was declining. However, in Turkey there has been a steady growth in the export share of this sector from 4 % in 1996 to 6 % in 2004. Another remarkable point was that Turkey's export of manufacture of machinery and equipment has been growing but it has just caught up with the shares the other countries.

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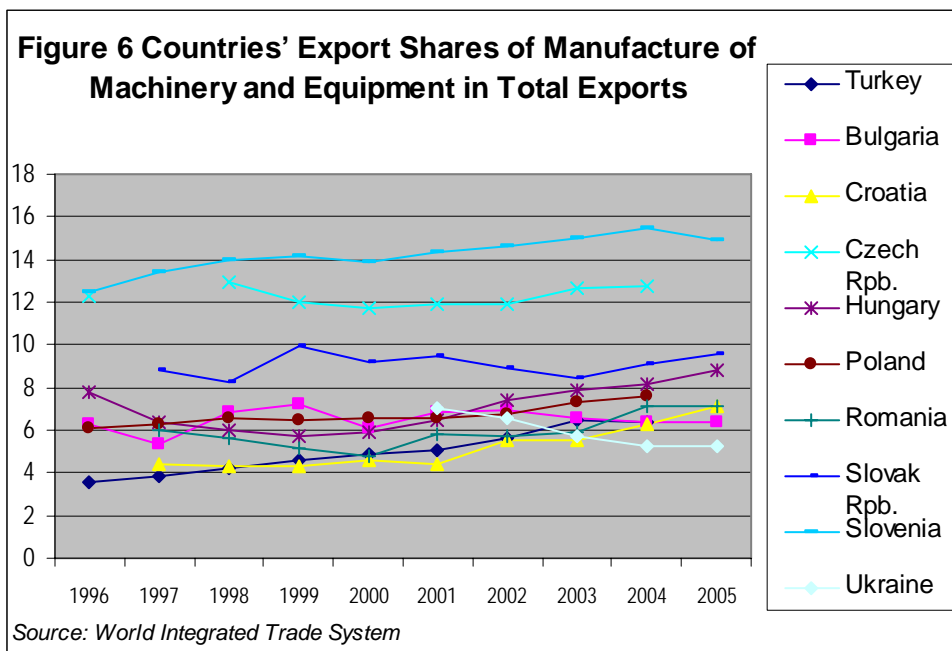
**Table 5 Countries' Export Shares of Manufacture of Machinery and Equipment in Total Exports**

	Czech					Slovak				
	Turkey	Bulgaria	Croatia	Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	Ukraine
1996	3,5735534	6,2674089		12,266303	7,7544049	6,1150249			12,482149	
1997	3,875216	5,3777731	4,4047301		6,4062581	6,2646216	5,9911361	8,8371056	13,437649	
1998	4,1772926	6,8695968	4,3166531	12,916286	6,025747	6,5777168	5,6348385	8,2641055	13,928746	
1999	4,6287658	7,2228178	4,3204293	12,013089	5,7298209	6,4568868	5,1556367	9,9261448	14,200111	
2000	4,9092948	6,0611651	4,5696004	11,755208	5,9088472	6,5559962	4,8045839	9,176377	13,859832	
2001	5,048316	6,8630025	4,4393694	11,933612	6,4877318	6,53687	5,8197497	9,4760854	14,308116	7,0222328
2002	5,6231103	6,9334167	5,5112441	11,880607	7,4515768	6,7137392	5,7164855	8,8908269	14,662691	6,5779986
2003	6,4741574	6,5554456	5,5390057	12,658244	7,846093	7,2938865	5,8889473	8,4565166	14,992705	5,6875697
2004	6,4178684	6,3654296	6,2461021	12,706414	8,1125272	7,6381131	7,1572929	9,1000347	15,432758	5,221888
2005		6,3379454	7,0835613		8,7857438		7,1328882	9,6013692	14,930946	5,2903099

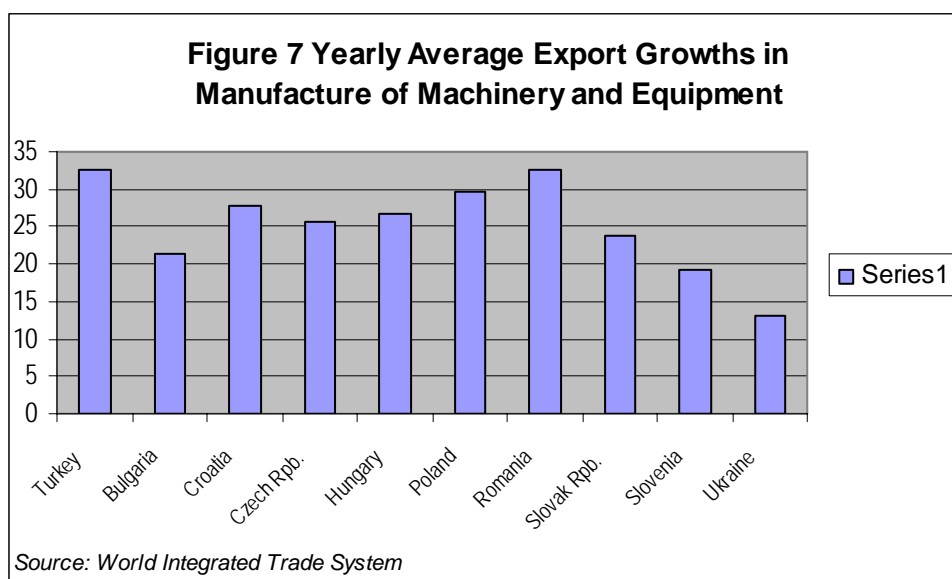
*Source: World Integrated Trade System*

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The yearly average export growth in machinery and equipment is shown in Figure 7. Turkey with Romania over 30 % growth rate were the first among the counties compared. After Turkey and Romania; Poland, Croatia, Hungary and Czech Republic came with a little below 30 % growth rate. The growth performance of remaining countries in this sector was below 25 %. Among the last four countries Slovak Republic was the best performer. After this country; Bulgaria, Slovenia and Ukraine came. In this sector, all countries' export growth rates were positive and high. Even the growth rate of the last one (Poland) was over 10 %. Hence, one can say that all of these countries have been increasing their exports in this sector and Turkey has been the best performer of all in recent years.



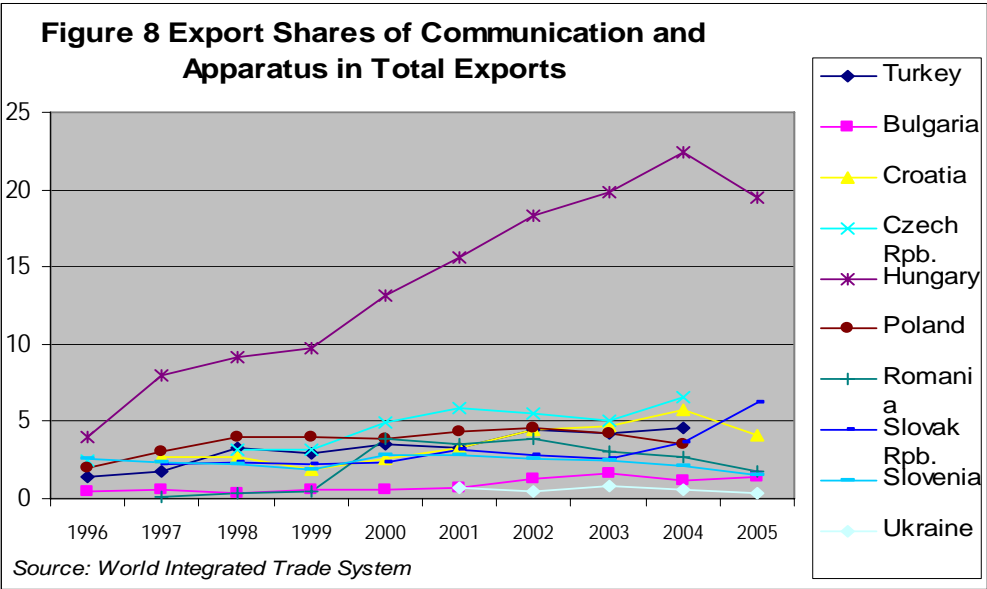
**Table 6 Export Shares of Communication and Apparatus in Total Exports**

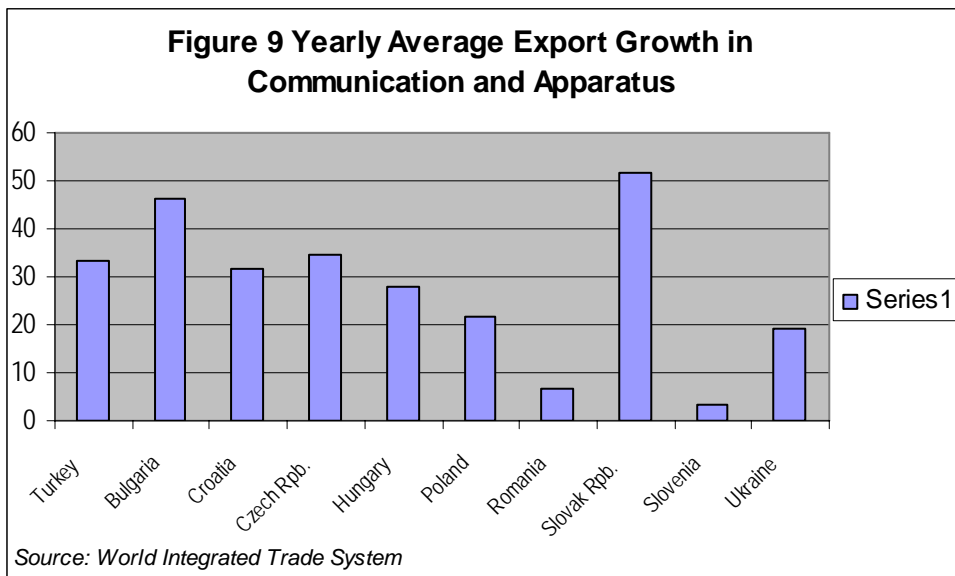
	Czech					Slovak				
	Turkey	Bulgaria	Croatia	Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	Ukraine
1996	1,3852212	0,504523		2,4101842	4,0426607	2,044288			2,6094268	
1997	1,8163054	0,6012971	2,7286621		7,9909993	3,0688204	0,1284496	2,2059705	2,3285251	
1998	3,2570612	0,3844305	2,6608255	3,171828	9,159849	3,9763918	0,3595547	2,3489194	2,1887513	
1999	2,9313263	0,5378117	1,9284986	3,2132265	9,6899095	4,0028393	0,515072	2,2586348	1,8566949	
2000	3,5315893	0,6010213	2,5755683	4,9166451	13,112287	3,8301162	3,8254816	2,3722797	2,8651064	
2001	3,2621765	0,7377318	3,2635156	5,8132377	15,653638	4,3256086	3,52652	3,2176638	2,8249138	0,662293
2002	4,4232002	1,3471237	4,4585917	5,4588953	18,257921	4,6093705	3,8651029	2,8264303	2,5700744	0,4417259
2003	4,1779953	1,6011058	4,7434084	5,0437123	19,829502	4,2006917	2,9991906	2,5637109	2,4394877	0,8392599
2004	4,6130988	1,2134149	5,7629065	6,6010249	22,397487	3,5489709	2,7182239	3,6016775	2,1426455	0,610046
2005		1,40211	4,1448659		19,472035		1,7990344	6,2239292	1,4774265	0,3193942

Source: World Integrated Trade System

After machinery and equipment, communication and apparatus is examined. Export share of this sector in Turkey's manufacturing export was 4 % in 2004 while it was 1 % in

1996. Table 6 and Figure 8 show the changes prevailed in this sector. The most significant change took place in Hungary. Its export shares of communication and apparatus was below 5 % but it rose up to 22 % in 2004. This is a remarkable change in all accounts. Likewise, in other countries, the export shares of this sector in total manufacturing export increased as well except Slovenia and Ukraine. Turkey’s export share in this sector increased from 1 % to 4 %. Performance of Poland and Czech Republic were quite good as well and their shares fluctuated similar to Turkey. However, the export share of this sector in Slovakia did not increase much until 2004. After this date the export share of this country increased to 6 %. There was not much significant increase in Bulgaria, Slovenia and Ukraine. In Croatia there was better performance such as 2 % in 1996 became 4 % in 2005.





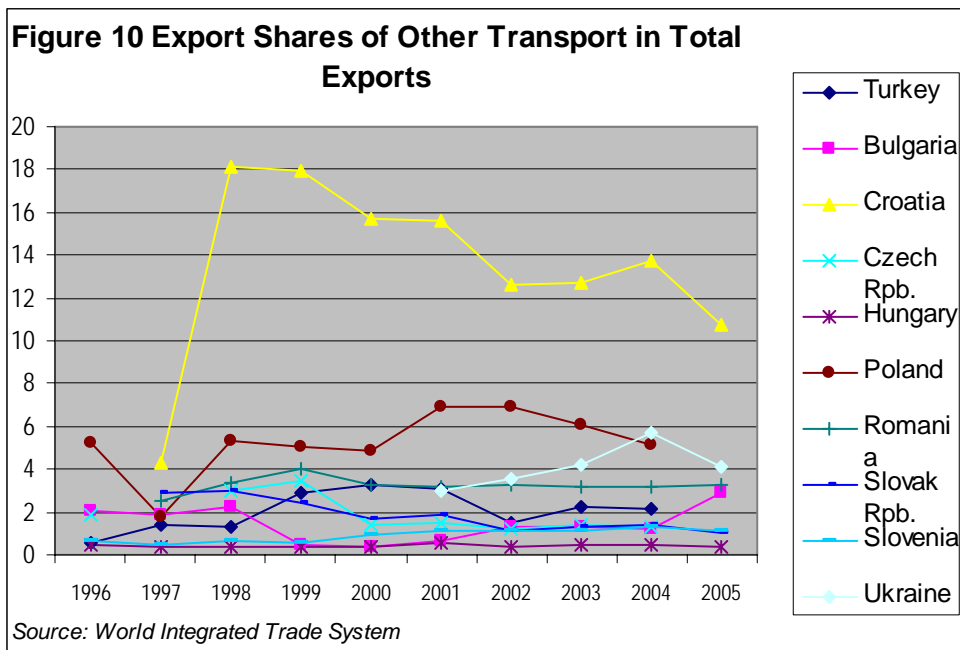
Yearly average export growth of communication and apparatus for each country is given in Figure 9. According to Figure 9, Slovak Republic with 52 % yearly export growth rate became the best performer. Bulgaria came second after Hungary with 46 % growth rate. Czech Republic with 35 % yearly growth rate was positioned at the third place. After these countries Turkey, Croatia, Hungary and Poland took their places. The last three countries whose average growth rates in the last five years were below 20 % were Ukraine, Romania and Slovenia. Among all countries Slovenia had the lowest average growth rate, 3 %. In communication and apparatus sector, all countries increased their exports. However, it is clear that Hungary had a perceptible power in this sector. Turkey was also successful in communication and apparatus export but after three superior countries. One major point is that Slovak Republic's export growth in this sector was nearly twice the others including Turkey.

Other transport is another important sector in which Turkey has improved its competitiveness. Table 7 and Figure 9 show the characteristics of countries in this sector.

**Table 7 Export Shares of Other Transport in Total Exports**

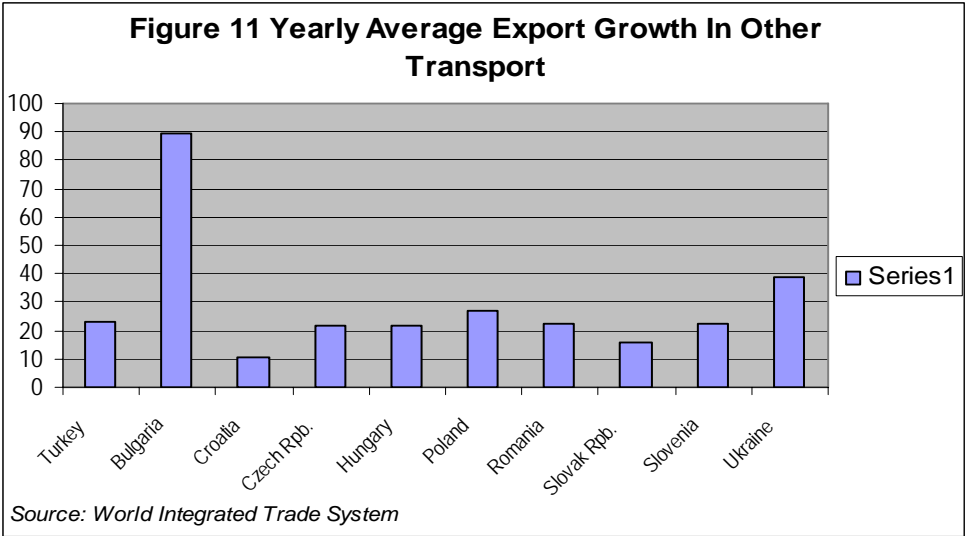
	Turkey	Bulgaria	Croatia	Czech			Slovak			Ukraine
				Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	
1996	0,5340945	2,0156167		1,9103889	0,4367284	5,2478244			0,6645983	
1997	1,3692849	1,8507294	4,3409		0,3552567	1,742416	2,5596162	2,9357121	0,4403324	
1998	1,3530659	2,230546	18,094968	2,9628015	0,3940091	5,3531835	3,3419494	2,9929456	0,6523619	
1999	2,9320704	0,509157	17,963805	3,4633777	0,4110097	5,0766569	4,0506758	2,4429679	0,6061131	
2000	3,2629287	0,3618808	15,719322	1,3918324	0,3617859	4,8628532	3,2941266	1,6784647	0,9099868	
2001	3,0859073	0,6574218	15,639472	1,4976094	0,5303827	6,9270919	3,1880883	1,8291457	1,1598052	2,956088
2002	1,4835304	1,2659659	12,649021	1,2358546	0,4016445	6,9386207	3,3132763	1,163416	1,1433102	3,5307452
2003	2,2250708	1,262829	12,686379	1,3854339	0,429857	6,0841652	3,1502721	1,3007347	1,0965436	4,2223414
2004	2,1580544	1,2255204	13,748878	1,2916664	0,4342464	5,1240254	3,2143145	1,4014733	1,2626893	5,7466813
2005		2,8725314	10,784741		0,3871106		3,3037788	1,0448477	1,0782384	4,1116513

*Source: World Integrated Trade System*



There are very interesting changes that took place in other transport export. Turkey experienced an increase in its export for the period 1996-1999. Later, there were two years in which the export shares of this sector did not increase. Moreover, it began to decline in 2001. However, after 2002 its share began to recover, and became 2.1 % in 2004. Other countries' shares changed similar to Turkey without a steady improvement. Slovakia's export share in this sector even decreased robustly from 3 % in 1996 to 1 % in 2005. Czech Republic resembled Slovakia. Its share first increased during 1996-1999 period but later declined to 1.2 %. The export share of this sector in Poland was fluctuated more. In 1996, its share was nearly 5 % and then declined sharply to 1 % in 1997. After that, its share increased, decreased and again increased. The export share of this sector in Poland's manufacturing export became 5.1 %. Hungary was perhaps the steadiest one among all countries with respect to this sector. Its share first declines from 0.9 % to 0.5 % and stayed almost the same. The picture of Bulgaria was a bit different. It began at 2 % share then at the middle of the period 1996-2005 it became 0.5 % and at the end of this period it returns to the original rate 2 %. In Croatia growth rate declined almost in all years, from 18 % in 1998 to 10 % in 2005. Contrary to

other countries Romania has a steady share 3 %. The last two countries Slovenia and Ukraine experienced an accelerating share. Slovenia has increased its share from 0.6 % to 1 % and Ukraine from 2.9 % to 4.1 %. There appears to be a complex picture in front of us. In retrospect, the export shares of Turkey and Ukraine in this sector has enhanced, whereas the export shares in other countries have diminished.



The yearly average export growths are given at the Figure 11. In the figure Bulgaria has the highest growth rates. This country’s growth rate was almost 90 % in the last five years and much more higher than the other countries. Ukraine’s growth rate was below 40 %. Actually Poland’s, Turkey’s, Czech Republic’s, Hungary’s, Romania’s and Slovenia’s growth rates were a little above 20 %. Then the only two countries whose growth rate below 20 % were Slovak Republic and Croatia. All of these countries’ exports were growing year by year as in the previous sectors. However, Bulgaria’s performance was much more superior than the other ones.

The last sector that experienced significant appreciation in Turkey is Furniture. Its share in Turkey increased from 1 % to 2.6 %. The Table 8 and Figure 11 represent the properties of this sector in all countries.

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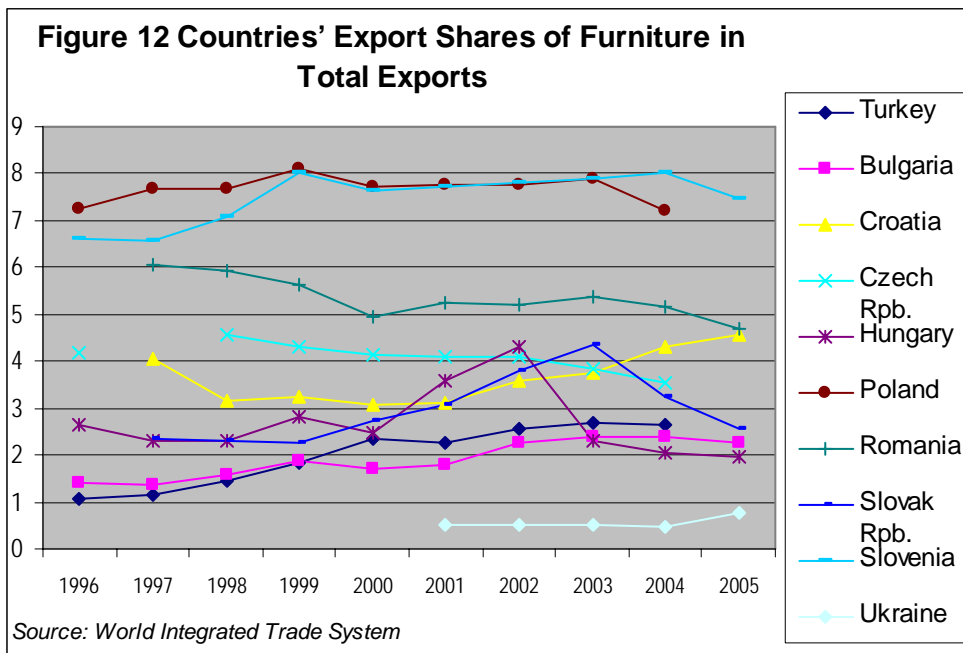
**Table 8 Countries' Export Shares of Furniture in Total Exports**

	Turkey	Bulgaria	Croatia	Czech			Romania	Slovak		Ukraine
				Rpb.	Hungary	Poland		Rpb.	Slovenia	
1996	1,0472729	1,4118888		4,1863932	2,6524853	7,2393978			6,6120653	
1997	1,1607668	1,3554097	4,0707624		2,3083776	7,6941973	6,0720796	2,3647134	6,5678026	
1998	1,4333573	1,5570686	3,1367351	4,584563	2,3208152	7,6789187	5,9418819	2,2957884	7,1013435	
1999	1,8526096	1,8907738	3,2251144	4,2976238	2,8069883	8,1090739	5,6405919	2,2448956	8,0269436	
2000	2,3350828	1,7151205	3,0896592	4,1434967	2,487116	7,7402706	4,9629243	2,7288319	7,6408007	
2001	2,2817236	1,8118892	3,1325377	4,0989892	3,5933058	7,7504893	5,237832	3,0678216	7,7295034	0,5264898
2002	2,5592632	2,2541704	3,5785123	4,0825215	4,3237583	7,7654926	5,1887467	3,8042429	7,8090143	0,4976848
2003	2,7023877	2,4065057	3,7634049	3,8499239	2,3026976	7,8952345	5,3665424	4,3326567	7,8905594	0,5145165
2004	2,6628517	2,3839407	4,3119863	3,5613084	2,0677931	7,2182744	5,1598143	3,2330989	8,0125499	0,4862074
2005		2,2814745	4,5493212		1,9769968		4,6900543	2,5668005	7,4708175	0,772594

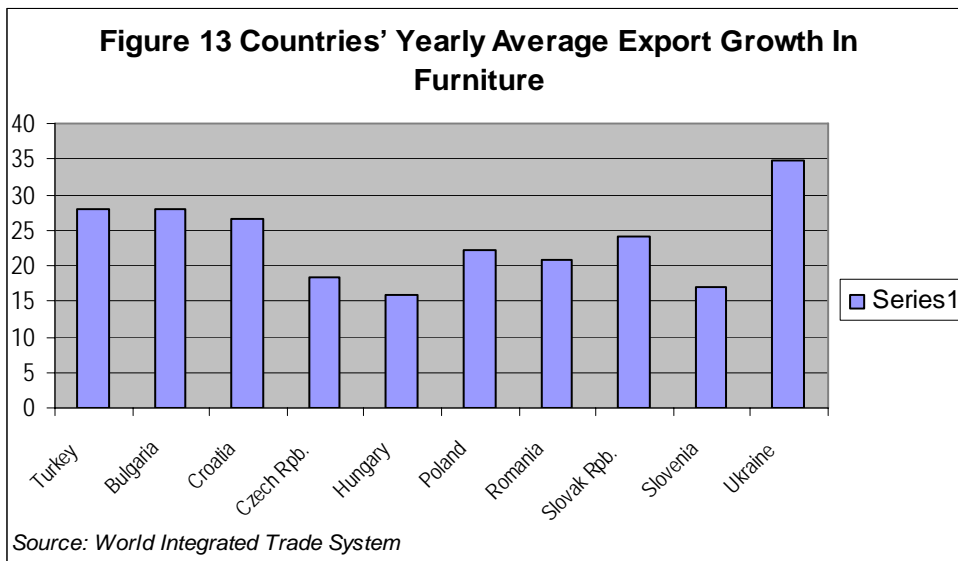
*Source: World Integrated Trade System*

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Turkey's export growth of Furniture rose from 1 % to 2.6 % at a steady rate. Like Turkey, Bulgaria experienced a steady increase in its export share in manufacturing from 1.4 % to 2.2 %. The characteristic of Croatia was different and not steady as Turkey. In 1997 the share of furniture was 4 % and between 1998 and 2003 it was 3 %, after that this rate again became 4 %. In Czech Republic share may be accepted unchanged, because there was only a very little decline in this rate. The share in Hungary fluctuated during the overall period from 1 % to 4 %, but in the last year it became 1.9 %. Poland's share in Furniture remained the same throughout the years at the rate 7 %, only in 1999 it reached to 8 % and then declined to 7 %. Romania was much more like Hungary. The rate fluctuated between 4 % to 6 %. Slovak Republic and Ukraine were not very different from Romania and Hungary. In Slovakia between 1997-2003 there was a steady increase in the shares, but then it decreased dramatically. Slovakia's export share of Furniture became 4.3 % in 2003 from 2.3 % in 1997, and then this ratio decreased to 2.5 % in 2005.



In Figure 13 the yearly average export growth of Furniture is shown. Ukraine's yearly export growth rate was over 35 % and Turkey's was a little above 27.5 %. After these two countries Bulgaria and Croatia came whose growth rates were above 25 %. Poland, Romania and Slovakia had growth rates between 20 % and 25 %. Then the last three countries emerged with the average growth rates between 15 % and 20 %; Czech Republic, Hungary and Slovenia. These were very close numbers, but it is clear that Ukraine's performance was better than Turkey's. It is understood from the figure that both these countries' exports increase significantly and both countries have advantages in this sector.

## **SECTION 2: The role of Increasing Import on the New Rising Sectors**

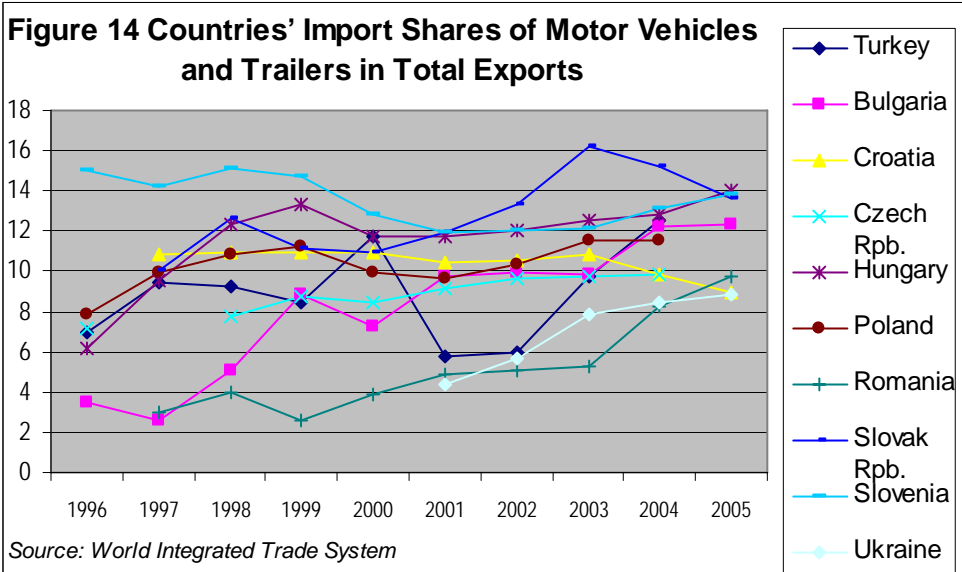
In Section 1 the new rising sectors were examined and Turkey compared with some Eastern European Countries. However, to get a better understanding of competitiveness of Turkey, the imports of these countries needs to be taken into consideration. Then, how import

affects the competitiveness of our sample countries? It may not have a direct effect. However, whether the country imports its intermediate goods to export the final goods matters.

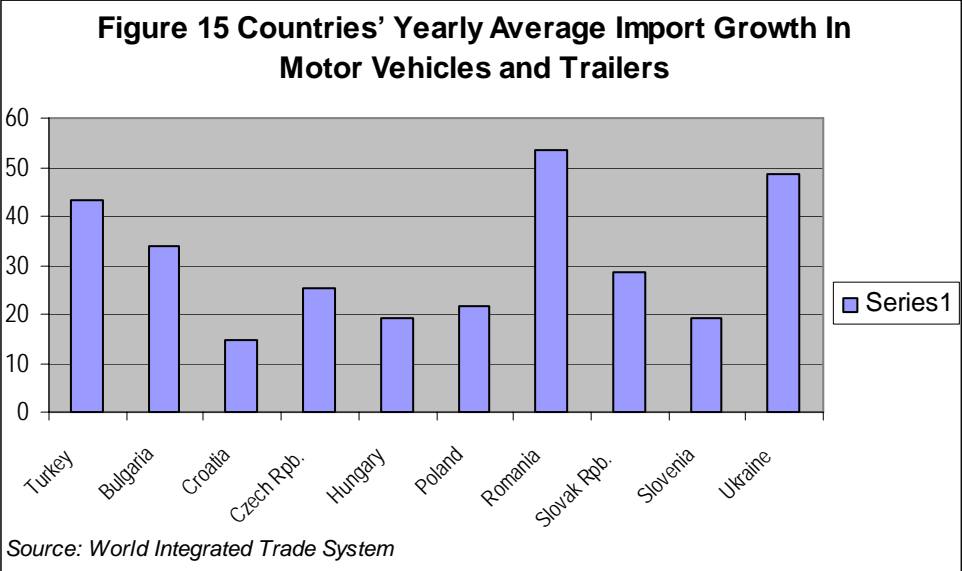
**Table 9 Countries' Import Shares of Motor Vehicles and Trailers in Total Exports**

	Czech					Slovak				
	Turkey	Bulgaria	Croatia	Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	Ukraine
1996	6,932952	3,4508365		7,1819708	6,1970271	7,8695234			14,974517	
1997	9,4432839	2,6222802	10,840461		9,5716987	9,9652917	2,9518051	10,075078	14,261632	
1998	9,2272023	5,0293742	10,948904	7,7280058	12,287531	10,865309	3,9714833	12,592485	15,088411	
1999	8,4053483	8,8109621	10,895975	8,7630231	13,32481	11,265337	2,6326151	11,163381	14,671146	
2000	11,752078	7,2455794	10,907386	8,491611	11,73163	9,9029452	3,8986463	10,95328	12,79323	
2001	5,7881862	9,7906704	10,406608	9,1295277	11,7638	9,6466096	4,8537037	11,98121	11,887594	4,3533045
2002	5,9499922	9,9341215	10,509603	9,6671384	12,08205	10,308608	5,0613612	13,33312	12,003824	5,7019844
2003	9,7312553	9,8028018	10,851967	9,7412492	12,552985	11,553293	5,2629786	16,25699	12,178721	7,8069448
2004	12,572344	12,229094	9,8408698	9,8798327	12,814607	11,514896	8,293093	15,176682	13,099773	8,4192673
2005		12,35373	8,9611112		14,006365		9,7648991	13,637172	13,786202	8,8683833

Source: World Integrated Trade System



In Table 9 and Figure 14 the changes in the import shares of Motor vehicles and trailers in every country, and the yearly average import growth are shown. In Turkey the share of Motor vehicles and trailers fluctuated intensively. Between 1996 and 1997 its shares increased, after that decreased for two years but this decrease was not so much. Then in 1999 the share in Turkey's export increased rapidly. After a year it experienced dramatic decrease in two consecutive years. In the overall period Turkey's import share of Motor Vehicles fluctuated at 10 % level. This was close to the value of export growth in Turkey, which was 15 %. In other countries there were fluctuations in the import shares but not as much as the ones in Turkey. Slovakia's share became nearly 13 % in 2005 and Hungary's became 14 % in the same year. Poland and Czech's share of import were not so high but around 10 %. In Bulgaria, Romania and Ukraine the import shares were increased as well. However, in Croatia and Slovenia, this ratio decreased from 10 % to 8 % and from 14 % to 13 %, respectively. Generally these countries' import share of this sector increased similar to the exports.



When we look at the yearly average import growth in the last five years, all countries had sizable growth rates. Romania, Ukraine and Turkey had the highest rates and then

Bulgaria, Slovak Republic, Czech Republic and Poland came with the growth rates between 20 % and 30 %. The lowest ones were Hungary, Slovenia and Croatia, with growth rates of 15 % to 20 %. This information shows that in the sector Motor vehicles and trailers, all of these countries have been importing intermediate goods and exporting final goods. The other sector to examine is Manufacture machinery and equipment.

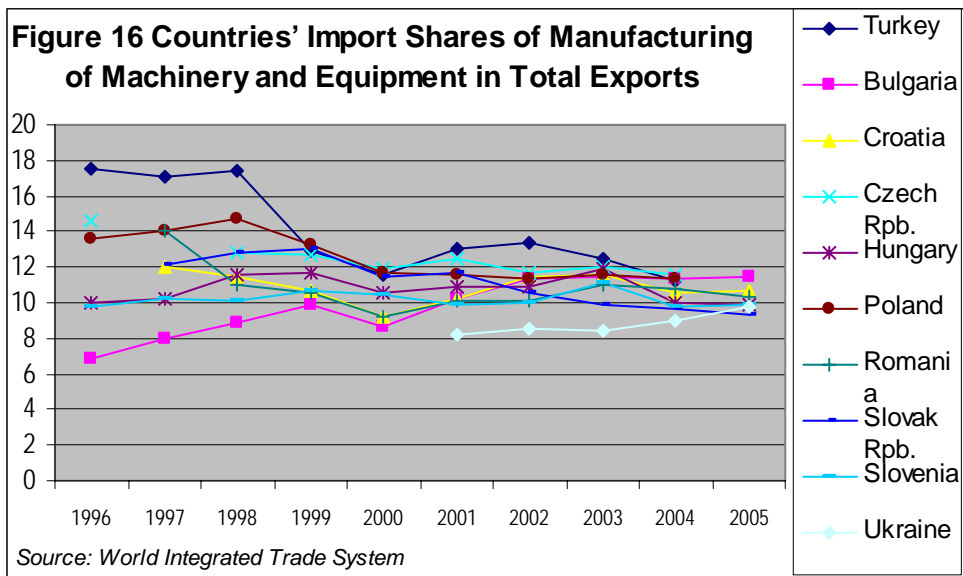
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**Table 10 Countries' Import Shares of Manufacturing of Machinery and Equipment in Total Exports**

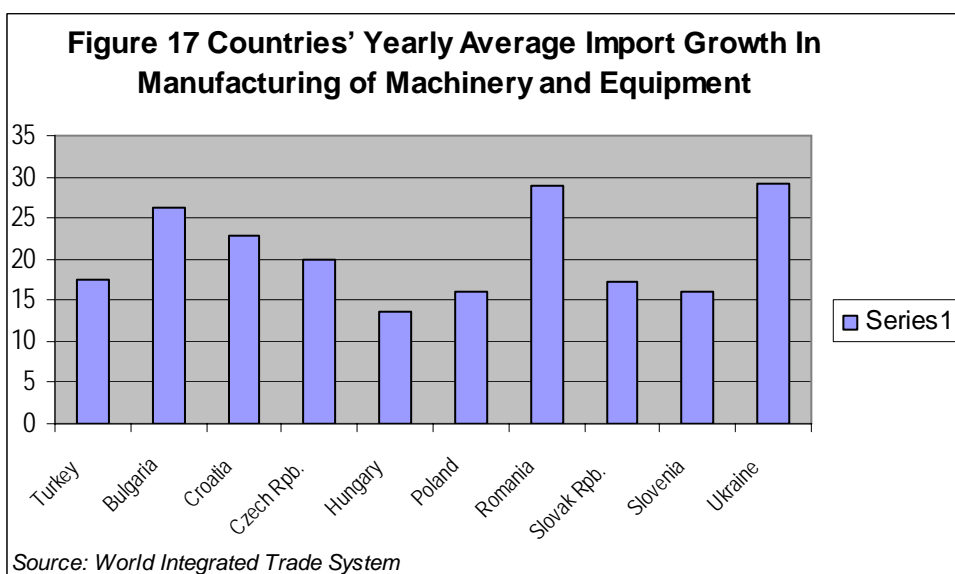
			Czech			Slovak				
	Turkey	Bulgaria	Croatia	Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	Ukraine
1996	17,5793	6,8951639		14,610476	9,9602098	13,640085			9,7596359	
1997	17,099654	7,9871615	12,065446		10,237199	14,069067	14,003853	12,179093	10,225871	
1998	17,449722	8,8618643	11,405928	12,800599	11,518312	14,668979	11,064029	12,841947	10,138463	
1999	12,890383	9,894774	10,631565	12,71888	11,65637	13,215537	10,508658	12,992152	10,647868	
2000	11,524957	8,6682793	9,2265221	11,963958	10,516074	11,68956	9,1784338	11,512758	10,47127	
2001	13,013386	10,193782	10,227587	12,423732	10,874064	11,596936	10,129539	11,672242	9,8986682	8,1853431
2002	13,366862	11,371631	11,515367	11,692066	10,880463	11,336412	10,059125	10,554916	9,9686139	8,5311935
2003	12,522086	11,473687	11,613943	11,988888	11,937247	11,589281	10,955784	9,850863	11,099741	8,4032984
2004	11,211704	11,368389	10,534463	11,60583	9,9925608	11,390861	10,797095	9,6759743	9,7568914	8,9742549
2005		11,428203	10,684489		9,8637555		10,351814	9,3120446	9,9163805	9,7374754

*Source: World Integrated Trade System*

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In manufacture of machinery and equipment all countries', except Bulgaria, Slovenia and Ukraine, shares have been decreasing while Hungary's share has remained the same after fluctuations. In 1996 Turkey's import share of this sector was over 17 % and it decreased sharply to the below of 11 % level during 1996-2000 period and then increased a little for two years and then declined. Poland, Czech and Slovakia's import shares of manufacture of machinery and equipment decreased almost 3 % or 4 %, and this fluctuation occurred at the 15 % level. Croatia and Romania experienced fall in their shares as well.



When we look at the yearly average growth rates Ukraine's growth rate was 29 % and the highest one Romania's share was 28 % and then Bulgaria came with 26 %. Actually Ukraine, Romania and Bulgaria were the only countries with such import growth rates. After these countries, Croatia came with the rate 6 % then Czech Republic followed. After these countries Turkey, Slovak Republic, Slovenia and Poland were the 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> countries according to the import growth rates. The last one was Hungary with 18 % growth rate. With this background we can say that all of these countries import shares were higher in 1996, and then these shares have declined over time. However, the export shares of the countries in the sample were not as high as their import. In the last years, however, import and export have gotten closer.

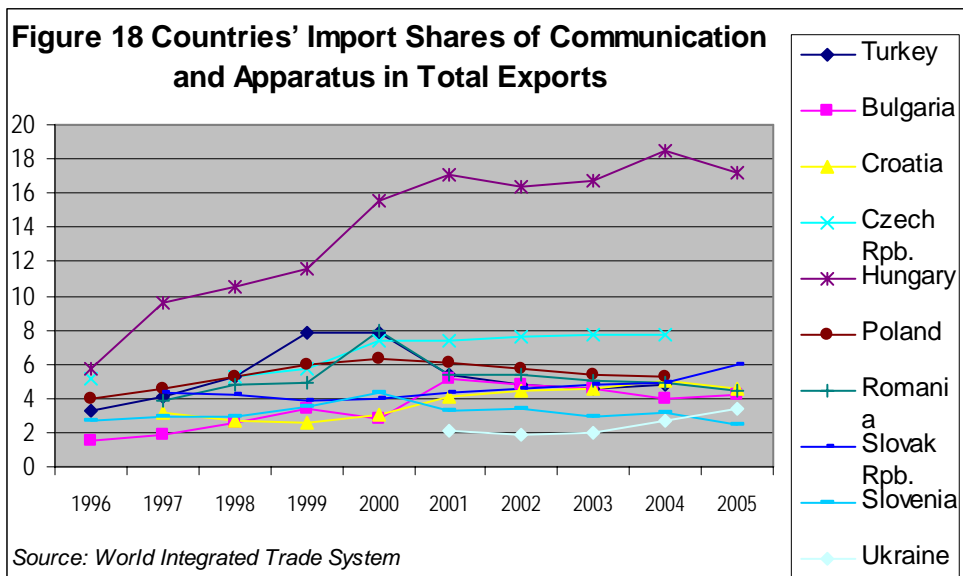
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**Table 11 Countries' Import Shares of Communication and Apparatus in Total Exports**

			Czech			Slovak				
	Turkey	Bulgaria	Croatia	Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	Ukraine
1996	3,2776368	1,4946129		5,2037113	5,7794089	3,9313472			2,7024055	
1997	4,137943	1,8471391	3,1961936		9,5348555	4,6068899	3,8714627	4,2720666	2,9709941	
1998	5,2832541	2,6246478	2,7187108	5,2166447	10,475078	5,2889554	4,8130235	4,1895193	2,8879758	
1999	7,8622072	3,4137192	2,6199444	5,6865592	11,546627	5,927503	4,9282844	3,823631	3,5119917	
2000	7,8367096	2,7913493	3,0959531	7,3984332	15,593016	6,2641549	7,9640851	3,9219542	4,2781638	
2001	5,3220817	5,1434268	4,098556	7,3908662	17,035175	6,1325711	5,3786051	4,3328499	3,3041254	2,0987828
2002	4,7518141	4,7892842	4,4453439	7,5949325	16,329074	5,7048815	5,4153836	4,613583	3,4063196	1,8843183
2003	4,5956756	4,5959707	4,595518	7,7735639	16,686518	5,3798548	4,9762724	4,7629206	2,9585063	1,9962282
2004	4,826893	3,9406878	5,0027033	7,7747792	18,515904	5,207389	4,9337396	4,8924569	3,1927095	2,7370276
2005		4,2574492	4,5233316		17,156194		4,42343	6,0059753	2,4193914	3,4014092

*Source: World Integrated Trade System*

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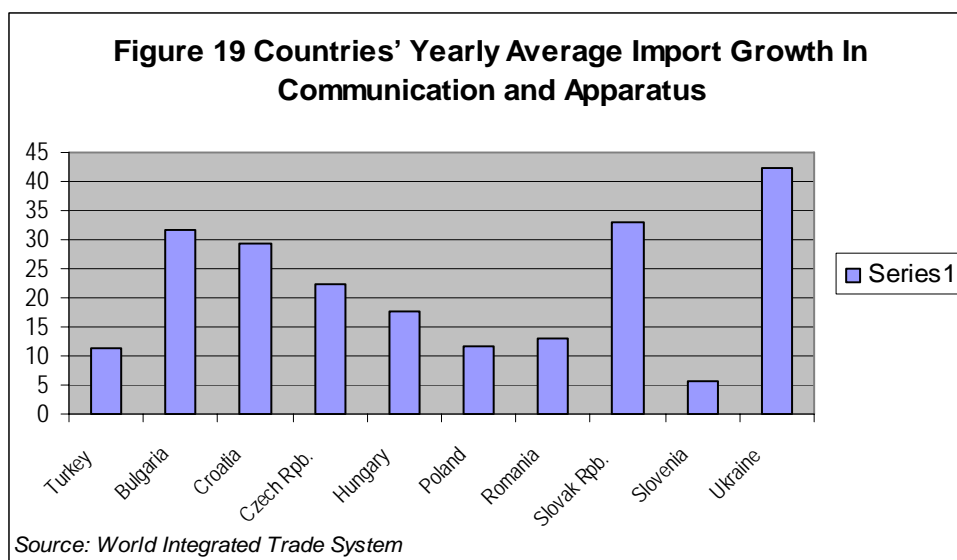


As it is seen in Figure 18 Hungary's import share of Communication and apparatus was considerably high. During period 1996-2005, its import increased with a little decrease in 2002 and 2005. Its import share was 5.7 % in 1996 and became 17 % in 2005. Turkey's characteristics were rather different. In period 1996-1999 its import share increased especially in period 1998-1999. After this increase this share began to fall and more significantly decreased between the years 2000-2001. In the overall process the import share of Communication and apparatus has not changed more, and stayed around 4 %. Czech and Poland's import shares were increased a little and Czech's became 7.7 % whereas Poland's share became 5 % in the 10 years. In Bulgaria, the import share of communication and apparatus increased from 1 % to 4 %, whereas in Croatia and Romania it became 4 % rising from 3 %. In Ukraine and Slovenia, this ratio has not changed much. This was true for Slovak Republic as well, but in 2005 there was an increase from 4 % to 6 %.

When we look at the yearly average import growth rates for the last five years in Communication and apparatus in the Figure 19, Ukraine had the highest rate with a little above 40 %. Other countries, including Turkey, were not very close to each other. Turkey



with 12 % growth rate was at the 7<sup>th</sup> in ranking. The comparison with the exports of these countries shows that all the countries had almost same shares in export and import. This supports the idea of buying intermediate goods from abroad and then selling final goods abroad.

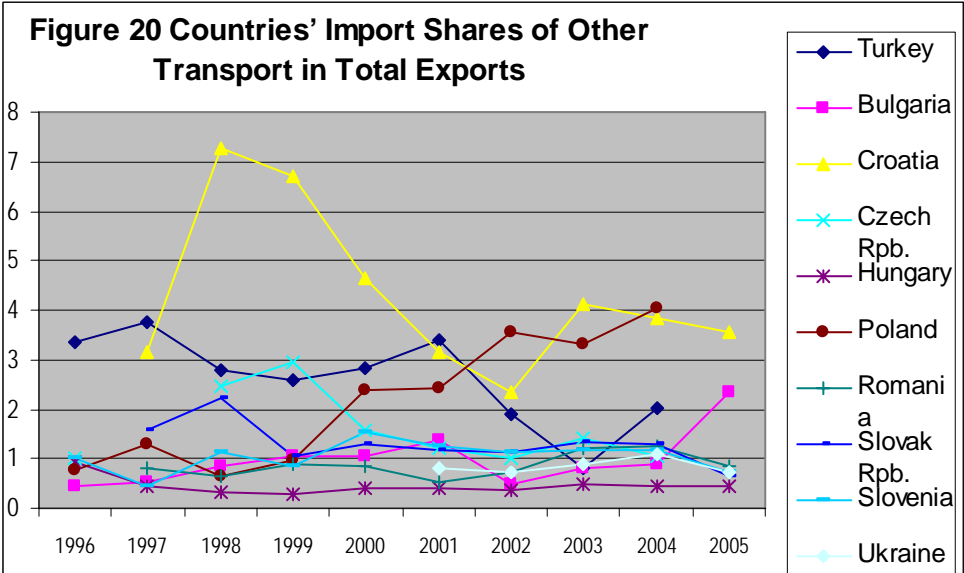


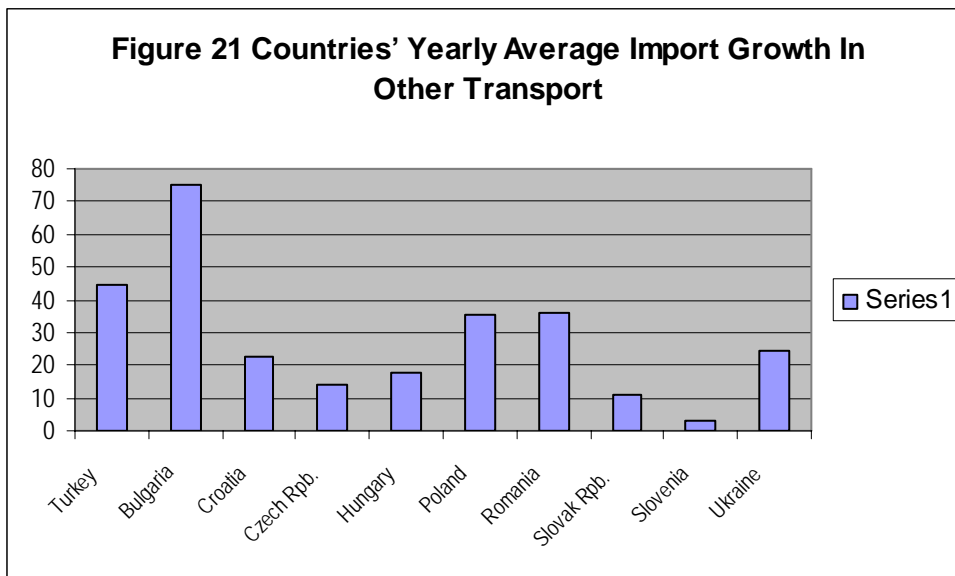
**Table 12 Countries' Import Shares of Other Transport in Total Exports**

	Turkey	Bulgaria	Croatia	Czech Rpb.	Hungary	Poland	Romania	Slovak Rpb.	Slovenia	Ukraine
1996	3,3442995	0,4565565		1,010494	0,9223417	0,7590097			1,0147477	
1997	3,7709688	0,5266033	3,1428075		0,4408801	1,2739689	0,8260471	1,5833412	0,426226	
1998	2,7743573	0,8378293	7,275051	2,4793507	0,3351073	0,6479218	0,6572131	2,2055348	1,1481059	
1999	2,5794142	1,0484807	6,7161124	2,9415081	0,3017839	0,9607149	0,8740195	1,0487123	0,868031	
2000	2,8213619	1,0688724	4,648104	1,5600793	0,407224	2,3821099	0,8458325	1,3104536	1,5554818	
2001	3,3875594	1,3907616	3,143847	1,2189533	0,404053	2,420733	0,5276222	1,1848302	1,2492244	0,8252297
2002	1,9111949	0,4734538	2,3247066	0,995775	0,3684272	3,5616167	0,7468034	1,1400865	1,1191795	0,737527
2003	0,7955783	0,8168455	4,1212075	1,4022127	0,4680124	3,3205409	1,2119953	1,3417343	1,1734361	0,8930869
2004	2,0139833	0,8733002	3,8458516	1,0589236	0,4291188	4,0282834	1,2576272	1,2916826	1,1610739	1,0961046
2005		2,3449786	3,5380001		0,4326781		0,8485149	0,6450504	0,7424156	0,7195911

Source: World Integrated Trade System

In Figure 20 the import shares of countries in other transport is shown. Turkey's import share decreased from 3.3 % to 2.5 % during the period 1996-1999. After this decline its share recovered to 3.3 % in two years. Yet then, share began to decline and in 2003 it fell to 0.7 %. In the coming two years this rate reached 2 %. While Turkey's share was decreasing Poland's share increased from 0.7 % to 4 %. Slovakia and Czech's import shares fluctuated significantly. However, in the overall process it almost remained the same at the levels 1 %-2 %. Hungary was a bit different from these countries. In the very first year it experienced a fall but then its share never changed, only a bit and but stayed below 1 %. Bulgaria had share between 0.5 % and 1.3 %. However, in 2005, ratio became 2.3 %. Croatia experienced a very complex fluctuation between 2.3 % to 6.7 %. Romania, Slovenia and Ukraine again had shares between 1 % and 0.5 %.





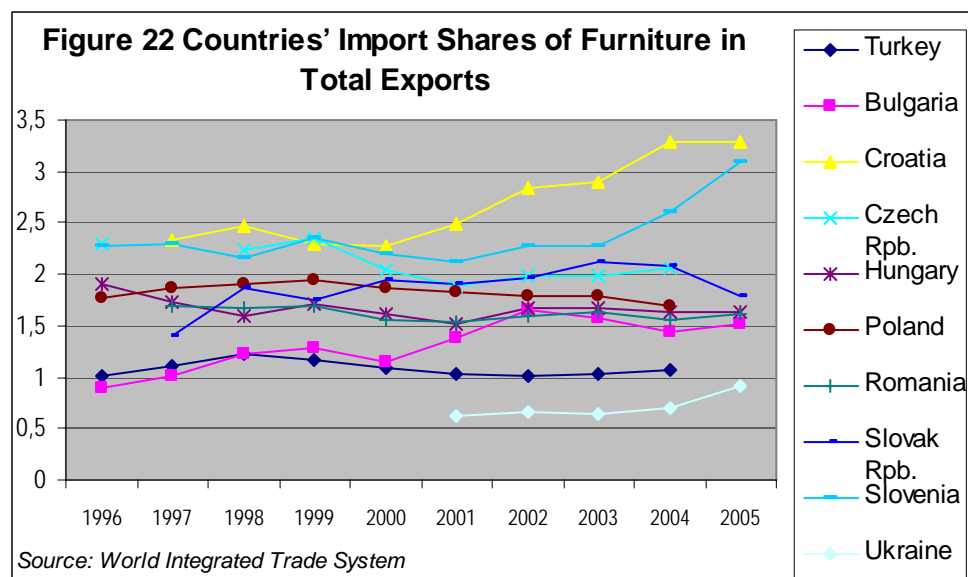
In the Figure 21, the yearly import growth rates of countries are shown and in the graph Bulgaria had the highest value with over 70 % yearly growth in the last five years. After Bulgaria, Turkey came with 45 % growth rate. After these two countries Poland and Romania appeared with growth rates 35 % and 36 %. The succeeding countries according to import growth rates were Ukraine and Croatia with over 20 % growth rate. In these countries Hungary, Czech Republic, Slovak Republic and Slovenia were the last ones with below 20 % growth rate. Comparing this import share graphs with export share graphs one concludes that exports and imports of all countries are very close each other. However, Turkey's import share decreased and reached the export levels in this sector.

**Table 13 Countries' Import Shares of Furniture in Total Exports**

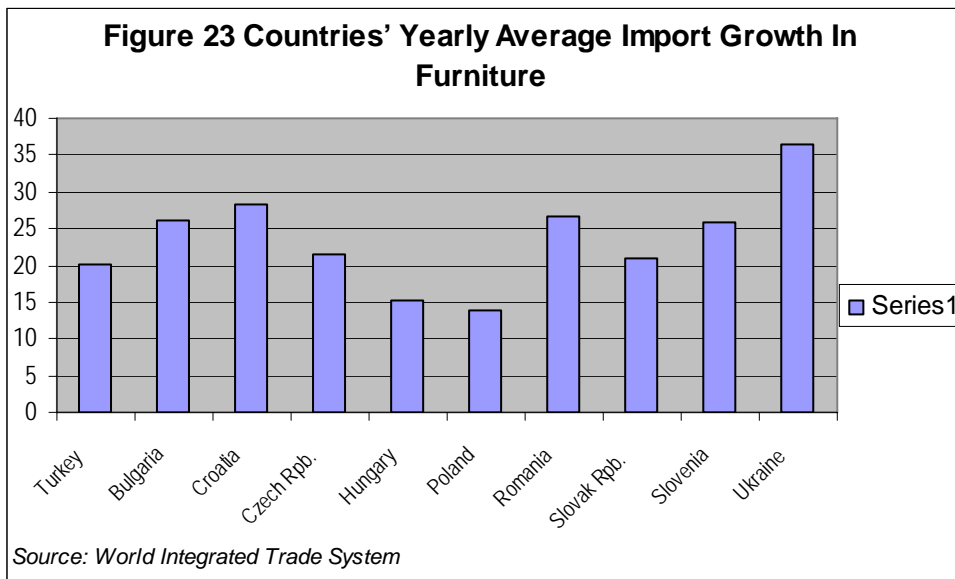
	Turkey	Bulgaria	Croatia	Czech Rpb.	Hungary	Poland	Romania	Slovak Rpb.	Slovenia	Ukraine
1996	1,0091147	0,8862175		2,3000012	1,8975737	1,7767458			2,2844137	
1997	1,1161467	1,0052048	2,3350334		1,7401963	1,8736341	1,6884666	1,4071147	2,2970973	
1998	1,2161396	1,227785	2,4686098	2,2412001	1,6006621	1,8974661	1,6760106	1,8584652	2,1593967	

1999	1,1598818	1,286098	2,2916153	2,3491754	1,712396	1,9493095	1,688872	1,744517	2,3613688	
2000	1,0937468	1,1551155	2,2711962	2,0478276	1,6086479	1,8710987	1,5462569	1,937314	2,1900391	
2001	1,0389311	1,3795643	2,4826306	1,882391	1,510886	1,82663	1,5336413	1,9076937	2,1156289	0,63189065
2002	1,0141443	1,6560372	2,8419629	1,9865352	1,6763839	1,7863917	1,5948564	1,9691163	2,2690624	0,66541782
2003	1,0298013	1,5737749	2,905563	1,9847673	1,6706391	1,7954692	1,6378858	2,1253096	2,2839578	0,64781282
2004	1,0627642	1,4457241	3,2889631	2,0636894	1,6261741	1,6953402	1,5551884	2,0819379	2,5985007	0,70607359
2005		1,5166156	3,2904668		1,6248238		1,6160342	1,7871176	3,088378	0,91424351

Source: World Integrated Trade System



Furniture is a new rising sector in Turkey and this sector's import shares with respect to countries are given at the Figure 22. In this figure nearly all countries shares stayed the same. However, there is a clear increase in Croatia and Czech Republic. After all, the important point here is the high average import growth rates in these countries. When we look at the export shares of these countries at the table and figure we can see that export shares were higher than the import shares. However, one should not forget that import volume is higher than the export volume. Yet, to conclude, in Furniture exports were higher while the intermediate goods for this sector were lower.



When we look at the Figure 23 it is seen that Ukraine's yearly import growth rate was higher than Croatia, Romania, Bulgaria, and Slovenia with growth rates above 25 %. Turkey was at the 8<sup>th</sup> in the ranking.. These values were lower than the values of the export figures. Hence, we can say that in both countries in the overall period, shares were not increased too much and exports were higher than imports. In Furniture these countries produced both partially intermediate goods and final ones.

### **SECTION 3: The Conventional Sectors: Are They Losing Their Importance?**

Food products, textile and wearing apparel are the three conventional sectors In Turkey, which started to be losing their importance in the past. Their characteristics are given at the tables below. As it is seen from the Table 14 the share of all of these three sectors decreased even though in all periods their exports were increased. Hence it is clear that there are other important sectors whose export shares grew more quickly. Another point to mention is that share of food products and beverages and wearing apparel decreased more than of

textiles. Their shares decreased from 9.5 % to 4.6 % for food products and beverages and 18 % to 10.9 % for wearing apparel. There was a decrease about a half in food products and beverages and about 40 percent in wearing apparel. Whereas the shares of textiles decreased from 20 % to 16 % which was only 25 percent. Of course, these changes occurred in nine years period (1996-2004). In addition, their export growth ranks were below the average level (13-14) except for food and beverages in period 2003-2004.

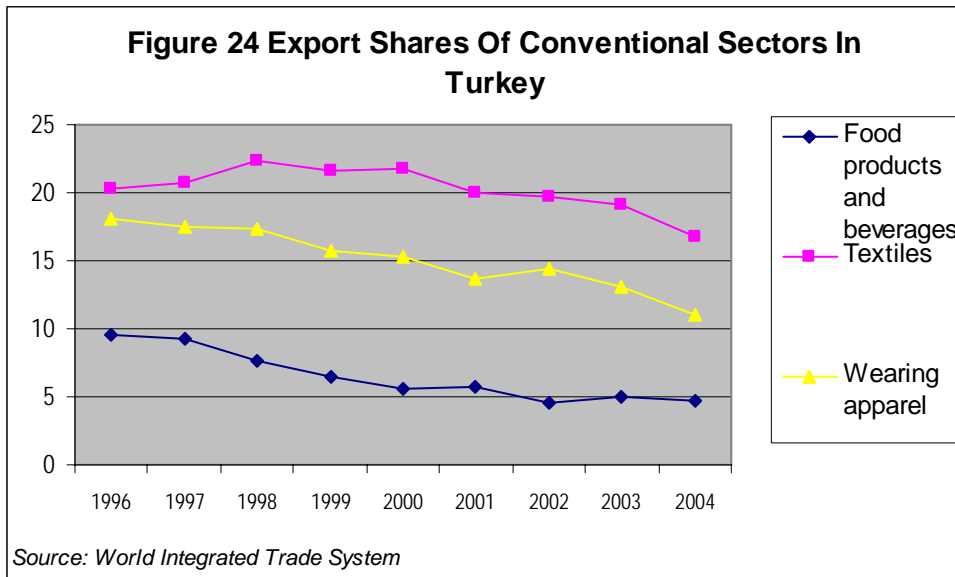
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**Table 14 Export Shares Of Conventional Sectors In Turkey**

	<b>Food products and beverages</b>	<b>Textiles</b>	<b>Wearing apparel</b>
1996	9,5347935	20,223864	18,07014
1997	9,3225753	20,719715	17,565455
1998	7,5955191	22,383595	17,346704
1999	6,4780513	21,631083	15,755524
2000	5,5909893	21,756021	15,269978
2001	5,7232975	19,955915	13,711402
2002	4,4917713	19,720584	14,475052
2003	4,9498012	19,091027	13,073946
2004	4,6590954	16,775893	10,966804

*Source: World Integrated Trade System*

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In the periods 1996-2000 and 2001-2002 the share food products and beverages sector shrank. In the very first period it shrank at an average rate – 6 % and after that between 2000 and 2002 it shrank by 2 % per year. On the contrary, textiles did not shrink and wearing apparel behaved as food products and beverages.

In the period 2000-2002 Turkey experienced a crisis and for that reason exports of textiles and wearing apparel were boosted in this period because of depreciation of Turkish Lira. In conclusion, textiles and wearing apparel are still important sectors for Turkey albeit they are not as important as before. On the other hand, food and beverages resembles these sectors except in periods 2001-2002 and 2003-2004 indicating food and beverages may gain its importance again.

In order to compare Turkey with the Eastern European Countries the conventional sectors of all the countries are given in the Table 15. There are some differences between countries. For example manufacture of basic metals is a conventional sector in Turkey as well, but its share was not declining in Turkey; while in other countries it was declining.

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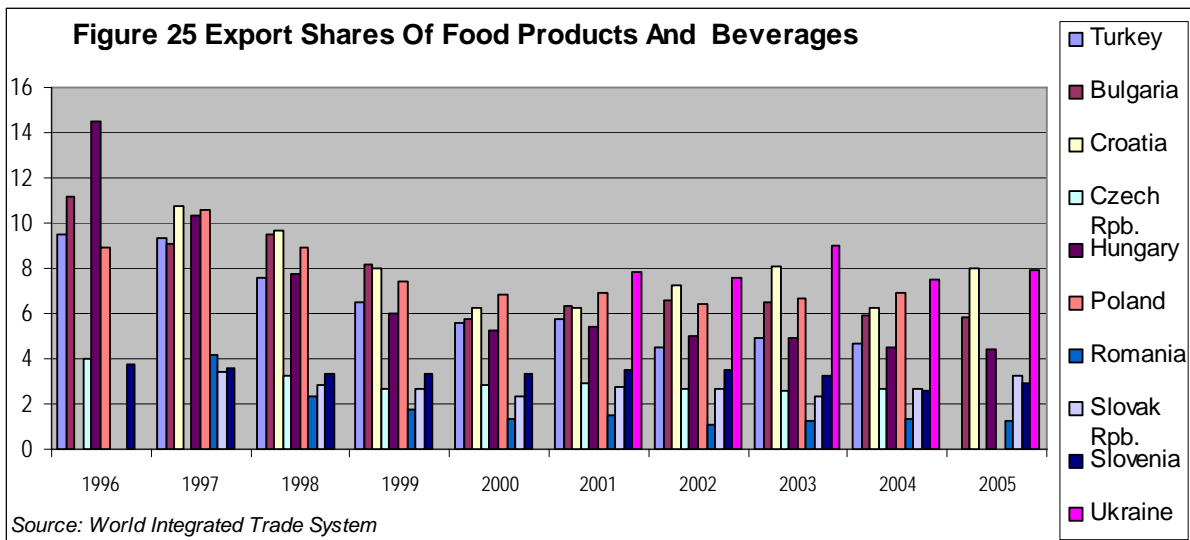
**Table 15 Conventional Sectors In Turkey And Some Eastern European Countries**

<b>Turkey</b>	<b>Bulgaria</b>	<b>Croatia</b>	<b>Czech Rpb.</b>	<b>Hungary</b>
Food products and beverages	Food products and beverages	Food products and beverages	Food products and beverages	Food products and beverages
Textiles	Tobacco products	Wearing apparel	Textiles	Wearing apparel
Wearing apparel	Chemicals and chemical products	Luggage, saddlery and footwear	Luggage, saddlery and footwear	Luggage, saddlery and footwear
		Products of wood and cork	Chemicals and chemical products	Chemicals and chemical products
		Chemicals and chemical products	Manufacturing of basic metals	Manufacture of basic metals
<b>Poland</b>	<b>Romania</b>	<b>Slovak Rpb.</b>	<b>Slovenia</b>	<b>Ukraine</b>
Food products and beverages	Food products and beverages	Wearing apparel	Textiles	Wearing apparel
Wearing apparel	Wearing apparel	Chemicals and chemical products	Wearing apparel	Manufacturing of fabricated metal prod(exc machinery)
Chemicals and chemical products	Chemicals and chemical products	Manufacturing of basic metals	Paper and paper products	Manufacturing of machinery and equipment
Manufacturing of basic metals	Manufacturing of basic metals		Manufacturing of fabricated metal prod(exc machinery)	
	Furniture			

*Source: World Integrated Trade System*

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The first sector that will be examined is Food products and beverages. Its export shares in all countries are shown in the Figure 25. According to the graph Turkey's export share of this sector decreased and became 4.5 % in 2004, whereas it was 9.5 % in 1996. Hungary experienced a very dramatic decline in Food products and beverages sector. This sector's share in Hungary was 14.5 % in 1996 and became 4.3 % in 2005. Poland is another country whose share decreased at a very significant rate. In 1997 Poland's export share was 10.4 % and a year after it became 9 %, then a rapid decline occurred and in 2000 that decline stopped at 7 %. And this ratio remained the same for 2 years. Czech and Slovakia's export shares did not change too much and they fluctuated between 2 % and 4 %. As other countries Bulgaria experienced a significant decline in food sector. The share of this sector decreased from 11.2 % to 5.8 % in the ten years period. Croatia did not have steady declining graph. Its share began with 11 % and then fluctuated between 6 % and 8 % and in 2005 it stayed at the ratio of 8 %. Romania and Slovenia had very low ratios in the shares that fluctuated 4 % to 1 % declining over time as well. Ukraine experienced no change in its share around 8 %.

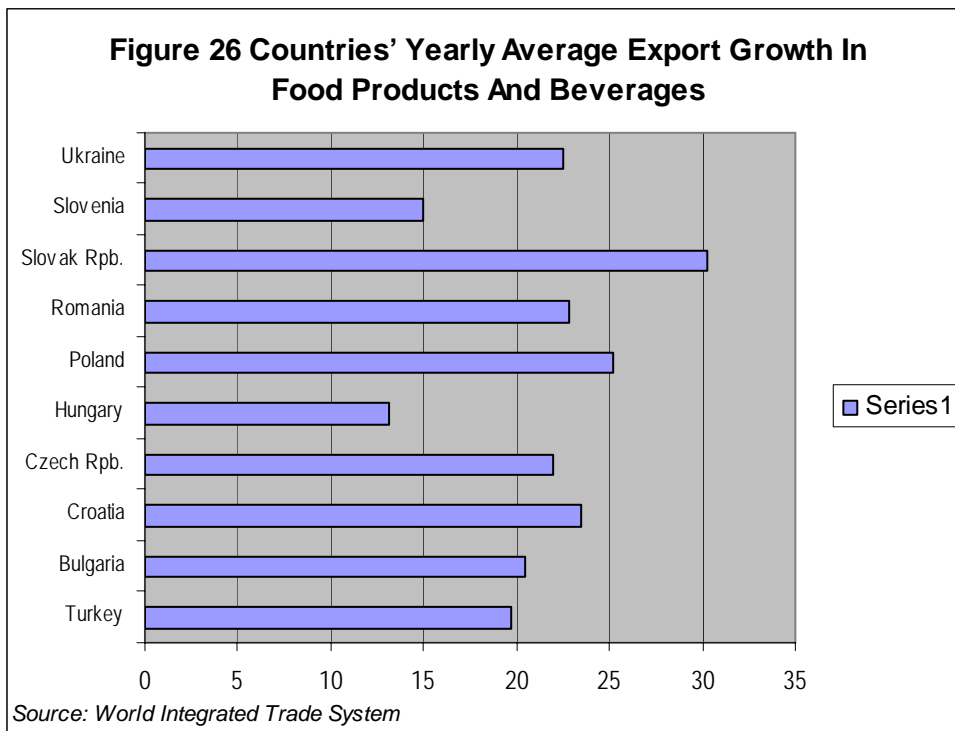
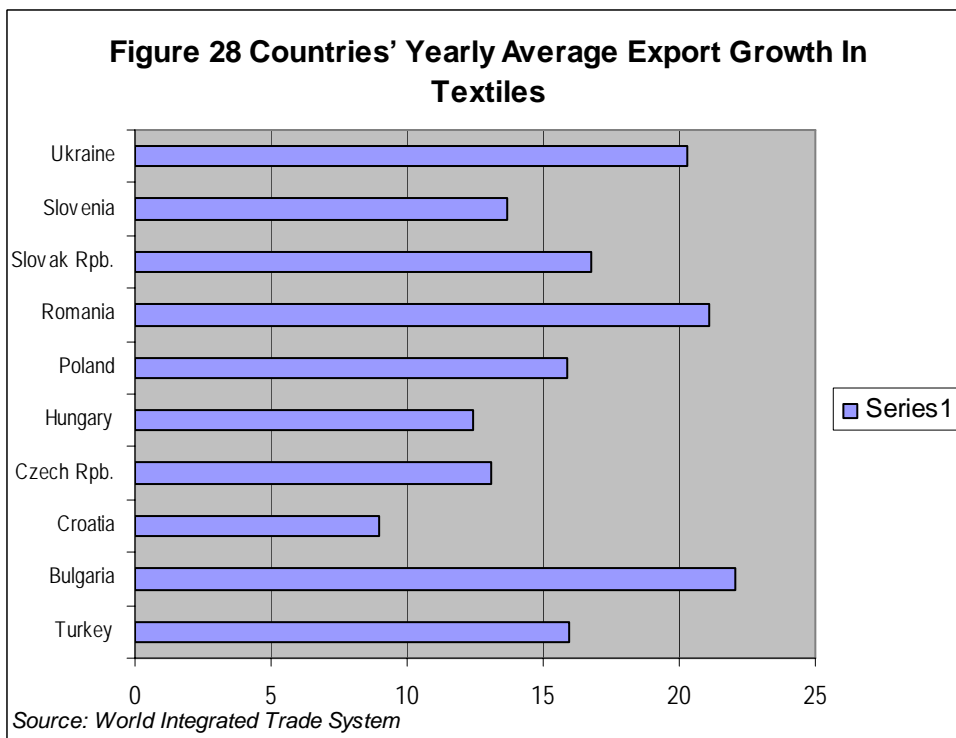
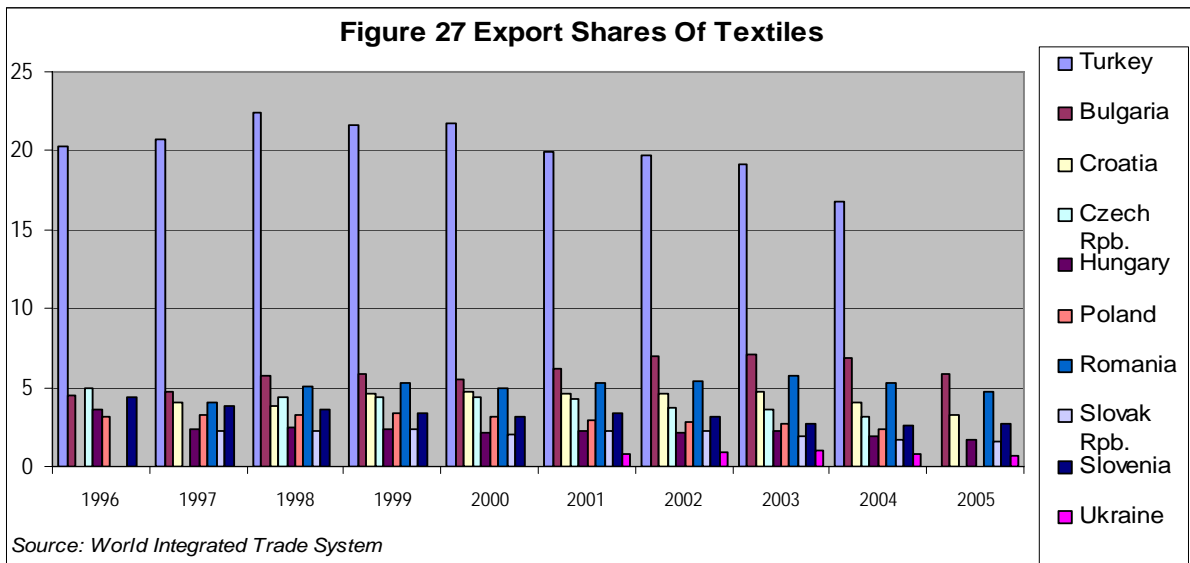
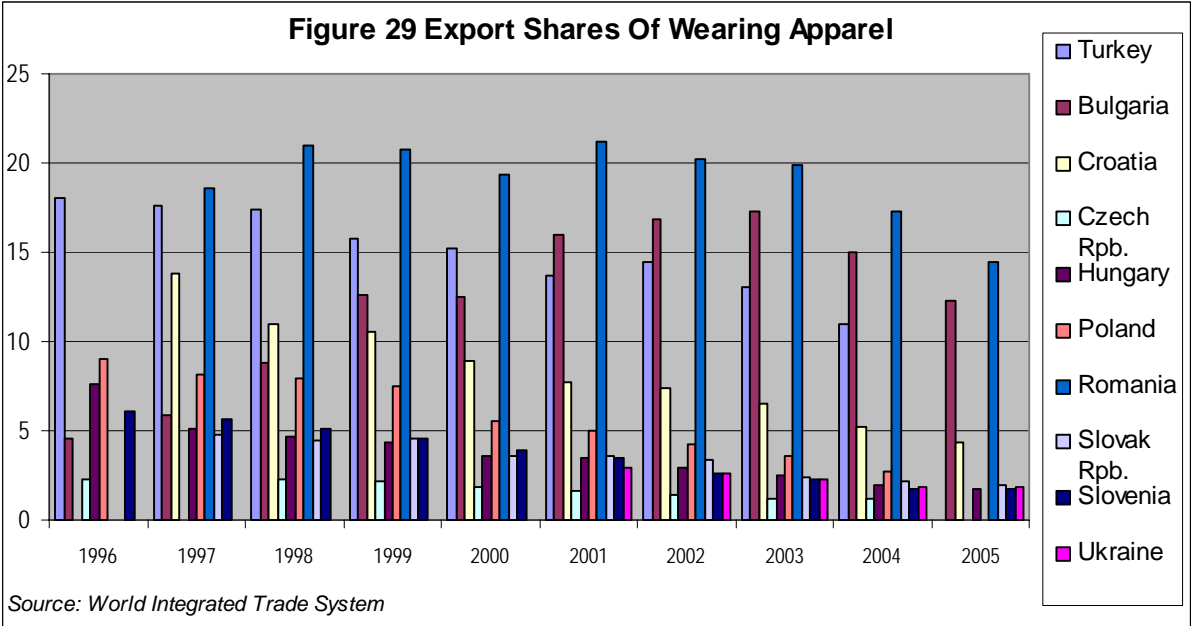


Figure 26 shows the yearly average export growth in Food products and beverages. Slovakia had the highest growth rate with over the 30 % yearly growth in the last five years. Then, Poland succeeded with 25 % growth rate. After these countries Croatia, Ukraine, Romania and Czech Republic came with the rates 23.5 %, 22.5 %, 22.5 % and 22 % respectively. Others were below the rate 20 % and Turkey was a little below this ratio 20 %. With this information we can say that all of these countries especially Turkey, Hungary, Croatia, Bulgaria, Ukraine and Poland still had very important shares in Food products and beverages. Even though these shares have been declining, the export of this sector has been increasing in all countries. Hence, these countries expanded their export portfolio with new sectors while increasing their exports in the conventional ones.



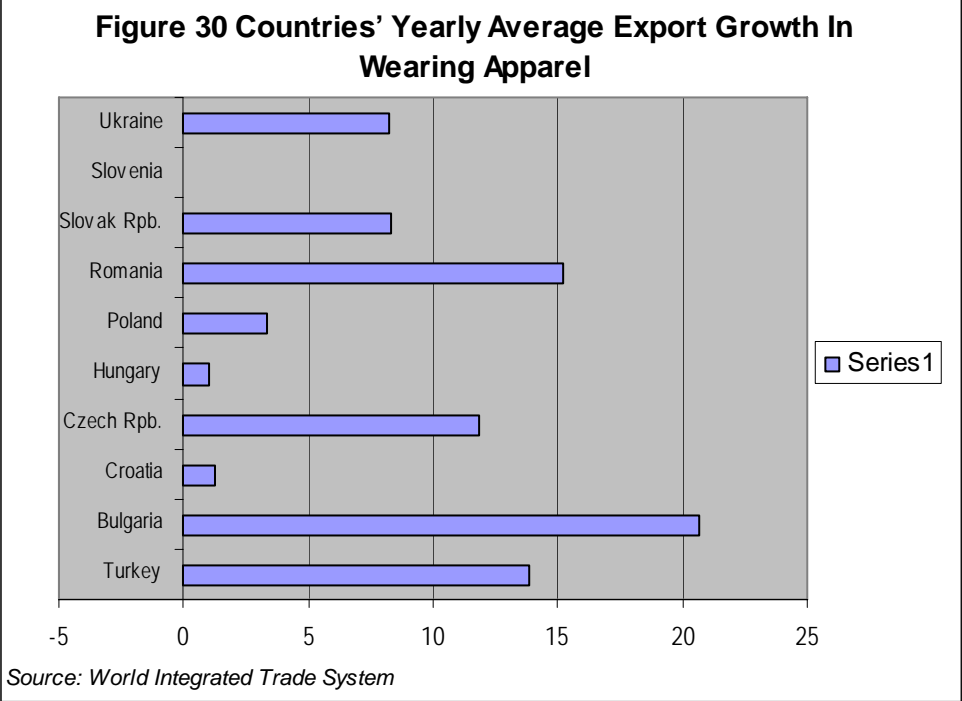
As it is seen from the Figure 27 Turkey has very high share in textile sector among the other countries. In 1996 the export share of Textiles was 20 %. After two years this share became 22 %. Then the steady decline began and in 2004 the share of Textiles became 16.5 %. Other countries shares were much lower and below 5 %. This was a very low share compared to Turkey. Even these shares decreased in all the periods, in all countries; actually

this decline was not too large. However, yearly average export growth rates of all of these countries were positive and high. Within these ten countries Bulgaria had the highest rate 22 %. Then Romania and Ukraine came with 21 % and 20 % yearly growth in the last five years. Turkey had 16 % growth rate and the sixth in the rankings with respect to growth rates. The 4<sup>th</sup> and the 5<sup>th</sup> countries were Slovak Republic and Poland. After these countries Slovenia, Czech Republic, Hungary and Croatia emerged with growth rates 13.5 %, 13 %, 12.5 % and 9 %, respectively. Except Turkey these countries did not have so much power in this sector. And even though these shares were diminishing, the export of this sector was increasing in all countries. Hence, every country increased its export in Textiles but not as much as the new rising sectors. Turkey was a bit different because it had a huge share in this sector.



In Figure 29 the export shares of Wearing apparel in all countries are shown. As in Textiles in Wearing apparel, Turkey’s export share was the highest one after Romania. Its share was 18 % in 1996 and became 11 % in 2004 this was a very serious decrease, 7 % fall. After Turkey, Bulgaria’s share of export in this sector was high with 4 % in 1996 and 12.5 % in 2005. This was a very significant improvement. After 2002, Bulgaria’ share of Wearing

apparel was higher than Turkey. The export shares of other countries were generally below 5 % except Croatia, Poland and Hungary and these shares decreased over time.



In Figure 30, countries' yearly average export growth in the last five years in Wearing apparel is given. Bulgaria's performance was great in the graph with 21 % growth rate then Romania and Turkey followed with 15 % and 14 % growth rates. After these countries, Czech, Ukraine and Slovak Republic were ranked with growth rates 12 %, 8 % and 8 %, respectively. The other countries yearly export growth rates were below 5 % and only Slovenia had almost no growth. Except Turkey, Bulgaria and Romania, these countries do not have much power in this sector. Even though these shares were decreasing, the export of this sector was increasing in all countries. Hence, every country increased its export in Wearing apparel but not as much as like the new rising sectors.

## SECTION 4: How Much of the Total Exports Goes to EEC 15 Counties?

In the Sections 1, 2 and 3 we examine the new rising sectors and old conventional sectors. Now it is time to analyze how much of this export went to the EEC15. This analysis shed light on the integration level of Turkey and the other Eastern Europe countries to Europe. Below in the Table 16 and Figure 35 total export volumes of countries to EEC 15 are given.

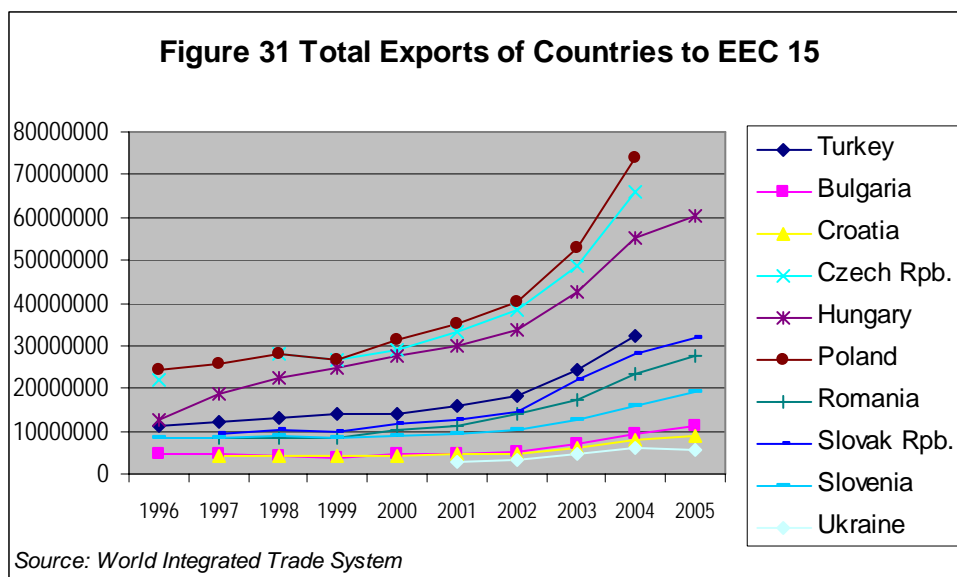
**Table 16 Total Exports of Countries to EEC 15 in Dollars**

	<b>Turkey</b>	<b>Bulgaria</b>	<b>Croatia</b>	<b>Czech</b>			<b>Slovak</b>			<b>Ukraine</b>
				<b>Rpb.</b>	<b>Hungary</b>	<b>Poland</b>	<b>Romania</b>	<b>Rpb.</b>	<b>Slovenia</b>	
1996	11140515	4762846,4		21907320	12632794	24389860			8284997,7	
1997	12006764	4764070,4	4017636,1		18585998	25539137	8394735	9228431,3	8336639,6	
1998	13191568	4005575,2	4324153,2	28152223	22597447	28001768	8228790,3	10373527	9046759,4	
1999	14184867	3655872,9	4011940,1	26665961	24671923	26550504	8420570	9620670	8545113,3	
2000	14151455	4515526,1	4072312,8	28807203	27641212	31246388	10299331	11884530	8691227,6	
2001	15803741	4724607,4	4659274	33094263	29716842	34886559	11329611	12635902	9234769,9	2907535
2002	18172003	5312550,6	4903571,7	38502659	33623018	40250506	13811948	14475768	10340044	3484833
2003	24331386	7114005,7	6186616,7	48720301	42444348	52751314	17517784	21916964	12742438	4502178,3
2004	32390578	9457747,2	8024156,2	65748475	55124228	73774818	23383880	27842956	15845823	5893024,9
2005		11286040	8772552,7		60181186		27553331	31971711	19282568	5709527,7

*Source: World Integrated Trade System*

In the figure there are two groups of countries similar to the world export volumes of these countries. One group consists of Hungary, Poland and Czech Republic with high export volumes. In this context, Turkey is not among these countries while Turkey is in the world figure. This means that Turkey is not exporting to EEC 15 as heavily as these three countries. The next group which Turkey belongs to consists also of Slovak Republic, Romania,

Slovenia, Bulgaria, Croatia and Ukraine. The another important point in the Figure 31 and Table 16 is that; even though there were some declines in specific years, in the ten years period all the countries increased their export volumes to EEC 15 countries.

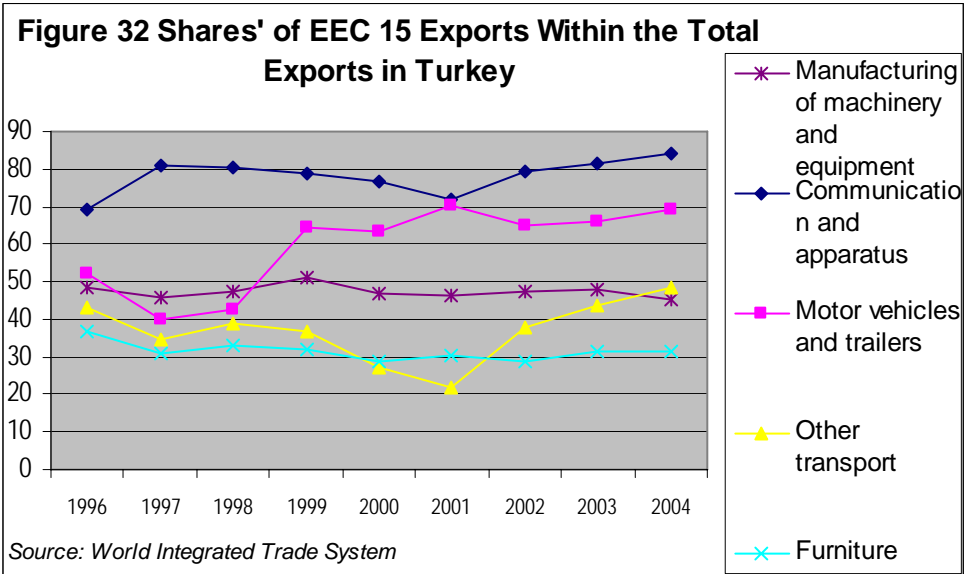


**Table 17 Shares' of EEC 15 Exports Within the Total Exports in Turkey**

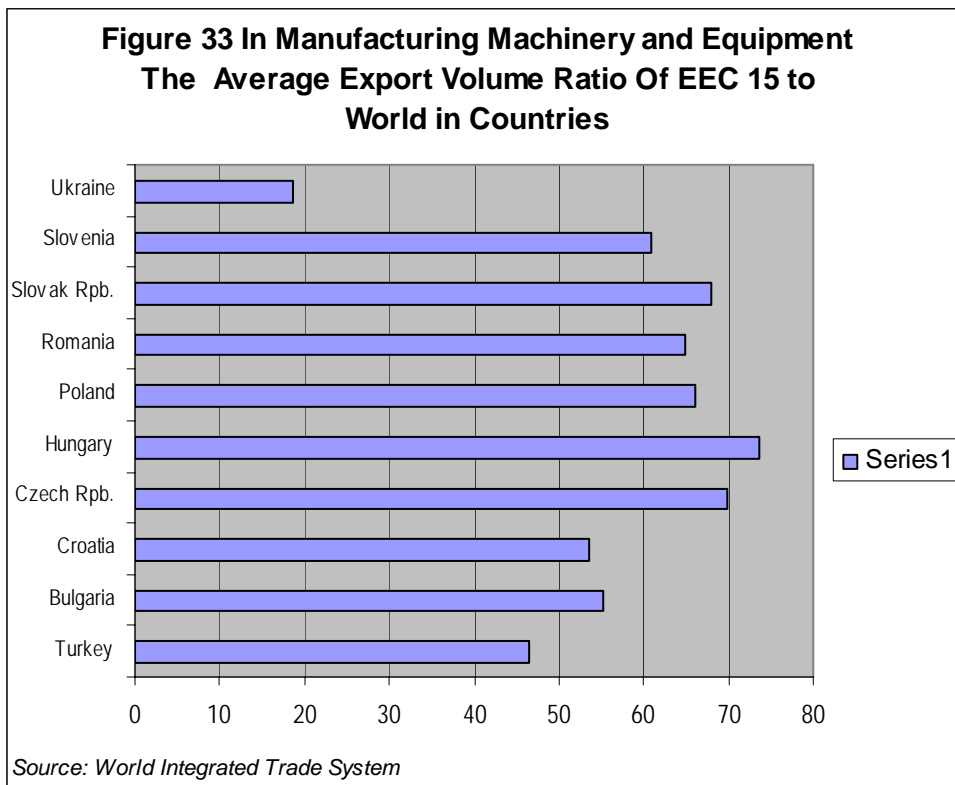
	<b>Manufacturing of</b>				
	<b>machinery and equipment</b>	<b>Communication and apparatus</b>	<b>Motor vehicles and trailers</b>	<b>Other transport</b>	<b>Furniture</b>
1996	48,47853	69,271277	52,206605	43,385321	36,488917
1997	45,60756	81,112313	39,825585	34,455838	31,128825
1998	47,424198	80,502311	42,596216	38,849036	32,966229
1999	51,376313	78,713796	64,651072	36,598302	32,0939
2000	46,87468	76,582395	63,111617	27,332598	28,876439
2001	46,148184	71,820785	70,458307	21,660752	30,299821
2002	47,154831	79,306664	65,026674	37,841637	28,658521
2003	47,856441	81,526391	65,838543	43,709601	31,57997
2004	45,348883	84,064124	69,316423	48,341018	31,240162

Source: World Integrated Trade System

Table 17 and Figure 32 show the ratio of exports to EEC 15, to exports to world. In other words these are the percentages of exports to EEC 15 in the exports to world. In Manufacturing of machinery and equipment the ratio began with 48 % in 1996 and reached 51 % in 1999, but then decreased and fluctuated at the 47 % level. However, in Communication and apparatus the ratio was 69 % in 1996 but then increased quickly and became 80 %, but in 2001 it declined to 71 % and enhanced to the old level 84 % in 2004. Motor vehicles and trailers sector was not much different. Its ratio fluctuated between 39 % and 70 % but in 2004 reached 69 %. The graph of other transport was a bit different. The ratio here declined at first and came to the original level 48 %. Furniture never had such high ratios. The ratio of Furniture was 36 % in 1996 and this was the highest ratio it reached. After that, it declined even to the 28 % and then became 31 % in 2004.







Here in Figure 33 the average export volume ratio of EEC 15 to world in manufacturing machinery and equipment is shown. This ratio is the average of the last five years ratios. In the graph Hungary was the very first one and 73 % of this country's exports went to EEC 15. After this country, there were a couple of countries whose ratio of exports EEC 15 to world was between 70 % and 60 %. These countries were Czech Republic, Slovak Republic, Poland, Romania and Slovenia. Then Bulgaria and Croatia came with 55 % and 53 % ratios. Only 46 % of Turkey's export went to EEC 15. The last country was Ukraine whose ratio was below 20 %.

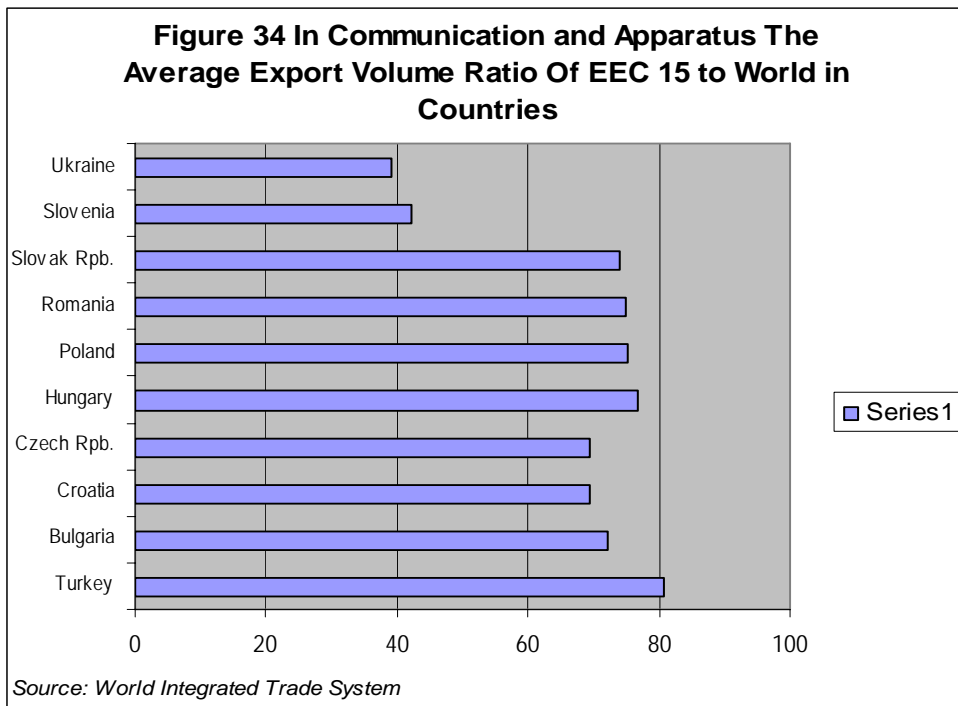
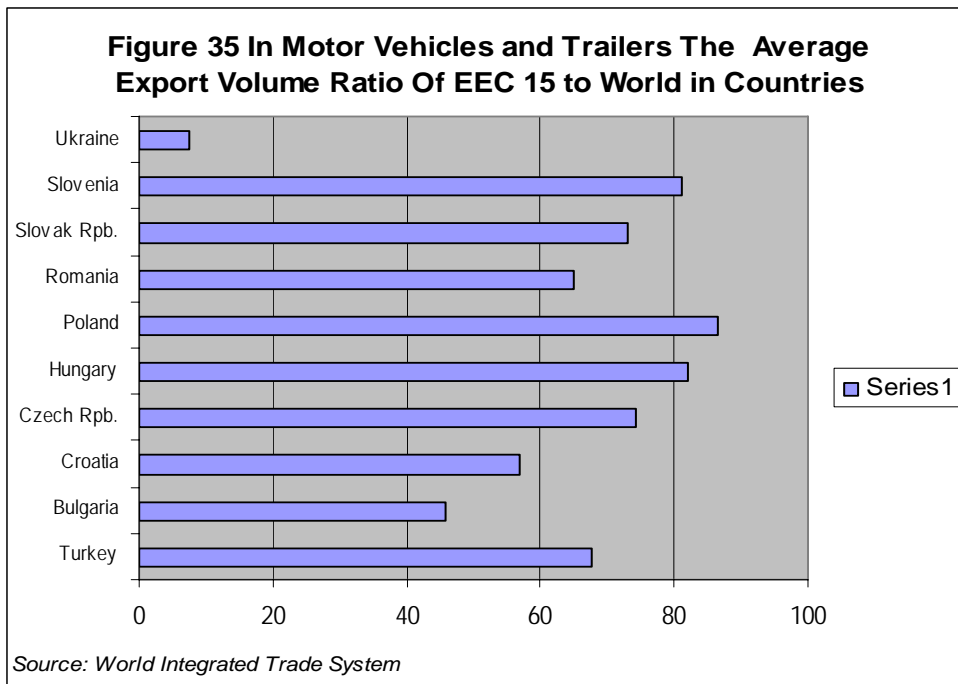
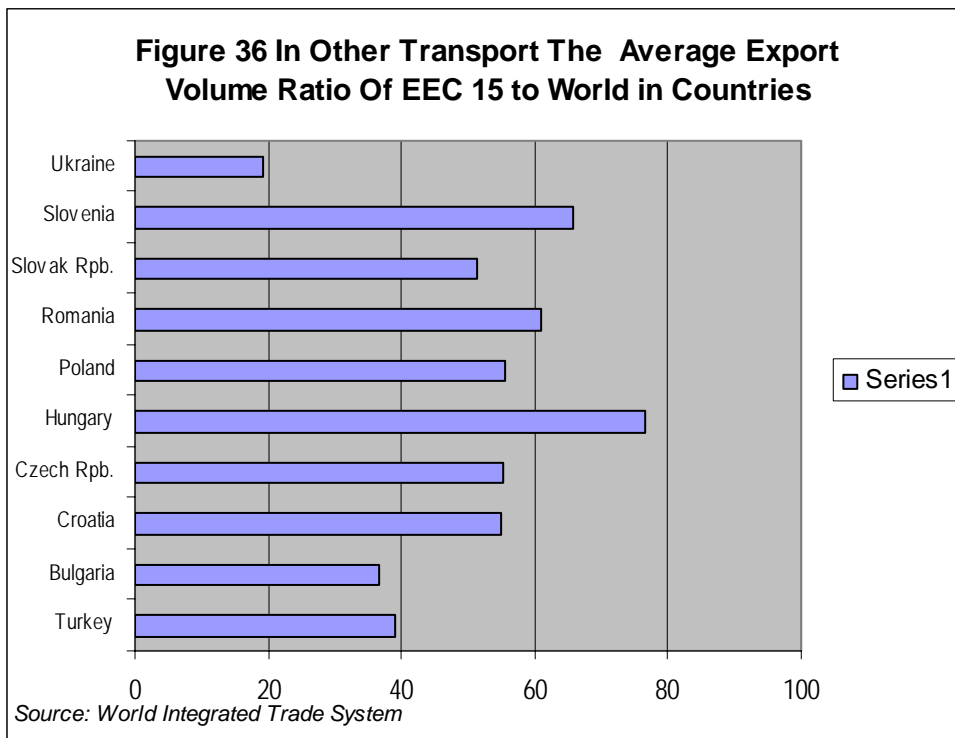


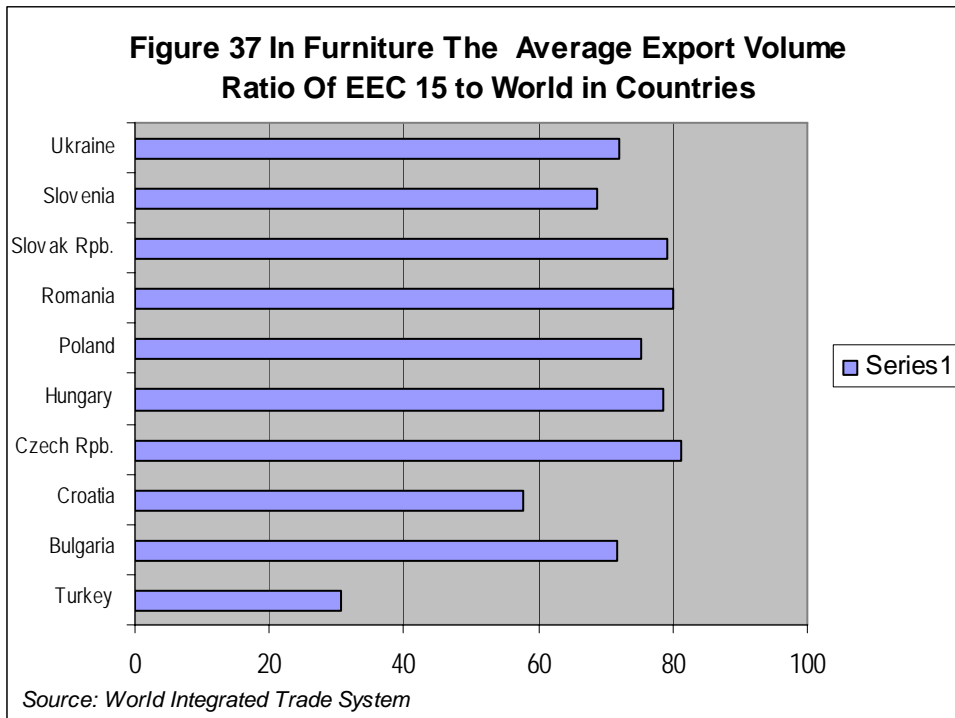
Figure 34 shows us the average export volume ratio of EEC 15 to world in communication and apparatus. This ratio is the average of the last five years ratios. In this sector Turkey had the highest ratio. This means over the 80 % of Turkey's exports in communication went to Europe. After Turkey 6 countries had this ratio closer and between 70 % and 80 %. These countries were Slovak Republic, Romania, Poland, Hungary, Czech Republic, Croatia and Bulgaria. These countries' ratios of EEC 15 to world export were accepted to be high. However, Slovenia and Ukraine had very low ratios closer to 40 %.



The percentages of the EEC 15 exports to world in motor vehicles and trailers are shown in the Figure 35. Poland was the very first country whose export ratio to EEC 15 was the highest and close 90 %. Slovenia and Hungary were countries whose ratios were above the 80 % level. Within the range between 60 % and 80 % there were four countries and Turkey was one of these countries with 67 % exports going to EEC 15. The others were Slovak Republic, Romania and Czech Republic. Croatia and Bulgaria were between 40 % and 60 % levels. However, Croatia exported more than half of its goods in this sector to EEC 15, this not the same for Bulgaria. Ukraine had lower than 10 % exports of total to the EEC 15.



The average export volume ratio of EEC 15 to total exports in other transport is shown in the Figure 36. Hungary was the first country between the ten countries according to the exports going to EEC 15 with a ratio very close to 80 %. After Hungary, Slovenia and Romania were the only countries with the ratio over 60 %. Slovenia was close to 70 %. Generally other countries were between 60 % and 40 %. These countries were Slovak Republic, Poland, Czech Republic and Croatia. Actually in these countries more than half of the total exports went to EEC 15. Turkey had a ratio below 40 % and Bulgaria came after Turkey with a little difference. In Ukraine, the ratio of exports going to EEC 15 was too low, even less than 20 %.



The last sector considered is furniture. The average export volume ratios of EEC 15 to total exports are shown in the Figure 37. These ratios are not the averages of ten years period; it only includes the last five years to understand the behavior of countries in the last years. The highest share of export going to EEC 15 was owned by Czech Republic. However, except Turkey and Croatia other countries were very close to Czech Republic. Their export ratios of EEC 15 to total exports were fluctuated 70 % to 80 %. This was a very high ratio implying that these countries exported most of their products in Furniture to EEC 15. Turkey carried out only 30 % of its exports to EEC 15. This was the lowest ratio within the countries mentioned.

## SECTION 5: Fragmentation or Concentration

**Herfindahl-Hirschman Index:** This ratio shows us the fragmentation level of countries. It is formulated as:

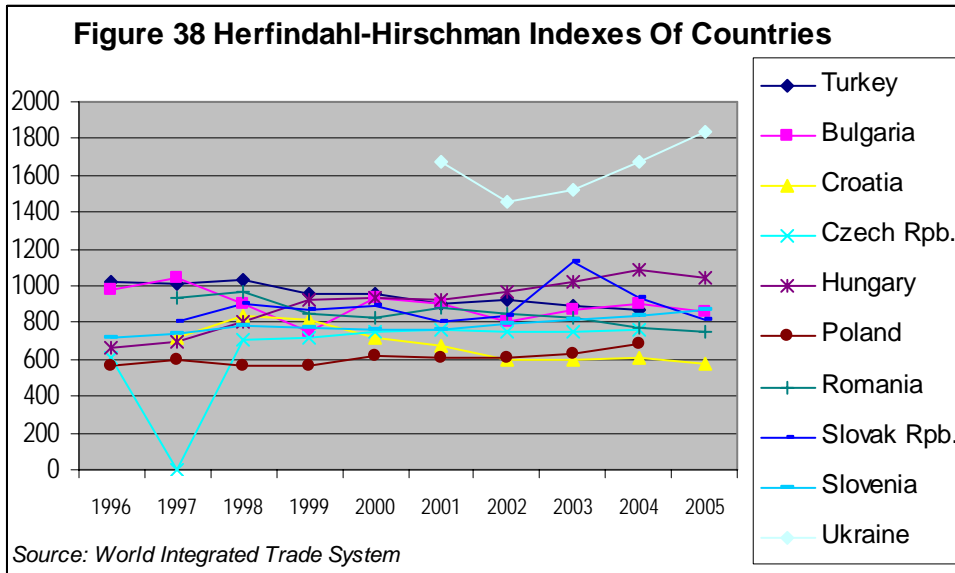
$$HHI = s_1^2 + s_2^2 + s_3^2 + \dots + s_n^2$$

Where  $s_i$  is the  $i$ th sector in the manufacturing. According this ratio, the values less than 1000 indicate unconcentrated export of manufacturing. If this ratio is between 1000 and 1800 then it is moderately concentrated, and more than 1800 means high concentration. Table 18 shows the HHI ratio of countries with respect to the years.

**Table 18 Herfindahl-Hirschman Indexes Of Countries**

	Czech					Slovak				
	Turkey	Bulgaria	Croatia	Rpb.	Hungary	Poland	Romania	Rpb.	Slovenia	Ukraine
1996	1017,0879	979,13336		613,19224	663,77761	567,60242			713,59534	
1997	1013,3462	1043,3286	718,97698	0	698,03277	592,58657	939,87192	807,87532	736,9022	
1998	1028,8063	905,11214	839,99868	705,96087	802,53652	563,14136	968,96712	897,87885	782,00568	
1999	955,26889	751,50011	815,39584	718,49173	920,87743	561,75965	853,03391	865,65752	776,90646	
2000	960,81949	938,01013	719,81765	748,76897	939,43657	619,47158	824,48471	890,79783	760,29407	
2001	899,26735	903,09215	669,69362	759,32901	922,54766	610,69814	880,16823	806,99952	760,32079	1676,045
2002	923,64939	809,70193	599,70611	751,33216	964,3707	610,16569	846,57544	834,1077	794,57195	1452,7172
2003	895,35368	868,34162	595,52	754,95751	1016,3673	630,75008	825,85713	1127,8226	813,91656	1520,0044
2004	872,56072	899,63101	613,97895	760,17397	1086,9976	682,87674	775,77645	934,05716	839,7632	1669,3221
2005		856,93025	579,60069		1042,1069		745,02922	810,20259	869,10319	1833,1423

Source: World Integrated Trade System



According to the Table 18 and Figure 38 Turkey's export became more fragmented. It declined to 872 in 2004 which was very good number in terms of the sector specialization threat. Poland, Czech Republic, Hungary, Slovak Republic, Slovenia and Ukraine became more concentrated. Nevertheless, the threat of concentration was not too much because all of them (except Ukraine) were moderately concentrated with a little above or below 1000. Croatia's HHI index was the lowest one in 2005 and decreased significantly (579 in 2002). This index is very important because more concentration means more threat when the concentrated sectors experience adverse shocks.

## Conclusion

Turkey and Slovakia, Czech, Poland, Croatia, Romania, Slovenia and Hungary have almost the same characteristics. They all passed to more technological and skilled labor

intensive sector from the conventional ones; however, Bulgaria and Ukraine seems not to be. Moreover, these sectors which rose in the last years were almost the same with small differences. Their exports are growing year by year. Furthermore, these countries generally imports intermediate goods and export the final ones in the new rising sectors. And, almost in all countries more than half of total exports are going to EEC 15, of course this is general trend. On the other hand, according to concentration, the HHI index says us Turkey, Bulgaria, Croatia, Romania became more fragmented and the others became more concentrated, but there is no significant threat, except Ukraine.

## References

Turkey's Competitiveness in the European Union. Ed. Bahri Yilmaz. Feb. 2003. Ezoneplus. 14 Ag. 2006 <[www.ezoneplus.org/archiv/ezoneplus\\_wp\\_twelve.pdf](http://www.ezoneplus.org/archiv/ezoneplus_wp_twelve.pdf)>

The Global Competitiveness Report 2000. Porter, Micheal E., Jeffrey D. Sachs, Andrew M. Warner, Peter K. Cornelius, Macha Levinson and Klaus Schwab. World Economic Forum. Geneva, Switzerland 2000. 13 Ag. 2006  
<[www.cid.harvard.edu/cidglobal/pdf/GCR\\_2000%20Front%20matter.pdf](http://www.cid.harvard.edu/cidglobal/pdf/GCR_2000%20Front%20matter.pdf)>

Executive Summary: Competitiveness and Stages of Economic Development. Porter, Micheal E., Jeffrey D. Sachs and John W. McArthur. Harvard University. 10 Ag. 2006  
<[www.weforum.org/pdf/gcr/ExecSumm\\_Final.pdf](http://www.weforum.org/pdf/gcr/ExecSumm_Final.pdf)>

A New Perspective in the Competitiveness of Nations. Ed. Gunduz Ulusoy. Rekabet Formu. Feb. 2006, Istanbul.



Competitiveness of Nations: The Fundamentals. Ed. Stephane Garelli. Feb. 2005. IMD World

Competitiveness Yearbook. 10 Ag. 2006

<[http://www.imd.ch/research/centers/wcc/competitiveness\\_fundamentals.cfm](http://www.imd.ch/research/centers/wcc/competitiveness_fundamentals.cfm)>

Potential Competitiveness Ranking 2005. Feb. 2006. Japan Center For Economic Research.

13 Ag. 2006 <[www.jcer.or.jp/eng/pdf/potential2005.pdf](http://www.jcer.or.jp/eng/pdf/potential2005.pdf)>

Turkey: Macroeconomic Vulnerability, Competitiveness and the Labor Market. Ed. Josef

Pöschl. May 2005. The Vienna Institute for International Economic Studies. 13 Ag. 2006

<[www.tek.org.tr/tartisma.php](http://www.tek.org.tr/tartisma.php)>

Türkiye'nin Rekabet Gücündeki Değişim. Ed. Zafer Yükseler. Feb. 2005. Türkiye Ekonomi

Kurumu. 14 Ag. 2006 <[www.tek.org.tr/tartisma.php](http://www.tek.org.tr/tartisma.php)>