

THE ROLE OF COMPETITIVENESS IN THE TRADE WITHIN EUROZONE IN NORTH VERSUS SOUTH COUNTRIES: A COMPARATIVE STUDY

Paraschos Maniatis*

Abstract: A number of recent studies have focused on the role of Germany in the Eurozone crisis. There is an evolving concept that Germany may have been the cause of diffusion of economic crisis in the Eurozone. The scholars demonstrate the Eurozone countries of the "North", (primarily, Germany, Ireland, and The Netherlands) enjoyed significant a trade surplus as compared with the countries of the 'South' (primarily Cyprus, Greece, Italy, Portugal, and Spain). It is known that the "North" countries have recovered faster from the crisis whereas the "South" countries recovered slowly from the crisis. To investigate this concept, this study has delved deep into the role of Eurozone countries in global trade and the relationship between their competitiveness, public debt, and investments with their trade balances.

This study has found that the uneven trade balances in the Eurozone countries is a function of uneven competitiveness levels of the countries. It is also found that public debt and investments has a role in determining competitiveness for Eurozone countries, which in turn influences trade balances. This study also found that the North countries were deeply involved with South countries in both exports and imports, the volumes exceeding their external trades. In addition, the "South" countries were found to be involved significantly in external trade. Hence, this study could not find any empirical evidence that the surplus trade balances of Germany and other "North" countries might have caused the Eurozone's crisis. Instead of blaming the "North" countries (specifically Germany), there should be focus on better management of current account deficits, public debt, and investments with an objective to enhance competitiveness of the "South" countries. This may result in improved trade balances for the "South" countries.

Keywords: competitiveness, trade balance, public debt, Investments, Gini index of inequality in income distribution.

1. INTRODUCTION AND SCOPE OF THE STUDY

The subprime crisis in 2007-2008 started from the United States and spread across the world (Lim, 2008; Sapir, 2008). In the Eurozone, the crisis entered through the banking

* School of Business, Department of Business Administration, Athens University of Economics and Business, Patision 76, GR-104 34, Athens, Greece, E-mail: pman@aueb.gr

system vulnerabilities and affected the banking system, the budget deficit, the national debt, and national trade balances (Bai, Julliard, & Yuan, 2012; Pezzuto, 2008; Wyplosz, 2010). In the US, a significantly large number of subprime mortgages were issued to subprime customers (customers not having regular sources of income) in 2006 and 2007 (Lim, 2008; Sapir, 2008). These mortgages were included as tranches in credit derivatives through an instrument named collateralized debt obligations (CDOs) (Lim, 2008; Sapir, 2008). Traditionally, credit derivatives were always traded in Eurozone banks and also were included in the sovereign bonds (Bai, Julliard, & Yuan, 2012; Pezzuto, 2008; Wyplosz, 2010). However, in 2007 their trading was at the peak because of their significant growth in 2006-2007 (Bai, Julliard, & Yuan, 2012; Pezzuto, 2008; Wyplosz, 2010). Home mortgages have always been considered as the safest tranche till the subprime crisis occurred. Given the rising interest rates, rising home prices, and the growing inability of the subprime customers in paying back the loans, there were large number of foreclosures in 2007 (Bai, Julliard, & Yuan, 2012; Pezzuto, 2008; Wyplosz, 2010). These foreclosures resulted in crash of home prices, devaluation of the mortgage tranches, resulting in devaluation of credit derivatives, and hence the crisis occurred (Bai, Julliard, & Yuan, 2012; Pezzuto, 2008; Wyplosz, 2010). Massive sale of credit derivatives in secondary markets, embedded as tranches in highly complex securities instruments, caused a complete shield from the banking credit risk identification system (Baglioni, 2009; Harari, 2014; Sapir, 2008; Sgherri & Zoli, 2009; Wyplosz, 2010; Yiannaki, 2009). Hence, the banks were caught unguarded and the entire economies collapsed (Baglioni, 2009; Harari, 2014; Sgherri & Zoli, 2009; Wyplosz, 2010; Yiannaki, 2009). Eurozone also entered a financial trouble. As explained by Baglioni (2009) and Yiannaki (2009), the crisis caused both credit and liquidity crunches in the Eurozone. This is because of many phenomena acting together. The trading activities almost dried up in the securities markets, the interest rates for short-to-medium term finances increased uncontrollably, declining deposits in the banks, devaluation of sovereign bonds, inadequate supplies by central bank to contain the liquidity crisis, and many ground level operational issues caused through the rippling effect of the subprime crisis (Baglioni, 2009; Lapavitsas *et al.*, 2010; Yiannaki, 2009).

Some scholars analyzed that the entry of the financial crisis in Eurozone might have occurred through Germany that had significant external imbalance under the Euro era when the crisis hit the United States (Bebo, 2012, 2013; Dullien & Guerot, 2012; EU Briefings, 2012; Lenz, 2011; Parrott, 2012; Turhan, 2014). As per their analysis, Germany had significant current account surpluses in 2008-2009 and hence rebound swiftly from the subprime crisis. In fact Germany's current account surplus was highest in the Eurozone when compared with all the other nations in North and Southern Europe. Hence, while Germany recovered from the crisis faster, other nations continued to face the crisis. Consolidation of monetary policy after the Euro rollout resulted in falling of interest rates for many Eurozone countries to the levels that Germany enjoyed (Germany always enjoyed good credit ratings in the credit

markets). It became easier for other Eurozone countries to obtain credit. Germany continued to invest their credits in their traditional productive projects whereas other countries invested in building social systems and construction boom. The rules of government debt to be under 60% of GDP and budget deficit to be less than 3% of GDP were breached. Germany survived because of its current account surpluses amidst excellent exports. Others could not survive as they did not have cushions from other unaffected income sources (like, exports), and faced major credits and liquidity crisis. Greece, Ireland, Portugal, and Spain were the most affected. There were no policies for saving Euro from external shocks and the only way to self-protect was to stock Euros, which Germany did smartly. Was Germany selfish? Did Germany turned away from the morals of fiscal union, and its commitments for stability of the Euro land? Did Germany turned away from its leadership role in the Eurozone? Perhaps, Germany has been criticized for what it has NOT done instead of what it has done. At the face of the facts, the equation appears clear: Germany did not invest as significantly in the affected (infrastructure and housing) sectors as did the other Eurozone countries, and hence survived. However, is this statement sufficient enough to answer the critics?

These articles open a discussion on the role of Germany in Eurozone. It is projected in the articles (Bebo, 2012, 2013; Dullien & Guerot, 2012; EU Briefings, 2012; Lenz, 2011; Parrott, 2012; Turhan, 2014) that the deficit of the South was the surplus of Germany. This perception called for scrutinizing the trade balances resulting among the countries within the Eurozone and by trade with the rest of the World. An unbiased academic evaluation is needed to find the role of Germany in the Eurozone crisis. This is the theme of the present study.

2. DATA AND METHODOLOGY

This study collected data for the external trade of 222 countries. For each country, the imports by source country and the exports by destination country were collected. However, not all of these countries were examined in the analysis keeping in mind validity of results. Out of the 220 countries only 132 were examined, which met the following conditions:

- (a) A minimum per capita income of USD 300
- (b) minimum imports value of USD 300 million
- (c) Minimum exports value of USD 100 million.

These benchmarks have been chosen to ensure reduced bias and skewness in the results. The purpose of the study is to examine the trade of the Eurozone comprising the biggest partners in World trade. The countries contributing to 75% or more of exports and imports were chosen, based on the histograms showing consolidated exports from and imports into the Eurozone. In order to identify the main partners of the biggest importers and biggest exporters among the Eurozone countries, the seven

partners having highest values of exports and imports with the Eurozone countries have been identified. Based on of these statistics the relative weight in the World trade of each Eurozone country was identified with emphasis on the contribution of Germany. In the second stage, the trade surpluses/deficits of the Eurozone countries resulting from trade with the non-Eurozone countries and from trade within the Eurozone have been examined. In the third stage, the trade surpluses/deficits in general in relation to some factors, which are considered to be significant for the formation of the trade balances, such as competitiveness, investments, oil exports, income and income distribution, have been examined. The research report has been presented in the following sections:

Section 4.0: Some statistics of the international trade 1953-2010

Section 5.0: Some comparative statistics of the present international trade

Section 6.0: Eurozone's international trade

Section 7.0: Trade within the Eurozone

Section 8.0: On some factors affecting the trade balance

This is followed by the conclusions, the references, and the list of sources of data. The data has been collected up to year 2010 that was available in the year 2011. All calculations and comparisons are quoted in USD-PPP-2010. The competitiveness index refers to the period 2008-2009. Majority of the tables and of graphs were constructed by processing the raw data. The raw data is extremely voluminous and hence has not been appended to this text. However, it can be produced on request.

3. A NOTE ON TERMINOLOGY

The following points are in the context of terms used in this research:

- (a) By the terms 'North' or 'countries of the North', this study denotes the Eurozone countries with trade balance surpluses, either in their trade within the Eurozone or with the rest of the World. However, because these countries geographically belong to the North of the Eurozone they are commonly characterized by the term 'North'. This study has adopted this term, as used by a number of scholars whose works are reviewed in Section 1.0. The same convention is adopted for naming the Eurozone countries with a trade balance deficit, as the 'South'.
- (b) For reasons of simplicity in writing and to avoid repetitions, the countries meeting the criterion of competitiveness index greater than 4.60 (third quartile of the competitive index of the same countries) are mentioned as 'developed countries'.

Following is the consolidated list of abbreviations used in the study:

Table 1
List of Abbreviations

CI 2008-2009>Q3	Competitiveness index in years 2008-2009 greater than the third quartile
CI 2008-2009	Competitiveness index in years 2008-2009; ascending order
Eurozone	The 17 euro area countries
Exp/Imp %	Exports over imports % 2010
Exp-Imp	Exports minus imports 2010 ; USD PPP 2010
Ex/imp>Q3	Exports over imports % greater than the third quartile
Exports	Exports value 2010 ; USD PPP 2010
Gini	Gini index 2010
Inv % GDP	Direct investments % GDP
Inc/cap	Income per capita
Imports	Imports value 2010 ; USD PPP 2010
Q3	Third quartile
Rank Inv % GDP	Rank of direct investments % of GDP; ascending order
Rank Inc/cap	Rank of income per capita; 2008-2009; ascending order
Rank CI 2007-2008	Rank competitiveness index 2007-2008; ascending order
Rank CI 2008-2009	Rank competitiveness index 2008-2009; ascending order
USD	US dollar - PPP 2010

4. ANALYSIS OF CHOSEN STATISTICS OF THE INTERNATIONAL TRADE 1953-2010

4.1. Noticeable tendencies in international trade

Approaching the theme of trade balances, it is useful to have a rough view about the status of the main strands of trade Worldwide and in the most industrialized countries. According to the works of Angus Maddison (1982), cited in Adda (1998), for the period 1820-1913 and after the year 1950, the incremental percent in volume of the World exports of all products was on the average of twice the increment of the GDP of the advanced industrial countries. An exception to this pattern was the period between the two World Wars, during which, the World incremental percent of trade was one third of the incremental percentage of production. By the end of the '80s, the value of worldwide transactions was 22% of the value of World production, as compared with 15% in 1973 (Adda, 1998). It grew to greater than 30% in year 2000 (Benassy-Quéré, 2011). In fact, in some particular branches such as electronics, 50% of the transactions were the object of international trade (Benassy-Quéré, 2011). The expansion of transactions was supported by the liberation of the industrial transactions, which started after the end of World War II and were a result of multilateral negotiations in the framework of GATT (Rainelli, 2009). After the first rounds of negotiations of GATT in Annecy (1949) and in Geneva (1955-1956), the average tariffs started a course of de-escalations, from 40% in the mid '50s to about 5% by the end of the '80s (Hoekman &

Kostecki, 2003). This liberalization of transactions from the heavy tariffs was decisively enforced by the creation of the European Union and by the creation of trade zones seeking reciprocal tariff reductions, such as MERCOSUR (*Mercado Común del Sur*) in South America coming in force in 1991 consisting of Argentina, Brazil, Paraguay, Uruguay and Venezuela and NAFTA (*North American Free Trade Agreement*) coming in force in 1994, consisting of Canada, Mexico and the United States (Benassy-Quéré, 2011; Hoekman & Kostecki, 2003). The freeing of transactions is extended by the mid '80s to countries under development under the aegis of IMF for matters relating to public debt and of the World Bank, mainly relating to industrial products (Adda, 1998). The liberalization, however, was not limited to the industrial products. It was extended to the agricultural products, as well, after the agreements of the round of Uruguay in 1994 (Hoekman & Kostecki, 2003). So far as the services are concerned, the exchanges at the international level, excluding the capital income and the capital transfers, amounted to 2.1% of the World GDP in 1970 and to 4.2% in 1996 (GATT, 1996). It is, essentially, the cross exchanges of industrial products from which the World trade derives its vivacity. About 60% of the exchanges of industrial products take place between the industrial countries; half of this percentage concerns similar products e.g. cars, electronics. The cross exchanges of industrial products covered 80% in the case of Germany, France, and UK in 1991 and they have been accelerating since then (Adda, 1998; OECD, 1994). With respect to the geographical polarization of cross exchanges, a few poles can be traced during the last decades. The first consists of the countries of Western Europe, which for a long time were the centre of international trade and the USA, which after the War became the preponderant partner. A second pole was created after the appearance of Japan as a main partner in the international trade, followed by Hong-Kong, Taiwan, South Korea, and Singapore and China. In addition, since the middle of the first decade of 2000, new partners, namely Brazil and India, demand for more participation in the poles of international trade (Adda, 1998; Hoekman & Kostecki, 2003).

In order to acquire a more detailed picture of the international trade, this study presents comparative statistics of the evolution of trade from the mid '50s up to the end of the first decade in the 21st century. In the analysis some selected countries of Eurozone have been grouped together as representative sample of all countries so that their imports and exports can give an idea of the dynamics in international trade.

4.2. Percentages in international imports and exports

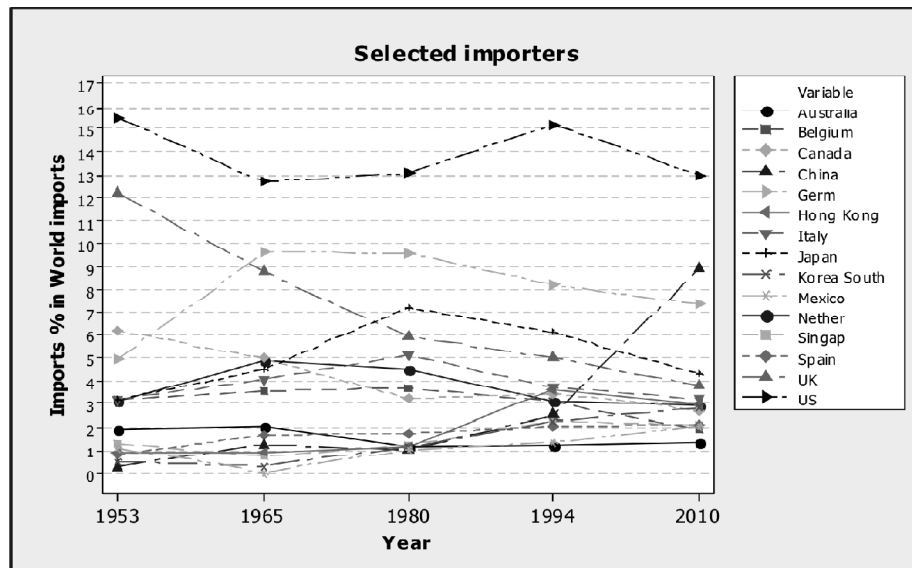
The Table 2 presents the imports of selected countries in the Eurozone as percentages of total global imports.

Table 2
Imports by selected countries; the included Eurozone countries are highlighted
(values are percentages of total global imports).

<i>Country</i>	1953	1965	1980	1994	2010
Argentina	1,04	0,65	0,53	0,47	0,38
Australia	1,92	2,05	1,14	1,17	1,31
Austria	0,70	1,15	1,24	1,22	1,16
Belgium	3,15	3,52	3,65	3,05	1,91
Brazil	1,72	0,60	1,27	0,79	1,22
Canada	6,13	4,96	3,18	3,41	2,69
Chile	0,44	0,39	0,29	0,26	0,37
China	0,25	1,23	1,01	2,52	8,89
Denmark	1,30	1,54	0,98	0,77	0,59
Finland	0,69	0,90	0,79	0,51	0,44
France	5,42	5,64	6,85	5,05	3,96
Germany	4,92	9,61	9,55	8,20	7,36
Greece	0,35	0,62	0,53	0,60	0,31
Hong-Kong	0,88	0,85	1,14	3,55	2,93
Indonesia	1,00	0,38	0,55	0,70	0,85
Ireland	0,66	0,57	0,57	1,54	0,42
Israel	0,25	0,46	0,49	0,55	0,39
Italy	3,15	4,03	5,12	3,68	3,17
Japan	3,14	4,46	7,18	6,05	4,28
Korea South	0,46	0,25	1,13	2,25	2,83
Kuwait	*	0,21	0,33	0,48	0,13
Malaysia	0,82	0,60	0,55	1,31	1,05
Mexico	1,06	0,01	0,99	1,34	2,05
Nether	3,09	4,87	4,49	3,07	2,87
Nigeria	0,39	0,42	0,85	0,15	0,30
Norway	1,19	1,21	0,86	0,60	0,50
Portugal	0,43	0,49	0,47	0,58	0,49
Saudi Arabia	0,28	0,28	1,53	0,51	0,59
Singapore	1,29	0,68	1,22	2,25	2,08
South Africa	1,66	1,40	0,98	0,51	0,55
Spain	0,78	1,66	1,73	2,03	2,11
Sweden	2,06	2,39	1,70	1,14	1,00
Taiwan	*	0,30	1,00	1,88	1,68
Thailand	0,43	0,40	0,47	1,09	1,08
Turkey	0,69	0,31	0,40	0,75	1,19
UK	12,20	8,80	5,87	4,98	3,76
US	15,45	12,67	13,06	15,15	12,97
Venezuela	1,25	0,77	0,60	0,19	0,26

Sources: For years 1953-1994: IMF^[9]; for 2010: CIA The World Factbook 2010^[6].

Graph 1 shows the countries included in Table 2, which had more than 2% participation in international imports in any of the years.



Graph 1: Countries with imports greater than 2 percent in any of the indicated years.

Source: Processing of the raw data

Of the Eurozone, Belgium, Germany, Italy, Spain and The Netherlands presented such a percentage. The increase of China's imports from 2.52% in 1994 to 8.89% in 2010 is noticeable. In addition, the drop of imports from 15.15% to 12.97% by USA, from 5.05% to 3.96% by France, from 8.20% to 7.36% by Germany, and from 4.98% to 3.76% by the UK during the same period is also noticeable.

Table 3 below shows the exports in international trade for the same countries as in Table 2 for the same years (values are in percentages of total global exports).

Table 3
International exports by selected countries; The Eurozone countries included are highlighted
(values are expressed as percentages of total global exports)

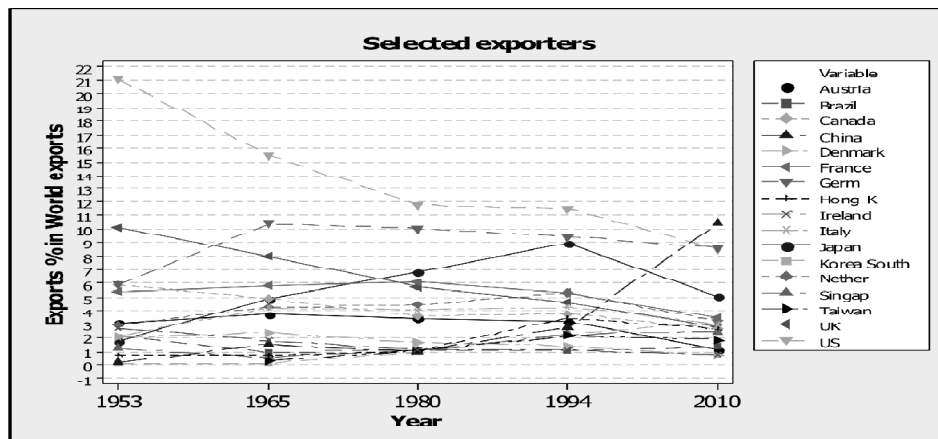
Exporter	1953	1965	1980	1994	2010
Argentina	1,49	0,86	0,42	0,35	0,45
Australia	0,72	0,93	0,91	1,02	1,39
Austria	3,02	3,70	3,36	3,08	1,13
Belgium	0,76	0,83	0,74	0,67	1,87
Brazil	2,06	0,93	1,05	0,98	1,33
Canada	5,86	4,90	3,52	3,72	2,59
Chile	0,55	0,37	0,24	0,26	0,47
China	0,17	1,48	0,94	2,69	10,41
Denmark	1,98	2,30	1,61	1,38	0,64
Finland	0,68	0,83	0,96	0,80	0,46
France	5,37	5,83	6,04	5,30	3,41
Germany	5,85	10,38	10,03	9,42	8,58

contd. table 3

Exporter	1953	1965	1980	1994	2010
Greece	0,17	0,19	0,27	0,20	0,14
Hong-Kong	0,64	0,66	1,03	3,40	2,56
Indonesia	1,12	0,41	1,14	0,90	1,04
Ireland	2,64	1,74	1,14	1,07	0,73
Israel	0,08	0,25	0,29	0,38	0,37
Italy	2,02	4,17	4,06	4,26	2,95
Japan	1,70	4,90	6,79	8,92	5,04
Korea South	0,05	0,09	0,91	2,16	3,06
Kuwait	*	0,72	1,02	0,27	0,43
Malaysia	0,90	0,72	0,67	1,32	1,39
Mexico	0,79	*	0,81	0,77	1,97
Netherlands	2,87	4,25	4,43	5,30	3,20
Nigeria	0,47	0,43	1,35	0,21	0,54
Norway	1,19	1,34	0,87	0,93	0,87
Portugal	0,29	0,34	0,24	0,39	0,32
Saudi Arabia	0,67	0,81	5,67	0,63	1,57
Singapore	1,16	0,57	1,01	2,18	2,36
South Afr	1,32	0,85	1,34	0,58	0,57
Spain	0,64	0,54	1,08	1,65	1,67
Sweden	0,43	0,36	0,44	0,70	1,06
Taiwan	*	0,26	1,03	2,09	1,81
Thailand	0,43	0,36	0,34	0,97	1,27
Turkey	0,53	0,27	0,15	0,37	0,80
UK	10,05	8,01	5,73	4,59	2,70
US	21,07	15,48	11,74	11,52	8,49
Venezuela	1,87	1,43	1,00	0,35	0,43

Sources: For years 1953-1994: IMF^[9]; for 2010: CIA The World Factbook 2010^[6].

Graph 2 shows the countries included in Table 2, which had more than 2% participation in international exports in any of the years.



Graph 2: Countries with exports greater than 2 percent in any of the indicated years

Source: Processing of the raw data

Of the included Eurozone countries, only Austria, France, Germany, Ireland, Italy, and The Netherlands achieved at least 2% percent each of the total global exports. The increase of China's exports is noticeable, from 2.69% in 1994 to 10.41% in 2010. During the same period exports fell from 11.52% to 8.49% by the USA, from 3.08% to 1.13% by Austria, 5.05% to 3.96% by France, 9.42% to 8.58% by Germany, 5.30% to 3.20% by The Netherlands, and 4.59% to 2.70% by the UK.

4.3. Imports value and rates of growth

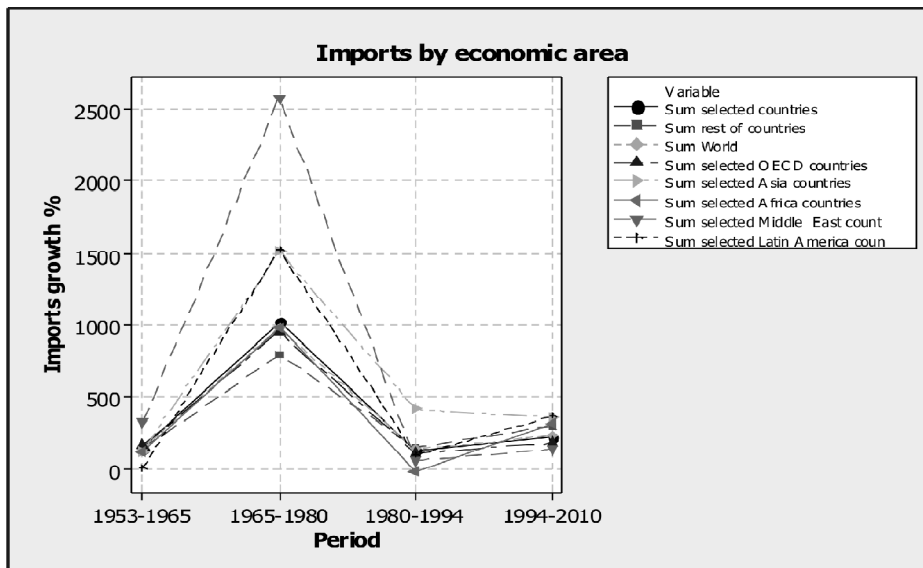
Table 4 indicates the imports value of the economic zones in the indicated years along with the corresponding rates of growth in the lower half of the table. The values offer a mean of comparison for the respective years.

Table 4
Imports value (million USD) and growth rates percent.

<i>Importing area</i>	1953	1965	1980	1994	2010
Sum selected countries	61.880	148.590	1.659.600	3.794.670	11.953.980
Sum rest of countries	14.820	34.710	308.700	755.330	2.972.827
Sum World	76.700	183.300	1.968.300	4.550.000	14.926.807
Sum selected OECD countries	51.730	130.450	1.365.420	2.846.850	7.831.850
Sum selected Asia countries	3.940	8.620	139.300	707.950	3.193.200
Sum selected Africa countries	1.570	3.330	35.910	30.490	125.960
Sum selected Middle East countries	410	1.730	46.380	70.160	165.050
Sum selected Latin America countries	4.230	4.460	72.590	139.220	637.920
Importing area	1953	Growth % 1953-1965	Growth % 1965-1980	Growth % 1980-1994	Growth % 1994-2010
Sum selected countries	-	140,13	1.016,90	128,65	215,02
Sum rest of countries	-	134,21	789,37	144,68	293,58
Sum World	-	138,98	973,81	131,16	228,06
Sum selected OECD countries	-	152,17	946,70	108,50	175,11
Sum selected Asia countries	-	118,78	1.516,01	408,22	351,05
Sum selected Africa countries	-	112,10	978,38	-15,09	313,12
Sum selected Middle East countries	-	321,95	2.580,92	51,27	135,25
Sum selected Latin America countries	-	5,44	1.527,58	91,79	358,21

Sources: IMF for years 1953-1994; CIA economic Factbook for 2010

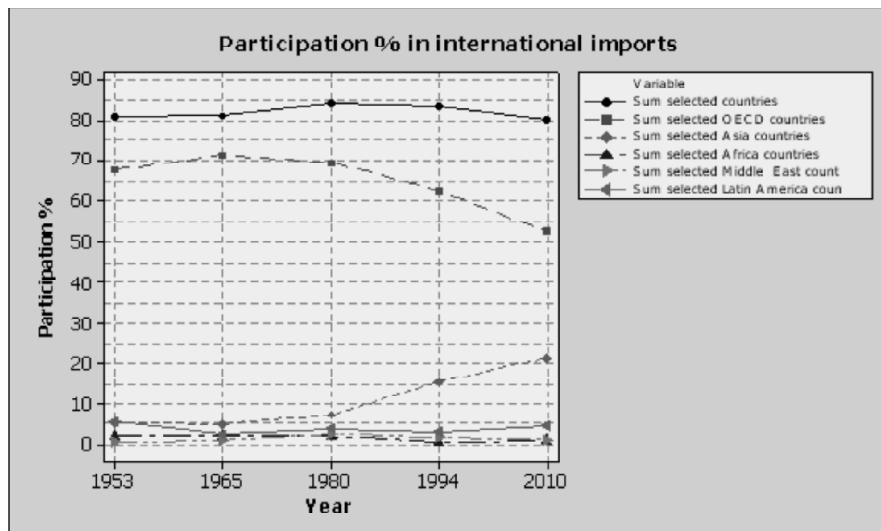
In graph 3, which is based on table 4, it is shown that the economic zones maintained more or less the same growth rates of imports with exception of the period 1965-1980 in which, the imports growth rates of the Middle East countries exhibit an explosive increase, presumably due to the increase of oil exports.



Graph 3: Imports growth percent.

Source: Processing of the raw data

Graph 4 shows the percent participation of the economic zones in international imports. The graph shows that the participation of selected OECD countries in imports, although high, exhibits a gradual decrease since 1980. On the contrary, the East Asian countries exhibit a considerable gradual increase in imports.



Graph 4: Participation percent in international imports

Source: Processing of the raw data

4.5. Exports value and rates of growth

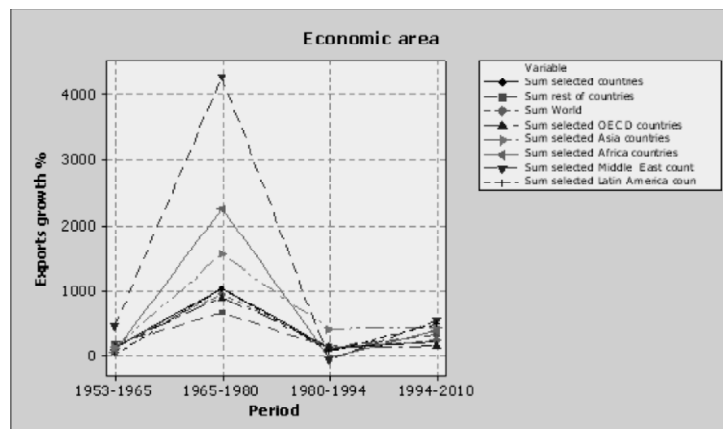
Table 5 presents the exports value of the economic zones in the indicated years along with the corresponding rates of growth in the lower half of the table. The values offer a mean of comparison for the respective years.

Table 5
Exports value (million USD) and growth rates percent

Exporting area	1953	1965	1980	1994	2010
Sum selected countries	61.130	142.340	1.621.540	3.736.150	12.155.850
Sum rest of countries	13.770	40.160	300.460	713.850	3.025.157
Sum World	74.900	182.500	1.922.000	4.450.000	15.181.007
Sum selected OECD countries	50.810	122.990	1.232.090	2.824.130	7.293.350
Sum selected Asia countries	3.770	8.510	140.580	710.470	3.699.730
Sum selected Africa countries	1.340	2.210	51.650	35.490	168.370
Sum selected Middle East countries	560	3.070	134.280	56.830	359.710
Sum selected Latin America countries	4.650	5.560	62.940	109.230	634.690
Exporting area	1953	Growth %	Growth %	Growth %	Growth %
		1953-1965	1965-1980	1980-1994	1994-2010
Sum selected countries	-	132,85	1.039,20	130,41	225,36
Sum rest of countries	-	191,65	648,16	137,59	323,78
Sum World	-	143,66	953,15	131,53	241,15
Sum selected OECD countries	-	142,06	901,78	129,21	158,25
Sum selected Asia countries	-	125,73	1.551,94	405,38	420,74
Sum selected Africa countries	-	64,93	2.237,10	-31,29	374,42
Sum selected Middle East countries	-	448,21	4.273,94	-57,68	532,96
Sum selected Latin America countries	-	19,57	1.032,01	73,55	481,06

Sources: For years 1953-1994: IMF^[9]; for 2010: CIA The World Factbook 2010^[6].

In Graph 5, based on Table 5, it is shown that the economic zones maintain more or less the same growth rates of exports with the exception of the period 1965-1980,

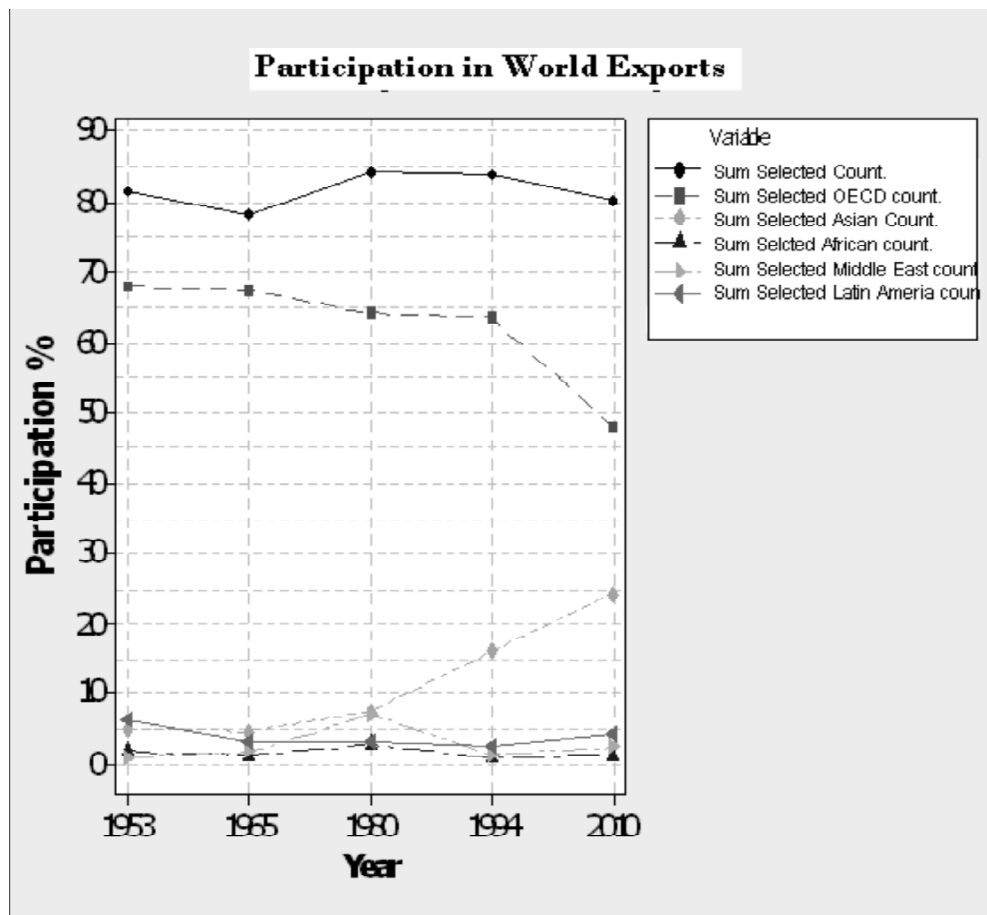


Graph 5: Exports growth percent

Source: Processing of the raw data

where the imports growth rates exhibit a significant increase of exports growth in the Middle East countries, in the Asian countries, and in the African countries.

Graph 6 shows the percentage participation of the economic zones in international exports. The graph shows that the participation of selected OECD countries in exports, although high, exhibits a gradual decrease since 1980. On the contrary, the East Asia countries exhibit a considerable gradual increase in percentage participation in international exports. In the graph, it is observed that the selected countries occupy a stable participation in the international exports, varying around 80%, while the selected OECD countries exhibit a declining percentage. The Asian countries exhibit a steadily upwards trend since 1980. Comparing graph 4 of participation of the selected countries and economic zones in imports to graph 6 pertaining to exports, it is observed that for each zone the imports and exports follow the same course.



Graph 6: Participation percent to international exports

Source: Processing of the raw data

Summarizing the overall imports and exports of the economic zones, it is observed that in the international trade, the industrial Asian countries enjoy increasingly more participation in international trade. On the other hand, the international trading by Eurozone countries (Germany included), the United Kingdom, and the USA is declining. However, this fact is interpreted when only percentage of international trade is considered. In terms of absolute values, the exports and imports by Eurozone countries, the UK, and the USA are increasing.

5. SOME COMPARATIVE STATISTICS OF THE PRESENT INTERNATIONAL TRADE

5.1. The trade of the biggest importers in year 2010

Table 6 shows the largest importers in 2010, which cover more than 75 percent of the world imports.

Table 6
The 23 largest importing countries, which in 2010 covered more than 75 percent of international imports (million USD). The Eurozone members are highlighted.

<i>Importer</i>	<i>Total imports of biggest importers</i>	<i>Rank imports World wide</i>	<i>Participation in World Imports %</i>	<i>Cumulative participation in World imports %</i>	<i>Imports ex main partners</i>	<i>Imports ex main partners %</i>
US	1.936.000	1	12,97	12,97	1.086.096	56,10
China	1.327.000	2	8,89	21,86	522.838	39,40
Germany	1.099.000	3	7,36	29,22	639.618	58,20
Japan	639.100	4	4,28	33,50	358.535	56,10
France	590.500	5	3,96	37,46	372.605	63,10
UK	561.600	6	3,76	41,22	292.032	52,00
Italy	473.100	7	3,17	44,39	201.067	42,50
Hong Kong	437.000	8	2,93	47,32	313.766	71,80
Netherlands	429.000	9	2,87	50,19	235.950	55,00
Korea S	422.400	10	2,83	53,02	229.363	54,30
Canada	401.000	11	2,69	55,71	268.269	66,90
India	359.000	12	2,41	58,11	125.291	34,90
Spain	315.300	13	2,11	60,23	153.551	48,70
Singapore	310.400	14	2,08	62,31	164.822	53,10
Mexico	306.000	15	2,05	64,36	221.544	72,40
Belgium	285.100	16	1,91	66,27	190.731	66,90
Taiwan	251.400	17	1,68	67,95	140.784	56,00
Russia	248.700	18	1,67	69,62	106.692	42,90
Switzerland	226.300	19	1,52	71,13	146.642	64,80
Australia	195.200	20	1,31	72,44	113.411	58,10
Brazil	181.700	21	1,22	73,66	88.124	48,50
Turkey	177.300	22	1,19	74,85	90.423	51,00
Austria	173.000	23	1,16	76,00	105.184	60,80
Sum biggest importers	11.345.100				6.167.342	54,36
Sum world imports	14.926.807					

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.

The table shows that that out of the 23 biggest importing countries, which cover 76% of international imports, 7 countries (Germany, France, Italy, The Netherlands, Spain, Belgium, and Austria) belong to the Eurozone, with 21.82% participation. Germany, in particular, was the third largest importing country in 2010 with 7.36% participation in imports, following USA and China. These three counties covered 29.22% of international imports.

5.2. The trade of the biggest exporters in year 2010

Table 7 shows the largest exporters in 2010, which cover more than 75 percent of the world exports.

Table 7
The 24 biggest exporting countries, which in 1910 covered more than 75 percent of international exports (million USD). The Eurozone members are highlighted

<i>Exporter</i>	<i>Total exports</i>	<i>Rank exports World wide</i>	<i>Participation in World exports %</i>	<i>Cumulative participation in World exports %</i>	<i>Exports to main partners</i>	<i>Exports to main partners %</i>
China	1.581.000	1	10,41	10,41	760.461	48,10
Germany	1.303.000	2	8,58	19,00	734.892	56,40
US	1.289.000	3	8,49	27,49	568.449	44,10
Japan	765.200	4	5,04	32,53	406.321	53,10
France	517.300	5	3,41	35,94	289.688	56,00
Netherlands	485.900	6	3,20	39,14	295.427	60,80
Korea South	464.300	7	3,06	42,20	203.827	43,90
Italy	448.400	8	2,95	45,15	208.954	46,60
UK	410.300	9	2,70	47,85	209.253	51,00
Russia	400.100	10	2,64	50,49	119.229	29,80
Canada	392.700	11	2,59	53,07	310.233	79,00
Hong Kong	388.600	12	2,56	55,63	263.859	67,90
Singapore	358.400	13	2,36	57,99	210.380	58,70
Mexico	298.500	14	1,97	59,96	241.785	81,00
Belgium	284.200	15	1,87	61,83	186.151	65,50
Taiwan	274.400	16	1,81	63,64	176.713	64,40
Spain	253.000	17	1,67	65,31	136.114	53,80
Saudi Arab	237.900	18	1,57	66,87	147.498	62,00
Switzerland	232.600	19	1,53	68,41	118.393	50,90
India	225.400	20	1,48	69,89	83.398	37,00
Australia	210.900	21	1,39	71,28	134.976	64,00
Malaysia	210.300	22	1,39	72,67	118.398	56,30
Brazil	201.900	23	1,33	74,00	87.018	43,10
UAE	198.000	24	1,30	75,30	96.624	48,80
Sum biggest exporters	11.431.300				6.108.047	53,43
Sum world exports	15.181.007					

Source: CIA: The World Factbook 2010^[6]. Processing of the raw data.

This table shows that out of the 24 countries covering the 75.3% of international exports six of them (Germany, France, The Netherlands, Italy, Belgium, and Spain) are Eurozone countries with total participation of 21.68% in exports. This percentage of the Eurozone countries of the large exporters is almost equal to the imports percentage of the Eurozone countries belonging to the large importers. Germany is the second largest exporting country after China, and immediately before the USA, with 8.58% participation in international exports. China, Germany and the USA cover altogether 27.49% of international exports.

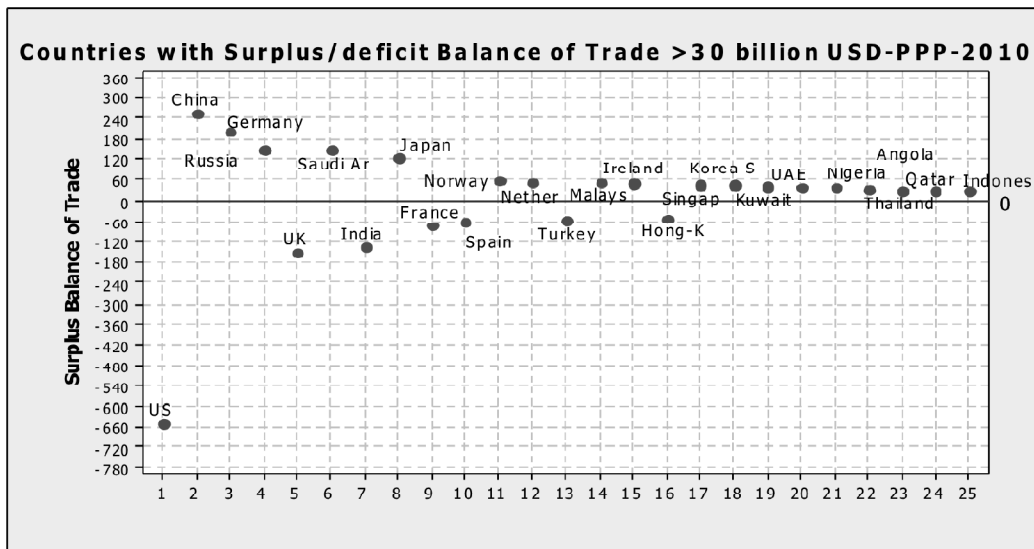
5.3. Countries with the biggest surplus/deficit

Table 8 and graph 7 indicate the countries with a trade surplus or deficit in absolute value more than USD 30.000 billion. This conventional benchmark represents approximately 25% of the average exports of all the countries submitted to analysis.

Table 8
Countries with surplus/deficit greater than 30.000 million USD. The Eurozone members are highlighted

<i>Country</i>	<i>Imports</i>	<i>Rank Imp</i>	<i>Exports</i>	<i>Rank Exp</i>	<i>Surplus balance of Trade</i>
US	1.936.000	1	1.289.000	3	-647.000
China	1.327.000	2	1.581.000	1	254.000
Germany	1.099.000	3	1.303.000	2	204.000
Russia	248.700	18	400.100	10	151.400
UK	561.600	6	410.300	9	-151.300
Saudi Arab	88.350	31	237.900	18	149.550
India	359.000	12	225.400	20	-133.600
Japan	639.100	4	765.200	4	126.100
France	590.500	5	517.300	5	-73.200
Spain	315.300	13	253.000	17	-62.300
Norway	73.900	36	132.600	30	58.700
Netherlands	429.000	9	485.900	6	56.900
Turkey	177.300	22	121.000	32	-56.300
Malaysia	156.600	27	210.300	22	53.700
Ireland	61.980	40	111.300	33	49.320
Hong Kong	437.000	8	388.600	12	-48.400
Singapore	310.400	14	358.400	13	48.000
Kuwait	18.770	73	65.970	45	47.200
Korea S	422.400	10	464.300	7	41.900
UAE	158.700	26	198.000	24	39.300
Nigeria	44.100	50	82.540	38	38.440
Angola	18.340	74	50.590	54	32.250
Thailand	161.300	25	193.500	25	32.200
Qatar	23.380	65	54.930	50	31.550
Indonesia	127.100	29	158.200	29	31.100

Source: CIA: The World Factbook 2010^[6]. Processing of the raw data.



Graph 7: Countries with surplus or deficit balance of trade greater than 30 billion.

Source: Processing of the raw data

From the above table and graph, it may be observed that the Eurozone countries with trade balance surpluses are Germany, the Netherlands and Ireland. France and Spain exhibit trade balance deficits.

5.4. The main partners of the non-Eurozone biggest importers

For a more detailed view of the international exchanges, the main partners of the largest non-Eurozone importers, along with the value of imports and the participation of each import in the total imports of the country are presented in Table 9.

Table 9
Main partners of biggest non-Eurozone importers (million USD). The Eurozone exporters are highlighted

Non Eurozone biggest importers	Total imports (\$Million)	FROM	%	FROM	%	FROM	%	FROM	%
Australia	195.200	China	19	US	11	Japan	9	Thailan	5
Brazil	181.700	US	15	China	14	Argent	8	Germ	7
Canada	401.000	US	50	China	11	Mexico	6		
China	1,327.000	Japan	13	Korea S	10	US	7	Germ	5
Hong Kong	437.000	China	45	Japan	10	Taiwan	8	Singap	5
India	359.000	China	12	UAE	7	Saud Ar	6	US	6
Japan	639.100	China	22	US	10	Austrl	7	Saud Ar	5
Korea S	422.400	China	18	Japan	16	US	10	Saud Ar	5

contd. table 9

<i>Non Eurozone biggest importers</i>	<i>Total imports (\$Million)</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>
Mexico	306.000	US	61	China	7	Korea S	5		
Russia	248.700	Germ	15	China	14	Ukraine	6	Italy	5
Singapore	310.400	Malays	12	US	12	China	11	Japan	8
Switz	226.300	Germ	32	Italy	10	France	9	US	5
Taiwan	251.400	Japan	21	China	14	US	10	Korea S	6
Turkey	177.300	Russia	12	Germ	10	China	9	US	7
UK	561.600	Germ	13	China	9	Nether	8	France	6
US	1,936.000	China	20	Canada	14	Mexico	12	Japan	6
SUM	7,980.100								
<i>Non Eurozone biggest importers</i>	<i>Total imports (\$ Million)</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>	<i>Imports from main partners (\$ Million)</i>	
Australia	195.200	Singap	5	Germ	5	Malays	4	113.411	
Brazil	181.700	Kor S	5					88.124	
Canada	401.000							268.269	
China	1,327.000	Austral	4					522.838	
Hong Kong	437.000	US	5					313.766	
India	359.000	Austral	5					125.291	
Japan	639.100	UAE	4	Korea S	4	Indones	4	358.535	
Korea S	422.400	Austral	5					229.363	
Mexico	306.000							221.544	
Russia	248.700	Belars	5					106.692	
Singapore	310.400	Kor S	6	Indones	5			164.822	
Switzerland	226.300	Nether	5	Austria	4			146.642	
Taiwan	251.400	Sau Ar	5					140.784	
Turkey	177.300	Italy	6	France	4	Iran	4	90.423	
UK	561.600	US	6	Norway	6	Belgium	5	292.032	
US	1,936.000	Germ	4					1,086.096	
Sum	7,980.100							4,268.634	

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.

Given that the focus is on Germany, special emphasis has been given to the country's exports to their largest importing partners. The rank of the exporter country for each specific importing country is defined by the volume of exports to the importing country. From Table 9, Germany appears as:

- Largest exporter to Russia, Switzerland, and UK.
- Second largest exporter to Turkey.
- Fourth largest exporter to Brazil and China.
- Fifth largest exporter to the USA.
- Sixth largest exporter to Australia.

Overall, the largest non Eurozone importers have imported goods worth USD 336.728 million from Germany out of their total imports of USD 4,853.800 million. It comes to 7.56% of the total imports by Germany's largest partners.

The ranking of France, Italy, The Netherlands, Austria, and Belgium pertaining their exports to the largest non Eurozone importers varies from 2 to 6. They have exported USD 189.595 million worth of goods out of the total imports of USD 3,016 million by their partners. This comes to 6.29% of the total imports by their largest partners.

5.5. The main partners of the non-Eurozone largest exporters

Looking into Eurozone’s imports, the imports from the largest non-Eurozone exporters are shown in Table 10. Again, the rank of the importer country from each specific exporting country is defined by the volume of imports from the exporting country.

Table 10
Main partners of non-Eurozone biggest exporters (million USD). The Eurozone importers are highlighted.

<i>Non Eurozone biggest exporters</i>	<i>Total exports</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>
Australia	210.900	China	25	Japan	19	Korea S	9	India	7
Brazil	201.900	China	15	US	10	Argentin	9	Nether	5
Canada	392.700	US	75	UK	4				
China	1.581.000	US	18	Hong- K	14	Japan	8	Kor S	4
Hong Kong	388.600	China	53	US	11	Japan	4		
India	225.400	US	13	UAE	12	China	8	Hon- K	4
Japan	765.200	China	19	US	16	Korea S	8	Hon- K	6
Korea South	464.300	China	28	US	10	Japan	6		
Malaysia	210.300	Singapore	13	China	13	Japan	10	US	10
Mexico	398.500	US	74	Canada	8				
Russia	400.100	Germany	8	Nether	6	US	6	China	5
Saudi Ar	237.900	Japan	14	China	13	US	13	Kor S	9
Singapore	358.400	Malaysia	12	Hong- K	12	China	10	Indona	9
Switzerland	232.600	Germany	19	US	10	Italy	8	France	8
Taiwan	374.400	China	28	Hong- K	14	US	12	Japan	7
UAE	198.000	Japan	17	India	14	Iran	7	Kor S	6
UK	410.300	US	11	Germany	11	Nether	9	France	8
US	1.289.000	Canada	19	Mexico	13	China	7	Japan	5
Sum	8.339.500								
<i>Non Eurozone biggest exporters</i>	<i>Total Exports</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>Exports to main partners</i>	
Australia	210.900	US	4					134.976	
Brazil	201.900	Germany	4					87.018	
Canada	392.700							310.233	
China	1.581.000	Germany	4					760.461	
Hong Kong	388.600							263.859	

contd. table 10

<i>Non Eurozone biggest exporters</i>	<i>Total exports</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>
India	225.400							83.398	
Japan	765.200	Thailand	4					406.321	
Korea S	464.300							203.827	
Malaysia	210.300	Thailand	5	Hong K	5			118.398	
Mexico	398.500							322.785	
Russia	400.100	Turkey	5					119.229	
Saudi Ar	237.900	India	8	Singap	5			147.498	
Singapore	358.400	US	7	Japan	5	Kor S	4	210.380	
Switzerland	232.600	UK	6					118.393	
Taiwan	374.400	Singapore	4					241.113	
UAE	198.000	Thailand	5					96.624	
UK	410.300	Ireland	7	Belgium	5			209.253	
US	1.289.000							568.449	
Sum	8.339.500							4.402.220	

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.

From table 10, it appears that for non-Eurozone's biggest exporters, Germany is the:

- a) First importer from Russia and Switzerland
- b) Fifth importer from Brazil and China

Overall, the non Eurozone biggest exporters exported USD 192.651 million worth of goods to Germany out of their total exports of USD 2,825.900 million. This comes out to be 6.82% of the total exports by Germany's largest exporting partners.

France, Italy, The Netherlands, Ireland, and Belgium occupy ranks varying from 2 to 6 in imports from their non Eurozone biggest exporters. They absorb USD 192.651 million out of total exports of USD 2.708.400 million by their partners. This comes out to be 6.82% of the total exports by their largest exporting partners.

6. THE EUROZONE'S INTERNATIONAL TRADE

This section investigates the trade of the Eurozone countries within the zone in comparison to the trade with the biggest non-Eurozone partners. In particular, it aims to identify the countries responsible for the surplus/deficit for each member country of the Eurozone.

6.1. The main partners of the Eurozone imports

Table 11 shows the main countries from which, Eurozone's imports originate. As observed from the table, the largest volume of Eurozone's imports comes from the Eurozone itself.

Table 11
Percentage of Eurozone imports from several countries. The Eurozone exporters are highlighted

<i>Importer</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>	<i>FROM</i>	<i>%</i>
Austria	Germ	44,0	Italy	6,8	Switz	5,9	Nether	4,1		
Belgium	Nether	19,1	Germ	16,4	France	11,3	UK	5,4	US	5,3
Cyprus	Greece	19,0	Italy	9,5	Germ	9,0	UK	8,4	Israel	8,0
Estonia	Finland	15,7	Germ	11,9	Sweden	11,6	Latvia	11,5	Lithuania	8,7
Finland	Russia	17,4	Germ	14,7	Sweden	14,5	Nether	8,2	China	4,4
France	Germ	19,3	Belg	11,4	Italy	8,0	Nether	7,5	Spain	6,8
Germany	Nether	13,0	France	8,2	Belg	7,2	China	6,8	Italy	5,6
Greece	Germ	10,6	Italy	9,9	Russia	9,6	China	6,1	Nether	5,3
Ireland	UK	37,7	US	13,8	Germ	7,6	Nether	5,6	China	4,1
Italy	Germ	16,2	France	8,5	China	7,9	Nether	5,4	Spain	4,5
Luxemb	Belg	31,4	Germ	25,1	France	11,6	China	9,2	Nether	5,2
Malta	Italy	24,1	UK	8,6	Germ	8,5	France	8,2	Singap	4,1
Netherl	Germ	15,5	China	12,6	Belg	8,3	US	6,8	UK	6,2
Portugal	Spain	31,3	Germ	13,8	France	7,3	Italy	5,7	Nether	5,2
Slovakia	Czech	18,9	Germ	18,3	Russia	9,5	Hungary	7,4	Poland	5,6
Slovenia	Germ	16,2	Italy	15,5	Austria	10,6	France	4,8	Croatia	4,6
Spain	Germ	12,6	France	11,5	Italy	7,3	China	6,8	Nether	5,6
Importer	FROM	%	FROM	%	FROM	%	FROM	%		
Austria										
Belgium	Ireland	5,3	China	4,1						
Cyprus	China	5,3	France	5,2	Nether	4,6				
Estonia	Poland	6,8								
Finland										
France	China	5,1	UK	5						
Germany	UK	4,7	Austria	4,4	US	4,2	Switz	4,1		
Greece	France	4,9	Austria	4,5						
Ireland										
Italy										
Luxemb										
Malta										
Netherl	Russia	5,6								
Portugal										
Slovakia	Kor S	5,1	Austria	4,9	Italy	4,1				
Slovenia	China	4,1								
Spain	UK	4,9								

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.

6.2. The main partners of the Eurozone exports

Table 12 below shows the main importing countries of Eurozone's exports. It is again observed that most of the exports by Eurozone countries are routed within Eurozone itself.

Table 12
Percentage of Eurozone exports to several countries. The Eurozone importers are highlighted

<i>Exporter</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>
Austria	Germany	32,1	Italy	7,9	Switz	4,8	France	4,2	Czech	4,1
Belgium	Germany	19,1	France	17,0	Nether	12,2	UK	7,2	US	5,3
Cyprus	Greece	24,5	Germ	10,5	UK	8,6				
Estonia	Finland	18,5	Sweden	17,0	Russia	10,4	Latvia	9,8	Germ	5,7
Finland	Sweden	11,6	Germ	10,2	Russia	8,5	US	7,0	Nether	6,9
France	Germany	16,4	Italy	8,2	Belgium	7,7	Spain	7,6	UK	6,8
Germany	France	10,1	US	6,7	UK	6,6	Nether	6,6	Italy	6,3
Greece	Germany	10,9	Italy	10,9	Cyprus	7,3	Bulgaria	6,5	Turkey	5,4
Ireland	US	22,1	UK	16,1	Belgium	15,1	Germ	8,1	France	5,3
Italy	Germany	13,2	France	11,7	Spain	5,9	US	5,8	UK	5,4
Luxemb	Germany	22,3	France	15,5	Belgium	12,1	UK	9,2	Italy	7,2
Malta	Germany	18,4	France	15,7	UK	9,1	Italy	6,6	Libya	6,0
Nether	Germany	26,0	Belgium	13,0	France	9,2	UK	7,7	Italy	4,9
Portugal	Spain	26,8	Germ	13,1	France	11,9	UK	5,5	Angola	5,2
Slovakia	Germany	20,1	Czech	14,8	Poland	7,9	Hungary	7,3	France	7,2
Slovenia	Germany	19,2	Italy	12,5	Austria	7,4	France	6,8	Croatia	6,4
Spain	France	18,7	Germ	10,7	Portugal	9,1	Italy	9,0	UK	6,3
<i>Exporter</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>	<i>TO</i>	<i>%</i>
Austria										
Belgium	Italy	4,7								
Cyprus										
Estonia	Lithuania	5,3								
Finland	China	5,0	UK	4,9						
France	US	5,1	Nether	4,2						
Germany	Austria	5,7	Belgium	5,2	China	4,7	Switz	4,5		
Greece	UK	5,3	Belgium	5,1	China	4,8	Switz	4,5	Poland	4,2
Ireland	Switz	4,2								
Italy	Switz	4,6								
Luxemb	Nether	4,1								
Malta	US	5,7								
Nether										
Portugal										
Slovakia	Austria	7,1	Italy	5,8						
Slovenia	Hungary	4,4								
Spain										

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.

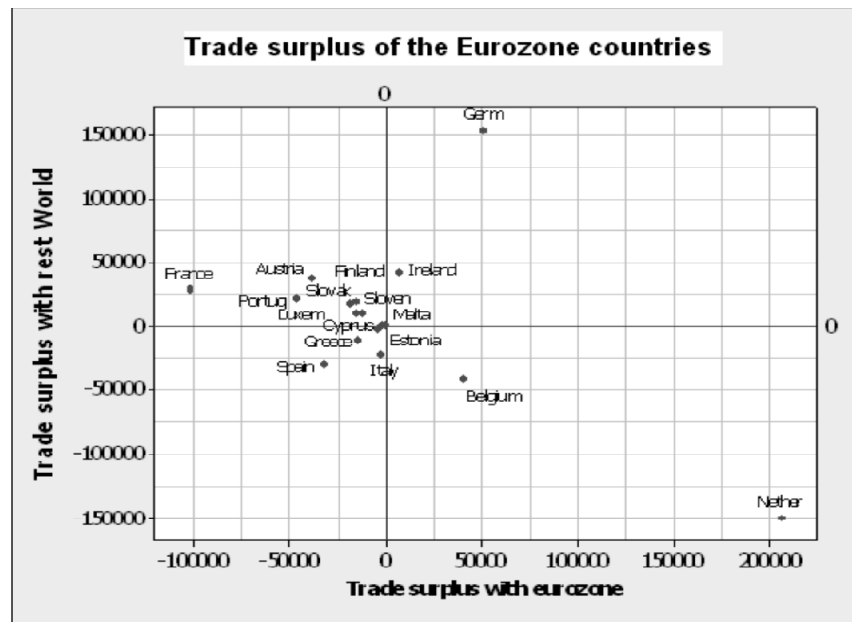
6.3. The Eurozone balance of trade

Table 13 and Graph 8 show the trade balances of the Eurozone countries caused through trade within Eurozone, and through trade with the rest of World. Trade surplus within the Eurozone was obtained only by Belgium, Germany, Ireland, and the Netherlands. All the rest exhibited trade deficits.

Table 13
Balance of trade of the Eurozone countries (million USD).

<i>Eurozone country</i>	<i>Imports</i>	<i>Rank imp</i>	<i>Exports</i>	<i>Rank exp</i>	<i>Trade surplus (Exp-Imp)</i>	<i>Trade surplus of the Eurozone countries due to trade with Eurozone countries</i>	<i>Trade surplus of the Eurozone countries due to trade with non Eurozone countries</i>
Austria	173.000	23	172.300	26	-700	-38.481	37.781
Belgium	285.100	16	284.200	15	-900	40.184	-41.084
Cyprus	8.568	94	2.791	125	-5.777	-4.053	-1.724
Estonia	12.170	83	11.660	80	-510	-537	27
Finland	64.960	39	69.400	41	4.440	-15.122	19.562
France	590.500	5	517.300	5	-73.200	-102.062	28.862
Germ	1.099.000	3	1.303.000	2	204.000	50.747	153.253
Greece	46.600	49	20.960	67	-25.640	-14.775	-10.865
Ireland	61.980	40	111.300	33	49.320	6.929	42.391
Italy	473.100	7	448.400	8	-24.700	-2.724	-21.976
Luxem	21.240	68	16.300	73	-4.940	-15.569	10.629
Malta	4.461	121	3.124	121	-1.337	-1.820	483
Nether	429.000	9	485.900	6	56.900	206.352	-149.452
Portug	72.670	37	48.910	55	-23.760	-46.000	22.240
Slovak	67.770	38	67.970	44	200	-18.501	18.701
Sloven	25.680	62	24.390	65	-1.290	-12.095	10.805
Spain	315.300	13	253.000	17	-62.300	-32.472	-29.828
Sum	3.751.099		3.840.905		89.806	0	89.806

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.



Graph 8: Trade surplus of the European countries

Source: Processing of the raw data in Table 13

7. TRADE WITHIN THE EUROZONE

This section presents the trade in 2010 within Eurozone trade and identifies the countries causing the surplus/deficit of each country. The results are presented in Table 14.

Table 14
Analysis of the trade surplus (+)/deficit (-) within Eurozone countries (million USD)

<i>Eurozone country</i>	<i>Surpl of Austria from</i>	<i>Surpl of Belgium from</i>	<i>Surpl of Cyprus from</i>	<i>Surpl of Estonia from</i>	<i>Surpl of Finland from</i>	<i>Surpl of France from</i>
Austria						
Belgium						-35.101
Cyprus						446
Estonia					-246	
Finland				246		
France		35.101	-446			
Germany	-27.764	32.372	-771	-784	-9.549	-23.849
Greece	2.097		-1.628			2.283
Ireland		-15.110				
Italy	-11.764		-814			-7.027
Luxembourg		6.669				2.464
Malta						366
Netherlands	-7.093	-18.847	-394		-5.327	-44.288
Portugal						5.305
Slovakia	3.321					
Slovenia	2.722					1.233
Spain						-3.895
Sum surplus	-38.481	40.184	-4.053	-537	-15.122	-102.062
<i>Eurozone country</i>	<i>Surpl of Germ from</i>	<i>Surpl of Greece from</i>	<i>Surpl of Ireland from</i>	<i>Surpl of Italy from</i>	<i>Surpl of Luxemb from</i>	<i>Surpl of Malta from</i>
Austria	27.764	-2.097		11.764		
Belgium	-32.372		15.110		-6.669	
Cyprus	771	1.628		814		
Estonia	784					
Finland	9.549					
France	23.849	-2.283		7.027	-2.464	-366
Germany		-4.940	-4.710	-15.098	-5.331	-379
Greece	4.940			4.613		
Ireland	4.710					
Italy	15.098	-4.613				-1.075
Luxembourg	5.331					
Malta	379			1.075		
Netherlands	-76.375	-2.470	-3.471	-25.547	-1.104	
Portugal	10.028			4.142		
Slovakia	12.402			2.776		
Slovenia	4.160			3.980		

contd. table 14

<i>Eurozone country</i>	<i>Surpl of Austria from</i>	<i>Surpl of Belgium from</i>	<i>Surpl of Cyprus from</i>	<i>Surpl of Estonia from</i>	<i>Surpl of Finland from</i>	<i>Surpl of France from</i>
Spain	39.728			1.727		
Sum surplus	50.747	-14.775	6.929	-2.724	-15.569	-1.820
<i>Eurozone country</i>	<i>Surpl of Nether from</i>	<i>Surpl of Portug from</i>	<i>Surpl of Slovakia from</i>	<i>Surpl of Slovenia from</i>	<i>Surpl of Spain from</i>	
Austria	7.093		-3.321	-2.722		
Belgium	18.847					
Cyprus	394					
Estonia						
Finland	5.327					
France	44.288	-5.305		-1.233	3.895	
Germany	76.375	-10.028	-12.402	-4.160	-39.728	
Greece	2.470					
Ireland	3.471					
Italy	25.547	-4.142	-2.779	-3.980	-1.727	
Luxembourg	1.104					
Malta						
Netherlands		-3.779			-17.657	
Portugal	3.779				22.746	
Slovakia						
Slovenia						
Spain	17.657	-22.746				
Sum surplus	206.352	-46.000	-18.502	-12.095	-32.472	

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.

The table shows that, within the Eurozone only Belgium, Germany, Ireland, and the Netherlands obtained trade surpluses. The sum of surpluses of these four countries is equal to the sum of deficits of the rest of the Eurozone countries. Table 15 shows the countries responsible for the main part of surplus/deficit for each country. A significant portion in surpluses is acquired by the Netherlands and by Germany as second to The Netherlands. For comparisons, the table shows the trade balances resulting from trade with non-Eurozone countries.

For a complete presentation of Germany's role in the formation of the Eurozone countries trade balances, the split of the trade balances in the part due to trade with Germany and in the part due to trade with the rest of the Eurozone countries is presented in Table 16. It is observed that Belgium and The Netherlands enjoyed significant trade surpluses in trading with Germany. Other countries largely faced trade deficits with Germany. However, in many cases the trade deficit with rest of the Eurozone is larger. For example, Greece had a trade deficit of USD 4.940 Million with Germany and USD 9.835 Million with rest of Eurozone. Similarly, Portugal had a trade deficit of USD 10.028 Million with Germany and of USD 35.972 Million with the rest of Eurozone.

Table 15
Main Eurozone partners causing the greater part of the surpluses/deficits within the Eurozone trade (USD million).

<i>Eurozone country</i>	<i>Surplus with</i>	<i>Value of surplus</i>	<i>Deficit with</i>	<i>Value of deficit</i>	<i>Trade balance with the Eurozone</i>	<i>Trade balance with the rest of the World</i>
Austria	Greece, Slovakia, Slovenia	8.140	Germ, Italy, Nether	-46.621	-38.481	37.781
Belgium	France, Germ, Luxem	74.142	Ireland, Nether	-33.957	40.185	-41.084
Cyprus			France, Germ, Greece, Italy, Nether	-4.053	-4053	-1.724
Estonia	Finland	246	Germ	-784	-538	27
Finland			Estonia, Germ, Nether	-15.122	-15.122	19.562
France	Cyprus, Greece, Luxemburg, Malta, Slovenia	12.097	Belgium, Germ, Italy, Nether, Spain	-114.160	-102.063	28.862
Germany	All Eurozone except Belgium and Nether	159.493	Belgium, Nether	-108.747	50.746	153.253
Greece	Cyprus	1.628	Austria, France, Germ, Italy, Nether	-16.403	-14.775	-10.865
Ireland	Belgium	15.110	Germ, Nether	-8.181	6.929	42.391
Italy	Austria, Cyprus, France, Greece, Malta, Portugal, Slovakia, Slovenia, Spain	37.918	Germ, Nether	-40.645	-2.727	-21.976
Luxem			Belgium, France, Germ, Nether	-15.568	-15.568	10.629
Malta			France, Germ, Italy	-1.820	-1.820	483
Nether	All Eurozone countries (no trade with Estonia, Malta, Slovakia, Slovenia)	206.352			206.352	-149.452
Portugal			France, Germ, Italy, Nether, Spain	-46.000	-46.000	22.240
Slovakia			Austria, Germ, Italy	-18.502	-18.502	18.701
Slovenia			Austria, France, Germ, Italy	-12.095	-12.095	10.805
Spain	France, Portugal	26.641	Germ, Italy, Nether	-59.112	-32.471	-29.828
Sum	541.767			-541.770*		
Surpl/Def						

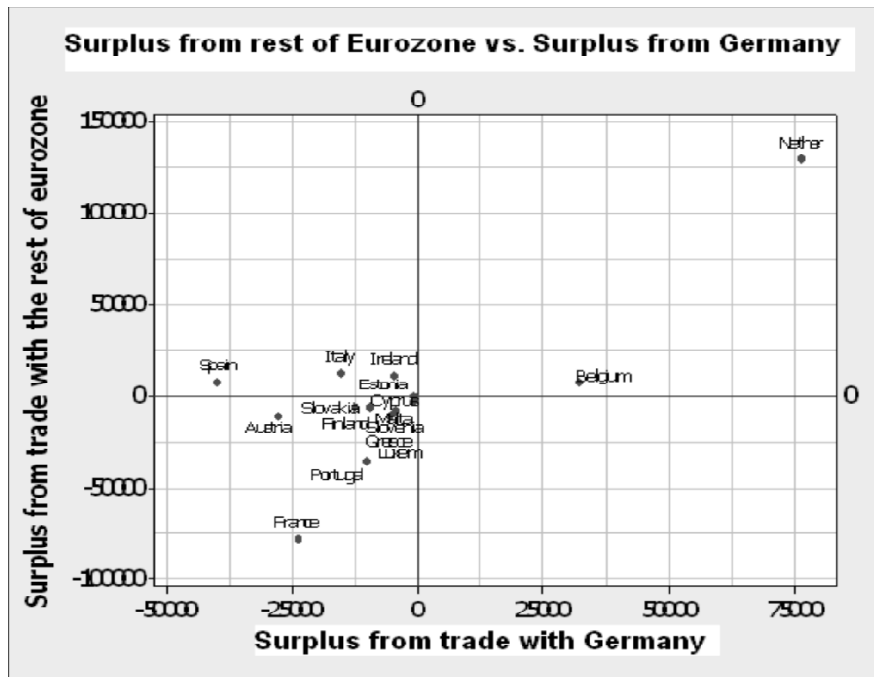
Source: CIA The World Factbook 2010^[6]. Processing of the raw data.

(*) The difference of 3 million USD between the two sums is because of rounding errors.

Table 16
Analysis of the surpluses/deficits of the Eurozone countries except Germany from the within Eurozone trade (USD million).

<i>Eurozone country</i>	<i>Total surplus</i>	<i>Surplus from Germany</i>	<i>Surplus from rest of Eurozone</i>
Austria	-38.481	-27.764	-10.717
Belgium	40.184	32.372	7.812
Cyprus	-4.053	-771	-3.282
Estonia	-537	-784	247
Finland	-15.122	-9.549	-5.573
France	-102.062	-23.849	-78.213
Greece	-14.775	-4.940	-9.835
Ireland	6.929	-4.710	11.639
Italy	-2.724	-15.098	12.374
Luxem	-15.569	-5.331	-10.238
Malta	-1.820	-379	-1.441
Nether	206.352	76.375	129.977
Portugal	-46.000	-10.028	-35.972
Slovakia	-18.502	-12.402	-6.100
Slovenia	-12.095	-4.160	-7.935
Spain	-32.472	-39.728	7.256

Source: CIA The World Factbook 2010^[6]. Processing of the raw data.



Graph 9: Surpluses/deficits of the Eurozone countries (except Germany) from the within Eurozone trade

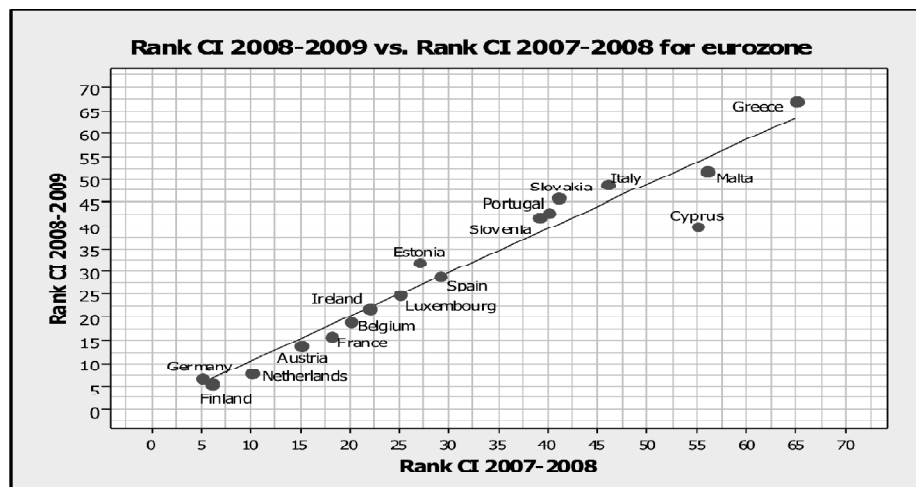
Source: CIA - The World Factbook; Processing of the raw data

8. ON SOME FACTORS AFFECTING THE TRADE BALANCE

Analyzing the absolute and the relative participation in international trade of the Eurozone countries, the question naturally arises concerning the factors determining the place of the Eurozone countries in international trade and the underlying reasons in the differences in the trade balances between the Eurozone's 'South' and 'North'. In this study as a main cause of the uneven balances the competitiveness index is tested, which in the theory of international trade is qualified as one of the most important economic factors (Benassy-Quéré, 2011). The competitiveness index of every country of the Eurozone is examined and is compared with those of the other member countries, and also with those of the developed countries. At the end of the present section, the variables competitiveness index, per capita income, investments as percent of GDP, and public debt as percent of GDP (Benassy-Quéré, 2011) are subjected to correlation and to principal components analysis in order to test the validity at macro-level of their partial relationships. The public debt has been included as a relevant factor in the correlation analysis given that it has taken particularly high values in the countries of the 'South' and is considered to be a factor of destabilization of the whole Eurozone (Lapavitsas *et al.*, 2010; Lenz, 2011).

8.1. Change in the competitiveness indices

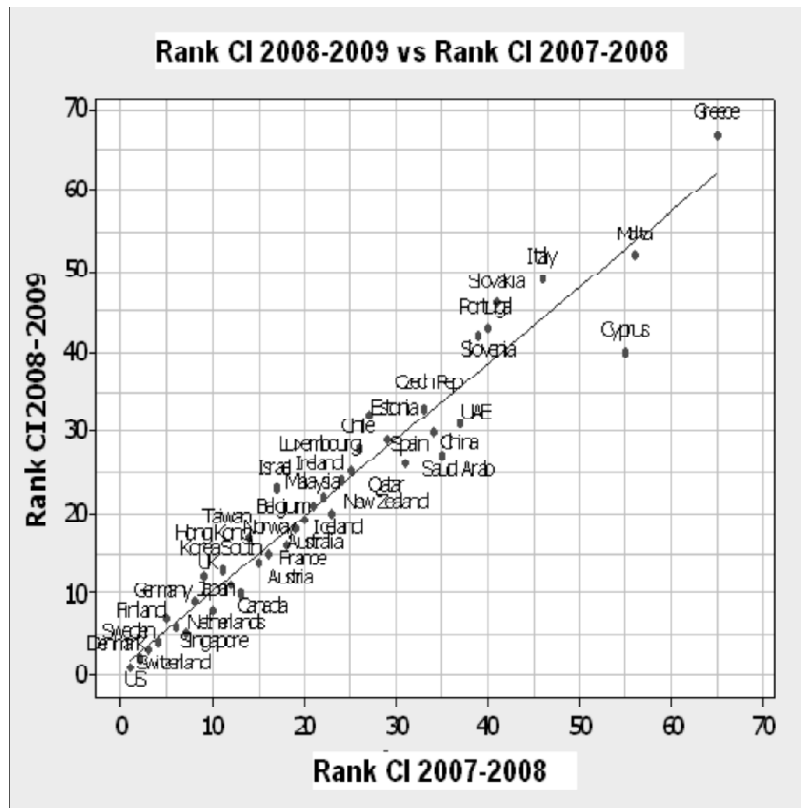
Since competitiveness index is viewed as the main factor of trade balance formation (Gujarati, 2004; Verbeek, 2004), it is important to have a picture of the variability of this index in two consecutive periods. The Graph 10 presents the changes of the competitiveness index of each country included in the study between the periods 2007-2008 and 2008-2009.



Graph 10: Scatter plot of the competitiveness index of the Eurozone countries of the period 2008-2009 vs. period 2007-2008. The fitted line is simple regression line.

Source: CIA - The World Factbook; Processing of the raw data

In the graph, it can be seen that between the examined periods, with respect to the regression line, the competitiveness index in Estonia, Slovenia, Portugal, Slovakia, Greece, and Italy increased substantially. However, substantial decrease is noticed in Cyprus and Malta. In the rest of Eurozone, the index remained almost the same. It is worth noticing that small decrements in the index were faced by countries of the 'North', namely Germany, Finland, The Netherlands, Austria, France, Belgium, Ireland, and Luxemburg. Comparison of competitiveness index of the Eurozone's countries to most competitive non-Eurozone countries is shown in graph 11 below.



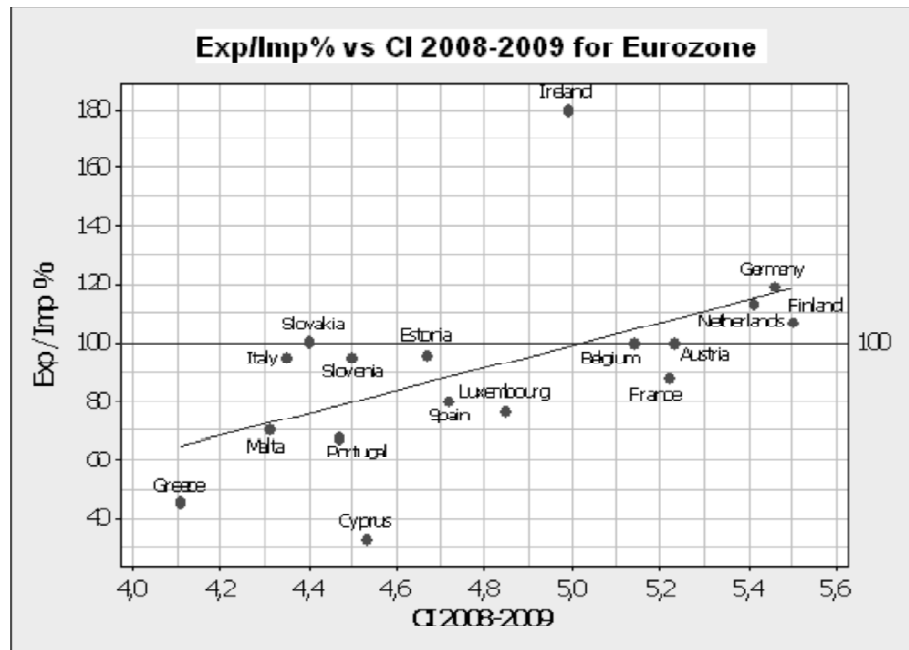
Graph 11: Scatter plot of the competitiveness indices of the Eurozone countries and of non-Eurozone countries with competitiveness index greater than the benchmark 4.60. The fitted line is simple regression line

Source: CIA - The World Factbook; Processing of the raw data

In the graph it is clearly shown that the among developed countries, Eurozone members do not occupy a significant position in the competitiveness ranking. The countries of 'South', however, enjoy a good position in the graph when compared with the regression line.

8.2. Exports/imports vs. Competitiveness

Graph 12 shows the relation of trade balance to the competitiveness index in the Eurozone countries. As a measure of the trade balance, the fraction exports over imports percent, often referred to as exports index or simply trade balance has been adopted. Value of the fraction greater (less) than 100 means that exports are greater (less) than imports.

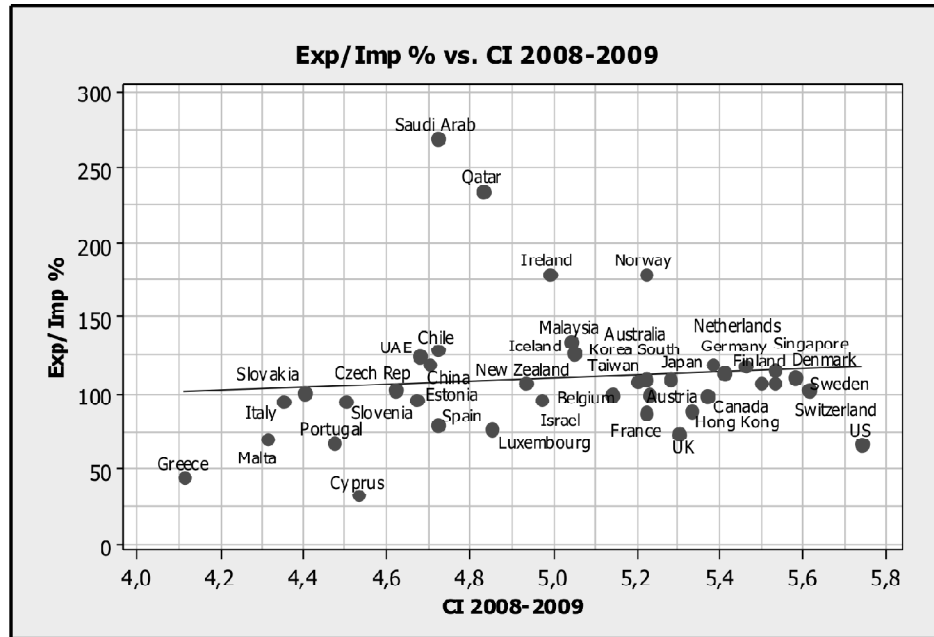


Graph 12: Exports/imports % of the Eurozone countries vs. competitiveness index.
The fitted line is simple regression line

Source: CIA - The World Factbook; Processing of the raw data

In the graph, it is shown that the trade balance is an increasing function of the competitiveness index for most of the countries. Deviation from this pattern is represented by Spain, Luxembourg and France, given that these countries have competitiveness index greater than the benchmark 4.6, while they have export index less than 100. An explanation of these exceptions might be related to some particularities of these countries. Luxemburg is a country in which, the (positive) balance of payments exceeds its trade balance, while Spain and France having lesser positive balance of payments, have significant budget and public debts, which reflect financing of trade deficits. Countries with low competitiveness index, like Greece, Malta, Portugal, and Cyprus indicate exports index less than or near to 100. It is worth noticing that out of the 17 countries of the Eurozone, seven countries, namely Cyprus, Greece, Italy, Malta, Portugal, Slovakia, Slovenia, exhibit competitiveness index below the benchmark of

4.60. Comparison of the competitiveness-exports relation to those of non-Eurozone countries is shown in the Graph 13.



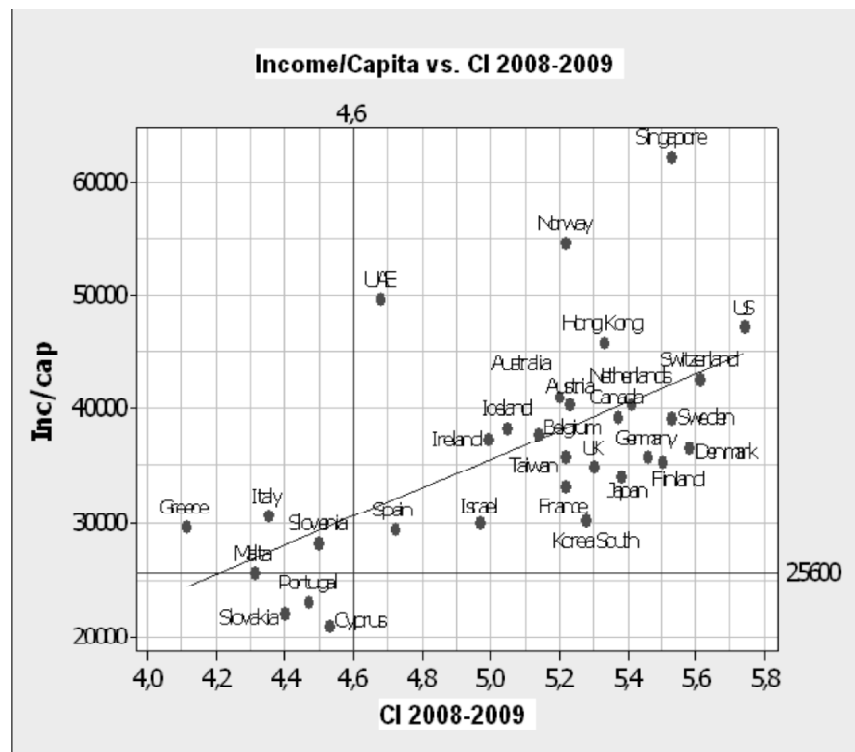
Graph 13: Exp/imp % of the Eurozone countries and of all the non-Eurozone countries with income per capita greater than USD 25.600 vs. competitiveness index. The fitted line is simple regression line

Source: CIA - The World Factbook; Processing of the raw data

As observed from the graph, the same positive relationship between competitiveness and trade balance is reflected in this extended collection of countries.

8.3. Income vs. Competitiveness

Since income is an important factor in international trade, it is useful to acquire a general view of the relationship between competitiveness and income (Gujarati, 2004; Verbeek, 2004). Income per capita is used as the measure of income (Gujarati, 2004; Verbeek, 2004). The relationship is shown in Graph 14, in which the non-Eurozone developed countries and all the Eurozone countries (whether developed or not) are included. The countries not included are Qatar, having competitiveness index 4.83 and income per capita USD 179.000, and Luxembourg having competitiveness index 4.85 and income per capita USD 82.600. These countries have excessive values and hence, their inclusion in the graph would substantially distort the visibility and the regression line.



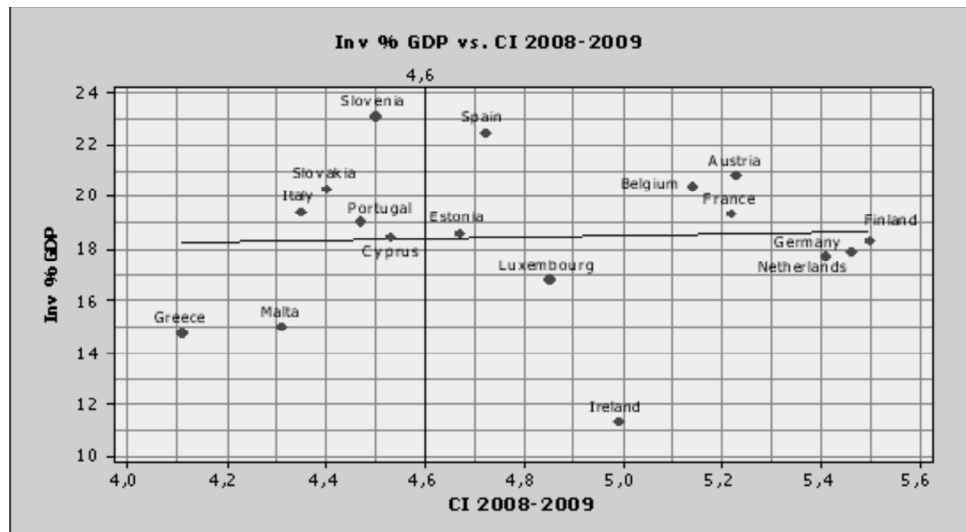
Graph 14: Income per capita vs. competitiveness index of all the developed non-Eurozone countries, except Qatar, and of all Eurozone's countries except Luxembourg

Source: CIA - The World Factbook; Processing of the raw data

As shown in the Graph 14, the per capita income is an increasing function of competitiveness. Countries with income per capita greater than the USD 25.6 are countries with competitiveness index greater than 4.60. Exceptions are Greece, Italy, and Slovenia.

8.4. Investments vs. Competitiveness

Investments is the most important factor in the development of a country, and consequently in its international trade (Gujarati, 2004; Verbeek, 2004). Determining investments is a complicated theme given that expectations and geopolitical considerations are also involved in it (Gujarati, 2004; Verbeek, 2004). However, in the framework of this study, it is important to examine the relation between investments and competitiveness. Percentage of the investments value in the GDP is used as the measure of investments (Gujarati, 2004; Verbeek, 2004). Graph 15 shows the relationship of investments as a percentage of GDP with competitiveness index of all the Eurozone's countries.



Graph 15: Investments on GDP percent vs. Competitiveness index of the Eurozone countries.
The fitted line is simple regression line

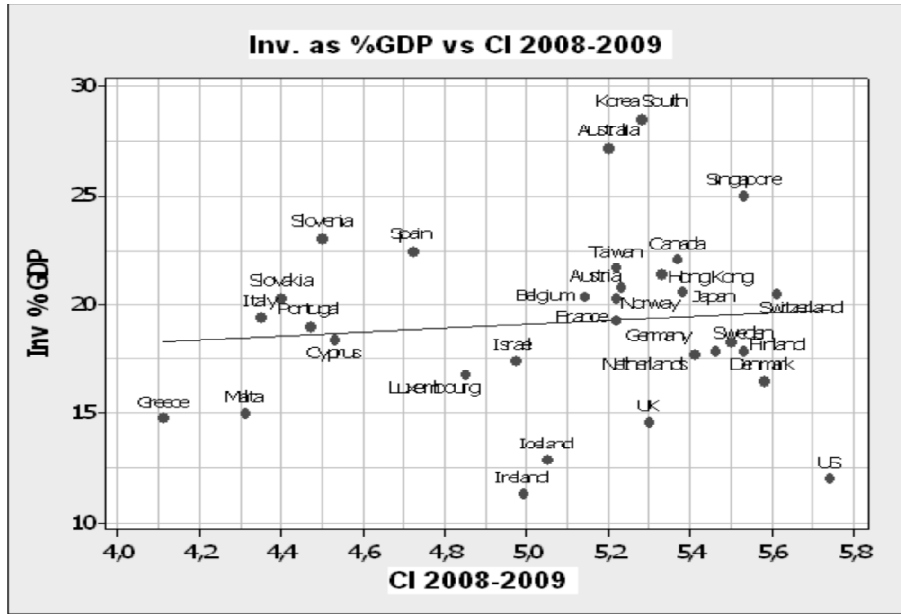
Source: CIA - The World Factbook; Processing of the raw data

The graph shows that in the Eurozone countries, the investments are a positive function of the competitiveness index. The countries with a high competitiveness index are the ones with favorable trade balance, either from Eurozone or outside it. The non-Eurozone countries with income per capita greater than USD 25.600 are included. The oil exporting countries Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, UAE, and Brunei are not included given that they have extremely high income per capita and their inclusion would cause a conflict between investments and competitiveness, and would distort the relative position with the rest of the developed countries.

In this graph, the positive relation between investments and competitiveness is revealed for all the countries, except the UK, the USA, Iceland, Luxemburg, Malta, and Greece. There may be some factors related to these countries not supporting this relationship, although unclear in this analysis. They have been considered as out of scope of this study. The interpretation taken from this graph is that the positive relation between investments and competitiveness holds for most of the countries.

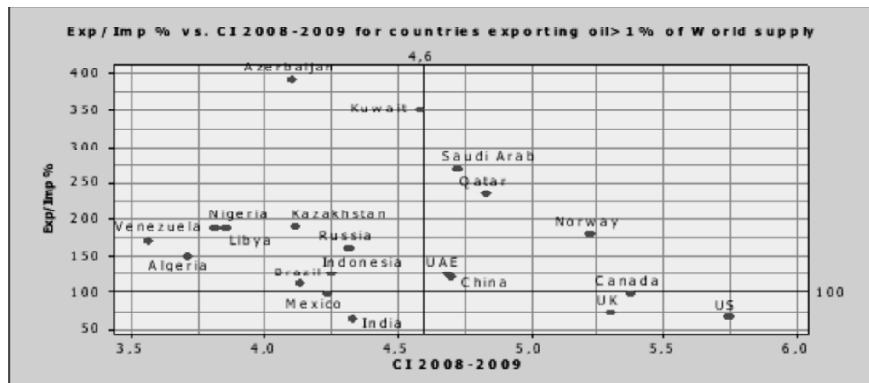
8.5. Exports/imports of oil producing countries vs. Competitiveness

In this Sub-section, the relationship between competitiveness and trade balance of the oil producing countries is analyzed. The role of oil exporting countries in international trade is a very complicated (Downey, 2009). Oil international production and trade (along with nuclear energy) is a geopolitical subject lying beyond the scope of ordinary economic analysis (Downey, 2009). In addition, the comparison of the trade balances of the oil exporting countries to the ones not exporting falsifies the results because the



Graph 16: Investments as percentage of GDP vs. competitiveness index for Eurozone countries and for all non-Eurozone developed countries. The fitted line is simple regression line
 Source: CIA - The World Factbook; Processing of the raw data

former have the advantage to gain finances through oil export. However, such a comparison can offer some information on the relation between the balance trade of oil exporting countries and competitiveness of these countries. The relation is shown in Graph 17. In the graph, the countries exporting more than one percent in the total oil exports are included.

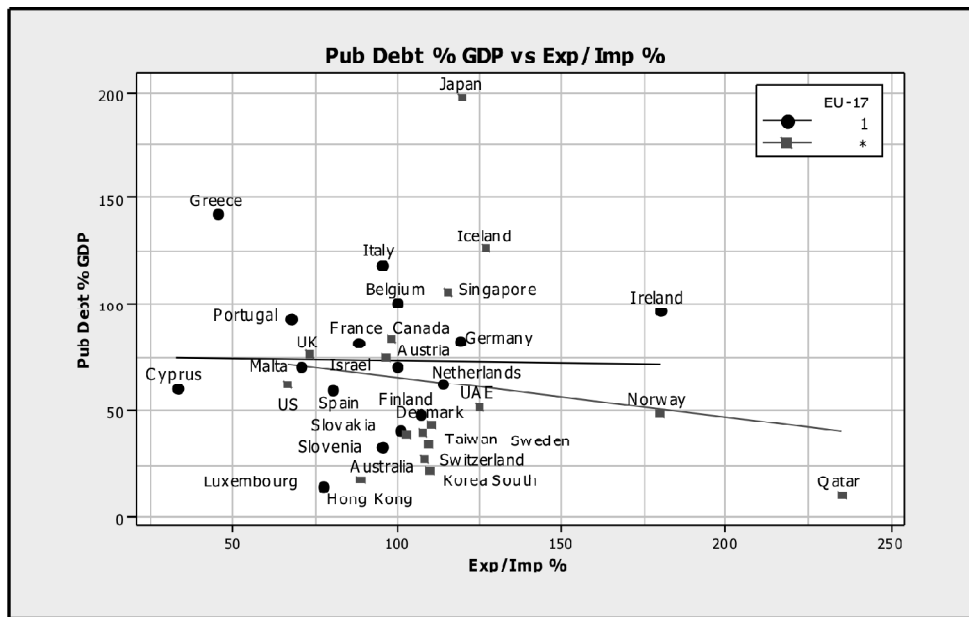


Graph 17: Exports/imports percent of countries exporting oil >1% of World supply vs. competitiveness index
 Source: CIA - The World Factbook; Processing of the raw data

As shown in the graph, oil exporting countries have a trade balance index greater than 100, while other developed countries with high competitiveness index exhibit unfavorable trade balances (examples are: Canada, UK, and USA). Therefore, the relation between competitiveness and trade balance becomes invalid when oil exporting countries and included in the analysis.

8.6. Exports/imports vs. Public debt

Since the public debt has been included in the factors determining the trade balance (Gujarati, 2004; Verbeek, 2004), it is necessary to test its relationship with exports/imports within the Eurozone in comparison with the developed countries. This is shown in Graph 18. The bullets denote the Eurozone countries and the squares denote the non-Eurozone countries.

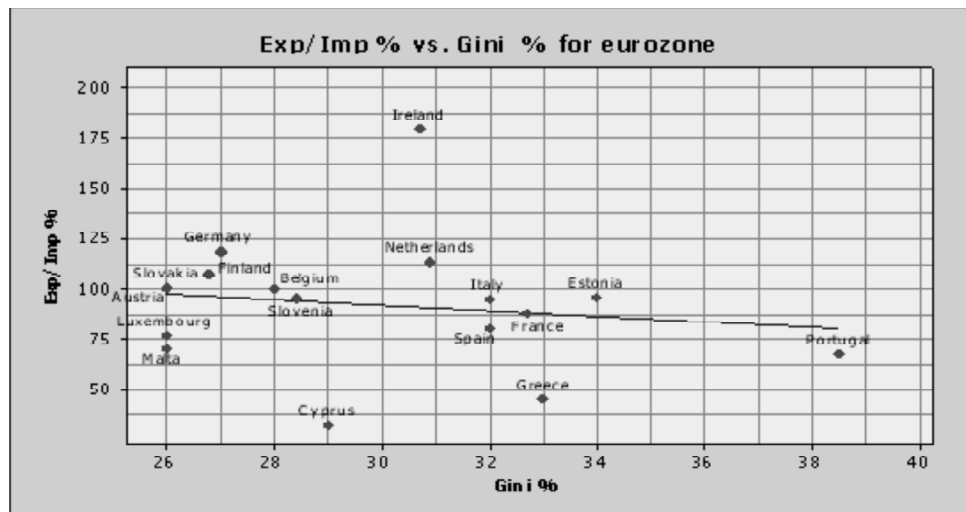


Graph 18: Relationship between Public debt% of GDP vs. Export/imports % in the Eurozone countries and in non-Eurozone developed countries. The fitted lines are simple regression lines
 Source: CIA - The World Factbook; Processing of the raw data

As shown in the graph, the relationship between public debt (as a percentage of GDP) and export/import is negative in the two groups of countries (Eurozone countries and developed countries outside Eurozone). However, the relationship is much weaker in the case of the Eurozone countries. The non-significant connection between exports and debt indices in the Eurozone might be a part of the explanation of the excessive debts of the South Eurozone countries. Perhaps, they financed imports using their borrowings.

8.7. Competitiveness vs. Gini index

From the experiences of developed countries, it is known that development correlates positively with favorable balance of payments, and with favorable trade balance (Gujarati, 2004; Verbeek, 2004). Therefore, it would be helpful for the scope of this analysis to relay the trade balance with Gini index of inequality in income distribution. Gini index has been highlighted as an important indicator of economic development (Gujarati, 2004; Verbeek, 2004). The Graph 19 shows the relation of balance trade of the Eurozone countries with Gini index.



Graph 19: Exports/imports percent vs. Gini index percent for the Eurozone countries.
The fitted line is simple regression line

Source: Processing of the raw data

In the graph, the slope of the regression line is negative. Finland, Germany, and The Netherlands have most favorable trade balances corresponding to low Gini values, whereas countries with unfavorable trade balances (such as Greece and Portugal) occupy high places in this income inequality index. It is plausible therefore, to assume that competitiveness go together with the way in which the GDP is distributed.

8.8. Correlation and principal components analysis

Further to the partial relations, which have been examined in the previous sub-sections of this section, it is necessary to examine the surrogate relations between the main variables, which are relevant to the relation between competitiveness, and trade balance. For this purpose, the variables per capita income, the trade balance index, and the public debt were submitted to correlation analysis and Principal components analysis in order to investigate the validity of the partials conclusions, when all variables are grouped together. The results are presented in the segments (a) to (d).

(a) Correlations between Inc/cap, CI 2008-2009,, and Exp/Imp% in the set of the non-Eurozone developed countries and Eurozone countries:

From the correlation matrix, it was found that the three variables are correlated with statistically significant coefficients of correlation (all p-values < 0.05). Especially strong is the correlation between competitiveness index and per capita income (0.661) and moderately strong between the competitiveness index and the balance of trade (0.389).

(b) Principal components analysis for the set of the non-Eurozone developed countries and Eurozone countries:

In excerpt 1, the eigenvalues matrix is shown.

Excerpt 1

Eigenanalysis of the Correlation Matrix

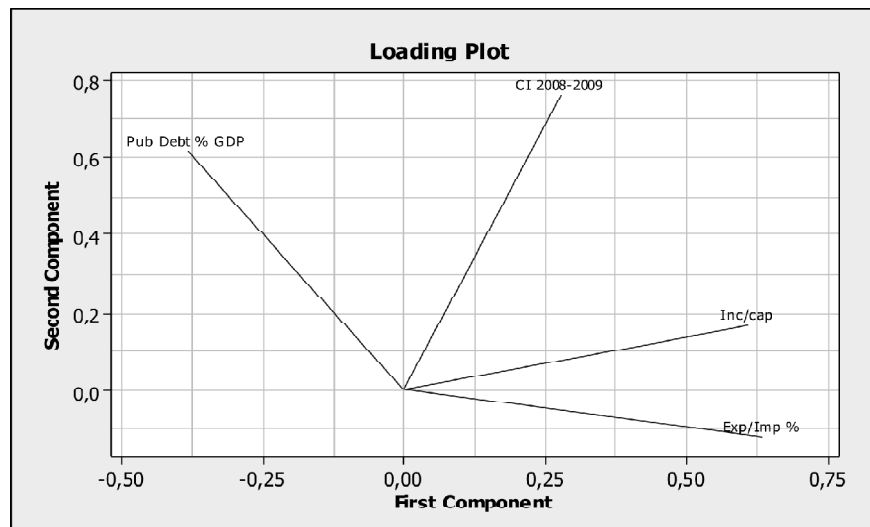
Variables: Inc/cap; CI 2008-2009; Exp/Imp%; Pub Debt%

Eigenvalue 1,563 1,036 0,816 0,583

Proportion 0,391 0,259 0,204 0,146

Cumulative 0,391 0,650 0,854 1,000

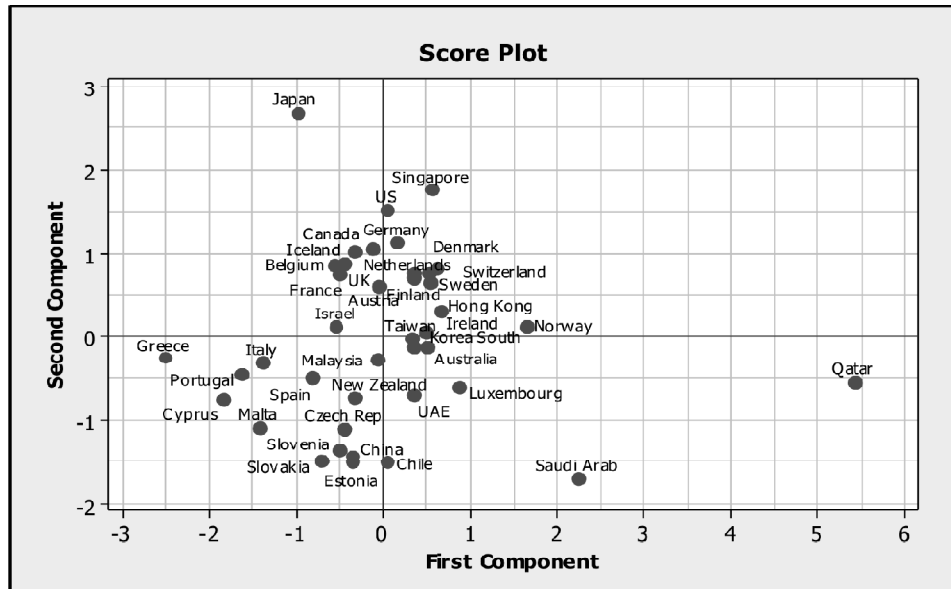
As shown in excerpt 1, the Eigenvalues for the first two principal factors are added up to the high percentage 65%, which ensures that the loading and the scores are quite reliable. Graph 20 confirms the statistically significant correlation between competitiveness index, the per capita income, and the balance of trade, while the public debt is opposed to all these three variables (negative correlation).



Graph 20: Loadings of the Principal components analysis

Source: Processing of the raw data

Graph 21 shows the scores of the countries. The graph exhibits similarity of profiles of the 'South' of Eurozone, clustering together the countries Greece, Portugal, Italy, Spain, Malta, Slovenia, Slovakia, Estonia, Czech Republic, Chile, and China. On the contrary, the countries of the 'North' of the Eurozone with the advanced non-Eurozone countries are clustered together.



Graph 21: Scores of the Principal components analysis

Source: Processing of the raw data

(c) Correlations between Inc/cap, CI2008-2009, and Exp/Imp% for all the Eurozone countries alone:

The correlation matrix shows that for the Eurozone countries, the only statistically significant coefficient of correlation is between the competitiveness index and the balance of trade (0.583).

(d) Principal components analysis for all the Eurozone countries alone:

In excerpt 2, the Eigenvalues matrix is shown.

Excerpt 2

Eigenanalysis of the Correlation Matrix

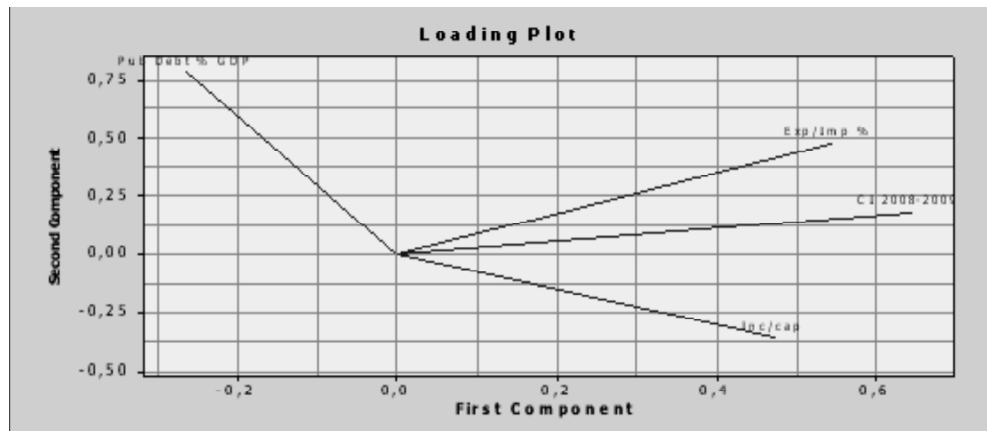
Variables: Inc/cap; CI 2008-2009; Exp/Imp%; Pub Debt%

Eigenvalue 1,786 1,036 0,766 0,411

Proportion 0,447 0,259 0,192 0,103

Cumulative 0,447 0,706 0,897 1,000

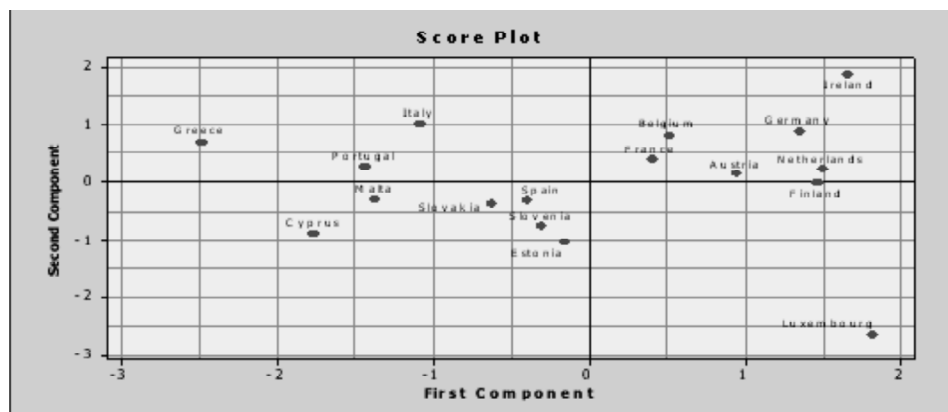
As shown in excerpt 2, the eigenvalues for the first two principal factors are added up to the high percentage 70,6%, which ensures that the loading and the scores are quite reliable. Graph 22 confirms the statistically significant correlation between the competitiveness index, the per capita income, and the trade balance, while the public debt is opposed to all of these three variables (negative correlation). This result is in conformity with the result obtained by aggregating the Eurozone countries with the non-Eurozone ones under the posed criteria.



Graph 22: Loadings of the principal components analysis

Source: Processing of the raw data

Graph 23 shows the scores of the Eurozone countries. The graph exhibits again similarity of profiles of the 'South' of the Eurozone clustering together Greece, Portugal, Italy, Spain, and Malta. Similarly, the countries of the 'North of the Eurozone are clustered together.



Graph 23: Scores of the principal components analysis

Source: Processing of the raw data

9. DISCUSSION AND CONCLUSIONS

The numerical and graphical analysis presented in Sections 4.0 to 8.0 reveal a number of facts in the international trading markets. This analysis also presents how Germany is placed in the overall bigger picture. Summarizing the analyses presented in Sections 4.0 to 8.0, the following facts are revealed::

- (a) Among the 23 largest importing countries with 75% collective participation in the international imports (Table 6), the Eurozone countries Germany, France, Italy, The Netherlands, Spain, Belgium, and Austria contributed a significant share of 29.66%. Germany's share was 9.69% out of this share (Table 6). This revealed that Germany is not the only exporting country of Eurozone that has a significant share in global markets. The few other Eurozone countries played a significant role, as well.
- (b) A similar conclusion can be drawn pertaining to participation in international exports, as well. Among the 24 largest exporting countries with 75% collective participation in the international exports (Table 7), the Eurozone countries Germany, France, The Netherlands, Belgium, Spain contributed a significant share of 28.80%. The contribution by Germany was 11.40% (Table 7). This again reveals that Germany is not the only Eurozone country having a significant share in global exports.
- (c) The levels of the surpluses/deficits are unbalanced in the Eurozone countries. Among the 25 countries with overall trade surplus/deficit greater than USD 30 billion, Germany, The Netherlands and Ireland had highest surpluses, and France and Spain had highest deficits (Table 8). This reveals that while Germany had one of the highest trade surpluses in the Eurozone, it was not the only one enjoying it.
- (d) In the context of partnership of Eurozone countries in international trade, the primary contributing countries are Germany, The Netherlands, Italy, Belgium, and France (Table 11 for imports and Table 12 for exports).
- (e) Pertaining to trading within the Eurozone, Germany, Belgium, Ireland, and The Netherlands enjoyed trade surpluses (Tables 13, 14, and 15). However, the largest trade surplus for trading within the Eurozone was enjoyed by The Netherlands, and not Germany.
- (f) Pertaining to trading with non-Eurozone countries only, trade surpluses were enjoyed by Germany and Ireland (Table 15).
- (g) It is also revealed that the largest trades by Eurozone countries occurred within the Eurozone itself (Table 15). Germany definitely commands a dominant position within Eurozone trade, but The Netherlands and Belgium also command good positions when we exclude Germany from the picture for analysis (Table 16).

- (h) The comparative analysis of trade balances with respect to the competitiveness levels of the Eurozone countries showed that Cyprus, Greece, Italy, Malta, Portugal, Slovakia, and Slovenia possessed competitiveness less than 4.60.
- (i) In the periods 2007-2008 and 2008-2009, no significant difference was observed in the competitiveness indices of the examined countries (Graphs 10, 11). Further, Slovenia, Portugal, Slovakia, Italy, Cyprus, Malta, and Greece reflected lower competitiveness indices among the Eurozone countries (Graph 11).
- (j) In the context of Eurozone, it was found that the trade index (exports/imports %) is an increasing function of the competitiveness index (Graph 12). For the non Eurozone developed countries, such a trend was observed, as well, but with a smaller slope (Graph 13).
- (k) Countries with low competitiveness index values exhibit low income per capita and vice versa. Eurozone countries with competitive index less than 4.60 were found to have lower per capita income levels (Graph 14). It was also found that the Eurozone countries with competitive index lower than 4.6 had unfavorable (low to negative) trade balances.
- (l) The positive relationship between investments and competitiveness is confirmed in the case of the Eurozone countries (Graph 15). The exceptions were Slovakia and Slovenia. Slovakia and Slovenia are countries with low competitiveness index, but they reflected disproportionately higher rates of investments. This might be due to the fact that these countries started from very low investments levels, and hence even small increases in investments translated into very high investment rates (in percentages).
- (m) When the sample is augmented with the developed countries, the same positive relationships among per capita income, investments, competitiveness, and trade balances were reflected. (Graph 16). The positive relationships, however, were not found in case of the oil exporting countries and also in the case of less developed countries, such as Azerbaijan, Venezuela, and Nigeria. The less developed countries, in spite of reflecting low per capita income and competitiveness levels, exhibit very favorable trade balances.
- (n) While in the non-Eurozone developed countries the relation between trade balance and public debt is strongly negative, the same almost diminishes in the case of the Eurozone countries (Graph 18). This result reinforces the arguments by studies assessing Eurozone's crisis (Bebo, 2012, 2013; Dullien & Guerot, 2012; EU Briefings, 2012; Lenz, 2011; Parrott, 2012; Turhan, 2014) that countries in the Eurozone with a low competitiveness index exploited their borrowing privileges excessively, which in turn financed their imports

without supporting them by exports. This was not feasible for non-Eurozone developed countries (with exception of the USA, whose geopolitical and economic status allows for high trade deficits). This explains the high negative steepness of the trade balance -public debt relation for these countries.

- (o) Countries with low competitiveness index and unfavorable trade balance reflect high values in the Gini index (Graph 19), which is also a factor deteriorating competitiveness and trade balance.
- (p) The correlations between income per capita, competitiveness and trade balance in the set of the non-Eurozone developed countries and Eurozone countries showed a positive, statistically significant, relation between the tested variables. However, for the Eurozone countries considered alone, only the correlation between competitiveness and trade balance was found positive, and statistically significant. The Principal components analysis exhibited grouping of the high competitiveness countries when the Eurozone countries are mixed with the non Eurozone developed countries (Graph 21) and also grouping of the high competitiveness countries of the Eurozone when they are considered alone (Graph 23).

With the comparisons of the trade balances from transactions within the Eurozone or between the Eurozone and the most developed countries, it is revealed that competitiveness, public debt, and investments are the influencing factors determining the trade balances. It is also revealed that the "North" countries in Eurozone have conducted large trades with the "South" countries in the Eurozone, thus creating significant opportunities of exports and imports within the Eurozone. As analyzed, the trading volumes within Eurozone have been larger than the trading volumes with outside Eurozone. Whether the "North" countries did enough is still debatable. Perhaps there cannot be an empirical measure of what constitutes enough contribution by the "North" countries. Overall, this study could not find any empirical evidences to project that Germany was selfish by maintaining such high trade balances. There were other countries that maintained high trade balances within Eurozone, as well. In addition, it is revealed that that their high trade balances were as a result of their high competitiveness, high investments, and low public debt. The countries in "South" Eurozone suffered because of relatively lower competitiveness, and higher public debts causing low trade balances. Although, a few "South" countries have reflected high investments, they did not influence their trade balances because the investments did not result in increase of their competitiveness. The findings represent more differences in the scopes of the various areas in the Eurozone than mere objective economic performances. There may be divergences in the role and management of credit, management of public deficits, and management of national priorities to enhance the competitiveness of the nations. These are the gaps pointed out by multiple scholars analyzing Eurozone crisis (like, Baglioni, 2009; Harari, 2014; Sapir, 2008; Sgherri & Zoli, 2009; Wyplosz, 2010; Yiannaki, 2009).

References

- Baglioni, A. (2009), "Liquidity crunch in the interbank market: is it credit or liquidity risk, or both?", Published research, Università Cattolica Milano, p. 1-30.
- Bai, J., Julliard, C., & Yuan, K. (2012), "Eurozone Sovereign Bond Crisis: Liquidity or Fundamental Contagion", Federal Reserve Bank of New York and London School of Economics, p. 1-49.
- Bibow, J. (2013), "Germany and the Eurozone Crisis: The Making of a Vulnerable Haven", Levy Economics Institute, NY, Working Paper No. 767, p. 2-61.
- Bibow, J. (2012), "The Euro Debt Crisis and Germany's Euro Trilemma", Levy Economics Institute, NY, Working Paper No. 721, 3-43.
- Downey, M. (2009), "Oil 101", UK: Wooden Table Press LLC.
- Dullien, S. & Guerot, U. (2012), "The long shadow of Ordoliberalism: Germany's approach to the Euro Crisis", Policy Brief, European Council on Foreign Relations, p. 1-16.
- EU Briefings (2012), "The New Germany: Abandoning Europe?", Network of European Union centers of Excellence, p. 1-6.
- Gujarati, D. N. (2004), "Basic Econometrics", 4th Edition, Worldwide: McGraw-Hill.
- Harari, D. (2014), "Causes of the eurozone crisis: a summary", Library of the House of Commons, Economic Policy and Statistics section, SN06831: p. 1-2.
- Hoekman, B. & Kostecki, M. (2003), "The Political Economy of the World Trading System: WTO and Beyond", London: Oxford University Press.
- Lapavistas, C., Kaltenbrunner, A., Lindo, D., Michell, J., Paineira, J. P., Pires, E., Powell, J., Stenfors, A. and Teles, N. (2010), "Eurozone crisis: beggar thyself and thy neighbour", *Journal of Balkan and Near Eastern Studies*, 12 (4): pp. 321-373.
- Lenz, R. (2011), "Crisis in the Eurozone: Financial Management without a Financial Policy", Friedrich Ebert Stiftung, p. 1-4.
- Lim, M. M. (2008), "Old Wine in a New Bottle: Subprime Mortgage Crisis—Causes and Consequences", The Levy Economics Institute, NY, p. 2-30.
- Parrott, W (2012), "The European Debt Crisis", ACCA Global article, p. 1-7.
- Pezzuto, I. (2008), "Miraculous Financial Engineering or Toxic Finance? The genesis of the U.S. subprime mortgage loans crisis and its consequences on the global financial markets and real economy", Swiss Management Center, Working Paper Issue: 12/2008, p. 3-30.
- Sapir, J. (2008): "Global Finance in Crisis", *Real-world Economics Review*, 46 (18): p. 82-101.
- Sgherri, S. & Zoli, E. (2009), "Euro Area Sovereign Risk During the Crisis", Report by International Monetary Fund, WP/09/22: 3-25.
- Turhan, E. (2014), "Germany's Leadership Role in the Eurozone Crisis and its Implications for Turkey's EU Bid: A Liberal Intergovernmentalist Approach", In UACES 44th Annual Conference, Cork, 1-3, September 2014, p. 3-21.
- Verbeek, M. (2004), "A guide to Modern Econometrics", 2nd Edition, NY: Wiley.
- Wyplosz, C. (2010), "The eurozone in the current crisis", ADBI working paper series, No. 207: p. 3-20, Econstor, Leibniz Information Centre for Economics.
- Yiannaki, S. M. (2009), "Regulatory Failure and the Subprime Credit Crunch- the Importance of Basel II Regulation/Supervision", Published research, European University Cyprus, p. 1-16.

Data Sources

- [1] Adda, J. (1998), *“La mondialisation de l’ économie”*, Paris: La Découvert
- [2] Benassy-Quéré (2011), *“L’ Économie Mondiale”*, Paris: La Découvert
- [3] Benichi, R. (2003) *Histoire de la Mondialisation*, Paris: Jacques Marseille
- [4] Maddison, A. (1982) *Phases of Capitalist Development*, Oxford University Press
- [5] Rainelli, M. (2009) *Le Commerce International*, Paris: La Découvert
- [6] Central Intelligence Agency- The World Factbook 2010
<https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html>
- [7] European Commission - Economic and Financial Affairs - Eurozone. ‘Eurostat - Tables, Graphs and Maps Interface (TGM) table, 2010.
<http://epp.eurostat.ec.europa.eu>
- [8] General Agreement on Tariffs and Trade, n.d.
http://www.wto.org/english/docs_e/legal_e/06-gatt_e.htm
- [9] International Monetary Fund for years 1953-1994
<http://www.imf.org/external/data.htm>
- [10] Organization of Economic Cooperation & Development 1994
<http://stats.oecd.org/>
- [11] Hoekman, B. & Kostecki, M. (2003), *“The Political Economy of the World Trading System: WTO and Beyond”*, London: Oxford University Press.