

Center for European Studies Working Paper Series #166 (2008)

Foreign Trade Specialization and International Competitiveness Of Greece, Portugal, Spain, Turkey and the EU 12

by

Bahri Yilmaz*

EU Jean Monnet Professor and Professor in Economics,
Sabanci University Istanbul

Visiting Scholar, Center for European Studies at Harvard University (2008)

Abstract

The main purpose of this paper is to examine the foreign trade patterns and/or specialization in foreign trade of three EU member countries – namely, Greece, Portugal, Spain, and candidate country Turkey – and to compare the foreign trade patterns with the EU/12 in the period 1995-2005. The paper is divided into seven main sections. The first section summarizes the export and import developments of the countries in question between the years 1995 and 2005. The second section describes the methodology and data sets. Empirical analysis is found in the third section, where in five subsections we investigate international competitiveness and trade specialization using different indices. In the fourth part of the research we compare the dynamic products in world exports with dynamic products in the exports of the four countries. The final section gives brief conclusions drawn from the results and considers the future position of Turkey within the enlarged EU. In this research we do not intend to explain why the foreign trade patterns are different in the considered countries. We simply try to show whether and where there are any differences in foreign trade specialisation among the four countries and EU/12.

Key words: Turkey, Spain, Greece, Portugal, the EU, Foreign Trade, Competitiveness.

*Acknowledgements: this paper is a part of research project called Go-Euro-Med within the 6th Framework. The author would like to thank Dr. Jocelyn Probert, Center for Business Research, University of Cambridge for her critical comments and Ezgi. Ö. Öztürk, Ph.D Student in Economics at Georgetown University, Washington DC, for data collection and calculations.

I. Introduction

The story of Turkey-EU relations began with the applications of Turkey and Greece for membership in the former EEC in 1959. Greece later became a full member of the EU in 1981, followed by Spain and Portugal, which entered the Union in 1986. But Turkey remains outside of the European integration process and it is the first European country which has joined the Customs Union without becoming a full member of the EU. The so-called “open-ended” negotiations process between Ankara and Brussels has been going on since October 2005 in a tempo of “one step forward, two steps backward.” A happy outcome to this longstanding relationship is still not yet in sight.

1. *The Customs Union between Turkey and the EU*

The Customs Union between the EU and Turkey is based on the following points:¹

- Turkey had to completely open its economy to international competition.
- The Customs Union only covers the free trade of manufacturing commodities and processed agricultural products and not primary products and services.
- Turkey would adopt the Common Customs Tariff (CET) against third-country imports by January 1, 1996, and all of the preferential agreements the EU had concluded with third countries by the year 2001. In the case of particular products specified in article 19/2 of the Additional Protocol, Turkey would impose higher tariff rates than those in the CET for another five years.
- The creation and full functioning of a Customs Union not only required trade-related measures; equally important were activities concerning the regulatory framework of production, like an antitrust policy, state aid, subsidies to enterprises, a competition policy, and industrial and intellectual property rights. Turkey would have to conform to EU standards in all of these spheres.
- Looking to harmonize its commercial policy with that of the Community, Turkey would align itself progressively with the preferential customs regime of the Community within five years from the date of entry into this decision. In practice this meant that Turkey would lose its national sovereignty concerning foreign trade policy without any form of active participation in the decision-making process in Brussels.
- An EU-Turkey Customs Union Joint Committee would be established. The Committee would carry out an exchange of views and information and formulate recommendations to the Association Council.
- On the other hand, the EU would resuscitate financial aid and Financial Protocol in order to ease Turkey’s adjustment process into the existing rough competition conditions and to close the gap in economic development between the two sides.

¹For the Customs Union Agreement between Turkey and the EU, see Decision No. 1/95 of the EC-Turkey Association Council of December 22, 1995, *Official Journal of the European Communities*, Turkey, 13.2.1996.

1.2. The Importance of the EU for the Turkish Economy

The European Union is today Turkey's most important economic partner. Turkey is closely integrated into the Union, although it is not a full member. The EU is Turkey's traditional market and this has not changed for over forty-five years. There is no question that today the EU plays a tremendously important role in the foreign trade relations of Turkey. The share of the EU countries in Turkish export revenues was almost 56 percent in 2006. The regional distribution of imports reveals the same trend. The share of EU countries in total Turkish imports was 43 percent in the same year.²

Turkey, on the other hand, has become an attractive partner and market for a growing part of European business. Turkey's share in the EU export and import markets is around 3.9 and 2.6 percent, respectively.³ Foreign Direct Investments in Turkey originate mainly from the EU countries. The Union's share in total foreign capital was about 70 percent between 2003 and 2007.⁴

The demographic reflection of the close Turkey-EU relationship is also noticeable. Almost three million Turkish workers are living with their families within the borders of the Union, mainly in Germany. Their remittances reach around € 2.0 billion each year. The contribution of European travelers who spend their holidays in Turkey towards the consolidation of the Turkish balance of payments is also remarkable and reached U.S. \$17.5 billion in 2007.⁵ Meanwhile, the business activities of export-oriented Turkish firms and Turkish firms owned by Turkish citizens operating in Europe, mainly in Germany, reached a remarkable level.⁶

The main purpose of this paper is to examine the foreign trade patterns and/or specialization in foreign trade of three EU member countries – namely, Greece, Portugal, Spain – and candidate country Turkey – and to compare the foreign trade patterns with the EU12 in the period 1995-2005. The reasons why we have chosen these four countries and compare them with each other can be summed up in three points:

- (i) To a large extent Greece, Portugal and Spain showed the features of semi-developed countries, which are also shared by Turkey, in contrast to the other twelve member countries (besides Ireland) before they became full members of the EU.
- (ii) We would like to investigate whether the Three and Turkey have improved their competitiveness in trade with the EU and the rest of world after joining the EU and the Customs Union respectively.
- (iii) Furthermore, we aim to compare the performance of the Turkish economy with the Three and the EU/12 in order to determine whether the Turkish economy was able to

²Main Economic Indicators (2008). DPT, Ankara, www.dpt.gov.tr

³"Export and Import Performance of Turkey to and (from) the EU," (2008). DPT, Ankara, www.dpt.gov.tr.

⁴T.C Başbakanlık Hazine Müsteşarlığı/Yabancı Sermaye Genel Müdürlüğü. (2007), Bulletin for Database for International Direct Investment (Uluslararası Doğrudan Yatırım Verileri Bülteni), Ankara, p. 76.

⁵See The Central Bank of Turkey, www.tcmb.gov.tr, 2008.

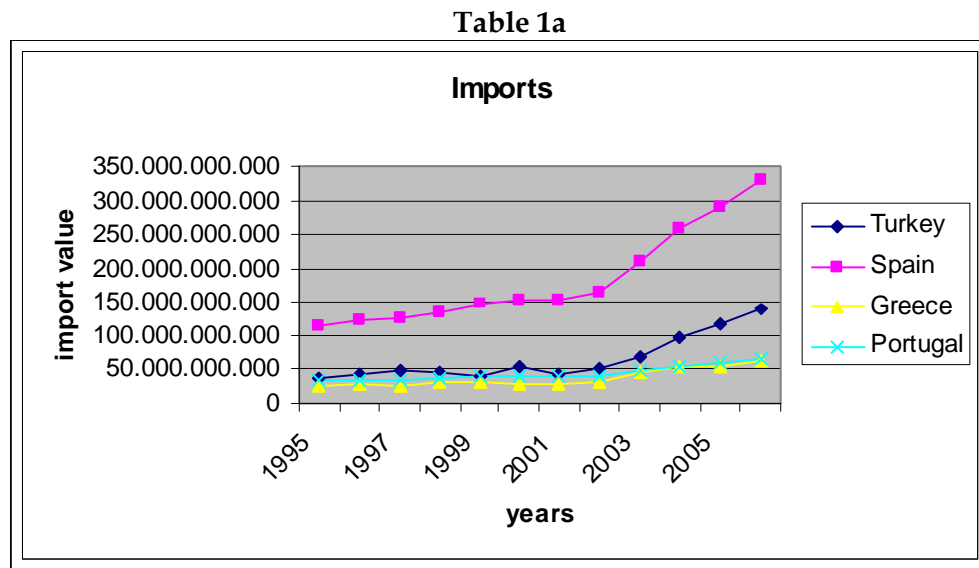
⁶Turkish-German Round Table Meeting, Ministry of Foreign Affairs, SAM Papers No. 2/96, p. 68, and *Milliyet*, April 21, 1997, p. 9. According to a report published in the Turkish newspaper *Milliyet*, the number of Turkish firms operating in Europe is estimated around 55,000 and their total turnover was calculated at around DM 45 billion. Turkish firms have created approximately 180,000 jobs. Up to now, these firms have already invested almost DM 150 million in Europe and DM 700 million in Turkey.

increase its international competitiveness in the EU by catching up with the Three and the EU/12 as well.⁷

This paper is divided into five main sections. The first section summarizes the export and import developments of the countries in question between the years 1995 and 2005. The second section describes the methodology and data sets. Empirical analysis is found in the third section, where in five subsections we investigate international competitiveness and trade specialization using different indices. In the fourth part of the research we compare the dynamic products in world exports with dynamic products in the exports of the four countries. The final section gives brief conclusions drawn from the results and considers the future position of Turkey within the enlarged EU. In this research we do not intend to explain why foreign trade patterns are different in the countries under consideration. We simply try to show whether and where there are any differences in foreign trade specialization among the four countries and EU/12.

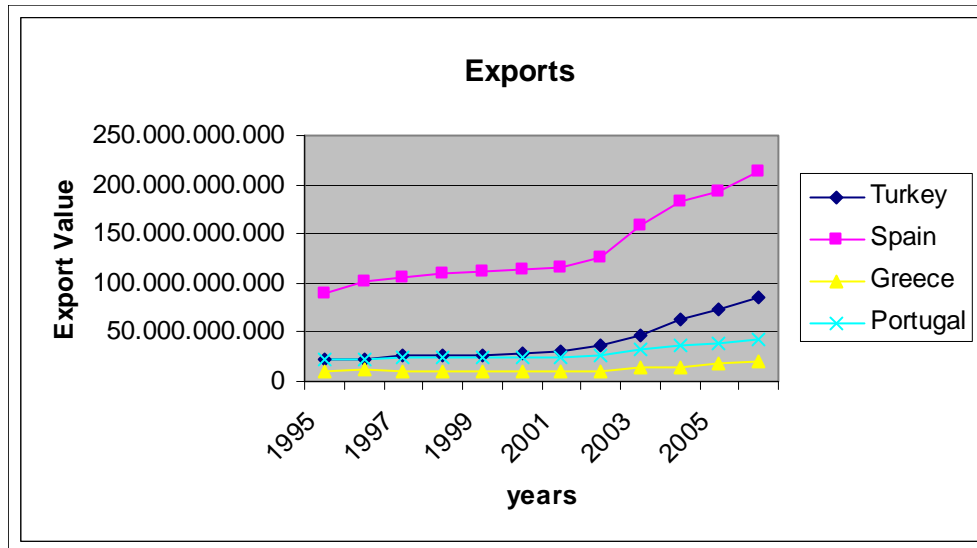
II. Foreign Trade Development in Greece, Portugal, Spain and Turkey (1995-2005).

The diagrams below show the development of worldwide export and import volumes in the four countries in the period 1995-2005.



⁷We have only considered and compared, apart from population size, the three almost comparable economies out of fifteen old member countries and the EU/12 in our empirical work. Table A1 in the appendix gives a comparison of these four countries and of the EU/25 as a whole on a number of basic economic indicators. Similar empirical works have been done for the time period between 1970-1987 and 1987-1999. See Bahri Yilmaz (1986), "Turkish Export to the EC," University of Durham (England) Occasional Paper Series No. 29, pp. 3-35; Bahri Bahri (1996), "International Competitiveness of Turkey with the EU: A Comparison with Greece, Portugal, Spain and the EU/12/15," published in *The Political Economy of Turkey in the Post-Soviet Era: Going West and Looking East?* edited by Libby Rittenberg (Westport CT: Praeger, 1998), pp. 79-95; Bahri Yilmaz (2002), "Turkey's Competitiveness in the European Union," *Russian & East European Finance and Trade* 38,3 (May-June 2002): 54-72; Bahri Yilmaz (2003), "Turkey's Competitiveness in the European Union: A Comparison with Five Candidate Countries - Bulgaria, The Czech Republic, Hungary, Poland, Romania - and the EU 15," Ezoneplus Working Paper No. 12 (February 2003), FU-Berlin.

Table 1b.



Source: UN Comtrade Database, author's calculations

Looking at merchandise trade with the world market, Tables 1a and 1b show a clear-cut picture. Over the past ten years, Spanish export and import performance has been increasing remarkably in comparison to Greece, Portugal and Turkey. Exports represent an important stimulus to and a strong driver for the Turkish economy. It is obvious that the distance between Spain and the other three countries in regards to trade development has remained unchanged over time and, contrarily, the difference is widening throughout time. But it is interesting to notice that the export and import volumes of Greece, Portugal and Turkey were almost at the same level in the very beginning. But then Turkey was, on the one hand, able to maintain the distance with Spain, and, on the other hand, its condition has improved with respect to Portugal and Greece starting from 2002. Portugal has an intermediate position between Turkey and Greece. Interestingly, Greece's trade volume remained almost unchanged and fell significantly behind the others.

III. Methodology and data base

Comparative advantage is distinct from competitiveness because of two reasons. First, competitiveness is related to relative strength or weakness of a country for producing a given product, while comparative advantage is related to the relative strength or weakness of products for a given country. Second, competitiveness is often subject to macroeconomic fluctuations (exchange rate or wage rate), while comparative advantage is structural.⁸

In order to estimate the trade competitiveness of the countries in question, we use the following indices:

⁸See for details Gerard Lafay, "The Measurement of Revealed Comparative Advantages," in M. G. Dagenais and P. A. Muet, eds., *International Trade Modeling* (London & New York: Chapman and Hall, 1992).

1. “Revealed Comparative Advantage (RCA) Coefficient”:

$$RCA = \ln (X_{ij} / M_{ij}) / X_{it} / M_{it} * 100$$

where X and M denote exports and imports, respectively; *i* is a country, *j* is a commodity (or industry), and *t* is a set of commodities (or industries). The higher (lower) the RCA index, the more (less) successful is the trade performance of the country in question in a particular area of industry. The methodology was originally developed by Balassa (1965) and refined later.⁹

2. “Comparative Export Performance (CEP) Index”:

$$CEP = (x_{ij} / X_{iw}) / \left(\sum_{i=1}^n x_{ij} / \sum_{i=1}^n x_{iw} \right).$$

where x stands for exports. The subscript *j* refers to the country in question and subscript *w* to the World or EU and subscript *i* to the product groups, respectively. CEP index value above (or below) unity means that the particular sectors have a greater (lower) share in total exports of the individual country than they have in the EU as a whole. These point out a relative advantage (disadvantage) in the export of these products (Donges 1982).¹⁰

3. “Trade Overlap (TO) Index”:

$$TO = 2 \sum_{i=1}^n \min(X_i, M_i) / \sum_{i=1}^n (X_i + M_i).$$

where x stands for exports and m for imports, respectively. The subscript *i* refers to the product groups. The coefficient can vary between 0 and +1. The closer it comes to unity, the more intra-industry specialization exists. A lower coefficient implies that trade takes place in form of inter-industry specialization (Finger and de Rosa)¹¹.

4. “Export Similarity (ES) Index”

$$ES(ab,c) = \sum_i \{ [X_i(ac) - X_i(bc)] / 2 \}$$

where $X_i(ac)$ is the share of product group *i* in country *a*'s export to country *c*'s. This formula measures the difference in the export patterns of country *a* and *b* to market *c*. If the commodity

⁹See Bela Balassa, “Trade Liberalization and Revealed Comparative Advantage,” *The Manchester School of Social Studies* 33,2 (1965): 99-123; Liesner, H.H., “The European Common Market and British Industry,” *Economic Journal* 68 (1958): 302-316; Vollrath, T. L., “A Theoretical Evaluation of Alternative Trade Intensity Measures of Revealed Comparative Advantage,” *Weltwirtschaftliches Archiv* 130 (1991): 265-279.

¹⁰For methodology see Jurgen B. Donges et al., *The Second Enlargement of the European Community: Adjustment Requirements and Challenges for Policy Reform* (Tübingen: Mohr, 1982 [No. 171]). Donges, Jürgen and Schatz, Klaus Werner (1980). “Muster der industriellen Arbeitsteilung im Rahmen einer erweiterten Europäischen Gemeinschaft,” *Die Weltwirtschaft*, Tübingen: Mohr [Paul Siebeck]: 160-186.

¹¹For details on the methodology and its analytical applications, see Finger and de Rosa (1979), “Trade Overlap, Comparative Advantage and Protection,” in Herbert Giersch, ed., *On the Economics of Intra-Industry Trade, Symposium 1978* (Tübingen: Mohr, 1979), pp. 213-240.

distribution of the exports of (a) and (b) are identical, then the index will take on a value of 0 (Finger and Kreinin 1979).¹²

5. “Export Conformity Coefficient (ECC)”:

$$ECC = \frac{\sum_i x_i m_i}{\sqrt{(\sum_i x_i^2) \cdot (\sum_i m_i^2)}};$$

where x stands for exports and m stands for imports. The subscript *i* shows different product groups. The higher the value of the conformity coefficient the more identical are the export structures of the two countries compared with each other.¹³

In calculating the above indices, the United Nations COMTRADE Database is used. The classification of the trading sectors is done according to the “Standard International Trade Classification (SITC).” The trade sectors are grouped according to the “OECD Classification,” which is raised by Mayer, Butkevicius and Kadri in their discussion paper, “Dynamic Products in World Exports.” The following table provides this grouping in detail:¹⁴

The Standard International Trade Classification (SITC 2) is used during data mining from the UN COMTRADE database. The sector grouping is done by using the SIM Classification in which six different sub sectors are assigned, namely (1) Non-fuel primary commodities (NFPC), (2) Resource-intensive manufactures (RIM) (3) Labor-intensive manufactures (LIM), (4) Differentiated products requiring specialized suppliers (DPRSS), (5) Scale-intensive manufactures (SIM) and (6) Science-based manufactures (SBM).¹⁵

OECD Classification is summarized in the table below:

Table 2: OECD Classification:	SITC Rev. 2 Codes
1. Non-fuel primary commodities: (NFPC)	0, 1, 2 (less 233, 244, 266, 267), 4, 68
2. Resource-intensive manufactures: (RIM)	
Woods products	63, 82
Non-metallic mineral products	66

¹²For methodology, see Finger, J. M. and M.E. Kreinin, “A Measure of ‘Export Similarity’ and Its Possible Use,” *Economic Journal* 89 (1979): 905-912.

¹³G. Fels and E.J. Horn, “Der Wandel der Industriestruktur im Zuge der weltwirtschaftlichen Integration der Entwicklungslaender,” *Die Weltwirtschaft* (Tübingen, 1972): 107-128.

¹⁴Jörg Mayer, Arunas Butkevicius and Ali Kadri, “Dynamic Products in World Exports,” UNCTAD, Discussion Paper No. 159 (May 2002).

¹⁵As an intuition, it can be said that the more developed a country is, the more exports it has in the latter sub-groups named above. For instance, it’s not surprising to see that a very economically powerful country has strong exports of science-based manufactures rather than non-fuel primary commodities.

3. Labor-intensive manufactures: (LIM)	
Leather, textile, apparel, footwear	61, 65, 83, 84, 85
Fabricated metal products	69
Other manufactures excluding plastic	89 less 893
4. Differentiated products requiring specialized suppliers: (DPRSS)	
Non-electrical machinery	71, 72, 73, 74
Electrical machinery	77
Communications equipment	76
5. Scale-intensive manufactures: (SIM)	
Paper	64
Chemicals excluding pharmaceuticals	5 less 54
Rubber and plastic products	62, 893
Iron and steel	67
Road motor vehicles	781, 782, 783, 784
Ships and other transport equipment	
Other than aerospace	79 less 792
6. Science-based manufactures (SBM)	
Aircraft	792
Computers and office equipment	75
Pharmaceuticals	54
Scientific instruments	87, 88

Source: Jörg Mayer, Arunas Butkevicius and Ali Kadri, "Dynamic Products in World Exports," UNCTAD, Discussion Paper No. 159 (May 2002), p. 28

IV. Empirical Analysis

In this section we will estimate the international competitiveness of the Four and the EU/12, as well as their trade patterns, by implementing five trade indicators. Then we will compare the empirical results of the various countries with each other, as well as with the EU/12. In the following sections, the formulas used for the indices will be explained, and the main findings of the empirical results will be briefly discussed.

1. Revealed Comparative Advantage Index (RCA)

RCA index takes exports and import together and it shows that a favorable and unfavorable trade balance of a country may indicate a comparative advantage (disadvantage) in international trade. The empirical calculation of the trade balances is defined as "revealed comparative advantage (RCA)."¹⁶

The original Balassa's RCA index (1965) was calculated as the ratio of the share of a given product in one country's exports to another country or region to the share of the same product in that country or region's total exports. International competitiveness in terms of trade of these coun-

¹⁶See Donges et.al. (1982), *ibid*, p. 77.

tries is calculated using a revealed comparative advantage index. There are different formulations for this index. In this paper we use the modified version of Balassa’s formulation which is:

$$RCA = \ln \left[X_i / M_i \right] \left(\sum_{i=1}^n X_i / \sum_{i=1}^n M_i \right) \times 100.$$

In this formula, X refers to the exports and M refers to the imports of the country in question, respectively. The subscript “i” refers to a group of commodities at the OECD classification: (1) Non-fuel primary commodities (NFPC); (2) Resource-intensive manufactures (RIM); (3) Labor-intensive manufactures (LIM); (4) Differentiated products requiring specialized suppliers (DPRSS); (5) Scale-intensive manufactures (SIM) and (6) Science-based manufactures (SBM). The script “n” shows the set of six groups of commodities/industries, i.e. (n=6). The higher (lower) the revealed comparative advantage index, the more (less) successful is the trade performance of the country in that particular group of commodities with world economy.

The following conclusions can be drawn from RCA results:

- **Turkey** has the comparative advantage and a strong position in trade of resource-intensive (RIM) and labor-intensive manufactures (LIM). On the other hand, it has a comparative disadvantage in non-fuel primary commodities (NFPC), differentiated products requiring specialized suppliers (DPRSS), scale-intensive manufactures (SIM) and science-based manufactures (SBM), but in different grades.
- **Spain** seems only to have a comparative advantage in resource-intensive manufactures, but its comparative disadvantages in other manufacturing products indicate a decreasing tendency, especially in non-fuel primary commodities (NFPC) and scale-intensive manufactures (SIM).
- The results show that the **Greek economy** has comparative disadvantages in all sectors in different grades.
- **Portugal** has a strong position in the trade of research-intensive manufactures (RIM) and labor-intensive manufactures (LIM). But in the other sectors it has significant comparative disadvantages.
- As far as **the EU/12** is concerned, it apparently has a comparative advantage in resource-intensive manufactures (RIM), differentiated products requiring specialized suppliers (DPRSS), scale-intensive manufactures (SIM) and science-based manufactures (SBM). But it seems to have comparative disadvantages in non-fuel primary commodities (NFPC) and labor-intensive manufactures (LIM) in the considered period.

Table 3: Revealed Comparative Advantages (RCA)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Turkey											
Revealed Comparative Advantages (RCA)											
NFPC	-12.66	-9.34	-6.24	-3.26	4.54	-16.59	14.90	-21.45	-26.86	-29.01	-18.29
RIM	31.47	18.01	27.16	24.62	33.70	56.54	92.54	89.64	84.40	72.25	n/a
LIM	76.23	58.49	56.44	63.62	82.71	57.62	110.14	87.57	86.20	72.53	68.19
DPRSS	-107.14	-105.40	-103.40	-94.46	-97.69	-80.14	-83.06	-74.32	-68.12	-63.51	-62.24
SIM	-62.73	-63.19	-66.15	-69.76	-61.19	-67.76	-34.37	-32.55	-39.61	-34.65	-36.10
SBM	-226.84	-175.34	-146.59	-156.18	-121.64	-100.08	-129.88	-191.58	-149.21	-159.21	-184.56

Spain											
Revealed Comparative Advantages (RCA)											
NFPC	-23.55	-11.87	-4.76	-9.16	-8.50	-8.46	-7.63	-5.53	-4.70	-9.38	-11.54
RIM	60.09	66.91	67.65	56.36	43.21	46.56	41.98	39.39	26.89	16.28	9.12
LIM	-6.70	-3.60	0.11	-8.50	-12.67	-12.10	-12.32	-12.61	-18.00	-23.83	-29.88
DPRESS	-41.71	-40.32	-38.91	-42.11	-45.25	-44.93	-44.94	-44.46	-43.71	-47.06	-43.80
SIM	4.80	6.59	5.48	-1.86	-7.95	-4.90	-4.84	-5.88	-7.37	-9.88	-12.33
SBM	-66.19	-65.11	-70.71	-66.69	-65.91	-65.96	-61.13	-52.93	-54.81	-54.26	-50.23
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Greece											
Revealed Comparative Advantages (RCA)											
NFPC	-7.39	-4.68	-9.25	-9.25	-5.81	-8.67	-7.17	-13.17	-12.10	-15.28	-13.58
RIM	-17.01	-16.77	-15.66	-21.46	-26.25	-23.60	-24.66	-31.24	-31.80	-38.76	-38.45
LIM	-11.62	-15.04	-13.89	-14.71	-15.26	-16.87	-18.22	-15.78	-16.13	-18.23	-23.91
DPRESS	-72.92	-73.14	-71.88	-64.46	-64.80	-56.16	-57.21	-47.73	-48.92	-46.60	-49.13
SIM	-78.72	-79.45	-74.04	-71.44	-71.07	-71.07	-71.34	-68.45	-65.81	-57.24	-57.36
SBM	-99.33	-94.81	-92.98	-77.22	-73.52	-57.30	-62.36	-58.35	-52.46	-52.02	-50.89
Portugal											
Revealed Comparative Advantages (RCA)											
NFPC	-52.24	-58.72	-56.26	-58.50	-56.77	-52.18	-57.02	-55.44	-56.25	-51.66	-45.45
RIM	75.70	66.49	57.10	47.52	37.63	38.82	38.68	43.50	54.29	53.84	44.57
LIM	33.69	31.14	27.74	21.32	18.32	16.13	16.64	17.63	16.45	13.33	7.02
DPRESS	-33.68	-37.85	-45.48	-41.05	-36.32	-33.14	-37.87	-34.07	-33.90	-36.24	-39.51
SIM	-55.58	-47.20	-38.81	-39.75	-43.66	-41.36	-38.65	-36.98	-38.42	-32.32	-33.46
SBM	-112.45	-109.76	-105.47	-106.80	-109.80	-99.48	-82.34	-79.72	-36.47	-68.70	-74.17
EU/12											
Revealed Comparative Advantages (RCA)											
NFPC	-15.72	-15.68	-16.30	-18.74	-15.93	-16.51	-15.37	-12.19	-11.64	-13.06	-13.47
RIM	15.92	17.73	17.28	12.27	9.51	8.06	12.35	10.49	9.27	8.01	6.62
LIM	-1.58	-0.97	-0.61	-5.03	-5.22	-5.95	-5.56	-5.41	-5.27	-5.38	-5.91
DPRESS	34.22	37.36	37.70	32.58	25.11	20.77	24.31	29.73	27.89	32.74	28.91
SIM	18.86	21.15	23.78	20.86	19.53	22.42	21.42	28.81	24.70	30.49	24.06
SBM	5.74	5.69	7.35	1.61	-0.13	1.15	8.08	-0.05	9.15	20.24	8.95

Source: UN COMTRADE Database and author's calculations.

2. Comparative Export Performance Index (CEP)

The comparative export performance index is based only on export shares. In this way, any possible distortions because of trade policy interventions to the imports (tariff or non-tariff barriers) in the revealed comparative advantage index can be eliminated. The comparative export performance index formula is as follows:

$$CEP = (x_{ij} / X_{iw}) / \left(\sum_{i=1}^n x_{ij} / \sum_{i=1}^n x_{iw} \right).$$

In this formula j refers to the country in question whereas w refers to the EU/ 12 countries as a whole. Comparative export performance index values above one indicate that the particular sector has a greater share in total exports of the country in question than it has in the EU12. In other words, that country has a relative advantage in that sector if this index is greater than 1.

Table 4: Comparative Export Performance

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Turkey											
Comparative Export Performance (CEP)											
NFPC	1.62	1.72	1.74	1.66	1.54	1.37	1.33	1.08	1.06	1.01	1.14
RIM	0.73	0.76	0.82	0.86	0.87	1.03	1.07	1.12	1.19	1.18	1.23
LIM	3.36	3.23	3.23	3.51	3.42	3.62	3.29	3.45	3.32	3.04	2.97
DPRESS	0.30	0.34	0.35	0.43	0.42	0.47	0.50	0.59	0.60	0.61	0.62
SIM	0.60	0.59	0.58	0.53	0.61	0.59	0.73	0.74	0.77	0.92	0.93
SBM	0.05	0.07	0.11	0.10	0.22	0.27	0.19	0.09	0.13	0.11	0.07
Spain											
Comparative Export Performance (CEP)											
NFPC	1.37	1.44	1.58	1.57	1.53	1.54	1.61	1.62	1.57	1.56	1.57
RIM	1.32	1.32	1.38	1.46	1.22	1.22	1.33	1.25	1.21	1.17	1.19
LIM	0.93	0.96	1.02	1.01	1.02	1.06	1.09	1.13	1.05	1.04	1.02
DPRESS	0.59	0.59	0.58	0.59	0.62	0.59	0.60	0.59	0.61	0.60	0.60
SIM	1.36	1.34	1.32	1.33	1.30	1.32	1.29	1.22	1.27	1.30	1.30
SBM	0.44	0.45	0.39	0.39	0.43	0.44	0.42	0.48	0.44	0.44	0.49
Greece											
Comparative Export Performance (CEP)											
NFPC	3.16	3.39	3.28	3.39	3.56	3.41	3.54	3.33	3.09	2.97	3.11
RIM	1.24	1.32	1.40	1.25	0.93	0.94	1.01	0.83	0.85	0.78	0.90
LIM	2.13	2/05	2.23	2.29	2.19	2.18	2.08	2.14	2.18	2.11	1.85/-
DPRESS	0.27	0.27	0.29	0.33	0.34	0.41	0.40	0.46	0.43	0.46	0.42
SIM	0.37	0.37	0.40	0.39	0.38	0.41	0.42	0.44	0.45	0.52	0.55
SBM	0.18	0.18	0.17	0.25	0.31	0.44	0.39	0.42	0.55	0.56	0.64
Portugal											
Comparative Export Performance (CEP)											
NFPC	0.95	0.88	0.92	0.93	0.94	1.03	1.00	1.01	0.97	1.04	1.16
RIM	2.35	2.28	2.41	2.39	1.99	2.04	2.28	2.23	2.47	2.62	2.73
LIM	2.81	2.71	2.65	2.67	2.67	2.56	2.58	2.55	2.33	2.26	2.19
DPRESS	0.68	0.64	0.59	0.63	0.72	0.75	0.70	0.74	0.74	0.68	0.68
SIM	0.63	0.76	0.84	0.85	0.80	0.80	0.81	0.79	0.83	0.87	0.87
SBM	0.19	0.18	0.19	0.18	0.19	0.23	0.29	0.29	0.34	0.37	0.34

Source: UN COMTRADE Database and author's calculations.

Table 4 shows the empirical results for Comparative Export Performances (CEPs) of four countries in trade with the EU/12. Table 4 definitely shows a clearer picture than the RCA values that are given. CEP results demonstrate that:

- As expected, **Turkey** shows a high export performance in non-fuel primary commodities (NFPC), resource-intensive manufactures (RIM) and labor-intensive manufactures (LIM) since 1995. Interestingly, Turkey's export performance has an increasing tendency in scale-intensive manufactures (SIM) and differentiated products requiring specialized suppliers (DPRSS) since joining the customs union. As far as science-based manufactures (SBM) are concerned, Turkey has absolute and comparative disadvantages.
- The CEPs indices for the **Spanish economy** indicate that it is highly competitive in non-fuel primary commodities (NFPC), resource-intensive manufactures (RIM), labor-

intensive manufactures (LIM) and scale-intensive manufactures (SIM). But regarding science-based manufactures (SBM) and differentiated products requiring specialized suppliers (DPRSS) it has not been showing the same performance since 1995.

- The **Greek economy** demonstrates a high export performance in non-fuel primary commodities (NFPC), resource-intensive manufactures (RIM) and labor-intensive manufactures (LIM). In the other manufacturing sectors – differentiated products requiring specialized suppliers (DPRSS), scale-intensive manufactures (SIM) and science-based manufactures (SBM) – it clearly has comparative disadvantages.
- **The Portuguese economy** shows the same picture as Greece, Turkey and in some respects Spain. It is in a very strong position in the resource-intensive manufactures (RIM); labor-intensive manufactures (LIM) and non-fuel primary commodities (NFPC) starting from 2000. Again, Portugal’s economy has a low export performance in differentiated products requiring specialized suppliers (DPRSS), scale-intensive manufactures (SIM) and science-based manufactures (SBM).
- **Conclusion:** We can draw the following the conclusion: Turkey, Greece, Portugal and Spain have several trade features in common. They show high export performance in non-fuel primary commodities (NFPC), resource-intensive manufactures (RIM) and labor-intensive manufactures (LIM) but to different degrees. Portugal, Greece and Turkey demonstrate a high export performance especially in labor-intensive manufactures (LIM). Results indicate that Spain’s export performance shows a decreasing tendency in non-fuel primary commodities (NFPC), resource-intensive manufactures (RIM) and labor-intensive manufactures (LIM). In a scale-intensive manufactures (SIM) comparison to the other three countries, Spain performs very well in exports, but it is also gaining more ground in the export of differentiated products requiring specialized suppliers (DPRSS). All of them have a significantly low comparative export performance in science-based manufactures (SBM).

Overall it can be argued that Spain is in a relatively better position than Greece, Turkey and Portugal in exports of manufacturing products into the EU/12. In plain language, the Spanish economy has successfully implemented the “export substitution policy” and used the economic advantages of joining the European Single Market more efficiently than Greece, Portugal and Turkey between 1995- 2005.

4. Trade Overlap (Intra-and Inter- Industry Trade)

As a further step, we consider the overall importance for the Four and the EU/15 of intra-industry versus inter-industry specialization in international trade. As it is known, under monopolistic competition there exists two-way trade within the manufacturing sector. This exchange of manufactures for manufactures is called *intra-industry trade* while an exchange of manufactures for food, for example, is called *inter-industry trade*. The intra-industry trade suggests how and to what extent the economy in question is already integrated into the world market and the degree of liberalization that the economy has already realized throughout the economic development process. The formula for trade overlap is:

$$TO = 2 \sum_{i=1}^n \min(X_i, M_i) / \sum_{i=1}^n (X_i + M_i).$$

X_i and M_i refer to exports and imports, respectively, of each of the SITC 1-6 production sectors i , and " \min " defines the magnitude of the total trade that overlaps in dollar terms. The coefficient can vary between 0 and +1. The closer it comes to one, the more intra-industry specialization exists. A lower coefficient implies that more of trade takes the form of inter-industry specialization.

Table 5: Trade Overlap

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Turkey	0.55	0.55	0.55	0.55	0.58	0.53	0.66	0.65	0.65	0.66	0.67
Spain	0.86	0.88	0.90	0.88	0.86	0.87	0.87	0.88	0.87	0.85	0.84
Greece	0.59	0.58	0.58	0.53	0.51	0.52	0.55	0.52	0.49	0.46	0.51
Portugal	0.68	0.68	0.70	0.70	0.69	0.71	0.71	0.73	0.75	0.74	0.74
EU 15	0.93	0.92	0.92	0.93	0.93	0.93	0.93	0.92	0.93	0.91	0.93

Source: UN COMTRADE Database, author's calculations.

The empirical results of Trade Overlaps for the Four and the EU/15 with the world are presented in Table 5:¹⁷

- It is expected that the TO coefficients for EU/15 would be higher than for any one country and come close to one in the period of 1995-2005. This emphasizes that the EU/15 has already realized full intra-industry specialization in trade with the world.
- Of the four countries, Spain's TO coefficients come closest to one but are still below the TO coefficients for the EU/15. It appears to be in the best position as compared to the three others and seems to be capable of catching up with the EU/15 in the coming decades.
- The TO coefficients for Greece, Portugal and Turkey are much lower than for Spain and the EU/15. It is interesting to note that Turkey's TO values started to increase starting in 2000-2001, which seems to be closely related to the decrease in domestic demand during serious economic crises in 2001, when domestic firms might have been forced to intensify their trade relations with the world market. If we look at diagrams 1a and 1b, the increase in Turkish foreign trade in the following years is uniform and unbroken. Greece has the lowest coefficients, which indicates that Greece has just started to move from inter-industry to intra-industry trade specialization. The TO results for Portugal and Turkey occupy an intermediate position and the gap between them and the EU/15 is gradually narrowing.

5. Export Similarities (ES)

Finally, we calculate whether or not the exports of Turkey overlapped with each of the six candidate countries in the period 1996-2005. Coefficients of "export similarity" (ES) are calculated using the formula of Finger and Kreinin (1979), which measures the proportion of a country's exports matched by its competitors' exports in the same product category. The ES coefficient can vary between 0 and 1. The closer it comes to one, the smaller the degree of similarity between two countries. On the other hand, 0 indicates great export similarity or even full overlap between the countries in question.

$$ES(ab, c) = \sum_i \left[EX_i(ac) - \frac{EX_i(ac) + EX_i(bc)}{2} \right]$$

¹⁷In order to demonstrate the integration of the EU in the world economy we have taken the EU/15 as a whole.

This formula measures the difference in the export patterns of countries a and b to market c . If the commodity distribution of the exports of (a) and (b) are identical, then the index will take on a value of 0. $Ex_i(ac)$ is the share of commodity i in a 's exports to c .

Table 6: Export Similarity (ES) between Turkey and Greece, Portugal and Spain

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Export Similarities (ES)											
Spain	0.37	0.35	0.33	0.34	0.31	0.31	0.27	0.28	0.27	0.23	0.22
Greece	0.24	0.24	0.21	0.23	0.25	0.25	0.28	0.30	0.30	0.29	0.31
Portugal	0.18	0.20	0.20	0.21	0.18	0.18	0.14	0.13	0.13	0.12	0.11

Source: UN COMTRADE Database, author's calculations

The estimated ES coefficients show that the degree of similarity in exports to the world market among Turkey, Portugal and Greece is very high. This means that, by a possible accession of Turkey into the EU or within the customs union, Turkish export industries compete, first of all, with export goods originating from Portugal and Spain, followed by Greece, but to a lesser degree. The main question here is whether Turkish export goods bear complementary or substitutive features.

6. Export Conformity Coefficient (ECC)

The last instrument that will be used to analyze the trade pattern and the competitiveness of the six countries in question is the conformity coefficient for the exports of the six countries compared with the exports of the European Union as a whole. The formula that is used to calculate the values for these six countries is as follows:

$$\frac{\sum_{i=1}^n x_i m_i}{\sqrt{\left(\sum_{i=1}^n X_i X_i\right) \left(\sum_{i=1}^n M_i M_i\right)}}$$

which takes values between 0 and 1. In this equation, x_i and m_i refer to the two structures that are compared; that is, one of them refers to the exports of one of the six countries and the other to the exports of the European Union. The summation is made over the six main groups of sectors. The higher the value of the conformity coefficient, the more identical are the export structures of the two countries compared.

Table 7: Export Conformity Coefficient

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Conformity Coefficient (ECC)											
Turkey	0.67	0.66	0.65	0.64	0.67	0.67	0.76	0.77	0.78	0.83	0.84
Spain	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.98	0.98	0.98	0.98
Greece	0.77	0.76	0.79	0.76	0.72	0.76	0.78	0.79	0.77	0.82	0.85
Portugal	0.85	0.87	0.89	0.89	0.89	0.91	0.91	0.92	0.93	0.94	0.94

Source: UN COMTRADE Database, author's calculations

Table 7 shows some interesting findings. It indicates that Spain and Portugal have export specialization patterns which have great similarities with EU12. Among the four countries in ques-

tion, as expected Spain's specialization pattern is very close to the EU/12 and shows the greatest similarity with EU12. On the other hand, Turkey and Greece show quite a different picture than the others. We can see that both countries' export similarity with the EU/12 increased over the years, but it is still below the other two countries.

V. Dynamic Products in World Exports and in Greece, Spain, Portugal and Turkey:

In the second part of our research work we compared the dynamic products in world exports with dynamic products in four countries exports.¹⁸ Dynamic products are those whose value and market share have grown most rapidly in world export during the period 1980-1998. Here we had two aims: firstly, we wanted to find out how much similarity there is among the Four in the share of dynamic products in their world exports; secondly, we intended to exhibit whether there is any similarity the most dynamic export products of Greece, Portugal, Spain and Turkey.

In Table 7, the twenty most dynamic products in world non-fuel exports (in three digits SITC level) are ranked by an index of dynamism based on shares in total exports, 1980-1998.¹⁹ The most dynamic products listed in Table 8 can be divided into four groups:

- electrical and electric goods (SITC 75-77), including parts and components for such goods;
- textiles and labor-intensive manufactures; in particular clothing (SITC 61, 65 and 84);
- finished goods, which can be produced with higher R&D expenditures and based on high technological complexity and/or a high degree of economies of scale, in particular at the firm level (SITC 5; 7 less 75-77; 87);
- primary commodities.

Table 8 shows the twenty most dynamic products in non-fuel exports of Greece, Portugal, Spain and Turkey during the period 1995-2005. The comparison of the twenty most dynamic products in world non-fuel exports with the twenty the most dynamic products in non-fuel exports of four countries exhibits the following results:

- **Turkey** appears to be largely excluded from dynamic exports to the world market. Only two of the fastest growing export products are among the twenty most dynamic products in world trade: SITC 846 (undergarments, knitted or crocheted) and SITC 773 (electricity distributing equipment). One plausible explanation for this is that Turkey is a labor- and natural resources-abundant country. Therefore, it is not surprising that Turkey's export expansion has been mainly focusing on labor-, resource-intensive and primary products, which are the most dynamic products in Turkey's exports.

¹⁸For definition and the methodology for calculation of the most dynamic products see Jörg Mayer, Arunas Butkevicius and Ali Kadri, "Dynamic Products in World Exports), UNCTAD (May 2002), Discussion Paper No. 159, pp. 23-26.

¹⁹For shares of main exporters, developed and developing countries in world non-fuel export of the twenty most dynamic products (ranked by index of dynamism based on export values, 1980-1998), see *ibid*, pp. 37-39.

- The findings for **Greece** also show that the country's exports tend to be increasingly concentrated on three products out of the twenty most dynamic products in world export: SITC 846 (undergarments, knitted or crocheted), SITC 541 (medicinal and pharmaceutical products) and SITC 764 (telecommunications equipment and parts);
- **Portugal** has shown a remarkable performance by exporting five out of the twenty most dynamic products in world exports: these are SITC 781 (passenger motor cars), SITC 773 (electricity distributing equipment), SITC 846 (undergarments, knitted or crocheted), SITC 821 (furniture and parts thereof) and SITC 776 (transistors and semiconductors). It is noticeable that three of them require greater technological complexity and can be produced with higher R&D expenditures.
- As expected, the international competitiveness of **Spain** in world trade has increased in five product groups out of the twenty most dynamic products in world non-fuel exports which are: SITC 781 (passenger motor cars), SITC 541 (medicinal and pharmaceutical products), SITC 792 (aircraft and associated equipment), SITC 821 (furniture and parts thereof), SITC 764 (telecommunications equipment and parts) exports similarity. It is noteworthy that three of these products are science-based manufactures.
- It is interesting to note that Turkey, Greece and Portugal have specialized in the export of SITC 846 (undergarments, knitted or crocheted), Greece and Spain in SITC 541 (medicinal and pharmaceutical products) and SITC 764 (telecommunications equipment and parts). Portugal and Spain seem to exhibit a significant export performance in SITC 781 (passenger motor cars) and SITC 821 (furniture and parts thereof). Results indicate that Portugal and Spain are in a better position in exporting five of the most dynamic products in world exports than Greece and Turkey. In fact Spain is the industrially most advanced country among the Four.
- Another interesting comparison shows that Turkey has export similarity in non-fuel oil products with Greece in nine dynamic products (SITC 845, 846, 843, 057, 121, 651, 848, 056, 058) and with Portugal in six dynamic products (SITC 845, 846, 773, 821, 658, 842). Turkey has less export similarity with Spanish export in dynamic products and they only compete in three products (SITC 057, 054 and 821).

TABLE 8: The twenty most dynamic products in world non-fuel exports, ranked by index of dynamism based on shares in total exports, 1980-1998.

1. 776 Transistors and semiconductors
2. 752 Computers
3. 764 Telecommunications equipment and parts
4. 759 Parts of computers and office machines
5. 541 Medicinal and pharmaceutical products
6. 871 Optical instruments and apparatus
7. 781 Passenger motor cars
8. 772 Electrical apparatus, switches etc
9. 714 Non-electric engines and motors
10. 893 Plastic materials

11. 846 Knitted undergarments
12. 514 Nitrogen-function compounds
13. 778 Electrical machinery and apparatus
14. 681 Silver and platinum
15. 821 Furniture and parts thereof
16. 792 Aircraft and associated equipment
17. 771 Electric power machinery
18. 553 Perfumery and cosmetics
19. 872 Medical instruments and appliances
20. 773 Electricity distributing equipment

Source: See. Source: Jörg Mayer, Arunas Butkevicius and Ali Kadri, "Dynamic Products in World Exports," UNCTAD, Discussion Paper No. 159 (May 2002), pp. 37-39.

TABLE 9: The twenty most dynamic products in non-fuel exports of Greece, Portugal, Spain and Turkey (1995-2005)

Turkey	Code		Share
1	<u>845</u>	Knitted Outergarments	6,450689
2	<u>846</u>	Undergarments, knitted or crocheted	5,934785
3	<u>843</u>	Non-knit women's outergarments	5,128704
4	<u>673</u>	Iron or steel bars and rodes	4,311591
5	<u>O57</u>	Fruit, nuts, fresh, dried	3,944081
6	<u>658</u>	Textile articles (Not elsewhere specified)	3,239556
7	<u>842</u>	Non-knitted men's outergarments	2,404732
8	<u>653</u>	Woven man-made fibre fabrics	2,250454
9	<u>121</u>	Unmanufactured tobacco	1,377276
10	<u>651</u>	Textile yarn	2,23248
11	<u>O54</u>	Vegetables fresh, simply preserved	1,205303
12	<u>773</u>	Electricity distributing equipment	1,315237
13	<u>652</u>	Woven cotton fabrics	1,560502
14	<u>848</u>	Headgear, non-textile clothing	1,154667
15	<u>672</u>	Iron or steel ingots and forms	1,508362
16	<u>O58</u>	Fruit, preserved, and fruits preparations	1,197908
17	<u>O56</u>	Vegetables preserved, prep.	0,972525
18	<u>659</u>	Floor coverings, etc	1,04353
19	<u>O48</u>	Cereal, flour or starch preparations of fruits or vegetables	0,628664
20	<u>844</u>	Under garments of textile fabrics, not knitted or crocheted	0,865073

Greece	Code		Share
1	<u>845</u>	Knitted Outergarments	0,060335
2	<u>684</u>	Aluminium	0,048391
3	<u>846</u>	Undergarments, knitted or crocheted	0,045482
4	<u>O57</u>	Fruit, nuts, fresh, dried	0,041789
5	<u>423</u>	Fixed vegetable oils, soft, crude refined or purified	0,03438
6	<u>541</u>	Medicinal and pharmaceutical products	0,031944
7	<u>263</u>	Cotton	0,030424
8	<u>121</u>	Unmanufactured tobacco	0,028206

9	<u>O58</u>	Fruit, preserved, and fruits preparations	0,02819
10	<u>661</u>	Lime, Cement and fabricated construction materials	0,025412
11	<u>O56</u>	Vegetables preserved, prep.	0,024937
12	<u>848</u>	Headgear, non-textile clothing	0,021586
13	<u>931</u>	Special transactions, commodities not classified according to class	0,020982
14	<u>O34</u>	Fish, fresh, chilled or frozen	0,020008
15	<u>764</u>	Telecommunication equipment (Not elsewhere specified); parts and accessories (Not elsewhere specified)	0,018683
16	<u>583</u>	Polymerization and copolymerization products	0,01778
17	<u>651</u>	Textile yarn	0,017553
18	<u>682</u>	Copper	0,017358
19	<u>843</u>	Non-knit women's outergarments	0,016387
20	<u>674</u>	Universals, plates, and sheets, of iron or steel	0,014232

Portugal	Code		Share
1	<u>781</u>	Passenger motor vehicles (excluding buses)	0,082424
2	<u>851</u>	Footwear	0,053256
3	<u>845</u>	Knitted Outergarments	0,040635
4	<u>846</u>	Undergarments, knitted or crocheted	0,035046
5	<u>773</u>	Electricity distributing equipment	0,032221
6	<u>658</u>	Textile articles (Not elsewhere specified)	0,027935
7	<u>633</u>	Cork manufactures	0,027247
8	<u>784</u>	Motor vehicle parts and accessories (Not elsewhere specified)	0,026647
9	<u>641</u>	Paper and paperboard	0,023928
10	<u>762</u>	Radio-broadcast receiver	0,022584
11	<u>842</u>	Non-knitted men's outergarments	0,022471
12	<u>112</u>	Alcoholic beverages	0,022419
13	<u>821</u>	Furniture and parts thereof	0,017702
14	<u>776</u>	Thermionic, microcircuits, transistors, valves, etc.	0,017108
15	<u>782</u>	Lorries and special purposes motor vehicles	0,015873
16	<u>749</u>	Non-electric parts and accessories of machinery (Not elsewhere specified)	0,01581
17	<u>251</u>	Pulp and waste paper	0,015354
18	<u>843</u>	Non-knit women's outergarments	0,013963
19	<u>583</u>	Polymerization and copolymerization products	0,012365
20	<u>931</u>	Special transactions, commodities not classified according to class	0,012275
Spain	Code		Share
1	<u>781</u>	Passenger motor vehicles (excluding buses)	0,150441
2	<u>784</u>	Motor vehicle parts and accessories (Not elsewhere specified)	0,054597
3	<u>O57</u>	Fruit, nuts, fresh, dried	0,032968
4	<u>782</u>	Lorries and special purpose motor vehicles	0,025853
5	<u>O54</u>	Vegetables fresh, simply preserved	0,024631
6	<u>541</u>	Medicinal and pharmaceutical products	0,023016
7	<u>851</u>	Footwear	0,016691
8	<u>662</u>	Clay and refractory construction material	0,016088
9	<u>931</u>	Special transactions, commodities not classified according to class	0,01524
10	<u>112</u>	Alcoholic beverages	0,014271

11	<u>713</u>	Internal combustion piston engines, and parts thereof (Not elsewhere specified)	0,014189
12	<u>583</u>	Polymerization and copolymerization products	0,013721
13	<u>778</u>	Electrical machinery and apparatus (Not elsewhere specified)	0,013479
14	<u>792</u>	Aircraft and associated equipment, and parts thereof, nes	0,012861
15	<u>821</u>	Furniture and parts thereof	0,012652
16	<u>764</u>	Telecommunication equipments and parts	0,012442
17	<u>641</u>	Paper and paperboard	0,012139
18	<u>793</u>	Ships, boats and floating structures	0,011791
19	<u>625</u>	Rubber tires, tire cases, inner and flaps, for wheels of all kinds	0,011697
20	<u>699</u>	Manufactures of base metal (Not elsewhere specified)	0,011336

Source: UN COMTRADE Database and author's calculations.

VI. Conclusion.

We can draw the following conclusions from the empirical results:

1. Greece, Portugal and Spain have been full members of the EU since 1981 and 1986 respectively. Turkey joined the Customs Union in 1996 without becoming a full member of the EU. From the beginning, these three countries have had the opportunity to exploit the economic advantages of being full members of the EU. They were able to close the short-term economic disadvantages of joining in the "Single European Market," such as foreign trade and current account deficits through regional, structural and agricultural funds. Turkey, on the other hand, must have been tackling the negative economic impacts by its own efforts and it was not allowed to export agricultural products to the EU freely in which Turkish economy has the comparative advantage. The considerable costs of membership in the customs union were shouldered without any substantial financial assistance from Brussels.
2. The empirical results show that the Greek economy was not fully able to exploit the economic advantages of being a member of the "Single Market." Since 1981, interestingly, the Greek economy was not able to diversify its export structure from research and labor-intensive manufactures to more sophisticated commodities. On the other hand, Portugal and especially Spain have improved their economic performance since 1986 remarkably. Spain's exports are still based on traditional sectors such as non-fuel primary commodities, resource and labor-intensive manufactures, but it is replacing these traditional sectors with scale-intensive and science-based manufactures.
3. One of the counter-arguments for Turkey's full membership to the European Union is that Turkey is different in many ways. It is the biggest, poorest country ever to be invited to start talks, and the most culturally challenging. Obviously, Turkey's economic backwardness relative to the EU is one of the main obstacles to adhesion and therefore it seems to be reasonable in the long run for Turkey to follow a double strategy. On the one hand Turkey should move with uninterrupted vigor to the aim of full membership and, on the other hand, it has to achieve the full economic integration of Turkey into the "Single European Market," including possible membership in the European Monetary Union.
4. Research results indicate that the Turkish economy is showing a remarkable performance in the export of commodities and it has already been challenging the economies of Greece and Portugal, and is trying to catch up to Spain in the coming decades. As is known, an efficient export diversification policy can only be achieved by attracting more world-market

oriented FDI inflow and intensifying technical progress, which depends on the education of a highly qualified labor force. As a matter of fact, Turkey should continue to reform its economic institutions and adjust to the norms and regulations set by the *acquis communautaire* in order to close economic deficiencies in the coming years. It is often forgotten that the political integration of Turkey into the EU requires sustainable and stable economic development in the first place – in the spirit of Jean Monnet’s concept of political integration through economic integration.

Concluding Remarks

Turkey joined the Customs Union in 1996. This means that Turkey had to completely open its economy to international competition and it is becoming a part of the EU’s internal market concerning industrial products for the time being. It is known that a customs union can, in theory, have significant dynamic effects, such as increased competition, stimulation of technical change and investment. It is assumed that, as tariffs are removed and the market expands, competition will increase. Competition becomes more effective and leads to research and development of new products. This creates a climate that is conducive to increased technical change and faster economic growth.

In spite of the initial short-term negative impacts of customs union on the national economy, such as increasing trade and current account deficits, falling import tax revenues, increasing unemployment due to the restructuring process etc., the experiences of Portugal and Spain lead to the conclusion that the opening of markets to foreign competitors, together with many positive supply-side effects connected with increased investment, invention and innovation activities, and with more sound fiscal and monetary discipline, may reduce a national economy’s proneness to inflation.

Since 1996 Turkey has put in force comprehensive legal regulations, which directly linked in to the operation of the customs union. These are competition law, the protection of intellectual, industrial and commercial property rights, consumers’ protection law, and adaptation of state aids to EU Law and establishing of national accreditation board. In the period 1996-2008 Turkey has demonstrated its ability to compete with the EU economies without getting any significant financial assistance from the EU budget.

The adjustment of the Turkish economy and political system to the Copenhagen criteria and the restructuring of economic and political life through the adaptation of *acquis* by Turkey depends on four fundamental factors: (i) The creation of a new institutional framework and reformation, as well as the functionality of existing institutions according to the EU’s requirements; (ii) continuation of the macroeconomic stability program with uninterrupted eagerness and determination; (iii) the readjustment of firms, including state-owned enterprises and sectors, to a market economy.; (iv) a broad consensus among the main interest groups, political segments of the society and a readiness for cost-sharing in implementing economic and political changes among social groups. These are preconditions for successful restructuring and reform policies in the country.

If Turkey would be fully integrated in the European economic union in the coming years, I would suggest that the full membership of Turkey in the EU might be a matter of time. In order to realize this ambitious aim, Turkish authorities will need urgently to fulfill the commitments of the

economic criteria with the EU. This means, first of all, further economic liberalization and macro-economic stability.

APPENDIX

TABLE A1: Some Indicators of Economic Structures of Greece, Portugal, Spain and EU/25.

Indicator	Greece	Portugal	Spain	Turkey	EU/25
Population (2005, in millions)	11.1	15.5	43.3	72.1	375,0
Budget deficit /GDP(%) - 2005	-5.2	-6.0	1.1	-1.2	2.3
Inflation rate (%) - 2005	3.5	2.1	3.4	8.1	3,3
Current Account/ GDP (%) 2005	-9.2	-9.5	7.5	-6.7	-0.8
Annual GDP Growth rates (%) - 2005	3.7	0.4	3.5	7.4	2.4
GDP (billion Euro) - 2005	181	148	906	291	10.847
Distribution of Employment (%) 2005					
Agriculture	14.4	11.8	5.6	28.0	5.0
Industry*	22.9	30.7	30.1	19.8	30
Services*	62.7	57.5	64.3	52.2	65
Per capita income (Euro) - 2005	19.700	16.700	23.000	6.500	23.500
Foreign direct investments (€) 2005					
inflow	-	2504	18.484	6.205	-
outflow	-	922	31.177	254	-
Export (%) - 2005	53	80	72	56.3	-
Import (%) - 2005	56	76	64	45.1	-

Source: EU-Turkey: Comparison of Economic Indicators. DPT, Ankara, www.dpt.gov.tr