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YÜKSEK LİSANS TEZİ

COMPARISON OF TURKEY'S FOREIGN TRADE WITH EU AND THE WORLD DURING 1971-2006

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ÖZ

1971-2006 yılları arası dönemde Türkiye'nin Dış Ticaretinin Avrupa Birliği ve Dünya olarak Kıyaslaması

Şehnaz ÖZDİL KARAMANLAR

Bu çalışmada, Türkiye Ekonomisi ile birlikte Dünya Ülkeleri ve Avrupa Birliği Ülkelerinin büyüme oranları, nüfus artışları, Türkiye de 1980 sonrası uygulamaya konulan ihracata yönelik kararlar ve 1995'te kabul edilen gümrük birliği uygulamasının, Türkiye'nin Avrupa Birliği ülkeleri ve bir bütün olarak dünya ülkeleri ile olan ithalat ve ihracat hacmi üzerindeki etkisini anlamaya çalıştım. Bu nedenle, sosyal bilimlerde oldukça kullanılan, Newton'nun "Evrensel Yerçekimi Kanununa" dayanan "Gravity Model" temel alınmış ve bu konuda bir survey çalışması yapılmıştır.

Türkiye'nin Avrupa Birliği ile özel bir ticaret ilişkisi olup olmadığını 1967-2001 dönemini ele alarak araştıran; "AB üyeliğinden uzakta ve kırk yılı aşkın uyum çabaları sonrasında Türkiye'nin AB ile olan ticari ilişkisi ne derece özel" sorusuna da cevap arayan (Antonucci ve Manzocchi, 2006) çalışmasından esinlenerek "Gravity Model" çerçevesinde 4 model oluşturulmuştur. Bu modellerdeki değişkenler arasında yüksek oranda korelasyon bulunmaktadır. Ancak yapılan ko-integrasyon testi, modeli test etmem için devam etmemi mümkün kılmıştır. Elde edilen sonuçlar gösteriyor ki; bütün denklemlerde, Türkiye'nin nufusu (POPt) dışındaki tüm değişkenler pozitif etkiye sahiptir. Ortak anlamsız değişkenler dünya ve Avrupa Birliği ülkelerinin ekonomik büyüme oranlarıdır (GDPw / GDPeu). İhracata yönelik politika uygulamaları, Türkiye'nin ihracat hacminde daha etkinken, gümrük birliği anlaşması Türkiye'nin ithalat hacmi üzerinde daha etkindir. Bütün denklemlerde, bir önceki senenin ithalat ve ihracat değerleri bir sonraki senenin dış ticaret hacmi üzerinde etkilidir. Bu sonuçlara dayanarak, gümrük birliğinin (CU), ihracattan daha fazla Türkiye'nin ithalatının gelişmesine neden olduğu sonucuna varılabilir. İhracata yönelik politika uygulamaları da, ihracatın gelişimi açısından faydalıdır.

Anahtar Kelimeri: Türkiye, Ticaret, Avrupa Birliği, Türk ticaretinin gelişimi.

ABSTRACT

Comparison of Turkey's Foreign Trade with EU and the World During 1971-2006

Şehnaz ÖZDİL KARAMANLAR

In this study, I tried to analyse effects of growth rate of Turkey, EU and the World country economies, population growth rate of Turkey, EU and the World countries, the effects of export oriented policy applications of Turkish government which came into force after 1980's, Customs Union agreement which Turkey accepted on 1995, over Turkey's import and export volume with EU and the World countries in total. Therefore, "Gravity Model" which widely used in the social sciences and based on Newton's "The Universal Law of Gravity", was taken as base point and a survey has been made on this subject.

Within the framework of Gravity Model, I generated 4 models based on the work of Antonucci and Manzocchi, 2006 which investigates whether there is a special trade relationship between Turkey and European Union, and also tries to understand the question "To what extent are Turkey's trade relations with the EU already special, after four decades of adaptation efforts but far away from EU membership?" considering the period 1967-2001. For all models, there are high percentage of correlation between variables. But co-integration test showed that it was possible to continue to test the model. Obtained results showed that in all the equations, variables have positive effect except population of Turkey (POPt). Common meaning less variables are growth rate of World economies (GDPw) and growth rate of European Union countries economies (GDPeu). Export oriented policy applications are more effective in export volume while Customs Union agreement is more effective in Turkey's import with EU. In all equations, previous year's import and export values effects the following year's foreign trade volume. Based on those results, it is concluded that Customs Union (CU) had caused more development in import volume of Turkey. Export oriented policy applications are also beneficial in the development of export.

Words: Turkey, Trade, European Union, Development of Turkish Trade.

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PREFACE

Trade is assumed to occur when domestic production is not equivalent to domestic demand. As the necessities increase in a country and this country is not capable to provide requirements or if it is needed some sort of material for another type of production, this is the point of the beginning of import. Also, when the production exceeds demand or if there is a different production type or technic, this is the point of the beginning of export. As one of the most important part of Balance of Payments, trade circle creates too much benefits to other sectors.

This work attemps to analyze effects of growth rate of economies, growth rate of populations and two important events for Turkey (Customs Union aggrement and 24 - January Decisions) over Turkeys import and export potential with EU and the World. All the data were taken from "WORLD BANK DATABASE" . The statistical package programme E-views is used in this work to generate econometrica results. Comparison of two important category (EU and The World) showed that which variable is more important in one side than the other.

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İstanbul, 2011

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INTRODUCTION

As one of the most important item of balance of payments accounts and one of the most important revenue source of many sectors in an economy, foreign trade balance is exchange of capital, goods, and services across international borders or territories. Importance of foreign trade is increasing gradually day by day. Without international trade, nations would be limited to the goods and services produced within their own borders.

A country's foreign trade is based on many factors. Economic conditions, production possibilities, trade aggrements, conjugate relations etc. Thinking in the simplest way, if a country produce more than it needs, this excess production become exported out of this country. Besides it has to import its needs. Starting from this point, growth rate of economy and population increase are two important factor in foreign trade.

After a difficult period of wars, Turkey found itself in a mass and it had started a development process. As a developing country, its technology was weaker than the other countries and its production was based on agriculture. Industry was too weak. Raw materials were inadequate. With all those deficiencies Turkey tried to find the best way to develop its economy. As a result of chosen import substitution policies, Turkish economy was nearly closed to the World. So, the decision to open its door to the World by the decisions of 24 January was a turning point for liberalization. Second important decision to develop connections between Turkey's biggest trading partner was Customs Union aggrements which was put into practice in 1996. Its aim was to revoke tariffs and barriers with EU countries and develop import and especially export of Turkey.

In this study, I attemped to analyze effects of growth rate of economies (GDPt/GDPw/GDPeu) , growth rate of populations (POPt/POPeu/POPw) and two important events for Turkey (Customs Union aggrement (CU) and 24th of January Decisions (POLICY)) over Turkey's import and export potential with EU and the World. I compose four model (two for export and two for import) to understand the

effects of growth rate of economies and population also by considering customs Union aggrement effect and export oriented policies over Turkish foreign trade.

There are so many studies and analyses made to understand factors which are related to Turkish foreign trade. The basis of my study is the one, which is made in 2004 by Danielle Antonucci from Centro Studi Confindustria and Stefano Manzocci from University of Perugia and named as " Does Turkey Has a Special Trade Relation With the EU? A gravity Model Approach". This study tries to answer the question " To what extent are Turkey's trade relations with the EU already special, after four decades of preferential treatment but ahead of EU membership?" by taking the time period 1967-2001.

This dissertation is organized as follows.

Chapter one of this dissertation presents the history of Gravity studies made by well-known economists. After dealing Turkish economic history in chapter two, I will present how I composed my model and give details of independent variables. In conclusion part, I will comment the results and finally, I will deal what I have found as a result of this dissertation.

CHAPTER 1-BACKROUND OF GRAVITY APPROACH

Gravity equation is widely used as a tool in social sciences. It can be applied to explain the volume of trade, for analysing the impact of several factors such as institutional determinants, including regional trading groups, currency unions, political blocs, border region activities etc. on the bilateral trade flows of the countries in international trade for the determination of policy issues and to explain international trade patterns under the conditions of comparatively little data and for validity of theoretical background of the model to the economies in transition.

Based on the Law of Universal Gravitation, discovered by Isaac Newton in 1687, gravity equation has been applied to many areas to a wide range of problems. In the Table-1, a summary of the "theoretical foundations and main concepts of the use of gravity laws in social science and economics" can be found.

Table : 1

Theoretical Foundations And Main Concepts Of The Use Of Gravity Laws In Social Science And Economics

Theoretical Backround	The Main Concept	Authors
Regional science, economic geography	Measurement of intraregional relationships and their influence on the behaviour of individual units. Regions are conceived as a mass. The location of the firm is guided by two fundamental forces: 1-Economies of Scale at the factory level, and 2-Trade Costs.	Carey (1858), Reilly (1929), Steawart (1948), Isard and Freutel (1954), Hammer and Ikle (1957), Carrothers (1959), Isard (1960), Harvey (1969), Nijkamp and Reggiani (1992), Krugman (1991-1998), Davis and Weinstein (1996), Fujita, et al (1999)
Microeconomics, utility maximization, general equilibrium	An optimal allocation of the given budget can be obtained by postulating a utility function for the decision-maker that reflects relative preferences.	Linnemann (1966), Niedercorn and Bechdolt (1969),

	Assuming the budget constraint is linear, the volume of transactions between two points can be stated as a utility maximizing problem. A model using gravity theory could be derived from a utility maximizing function.	Golob and Beckman (1971), Nijkamp (1975), Bergstrand (1985), Nijkamp and Reggiani (1992),
Trade theories, which differ in the way product specialisation is obtained in equilibrium: 1) technology differences across countries in the Ricardian model, 2) variations in terms of countries' differing factor endowments in the Heckscher-Ohlin (H-O) model, 3) increasing returns at the firm level in the increasing returns to scale (IRS) models.	A gravity model for trade, considers three main factors: 1) the total potential supply (or exports) of a country to the world market; 2) the total potential demand (or imports) of a country to the world market; 3) those factors that create a resistance to trade and thus affect the degree of trade intensity.	Tinbergen (1962), Poyhonen (1963), Linnemann (1966), Anderson (1979), Bergstrand (1985), Helpman and Krugman (1985), Deadorff (1995), Evenett and Keller (1998), Eichengreen and Irwin (1998)

Source: Tiiu Paas,"Gravity Approach For Modeling Trade Flows Between Estonia and The Main Trading Partners", University of Tartu, 2000,

Many economists had been used the gravity approach to highlight problems they had focused. The logic in the first gravity model was like that; countries locating close to each other should trade more than distant countries, as well as the trade flows between big countries are larger than those between small economies as it is explained in Newton's Gravity Law[1.1].

Since 1960's, the gravity models have been used for analysing international trade. Jan Tinbergen (1962) was the first person who applied gravity model to economy by using the equation to explain the international trade flows. The study made by Timbergen was the first study that applying gravity equation to analyze international trade flows. They improved an empirical model lacking robust theoretical foundations. In the basic form of the gravity model that Tinbergen examined, the amount of trade between two countries is assumed to be increasing in their sizes, as measured by their national incomes (or GDP), and decreasing in the cost of transport between them as measured by the distance between their economic centres.[1.2] According to results of those studies, trade flows have a positive relationship with economic sizes of countries and a negative relationship with physical distance between countries.

[1.1] Newton's Gravity Law : GFij = MiMj / D2ij where $i \neq j$

[1.2] Tiiu Paas, Egle Tafenau, "European Enlargement and Regional Economic Clusters: The Recent Trends and New Challenges", University of Tartu, Faculty of Economics and Business Administration, (online) Estonian Social Science Online, 2005, No:3, pg:2

In international trade, bilateral gross aggregate trade flows are explained commonly using the following specification:

$$PXij = \beta o\ (Yi)\ \beta 1\ (Yj)\beta 2\ (Dij)\beta 3\ (Aij)\beta 4\ uij$$

In this equation;

-PXij is the U.S. dollar value of the flow from country i to country j,

-Yi (Yj) is the U.S. dollar value of nominal GDP in i (j) ,

-Dij is the distance from the economic center of i to that of j,

-Aij is any other factor(s) either aiding or resisting trade between i and j, and

-uij is a log-normally distributed error term with E (In uij) = 0.

This specification was used by Tinbergen, Pöyhönen, Pulliainen, Geraci and Prewo, Prewo, and Abrams, Linnemann, Aitken, Sattinger and Sapir used the same general specification, but also they included exporter and importer populations.[1.3]

Hans Linnemann (1966) was the one who added population as an additional measure of the size of a country and its economy in 1966 in the gravity equation. Population variable was employed as a proxy variable for consumer preferences in terms of importer and for capital–labor intensity in terms of exporter. He pointed out that, when considering the theoretical aspects of a gravity model for trade, there are three main factors to be considered:

1) The total potential supply (or exports) of a country to the world market;

2) The total potential demand (or imports) of a country to the world market;

[1.3] Jeffrey H Bergstrand, "The Gravity Equation in International Trade: Some Microeconomic Foundations and Emprical Evidence", The Review of Economics and Statistics", w.date, Pg: 474

3) Those factors that create a resistance to trade and thus affect the degree of trade intensity.[1.4]

Paul Armington's studies related to gravity equilibrium are the key contribution on product differentiation by country of origin. He introduced the assumption that final products traded internationally are differentiated on the basis of the location of production. He assumed that in any one country each industry produces only one product and that this product is distinct from the product of the same industry from any other country. [1.5]He also introduced the Armington Model whose properties and behaviour are fundamentally different from the well-known Heckscher-Ohlin (H-O) model. By differentiating products by country of origin, the Armington assumption provides a rationale for the existence of 'cross-hauling' data and offers a basis for modelling intra-industry trade.

Two well-known features of Armington models are as follows[1.6]:

1. Larger than expected changes in inter-country relative prices, which result in excessive terms of trade effects, especially for small countries

2.Smaller than expected changes in inter-industry relative prices and, therefore, in national outputs, leading to an underestimate of possible reallocation efficiency gains from trade liberalisation.

These general equilibrium properties of an Armington model are controlled by users' preferences over differentiated goods, especially the value of the Armington elasticities of substitution.

[1.4] Tiiu Paas, "Gravity Approach For Modeling Trade Flows Between Estonia and The Main Trading Partners", University of Tartu, 2000, Pg:10

[1.5] Paul Armington, "A Theory of Demand for Products Distinguished by Place of Production". IMF Staff Papers 16(3), 1969

[1.6] Xiao-Guan Zhang, ,"The Armington General Equilibrium Model: Properties, Implications and Alternatives", Australian government Productivity Commission, Staff Working Paper, 2008, Pg: 10

In 1973, Aitkin introduced a dummy variable[1.7] to the equation. With the help of dummy variable, to measure the effect of being a member of Regional Trade Agreements (RTA) or any kind of union, having a common border with mentioned trade partner, becoming in a special region that creates benefit about related subject, common language, common historical background (common colonization) became possible. When used to address the effect of a RTA on the direction of trade, the basic model was first extended with a dummy variable to capture its effect on intra-bloc trade – that is the sum of trade-creation and trade-diversion for the RTA.

More recently, researchers have added a second set of dummies to capture the RTA effect on trade of bloc members with non-members (Frankel,1997 etc.). Frankel used the model to explain determinants of inter and intra integration trade of EC, EU, EFTA, CUFTA, MERCOSUR and ASEAN. The purpose of study was to analyse the effects of factors such as common language, common culture and common border on trade flows. Shortly explain; if the two countries are the members of the same economic bloc (RTA) or are replacing in the same region (such as European Union), the variable takes the value of 1. If one country does not belong to the bloc or does not a member of European Union, it takes value of 0.

Anderson's studies related to gravity model are one of the first attempt to provide theoretical foundations to the gravity model (1979). He made theoretical contributions to gravity model. Similarity of preferences, cost structures and tax regulations between trading partners are factors that affect trade flows positively.

[1.7] A dummy variable does not take real values, unlike GDP, GDP per capita or distance, but rather it takes only the value 0 or 1. It is a numerical variable used in regression analysis to represent subgroups of the sample. In research design, a dummy variable is often used to distinguish different treatment groups.Dummy variables are useful because they enable users to use a single regression equation to represent multiple groups. This means that users don't need to write out separate equation models for each subgroup.Another advantage of a 0,1 dummy-coded variable is that even though it is a nominal-level variable users can treat it statistically like an interval-level variable

Jeffrey Bergstrand is basically focused on bilateral intra-industry trade. In his study[1.8], he expressed that the price and exchange rate variables have plausible and significant effects on aggregate trade flows. Whichever specification of the augmented model is used, the purpose is to allow for non-homothetic preferences in the importing country and to proxy for the capital/labor ratio in the exporting country (Bergstrand, 1989).

Starting from the times of Anderson (1979), it has been increasingly recognised that the gravity equation can be derived from very different models, including Ricardian, Heckscher-Ohlin, and increasing returns to scale models. Many of these models have one characteristic in common: perfect spacialization, where each commodity is produced in only one country. This multitude of models has led some to argue that the gravity prediction cannot be used to test any one of those trade theories.[1.9] But addition to that, Deardorff (1995) states that the equation can work well for a wide range of products and variety of regions across the world. Besides, Krugman was the one who introduced the " home-market effect" to the literature.

As 1980s and 1990s came, it was shown that the gravity equation can be derived from all standard trade theories. This resulted in the revival of gravity equation based international trade analysis.[1.10] Helpman and Krugman are the leading economists who emphasises that the gravity equation is more developed by the help of trade theories. Countries similar in size should trade more if their exchanges are of intra-industry nature (Helpman and Krugman, 1985). In this manner, Heplman is more known in new trade theory models with increasing returns and Deardorff is more known in classical trade theories.

Mc Callum is the one who emphasized on the enormous importance of the border. In his study in 1995, he emphasized that trade between two provinces is

[1.8] Bergstrand, Jeffrey H., "The Gravity Equation in International Trade: Some Microeconomic Foundations and Emprical Evidence", The Review of Economics and Statistics, w. date

[1.9] Simon, J. Evenett, Wolfgang Keller, "On Theories Explainig the Success of the Gravity Equation", Journal of Political Economy, 2002,Vol: 110, No:2, Pg:2

[1.10] Tiiu Paas, Egle Tafenau, "Gravity equations for exploring trade flows in the enlarged EU", University of Tartu, Faculty of Economics and Business Administration, Pg:1

more than twenty times larger than trade between a province and a similar sized state located the same distance away. This suggests some powerful international transaction costs at work, since tariffs are minimal between the US and Canada even in 1995. McCallum emphasizes the significance of this by a simple exercise examining the predicted effect on trade of Canadian provinces of removal of the border. It is assumed that the removal of the border does not affect the proportion of trade going to 'own province' or to 'rest of world'. [1.11]

Starting from 1990's, correct specification and estimation techniques of the gravity equation become an important manner in this field. Several papers have argued that standard cross-sectional methods yield biased results because they do not control for heterogeneous trading relationships. That discussion has concentrated exactly on the possibilities to control for unobserved heterogenity. Those papers introduced fixed effects into the gravity equation. Fixed-effects models allow for unobserved or misspecified factors that simultaneously explain trade volume between two countries and, for example, the probability that the countries will be in the same regional integration regime.

As one of the first ones, Mátyás argues that the correct specification of a gravity model should include exporting and importing country effects, as well as time effects in order to control for individual country characteristics and for common business cycle effects.[1.12] Such a specification is also used by Egger (2000). In addition, Mátyás proposes that one should test for the invariability of the slope coefficients across the countries included in the sample.[1.13] In one of his paper, where he had analysed 11 APEC countries, he emphasized that it is imperative that policy is set in accordance not only with the correct response parameters (based upon the

[1.11] James E Anderson, "Why Do Nations Trade (So Little)?", Boston College and The National Bureau of Economic Research Working Paper, 1999, Pg: 7

[1.12] Lazslo Matyas, "Proper Econometric Specification of The Gravity Model", Blackwell Publishers Ltd.1997

[1.13] Mark N.Harris and Laszlo Matyas, "The Econometrics of Gravity Model", Budapest University of Economics and Erudite, Universite de Paris XII, Melbourne Institute Working Paper No: 5/98, 1998

fully specified model), but also that the various member states' propensities to import and export are sufficiently and adequately taken into account.[1.14]

Egger (2002) and Egger and Pfaffermayr (2003) suggest using country-pair fixed effects instead of individual country effects to control effects specific to trade flows between each pair of countries. Baltagi, Egger and Pfaffermayr (2003) add country-time interaction effects to control for country-specific business cycle effects.[1.15]

Eric Van Wincoop is basically working on macro economy. In his studies, he gave ideas about trade cost[1.16], border effect[1.17] when he was using gravity model in his studies.

Robert C. Feenstra is another economist who made studies about border effect, home-market effect and the role of differantiating goods about gravity model.

Davis and Weinstein (1998) have found evidence of a home market effect in disaggregate trade between OECD countries, and rely on a gravity-type equation for demand. They argue that the home-market effect is supportive of an increasing returns model[1.18].

Evenett and Keller (1998) argue that the gravity equation can be used to distinguish different theoretical models (such as increasing returns versus a conventional Hecksher-Ohlin model and increasing returns theory). They have also

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[1.14] Laszlo Matyas, Laszlo Konya and Mark N.Harris, "Modelling Export activity of Eleven APEC countries, 1978-97", Applied Econometrics and International Development. AEID. Vol. 4-4 (2004)

[1.15] Tiiu Paas, Egle Tafenau, loc.cit.

[1.16] James Anderson, Eric Van Wincoop, "Trade Costs", Journal of Economic Literature, 2004, 42(3), 691-751, (on-line), http://www.hss.caltech.edu/~camerer/SS280/TradeCosts.pdf.

[1.17] James,Anderson, Eric Van Wincoop, "Gravity with Gravitas: A Solution to the Border Puzzle", American Economic Review, 2003,93(1), 170-192, (on-line), http://www2.bc.edu/~anderson/BorderEffects.pdf.

[1.18] Robert C Feenstra, James A Markusen,. Andrew K,Rose, "Using The Gravity Equation To Differentiate Among Alternative Theories Of Trade", 1999, Pg: 22, (on-line), http://www.econ.ucdavis.edu/~feenstra,

argued that an equation can arise with incomplete specialization if there are just two countries.

Based on various approaches to theoretical foundations of gravity equations, Evenett and Keller (1998) summarise three types of trade models, which differ in the way product specialisation that is obtained in equilibrium:

1)Technological differences across countries in the Ricardian model,

2)Variations in terms of countries' differing factor endowments in the Heckscher-Ohlin (H-O) model,

3)Increasing returns at the firm level in the increasing returns to scale (IRS) models.

Soloaga and Winters (1999) conducted gravity model for EU, EFTA, NAFTA, MERCOSUR and ASEAN during 1980-1996 period. Common language, common culture and common border variables proxy by dummy variables inserted to Standard gravity model. The results are proper to theoretical expectations But according to analyses, new regional integration process has no trade creation effect.

The Literature on Gravity Model Studying Turkish Trade Paper Explanations are as follows:

Lejour and Mooij (2005) determined potential trade between Turkey and EU for 15 sectors by the gravity model. Then, they determined custom equivalence of trade barriers by comparing numbers of potential trade and actualized trade. According to analyses, CU increased Turkey's bilateral trade with EU by 34%.

Antonucci and Manzocchi (2006) study used gravity model to explain Turkey's trade flows during 1967–2001 period. Firstly, they demonstrated that the model explains Turkey's trade pattern statistically. Then, they used the model to explain whether EU has a special role concerning the commodity trade between Turkey and EU. According to analyses, CU has no significant effect on Turkey's bilateral trade with EU.

Bilici, Erdil and Yetkiner (2008) applied gravity model to determine the trade flow determinants of Turkey whether the CU has caused any deviation, minor or major, in Turkey's trade flow. Their analyses show that both exports and imports have changed in favor of EU immediately after CU but lasted only for few years; the trend have not sustained. They determine a trade equation of Turkey to identify whether CU had caused a statistically significant deviation in Turkey's trade flow. Their analyses indicate that EU was always significant in Turkey's trade and this importance has become more prominent after CU.

To summarize what I tried to explain above about the the results of discussions and explanations of theoretical foundations of gravity models in exploring international trade flows, three important findings of Evenett and Keller (1998) are important;

1. Little productions perfectly spezialized due to factor endowment differences, making the perfect specialization version of the Heckscher-Ohlin model an unlikely candidate to explain the empirical success of the gravity equations,

2. Increasing returns are important causes for perfect specialization and the gravity equation, especially among industrialized countries,

3. To the extent that production is not perfectly specialized across countries, it is possible to find support for both Heckscher-Ohlin and Increasing Returns models.

All of these economists provide different benefits to the gravity approach. Those above are the main stones who provide benefits from differents aspects. Since gravity approach is a widely used method, there are so many economists and researchers who used this model to analyse the effects of some variables over international trade of a union or a country.

CHAPTER 2- DEVELOPMENTS IN THE TURKISH ECONOMY

2-1: BEGINNING OF THE COUNTRY

During the time of the collapse of the Ottoman Empire and the subsequent birth of Republic, the Turkish Economy was underdeveloped and agriculture was depending on outmoded techniques and poor-quality livestock. The economy was importing middle and industrial products and exporting agricultural products, and stayed underdeveloped because of long wars. Turkey's industrial base was weak. Economic policies which were mostly liberal, between 1923 and 1929 period was partially shaped under the preasure of Lozan Agreement. They were aiming to develop private sector and inviting foreign investment to the country. Because these years were renovation years of Turkish economy after long wars, Turkey was dependend on the other countries and economies in this period. "Aşar [2.1]", the tax taken from agriculture by the way of "iltizam" was removed by the republic. Instead of aşar, government increased the indirect tax rates. And this removal of tithe caused good effects on farmers.

Great Depression in 1929 affected Turkey as it affected all of the world and economic depression started. Some of the articles' duration in Lozan Agreement was also finished in 1929. This decreased the preassure of world system and created positive effect on Turkey. When the export of countries decreased in 1929, prices of products that Turkey was exporting also decreased and also import capacity decreased. External debt became more difficult. So, Turkey prefered the way to control import and tended to import-substitutional policies. In 1930's, government prefered the way to nationalize some of foreign investments from Ottoman Empire. Government gained more affect over private sector prices and over banks' interest rates and their facilities after the foundation of Central Bank.

In 1933, "Five Year Industrialization Plan" was started to be applied. With the effect of this plan, Turkey became independent in textile, sugar and flour. The share of industry increased from %10 in 1929 to % 18 in 1939. For industralization,

[2.1] Aşar: Tithe

foreign credits were started to be used. Annual increase of national income was % 6 between 1930 and 1939, but this ratio increased to % 9 between 1933 and 1939. This result was taken due to decrease in agricultural production comparing to 1923 and 1929. [2.2]

2-2: AFTER WORLD WAR II

Even Turkey did not enter the II.World War, during the period of 1940-1945, production decreased as a result of men absence who were sent to army. Production of wheat decreased by nearly % 50. Import reached to its half value in 1940-1941 comparing to 1938-1939. Industrialisation program was put aside. Depending on the "National Protection Law (Milli Korunma Kanunu)", government made working time longer, took the action of private enterprises temporarily, put borders to prices in import and internal trade to maximum level and the prices in export to minimum level, and distribute primarily necessary products with special cards. In the period 1940-1945, GNP decreased as a result of recession in industrial and agricultural production.

Between the years 1946 and 1953, the government of "Republican People's Parti" and "Democrat Parti" preferred a tendency to confederate in political and military issues with USA. With the suggestions of USA and World Bank, Turkey left the planned industrialization policies. In 1946, "New Five Year Industrialization Plan" was started to be applied.

In 1946, Turkey made the first devaluation in curreny in its history and started the ease import restrictions except customs duty. As a result of that, export stayed stable but import increased nearly % 100 in 1947. This scene was the beginning of Turkey's foreign trade deficit. Foreign trade deficit was compensated with USA subsidies and foreign credits. In this period, government made some changes in laws and started to invite foreign investment to the country.

[2.2] Cem SOMEL et al.; Turkish Economy, **Anatolia University**, 2008

With the effect of liberal foreign trade regime, foreign trade deficit started to increase from 1946. It was around 88 million dollars in 1951 and reached to nearly 193 million dollars in 1952. IMF offered to compensate this deficit under the conditions of continuing devaluation, contractionary precautions for economy and liberalization of foreign trade. But government did not obey the condition to liberalization of foreign trade and in scope of "National Protection Law", and government increased price and market controls and applied price subsidies to agricultural products. With the import-substitution policies, foreign trade deficit decreased and the ratio of investments to GNP increased. Restrictions in import caused special sector to invest to industry. So, it is possible to say for the period 1954-1961 that mechanization in agricultural activities, development facilities in land carriage and trasportation and step by step industralization caused production to be depended on import goods.

2-3:SUPPORTING THE PRODUCER

Turkey started import-substitution industrialization policies after the revolution in 27 of May in 1960. With the help of "five years development plans" which started in 1963, public investments were arranged according to long term targets and private sector investments were directed according to planned targets with subsidies. Government aimed to develop durable consumption goods sector with low level bank interest rates. This started with installation of parts in Turkey and the rate of locally produced part production increased as the time passed. But, there was always a dependence to other countries for critical parts and production strategies.

Durable consumption goods sector became widespread in Turkey, but since withdrawn industrialization depends on people's purchasing power, government followed policies to develop collective labor contracts, high wage in public economic enterprises, price subsidies in agricultural products and social security system. Import-substituting sectors were founded in public sector. But there were no development in production of complicated investment products and middle products. Since the dependence to other countries was still continuing, import-substitution

policies could not get better the balance of payments. In 1970s, the share of industrial products in Turkey's export reached to %30 but still agricultural products had more portion in export. In 1973, international constriction started as a result of increase in petrol prices made by OPEC. Until 1977, Turkey continued industrialization policies with loans as other countries in the environment. In 1977, there was no opportunity for Turkey to find foreign credit . Government tried to prevent the effects of stopped import by price controls and made devaluations to prevent trade deficit. By the ends of 1970s, full employment and social government policies were started to be left aside. Turkey stopped import-substituting policies in 1980, under military revolution. Turkey was one of the first country who applied "Structural Adjustment Programme" of World Bank after stating in the foreign debt depression in environment countries.

An important assessment made by DİE in 1973 says that;

"The most important problem for Turkey's development is export. The substructure of export which depends on raw material did not change. Between 1948 and 1967, export was composed by raw materials and plants in the rate of %48.7, by fruits and vegetables by the range of %19.3, and by mines by the rate of %9.6. The rate industrial products in export was %5.1 But there have been an increase in this group. It is expected to increase more after the start of passing common market period (Eurocracy).[2.3-2.4]

2-4:THE GREATEST STEP ON TURKISH FOREIGN TRADE

Since the foundation of Turkish Republic, there has been a significance alteration in Turkey's foreign trade. Between 1923 and 1980's, it was tried to develop export depending on agricultural products. And import depending on industrial prducts reached to huge amounts. But after 1960's, content of export tended from agricultural products to industrial products. The greatest steps about

[2.3] Türkiye'de Toplumsal ve ekonomik Gelişmenin 50 Yılı, **Devlet İstatistik Enstitüsü**, Ankara, 1973, pg.323-324

[2.4] Cem SOMEL et al.., 2008, i.b.i.d. pg: 24

exportation were taken in 1980's. Important period for Turkey's trade potential is started with the reforms that are made by the prime minister Turgut Ozal in January 24, 1980. With those decisions, government policies are left aside and liberal policy period started. First precautions within this policy change were to persuade flexible exchange rate policy with regular devaluations, to minimize internal demand, to support export with encouragements and subsidies, and to stop the subsidies over price controls and basic products. Those precautions made export more profitable and made export value three times more in Turkish economy within 5 years. (1980-1985 period). In extent of export- encouraging law, basic tools were; export credits with low cost, tax refund system, payments from price-support-stability fund, exemption from VAT and corporate tax, exchange rate policy, resource utilization support fund (KKDF), import with temporary acceptance etc. Also, starting from 1984, import was made liberalized. A new application started in forbidden import products. Restrictions over those products and customs duties were decreased. With those new applications, some of the sectors who were not able to compete with foreigner shut down or could not start production. In 1989, a broad range of independence brought to the exchange rate regime and steps in passing to TL convertibility was mostly compleated. (With the decisin of no: 32, Protection of Turkish Money Value). Convertibility of Turkish Lira was announced in 22 March of 1990. Turkey was experiencing good developments in trade, but it also had other economic problems. Basic problems of Turkey during 1990s can be classified as; [2.5]

-High inflation rate for a long time,

-High public borrowing requirements leading to high borrowing costs and crowding-out of private sector direct investment,

-Lack of fiscal discipline in the public sector,

-Lack of transparency and accountability in the public sector,

-Serious structural problems in a wide range of economic sectors such as banking,

[2.5] (on-line) http://www.turkisheconomy.org.uk/economy/problems.html

-Dominance of the public sector, which was inefficient and had structural problems , in most of the economic sector,

-Unstable political environment,

-Severe economic recessions in 1994, 1999 (when a big earthquake occured) and 2001 (when the worst financial (banking) crisis occured),

-Lack of Central Bank independence by year 2001,

-Economic instability and highly volatile environment,

Even with the attendency of Turkey to "World Trade Aggrement" in 1994 and "Custom Union with EU" in 1995, import became more flexible and without control, all of the problems, shortly classified above, affected Turkish foreign trade directly or indirectly. Applications related to all those issues also create effects on Turkish foreign trade.

2-5:CUSTOMS UNION AGREEMENT

Coming to 1995, after a long preparation and adaptation of Turkish government's insight period, Customs Union Agreement became a turning point for Turkey. It is the way to create an important partnership between countries by canceling all types of trade barriers and an integration agreement between Turkey and EU. Basis of this agreement are shapen in Brussel in 6 March 1995. It is decided how the application are going to be and how Turkey will pass this process. By the decisions and applications of this aggrement, Turkey started to apply similar policies with European Union.

One of the most important subject in Customs Union aggrement is to protect competition and consumer. Depending on that, laws related to protect competition and consumers' right are put into action and necessary KHK's are prepared about patent, copyright, tradable brands, industrial designs and prevention of unfair competition in import. Apart from those, several arrangements were made about all the related parts of trade. So; this agrement is not just a development for customs union, it is also a development step for Turkey in world trade.

Another important point is that Customs Union contains common trade policies. It aims to provide coordination between countries' export policies, to create a common market, and to provide third world countries to move freely in the internal market.

As an application, customs unions have two types of effect named as statistical effect and dynamic effect.

*Statistical effects which are observed by the influence of technology and its distribution. When the barriers of trade are removed, trade volume between this region's countries increase and production take place on more effective hands. This is called as " trade creation effect of customs unions". Trade creation effect of customs unions occurs as a result of taking place of production on more effective hands and comparative advantage. In Turkey's situation, it is clear that as a result of removing barriers, one can see the significance increase in foreign trade volume.

Trade diversion effect of customs unions occurs as a result of that the most productive produces stays outside of the union. So, import slides from the most productive country to less productive country which is not a member of the union.

In case of removing the internal trade barriers in a region and applying a common customs union to outside of this region may cause the development of internal trade but it may also affect the trade with outside negativelly.This effect which is occured outside of the region is called as " trade diversion effect of customs union".

Factors which determine the welfare effect of customs unions can be summarised as below:

-If the country which has the lowest cost become a member of the union, there is no trade diversion effect.

-Even the country which has the lowest cost is not a member of the union, if the customs duties hold lower, trade diversion effect can be prevented.

-If the product does not produced by any of the member countries before the foundation of the customs union, there exist no trade creation effect and trade diversion effect.

-The more the countries become closer, the less the transportation costs and trade becomes more profitable.

-Also, it is important whether the countries were complementary or competitive with each other before the foundation of customs union.

*Dynamic effects is that economic association movements cause essential changes in the production capacities, resources productivities and economic positions of member countries. They concern national income, growth rate and economic welfare of those countries. Basic dynamic effects can be summarised as below:

-The inrease of foreign trade,

-Creation of scale economies,

-Technologic development,

-Encouragement of Investment,

-Resources mobility.

All the mentioned benefits of customs union are also valid for Turkey since 1996. For the result of the share of European Union in Turkey's trade volume, customs union has an important effect. EU is the biggest trade partner of Turkey. Customs Union agreement was a turning point to increase this relationship capacity. But before that, Europe had also a great portion in Turkey's trade.

Turkey's foreign trade with European Union can be figurized as below until after the Customs Union agreement.

Table: 2

UNTIL THE CUSTOMS UNION AGREEMENT

Year	Export		Import	
	Value (000. $)	Share (%)	Value (000. $)	Share (%)
1973	652	49,5	1161	55,6
1975	645	46,0	2378	50,2
1977	897	51,1	2559	44,1
1979	1132	50,0	1940	38,3
1981	1564	33,3	2633	29,5
1983	2066	36,1	2775	30,1
1985	3204	40,3	3895	34,3
1987	4868	47,8	5666	40,0
1989	5408	46,5	6055	38,3
1990	6906	53,3	9328	41,8
1991	7042	51,8	9221	43,8
1992	7602	51,6	10050	43,9
1993	7289	47,5	10950	44,0
1994	8269	45,7	10279	47,2
1995	11078	51,2	16760	51,9

Source: www.tuik.gov.tr (online)

Table: 3

AFTER THE CUSTOMS UNION AGREEMENT

Year	Export		Import	
	Value (000. $)	Share (%)	Value (000. $)	Share (%)
1996	12.563	54.10	24.320	55.75
1997	13.434	51.16	26.118	53.79
1998	14.809	54.90	25.282	55.06
1999	15.424	58.01	22.529	55.40
2000	15.664	56.40	28.526	52.34
2001	17.545	55.99	19.823	47.88
2002	20.415	56.62	25.688	49.83
2003	27.393	57.97	35.140	50.68
2004	36.580	57.91	48.102	49.32
2005	41.364	56.30	52.695	45.13
2006	47.934	56.04	59.400	42.56
2007	60.398	56.30	68.611	40.34
2008	63.390	48.01	74.802	37.04
2009	46.984	46.00	56.585	40.15
2010 / June	25.168	45.91	32.408	38.89

Source: www.tuik.gov.tr (online)

The history of the Turkish economy for the last 30 years might be analyzed in two distinct periods: The first one was an export-led growth period (1980-1988) characterized by sustained growth and a volatile growth period during which the economy became dependent on the short-term capital flows, thanks to an alluring "hot money policy" (1989-afterwards). Second period started with the decision "number 32", related to protection of Turkish Lira value. This decision was the passing to convertibility and it provided the liberalization of capital, letting foreigners to keep money inside of country.

Between the 1980-1988, export revenues were very important to handle the foreign debt. Policies applied to handle interior demand and inflation were coordinated with economic policies related to foreign trade. To decrease internal demand, basic tools were the independence of prices and increase in products'prices made by KİT's.[2.6] During this period, real wages were restricted to control the internal demand which had also provided cost advantage in production industry. Apart from wage policy, low interest rate credits, tax refund and subsidies were other tool to support export since the beginning of 1980's. Coming to 1985's, because of the burden of subsidies to public side and unfair competition restrictions from GATT, Turkey gave up subsidy policies and passed to exchange rate arrangements. The other application was the liberalization of import and the decrease of customs duties. But, all those, which have been made until that time were not sufficient to reach the aimed level. Because, unfortunatelly there was not a connection between export increase and investment which could made this increase forever and it was not possible to make reforms in production of sectors which create greater surplus.

1990's was the period of financial liberalization in the world. Expectation from this financial liberalization in Turkey can be summarized in three clause;

1-Internal and external saving would transfer to economy to create bigger credit volume.

2-Interest over capital would fall down to decrease the cost of investment and reach to world level.

3-With lower capital cost and increased credit volume, fixed investment would increase and economic growth rate increase.

But it became opposite in Turkey during those years. Even savings were increased, because they hadn't been used for credit volume and fixed investments, they had used for speculative activities in financial markets. And real interest rates didn't decrease. As a result, public sector prefered to find sources from internal markets which had caused internal debt to increase very much.

[2.6.] KİT : Public Economic Enterprise

As a result of searching monetary resources, government increased the interest rate of government securities[2.7] which had caused that foreign investment prefered those way to invest in Turkey. Between the period 1990-2001, nearly 14,5 billion dollars had been transfered out of Turkey as the profit of government securities by this way.[2.8] But another interesting result of this government security application was that Turkey had used this financial arbitrage revenue to pull the money to Turkey during 2001 financial crises.

Structurally, over valued national currency and increased import cause external debt. Especially over valuation of money caused by liquidity entrance from out of Turkey cause import cost decrease in one side, but it also encourage speculative income in another side. But speculative growth had never continued for so long and each expansion period (such as 1990-93, 1995-98 and 2000) had concluded with a financial crises (such as 1994, 1999 and 2001).

The most important financial crises in Turkey were in 1994 and 2001. The first one that surprisingly attracted very limited international interest occurred at the beginning of 1994 when there was a managed float. The second crisis preceded by a financial turmoil that burst in the second half of November 2000 just at the midst of an exchange rate based stabilization program. The pressure in the market calmed down soon after a new letter of intent was presented to the International Monetary Fund (IMF). However, as of the end of December, the average interest rates, both the overnight rate and secondary market bond rate, were almost four times higher than their levels at the beginning of November and more than five times higher than the pre-announced year-end depreciation rate of the lira. This unsustainable situation ended on the February 19, 2001, when the prime minister announced that there was a severe political crisis that ignited a crisis in the highly alerted markets due to what had happened at the end of the preceding year. On that day the overnight rates jumped to unprecedented levels of 6200 percent in uncompounded terms. Three days

[2.7] Government Security = Devlet iç borçlanma senedi. (DIBS)

[2.8] Prof. Dr. Erinç YELDAN, Türkiye Ekonomisi, **Anadolu Üniversitesi**, September 2008, Pg: 271

later, the exchange rate system collapsed and Turkey declared that it was going to implement a floating exchange rate system from that time onwards. [2.9]

After this scene, government started to applied tied economic policies to reinforce the Turkish economy. One of the most economic factor was IMF during this period. IMF supported programs has contained specific fiscal measures aiming at decreasing high inflation rates and high public deficits. The main aim of these programs is to decrease public deficits and inflation and to try to achieve stability in public finance especially by using restrictive fiscal measures such as reducing government expenditures so as to attain primary surplus. Although having created successful results in the short-run, IMF supported programs have shown restrictive effects on economy in the long-run. As 2000, 2001 and 2003 Stabilization Programs are orthodox programs, they initially helped to reduce inflation rate and budget deficits and achive stability in public finance but eventually increased recessionary effects on economy. Restricive policies used to reach non-interest budget surplus have accelerated necessionary process. 2003 Stabilization Program includes similar measures with the ones applied before. During 2004-07 process programs including restrictive measures have been continuously applied. As a result public deficits and inflation decreased respectively but recessionary effects on real economy have continued. By decreasing noninterest budget surplus and by loosening the restrictive policies to increase real GNP and investments in economy, economic stabilization can be achieved in the long-run.[2.10] Coming to 2010, one of the important result of all those tied policies and applications is that Turkey's credit note which represent economic power of Turkish economy has been increased by S&P while nearly 40 countries' credit notes has been decreased.

[2.9] Fatih Ozatay & Güven Sak, The 2000-2001 Financial Crises in Turkey, **Central Bank of Turkey and Ankara University**, August 2002 (revised)

[2.10] Hayal Ayça ŞİMŞEK, Türkiye'de 2000 Sonrasında Uygulanan İstikrar Programlarının Kamu Maliyesine Etkileri, **Finans Politik & Ekonomik Yorumlar**", 2007, Cilt: 44 Sayı:512, (on-line)

CHAPTER 3-MODELING STRATEGY

The aim of the study is to explain the relationship between export of Turkey, import of Turkey, growth rate of Turkish economy, totally growth rate of the worlds' economies/EU countries' economies, population growth rate of Turkey, population growth rate of the World/EU, export oriented policy applications in Turkey after 1980's and custom union effect with a comparison of Turkey's trade with European Union and the general of the world Turkey's bigger trade partner is European Union countries. This analyse is made to understand whether applied independent variables are points to explain Turkey's trade relationship.

There are four equations to analyse Turkey's trade volume in two categories. In the first equation, I took Turkey's export volume with the World, import volume with the World, and the same variables of European Union countries as dependent variable. Independent variables are;

*Import volume one year before for each composition,

*Export volume one year before for each composition,

*Customs Union effect in Turkey's foreign trade,

*Growth rate of Turkish Economy,

*Total growth rate of world's economies,

*Export oriented policy applications.

*Population growth rate of Turkey

*Population growth rate of the World.

Turkey is a country which makes custom manufacturing. So, this year's import goods return back to out of Turkey as export goods next year. Also, there are trade aggrements that Turkish companies export their products by quaranteing to import other countries products next year or for producing the same sort of goods to

import to the same countries. So, import and export volumes of one year before the analysed year is important in my analyse.

Turkey became of a member of Customs Union in 1995. Starting from 1996, tariffs and regulations were being removed also for Turkey like EU countries. I took Customs Unions effect as "1" starting from 1996 and "0" for before that date for EU and also for the World analyse.

To give up import substitution policies and passing to export oriented policies decisions were taken in 1980. Until this date, I used "0" value and starting from 1980, I used "1" to express this policy effect over Turkey's trade volume in both categories.

There are high percentage of correlation between customs union effect and one year before import values, one year before export values and population growth rate of Turkey and the World. Also between population growth rate of the World and policy application effects, there are high percentage of correlation. But, after being applied the cointegration test, by seeing the possibilities of equations, I continue the analyse to have the results.

The more people live in a country, the more goods and services are needed for its community and the more the country's economies get developed, the more goods and services can be provided from out of the world as it can be provided by this country for the other countries of the world. So, other independent variables are growth rate of Turkish economy, growth rate of worlds economies as a group, growth rate of European Union countries as a group, population growth rate in Turkey, population growth rate in EU as a group and population growth rate in the World as a group.

Composition of the equations are as follows:

For the World analyse;

$export_{twi}=c+ \beta_2 import_{twi}(-1)+ \beta_3 cu_i + \beta_4 GDP_{ti} + \beta_5 GDP_{wi} + \beta_6 policy_i + \beta_7 POP_{ti} + \beta_8 POP_{wi} + e_{i-1}$

$import_{twi}=c+ \beta_2 export_{twi}(-1)+ \beta_3 cu_i + \beta_4 GDP_{ti} + \beta_5 GDP_{wi} + \beta_6 policy_i + \beta_7 POP_{ti} + \beta_8 POP_{wi} + e_{i-1}$

For the European Union analyse;

$export_{teui}=c+ \beta_2 import_{teui}(-1)+ \beta_3 cu_i + \beta_4 GDP_{ti} + \beta_5 GDP_{eui} + \beta_6 policy_i + \beta_7 POP_{ti} + \beta_8 POP_{eui} + e_{i-1}$

$import_{teui}=c+ \beta_2 export_{teui}(-1)+ \beta_3 cu_i + \beta_4 GDP_{ti} + \beta_5 GDP_{eui} + \beta_6 policy_i + \beta_7 POP_{ti} + \beta_8 POP_{eui} + e_{i-1}$

CHAPTER 4-EMPRICAL RESULTS

Before starting all the equations examine each equation one by one, I checked the possibility to compose an equation with those series. According to cointegration test results, at least there equations (and four equations for European Union analyse) is possible for each composition. Details will be explained below. But also, one can see a short view of the study in table-4 in the "Comparison of The Results for EU and The World" table.

Table-4

Comparison of The Results for EU and The World

	WORLD		EUROPEAN UNION	
	Equation (1)	Equation (2)	Equation (3)	Equation (4)
Cointegration Test	4 Eq. is possible	3 Eq. is possible	6 Eq. is possible	4 Eq. is possible
Adjusted R-squared	0.885422	0.932635	0.908489	0.941733
Durbin-Watson stat	1.889321	2.215319	2.045800	2.175238
Meaning less variable	GDPw – 0.6263 POPw-0.4279 CU - 0.1813	GDPw- 0.8026 POPw-0.9702 POLICY-0.2026	GDPeu-0.9572	GDPeu-0.8307 POPeu - 0.3852

4-1-WORLD ANALYSE

I start with the Turkey's export and import volume analyse with the World. First of all, one have to look at the correlation matrix to see whether and how strongly pairs of variables are related. It is good to have a high percentage of correlation between dependent variable but not good to have high percentage of correlation between independent variables.

Table : 5

Correlation Matris of Variables For The World Analyse

	EXPORT	EXPORT(-1)	IMPORT	IMPORT(-1)	CU	GDPT	GDPW	POLICY	POPT	POPW
EXPORT	1.000000	0.932273	0.989352	0.910720	0.812662	0.161492	-0.085676	0.492759	-0.894539	-0.828571
EXPORT(-1)	0.932273	1.000000	0.945318	0.989902	0.801110	0.145188	-0.081458	0.470838	-0.857945	-0.818614
IMPORT	0.989352	0.945318	1.000000	0.926914	0.832057	0.216480	-0.081786	0.478890	-0.897600	-0.850399
IMPORT(-1)	0.910720	0.989902	0.926914	1.000000	0.823612	0.072236	-0.109866	0.461732	-0.850420	-0.821198
CU	0.812662	0.801110	0.832057	0.823612	1.000000	0.029963	-0.103197	0.368514	-0.771686	-0.835138
GDPT	0.161492	0.145188	0.216480	0.072236	0.029963	1.000000	0.135117	-0.041864	-0.055064	-0.019248
GDPW	-0.085676	-0.081458	-0.081786	-0.109866	-0.103197	0.135117	1.000000	-0.296461	0.093875	0.183776
POLICY	0.492759	0.470838	0.478890	0.461732	0.368514	-0.041864	-0.296461	1.000000	-0.367602	-0.596432
POPT	-0.894539	-0.857945	-0.897600	-0.850420	-0.771686	-0.055064	0.093875	-0.367602	1.000000	0.839347
POPW	-0.828571	-0.818614	-0.850399	-0.821198	-0.835138	-0.019248	0.183776	-0.596432	0.839347	1.000000

Since there are common independent variables in both equation, I put in the same matrix all the results for the World analyse.

According to correlation matrix, there are high percentage of correlation between dependent variables, export and import, with their one year before values. The aim to take one year before values as independent variable is to accept the fact that this years import return to out of Turkey as export next year and this year export

can be a reason of import that our country will actualize next year. This correlation table proof our logic in this manner.

Also, it can be seen that there are high percentage of correlation between customs union effect and one year before import values, one year before export values and population growth rate of Turkey and the World. Also between population growth rate of the World and policy application effects, there are high percentage of correlation. But, since I got the possibility results by cointegration test, I continue to my study with those datas.

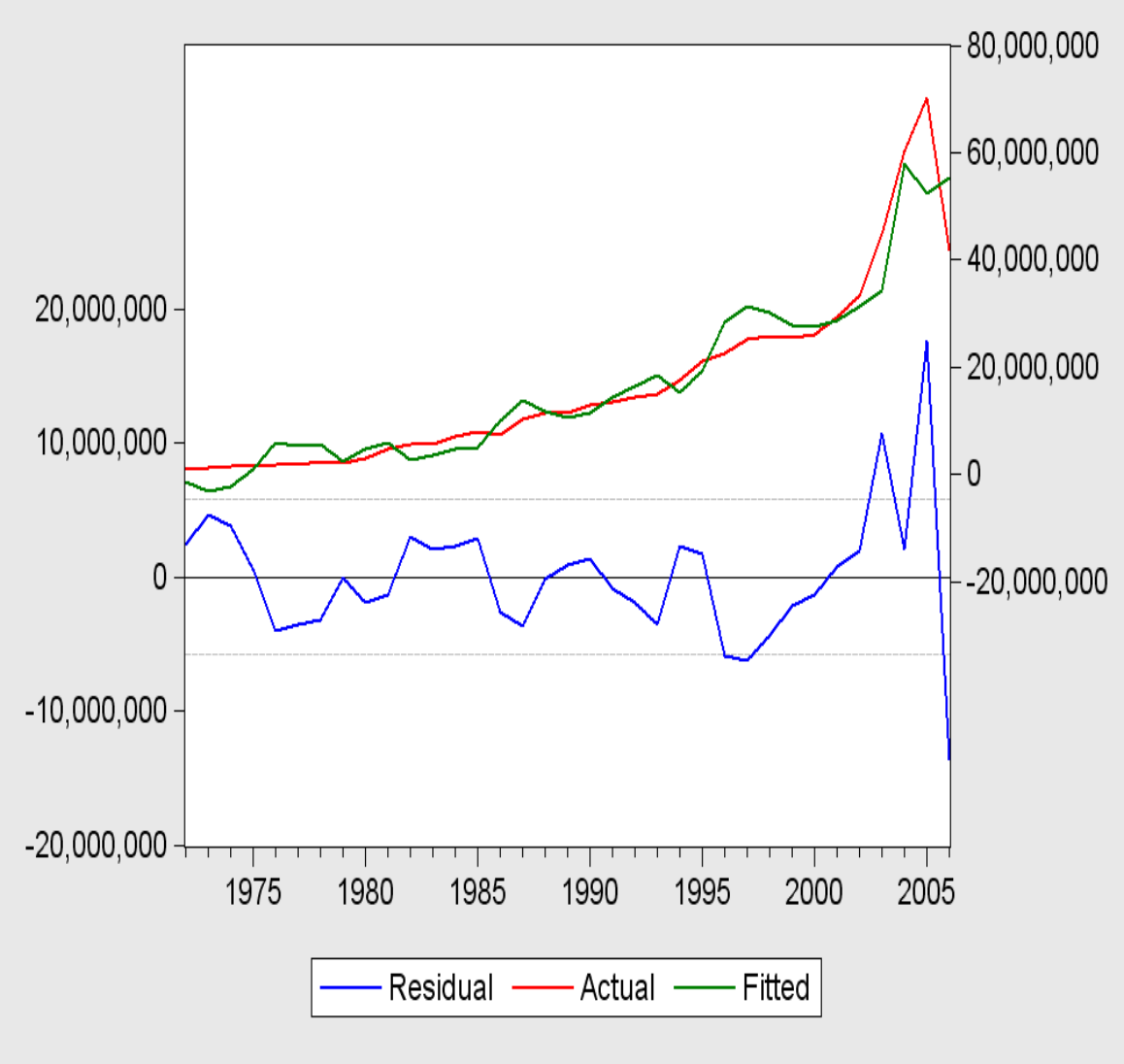
Equation : 1

$$export_{twi}=c+ \beta_2 import_{twi}(-1)+ \beta_3 cu_i + \beta_4 GDP_{ti} + \beta_5 GDP_{wi} + \beta_6 policy_i + \beta_7 POP_{ti} + \beta_8 POP_{wi} + e_{i-1}$$

I will begin my empirical analysis of the relationship between my dependent variable export and independent variables by representing a graph of the actual, fitted and residuals of the regression for export during the year 1971 and 2006. The fitted values are the predicted values from the actual values of the regression. The predicted values can be either greater than or less than (or rarely equal to the actual values). Residual values are the estimates of experimental error obtained by subtracting the actual values from the predicted values.

Figure 1 shows that there is some deviation in export in the year 2003-2006 period, as it can be observed that there was a sharp increase in 2003 and a sharp decrease in 2006 in the export volume of Turkey. Technically it is difficulty to explain the reasons for such sharp change but theoretically it could be due to the trade related factors such as passing to new Turkish Lira which increased the import of Turkey. Trade aggrements and country related factors are also other important factors that effect Turkeys position with the rest of the World.

Figure : 1



The unit root test was carried and revealed that export volume of Turkey had a unit root, as a result the null hypothesis was rejected (the null hypothesis is the hypothesis that there is no validity to the specific claim), which derived to the conclusion that the observations were non-stationary. The results of co-integration tests which show that there could be four export equations with values 12, 18,44 and 41 percent respectively. This implies that even though observations were non stationary in the long run, the co-integration test revealed that that they were co-integrated, thus providing a chance to apply the same model as presented by non-stationary equation (1).

Table 6

Co-integration Test Results Of The World Import Analyse

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.958407	344.4476	187.4701	0.0000
At most 1 *	0.908189	239.5135	150.5585	0.0000
At most 2 *	0.867811	160.7087	117.7082	0.0000
At most 3 *	0.654358	93.93251	88.80380	0.0202
At most 4	0.488881	58.87491	63.87610	0.1226
At most 5	0.456149	36.72687	42.91525	0.1810
At most 6	0.268092	16.62721	25.87211	0.4432
At most 7	0.174490	6.327880	12.51798	0.4198
Trace test indicates 4 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Table: 7 shows the results obtained when equation (1) was tested. Coefficients of variables are all positive except population growth rate of Turkey. It is possible to say if the population increase in a country, labor force, which works in production also increases. This will develop the economy of the country. In this equation, population growth rate has negative effect over export volume of Turkey. This means, as the number of people increase, they consume more goods than before, which effects Turkey's export potential negativelly. Population growth rate of the

World has %42,79 of probability value. And its sign in correlation matrix is negative. But in Table:7, it is positive. To accept the effect of this variable is not possible in this equation with this rate.

Another result of this equation is that World's growth rate has positive effect over Turkey's export volume. As the economies develop in all over the World, their needs from other countries will increase and this will also increase their demand for the goods that Turkey produce. Its sign in correlation matrix is negative. But in Table:7, it is positive. And probability of this coefficient is 0,6263. Since it is too high and the sign is different, it can be understand that World economies' growth rate is not meaning full in Turkey's export volume explanation.

Table 7

Time Series Regression Analysis for the Export Volume of Turkey with the World, 1971-2006, (Annual Averages)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	24850492	16387553	1.516425	0.1410
IMPORT(-1)	0.259211	0.087613	2.958575	0.0064
CU	6099648.	4445051.	1.372233	0.1813
GDPT	438470.9	241128.3	1.818413	0.0801
GDPW	359955.0	730770.0	0.492569	0.6263
POLICY	6523455.	3270415.	1.994687	0.0563
POPT	-18377524	5158529.	-3.562551	0.0014
POPW	7945186.	9871226.	0.804883	0.4279

To leave the meaningless variables out of the equation make the results as below.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	36051512	10465540	3.444783	0.0018
IMPORT(-1)	0.262018	0.085921	3.049535	0.0049
CU	4195012.	3723180.	1.126728	0.2691
GDPT	454859.3	234778.3	1.937399	0.0625
POLICY	4668614.	2565500.	1.819768	0.0791
POPT	-16227762	4346275.	-3.733717	0.0008

This time, the probability of Customs Union effect increase by %8. The conclusion of this situation is that Customs Union effect is more powerfull when it is taken in to account with the growth rate of the world economies and population increase rate of World nations.

Equation : 2

$import_{twi}=c+ \beta_2 export_{twi}(-1)+ \beta_3 cu_i+ \beta_4 GDP_{ti} + \beta_5 GDP_{wi} + \beta_6 policy_i + \beta_7 POP_{ti}+ \beta_8 POP_{wi}+ e_{i-1}$

I will apply the same way to analyse import volume of Turkey with the World.

Figure : 2

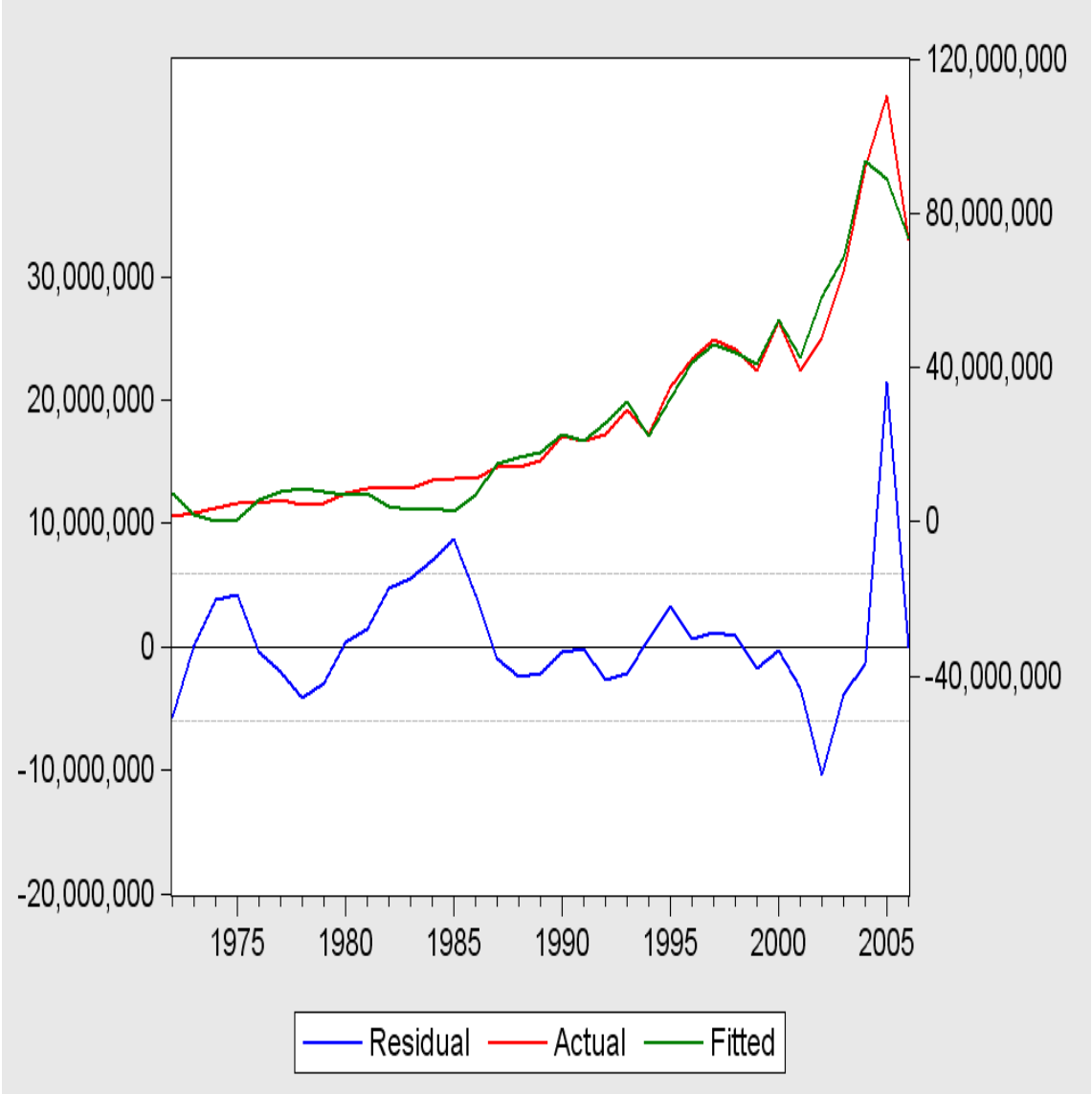


Figure 2 shows also that there is some deviation in import in the year 1983-1985 and after 2002 periods, as it can be observed that there was a sharp decrease first and a sharp increase after 2002. The period starting with those years was the new period that the government has changed and tied economic policies have been started to applying. Also, passing to new Turkish Lira and decrease in the value of money which increased the import of Turkey was one of the another reason of those deviations after 2002.

The unit root test was carried and revealed that import volume of Turkey had a unit root, as a result the null hypothesis was rejected which derived to the conclusion that the observations were non-stationary. The results of co-integration tests show that there could be three import equations. This implies that even though observations were non stationary in the long run, the co-integration test revealed that they were co-integrated, thus providing a chance to apply the same model as presented by non-stationary equation (2).

Table 8

Co-integration Test Results For The World Import Analyse

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.950040	308.5065	187.4701	0.0000
At most 1 *	0.863816	209.6207	150.5585	0.0000
At most 2 *	0.828374	143.8271	117.7082	0.0004
At most 3	0.602700	85.66667	88.80380	0.0824
At most 4	0.497007	55.20555	63.87610	0.2157
At most 5	0.411841	32.52861	42.91525	0.3604
At most 6	0.236026	15.01357	25.87211	0.5734
At most 7	0.169507	6.129267	12.51798	0.4441
Trace test indicates 3 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Table 9 shows the results obtained when equation (2) was tested. Like in the export equation, coefficients of variables are all positive except population growth rate of Turkey. It is possible to say if the population increase in a country, needs of the government or of the community increases. As a result of the increase of necessities, if the country is unable to produce all of them, it choses the way to import those goods. But here, equation shows negative effect of population growth rate. Turkey's industry and production capacity is developing each year. There can be many reasons of this result. Also, it is possible to say that the reason of this negative effect is that for Turkey, population increase cause Turkey to become capable to produce its needs.

Table 9 : Time Series Regression Analysis for the Import Volume of Turkey with the World, 1971-2006, (Annual Averages)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	42799556	19916671	2.148931	0.0408
EXPORT(-1)	0.772559	0.166884	4.629322	0.0001
CU	9530149.	5199419.	1.832926	0.0779
GDPT	808727.3	298304.4	2.711081	0.0115
GDPW	222987.4	883381.2	0.252425	0.8026
POLICY	5206187.	3986562.	1.305934	0.2026
POPT	-19709639	6408959.	-3.075326	0.0048
POPW	448333.8	11894781	0.037692	0.9702

Another result of this equation is that World's growth rate and World's population growth rate have positive effect over Turkey's import volume. As the economies develop in all over the World, their production possibilities and goods and service varieties increase. Turkey may import one good or service to learn a new technics or if it doesn't exist here. Or in a manufacturing branch, Turkey can be unable to produce efficiently. But, results lay bare that growth rate of the world economies doesn't have that much meaning over Turkey's import volume explanation. World's population growth rate is not also meaningfull in this equation even if it has positite effect over import. Its sign in correlation matrix is negative. But in Table: 9, it is positive.

To leave the meaningless variables out of the equation make the results as below.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	44069274	12707505	3.467972	0.0017
EXPORT(-1)	0.776197	0.160642	4.831832	0.0000
CU	9379195.	4248759.	2.207514	0.0353
GDPT	816576.2	286644.6	2.848741	0.0080
POLICY	4882394.	3084248.	1.583009	0.1243
POPT	-19526797	5377069.	-3.631495	0.0011

This time, the probability of all variables decreased and the equaiton become more meaningfull with less variables (CU, GDPt, POLICY, POPt) than before. Durbin-Watson value is 2.201978 which is in its normal level. And adjusted R-squared value is %93.

4-2-EUROPEAN UNION ANALYSE

Second part of the "Emprical Results" section starts with export equation of Turkey with European Union. Since there are common independent variables in both equation, I put in the same matrix all the results for the European Union analyse also.

Table : 10

Correlation Matris of Variables For European Union Analyse

	EXPORT	IMPORT	EXPORT(-1)	IMPORT(-1)	CU	GDPT	GDPEU	POLICY	POPT	POPEU
EXPORT	1.000000	0.981722	0.936267	0.921394	0.813484	0.157896	-0.140090	0.453951	-0.902069	-0.099023
IMPORT	0.981722	1.000000	0.932932	0.933334	0.865535	0.203258	-0.133425	0.462392	-0.908204	-0.171401
EXPORT(-1)	0.936267	0.932932	1.000000	0.980754	0.800036	0.148024	-0.113483	0.432803	-0.865879	-0.074960
IMPORT(-1)	0.921394	0.933334	0.980754	1.000000	0.856934	0.055991	-0.106122	0.442995	-0.869114	-0.175025
CU	0.813484	0.865535	0.800036	0.856934	1.000000	0.029963	-0.081008	0.368514	-0.771686	-0.277080
GDPT	0.157896	0.203258	0.148024	0.055991	0.029963	1.000000	-0.004296	-0.041864	-0.055064	0.152467
GDPEU	-0.140090	-0.133425	-0.113483	-0.106122	-0.081008	-0.004296	1.000000	-0.258199	0.160030	0.158699
POLICY	0.453951	0.462392	0.432803	0.442995	0.368514	-0.041864	-0.258199	1.000000	-0.367602	-0.667149
POPT	-0.902069	-0.908204	-0.865879	-0.869114	-0.771686	-0.055064	0.160030	-0.367602	1.000000	0.151199
POPEU	-0.099023	-0.171401	-0.074960	-0.175025	-0.277080	0.152467	0.158699	-0.667149	0.151199	1.000000

According to correlation matrix, there are high percentage of correlation between dependent variables, export and import, with their one year before values.

Also, it can be seen that there are high percentage of correlation between customs union effect and one year before import values, one year before export values and population growth rate of Turkey and the European Union Also between population growth rate of the European Union and policy application effects, there

are high percentage of correlation. But, since I got the possibility results by cointegration test, I continue to my study with those datas.

Equation : 3

$export_{teui}=c+ \beta_2 import_{teui}(-1)+ \beta_3 cu_i + \beta_4 GDP_{ti} + \beta_5 GDP_{eui} + \beta_6 policy_i + \beta_7 POP_{ti} + \beta_8 POP_{eui} + e_{i-1}$

For the third equation, figure-5 shows that there are so many deviations in export volume of Turkey with European Union. But the sharpest one is between 2004-2006 period. Technically it is difficulty to explain the reasons for such sharp change but theoretically it could be due to the factors that are trade related. As it was said before, trade aggrements and country related factors are also other important factors that effect Turkeys position with the rest of the World.

Figure : 3

The unit root test was carried and revealed that export volume of Turkey with European Union had a unit root, as a result the null hypothesis was rejected which derived to the conclusion that the observations were non-stationary. The results of co-integration tests show that there could be six export equations. This implies that even though observations were non stationary in the long run, the co-integration test revealed that they were co-integrated, thus providing a chance to apply the same model as presented by non-stationary equation (3).

Table 11

Co-integration Test Results For The European Union Export Analyse

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.951661	329.1266	187.4701	0.0000
At most 1 *	0.882220	229.1526	150.5585	0.0000
At most 2 *	0.767684	158.5679	117.7082	0.0000
At most 3 *	0.688190	110.3991	88.80380	0.0006
At most 4 *	0.538682	71.94216	63.87610	0.0090
At most 5 *	0.518767	46.41116	42.91525	0.0215
At most 6	0.407275	22.27482	25.87211	0.1315
At most 7	0.140986	5.014998	12.51798	0.5942

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 12 shows the results obtained when equation (3) was tested. Coefficients of variables are all positive except population growth rate of Turkey like the equation of Turkey's export volume with the World.

According to correlation matrix of this analyse, there is negative correlation between population growth rate of European Union and export volume of Turkey with the World. But, coefficient of popeu is posivite and meaningfull according to the regression analyse. Individually, there can be negative relationship between them in correlation matrix, but the sign is opposite in regression analyse.

Another result of this equation is that European Union countries' growth rate has also negative effect over Turkey's export volume. Probability of this coefficient is 0.9572. Since it is too high, it can be understand that European Union countries' economies' growth rate is not meaning full in Turkey's export volume explanation.

Table 12 :

Time Series Regression Analysis for the Export Volume of Turkey with European Union, 1971-2006, (Annual Averages)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13006713	6824137.	1.905987	0.0673
IMPORT(-1)	0.278832	0.111444	2.502001	0.0187
CU	3625298.	2386877.	1.518845	0.1404
GDPT	220751.1	132159.8	1.670335	0.1064
GDPEU	21027.73	388246.6	0.054161	0.9572
POLICY	5612584.	2001901.	2.803628	0.0092
POPT	-9774706.	2547073.	-3.837623	0.0007
POPEU	17036260	6210829.	2.742993	0.0107

In the equation, because of the sign difference in popeu parameter, it has to be leaved out of the equation. Without POPeu parameter, GDPeu is still meaningless in the equation and the probability values of CU and POLICY are now higher than before.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21485434	6755635.	3.180372	0.0036
IMPORT(-1)	0.373740	0.117633	3.177178	0.0036
CU	1300208.	2477643.	0.524776	0.6039
GDPT	275899.8	145042.9	1.902195	0.0675
GDPEU	5665.402	431066.3	0.013143	0.9896
POLICY	1849676.	1618947.	1.142518	0.2629
POPT	-9780253.	2828283.	-3.458018	0.0018

If I leave also GDPeu from out of the equation, this time, it is customs union effect (CU) which is meaningless in export equation.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21490750	6626249.	3.243276	0.0030
IMPORT(-1)	0.373883	0.115092	3.248565	0.0029
CU	1301183.	2433467.	0.534704	0.5969
GDPT	275873.1	142506.6	1.935862	0.0627
POLICY	1844470.	1542442.	1.195811	0.2415
POPT	-9774539.	2746066.	-3.559470	0.0013

Each parameter has an effect over export volume of Turkey with European Union. But also, one has affecting power over another. As is seen from the result charts above, (and after leaving out the meaningless variables from the equation

below), basic independent variables affecting export volume of Turkey with European Union are growth rate of Turkey, policy applications for developing export and population increase rate of Turkey.

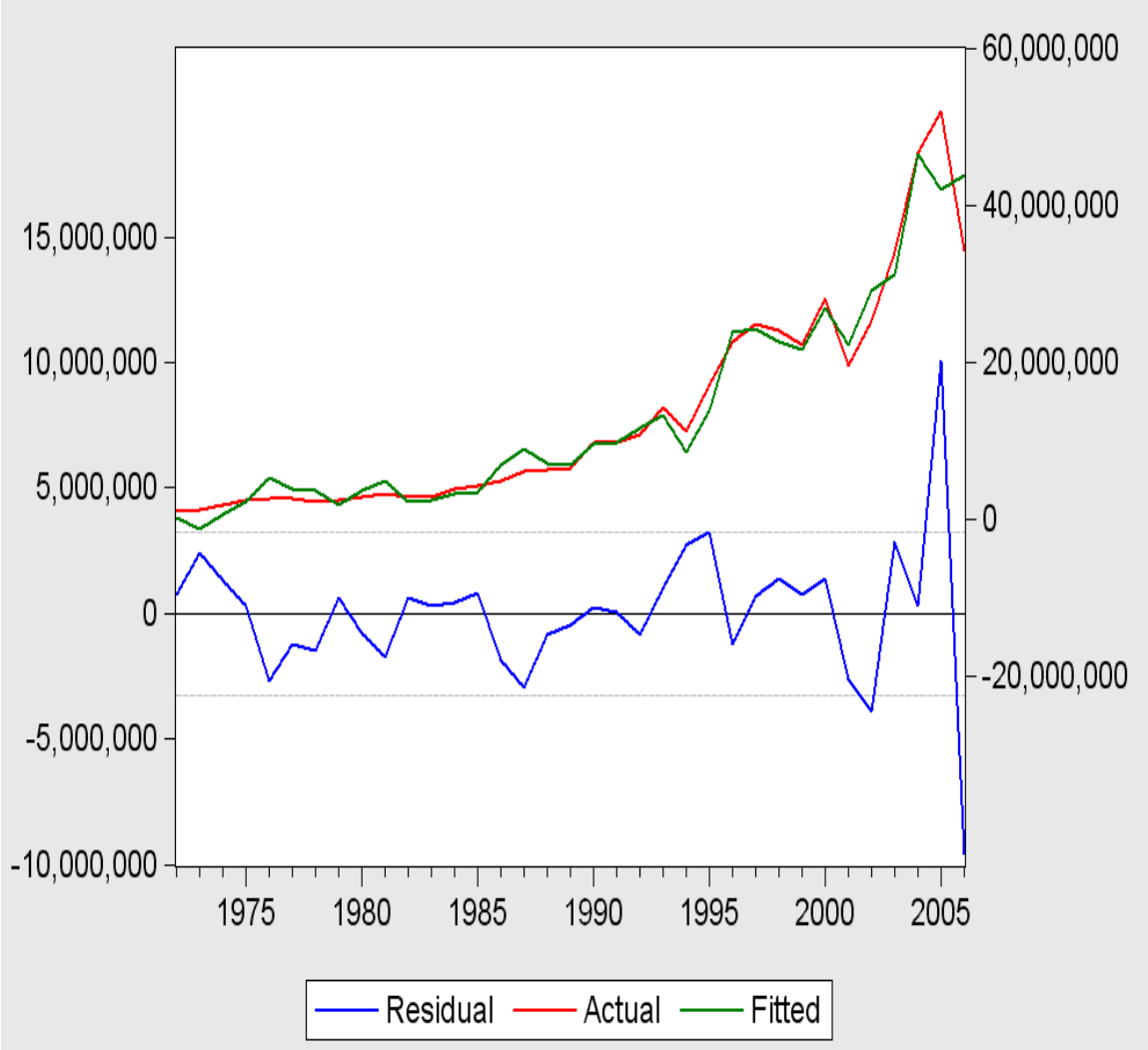
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21799589	6521992.	3.342474	0.0022
IMPORT(-1)	0.409664	0.092516	4.428016	0.0001
GDPT	272963.8	140697.7	1.940073	0.0618
POLICY	1825667.	1523578.	1.198276	0.2402
POPT	-9928979.	2698137.	-3.679939	0.0009

Equation : 4

$import_{teui} = c + \beta_2 export_t(-1) + \beta_3 cu_i + \beta_4 GDP_{ti} + \beta_5 GDP_{eui} + \beta_6\ policy_i + \beta_7\ POP_{ti} + \beta_8 POP_{eui} + e_{i-1}$

Results of the fourth equation is below.

Figure: 4



For the fourth equation, figure-8 shows that there are some deviations in import volume of Turkey with European Union. But the sharpest one is between 2004-2006 period as in the other three equations. To have such a deviation for all of the equations can be explained as a result of foreign trade policies in those years or some of other trade related factors of Turkey.

The unit root test was carried and revealed that import volume of Turkey with European Union had a unit root, as a result the null hypothesis was rejected which derived to the conclusion that the observations were non-stationary. The results of co-integration tests show that there could be four import equations. This implies that even though observations were non stationary in the long run, the co-integration test revealed that they were co-integrated, thus providing a chance to apply the same model as presented by non-stationary equation (4).

Table 13

Co-integration Test Results

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.938143	290.7756	187.4701	0.0000
At most 1 *	0.822995	198.9390	150.5585	0.0000
At most 2 *	0.754057	141.7969	117.7082	0.0006
At most 3 *	0.698853	95.50922	88.80380	0.0150
At most 4	0.525530	55.90410	63.87610	0.1950
At most 5	0.398451	31.30071	42.91525	0.4269
At most 6	0.248846	14.52856	25.87211	0.6138
At most 7	0.142826	5.085786	12.51798	0.5841

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 14 shows the results obtained when equation (4) was tested. Like in the other three equations, coefficients of variables are all positive except population growth rate of Turkey. Like in the import volume analyse of Turkey with the World, coefficient of population growth rate of Turkey shows the same result. Turkey is becoming capable to produce its needs and that is why there is negative effect of population growth rate of Turkey over Turkey's import volume with EU.

European Union's growth rate has negative effect over Turkey's import volume. But, probability of this coefficient is 0.7738. Since it is too high, it can be understand that European Union countries' economies' growth rate is not meaning full in Turkey's import volume explanation.

Population growth rate of EU has positive effect over import volume of Turkey. But, probability of this coefficient is 0.8767. Since it is too high, it can be understand that also European Union countries' population' growth rate is not meaningfull in Turkey's import volume explanation.

Table 14 :

Time Series Regression Analysis for the Import Volume of Turkey with European Union, 1971-2006, (Annual Averages)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22474705	6870739.	3.271075	0.0029
EXPORT(-1)	0.397055	0.148922	2.666191	0.0128
CU	8859628.	2287476.	3.873103	0.0006
GDPT	411899.1	140126.3	2.939486	0.0067
GDPEU	87045.40	403246.1	0.215862	0.8307
POLICY	4191967.	2236797.	1.874094	0.0718
POPT	-11402744	2746445.	-4.151819	0.0003
POPEU	6273693.	7107240.	0.882719	0.3852

To leave the meaningless variables out of the equation make the results as below.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	24895012	6193932.	4.019258	0.0004
EXPORT(-1)	0.465369	0.125500	3.708129	0.0009
CU	8023054.	2022955.	3.966008	0.0004
POLICY	2668091.	1437367.	1.856235	0.0736
GDPT	415587.3	137085.7	3.031589	0.0051
POPT	-10947134	2627853.	-4.165810	0.0003

There is not that much change in the probabilities. As in the other equations, population growth rate of EU and growth rate of economies of EU countries do not have effect in the development of Turkey's export and import.

CONCLUSION

In this study, I tried to proof the relationship between export and import of Turkey with European Union and World countries in total ($Export_{teu/tw}$/$Import_{teu/tw}$), growth rate of Turkish economy(GDP_t), totally growth rate of the worlds' economies/EU countries' economies($GDP_{eu/t}$), population growth rate of Turkey(POP_t), population growth rate of the World/EU($POP_{eu/t}$), export oriented policy applications in Turkey after 1980's (POLICY) and custom union effect (CU) with a comparison of Turkey's trade with European Union and the general of the world.

For all of the equations, correlation results are similar. There are high percentage of correlation between dependent variables, export and import, with their one year before values and also with some of independent variables. (Like customs union effect with one year before import values, one year before export values, population growth rate of Turkey/ the World and between population growth rate of the World with policy application effects).

In all the equations, export and import volume of Turkey with the World and export and import volume of Turkey with European Union equations, I took variables explained in the first paragraph and I saw the positive effects of all of them as expected. (v. Result Chart). Only population increase rate in Turkey has negative effect in all equations. Looking to those results, Turkey's increasing population is effecting export and import volume negatively by consuming more and by being capable to produce what it needs. And the biggest effect is over import side both in the World and EU.

In all the equations, variables have positive effect except POP_t, but, despite of this results, there are meaning less variables in explanation of dependent variables.

Table-15: RESULT CHART

	Eq:1		Eq:2		Eq:3		Eq:4	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
C	24850492	0.1410	42799556	0.0408	13006713	0.0673	22474705	0.0029
IMPORT(-1)	0.259211	0.0064			0.278832	0.0187		
EXPORT(-1)			0.772559	0.0001			0.397055	0.0128
CU	6099648	0.1813	9530149	0.0779	3625298	0.1404	8859628	0.0006
GDPT	438470.9	0.0801	808727.3	0.0115	220751.1	0.1064	411899.1	0.0067
GDPW	**359955.0**	**0.6263**	**222987.4**	**0.8026**				
GDPEU					**21027.73**	**0.9572**	**87045.40**	**0.8307**
POLICY	6523455.	0.0563	5206187	0.2026	5612584	0.0092	4191967	0.0718
POPT	-18377524	0.0014	-19709639	0.0048	-9774706	0.0007	-11402744	0.0003
POPW	**7945186.**	**0.4279**	**448333.8**	**0.9702**				
POPEU					17036260	0.0107	**6273693.**	**0.3852**

Common meaning less variables are GDPw and GDPeu. Population is changing in different range over the world. For the first and second equation; population increase rate in the World has high percentage of probability that it is not suitable to explain dependent variable. In EU analyse, POPeu has %3852 probability value in import side but it is meaningfull in export equation with EU. What Turkey imports don't related with the number of people living in EU countries but as much as people living in those region means that they need more of what we export.

Also;

In addition to the probability values of population in the first and second equation, its sign in correlation matrix is negative. But in result charts, it is positive.

The other meaning less variable is growth rate of the World. Growth rate of the economies of the World countries implies development of economies which means the increase in capacity of production. But foreign trade volume from the World countries is a subject related to our needs and our economic conditions. So, growth rate could not have such an effect over Turkey's import volume.

Policy applications were made to develop export in Turkey. In the second equation, it is clear that this variable is for export and even it is meaningfull for import of Turkey (with the probability value of %2026), it explains export volume more than import volume.

Before Customs Union aggrement, EU countries were also Turkey's bigger trade partner. (v.Trade Before and After Customs Union Aggrement Table). So, this variable is effective in foreign trade relationship with EU countries as in the total volume with all of the World countries. For the third equation; growth rate of EU countries is the only variable which has high percentage of probability.

In the fourth equation; growth rate of EU countries and population increase rate in the European Union have high percentage of probability. Import from EU is related to Turkey's population and economic capacity of Turkey. So, it is expected to have such a result with those explanatory variable .

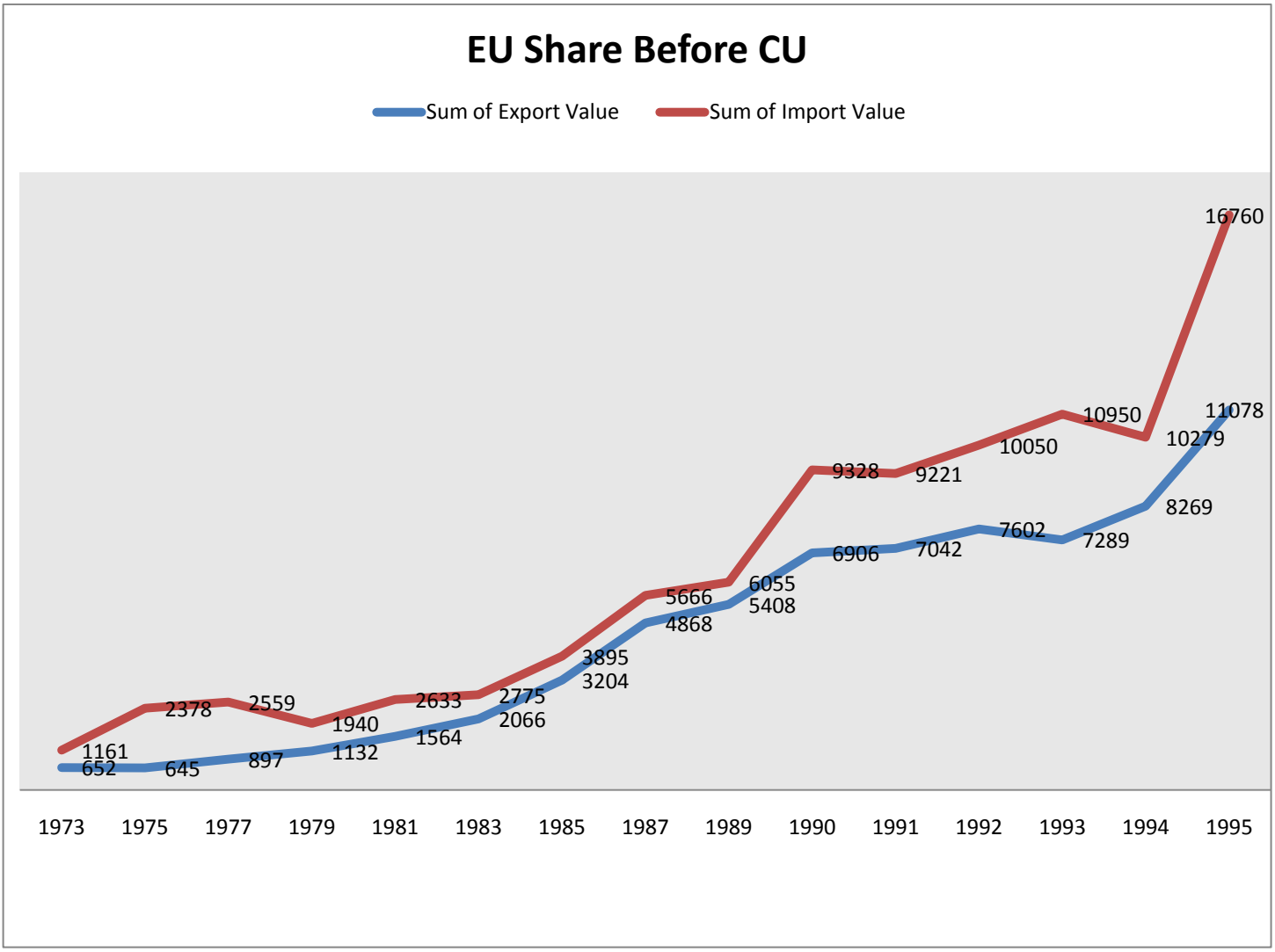
The most important result in this dissertation is that Customs Union aggrement has positive effect over Turkeys import and export volume both with EU countries and all the countries in the World. But the thing is that it is more effective in Turkey's import with EU than the others.

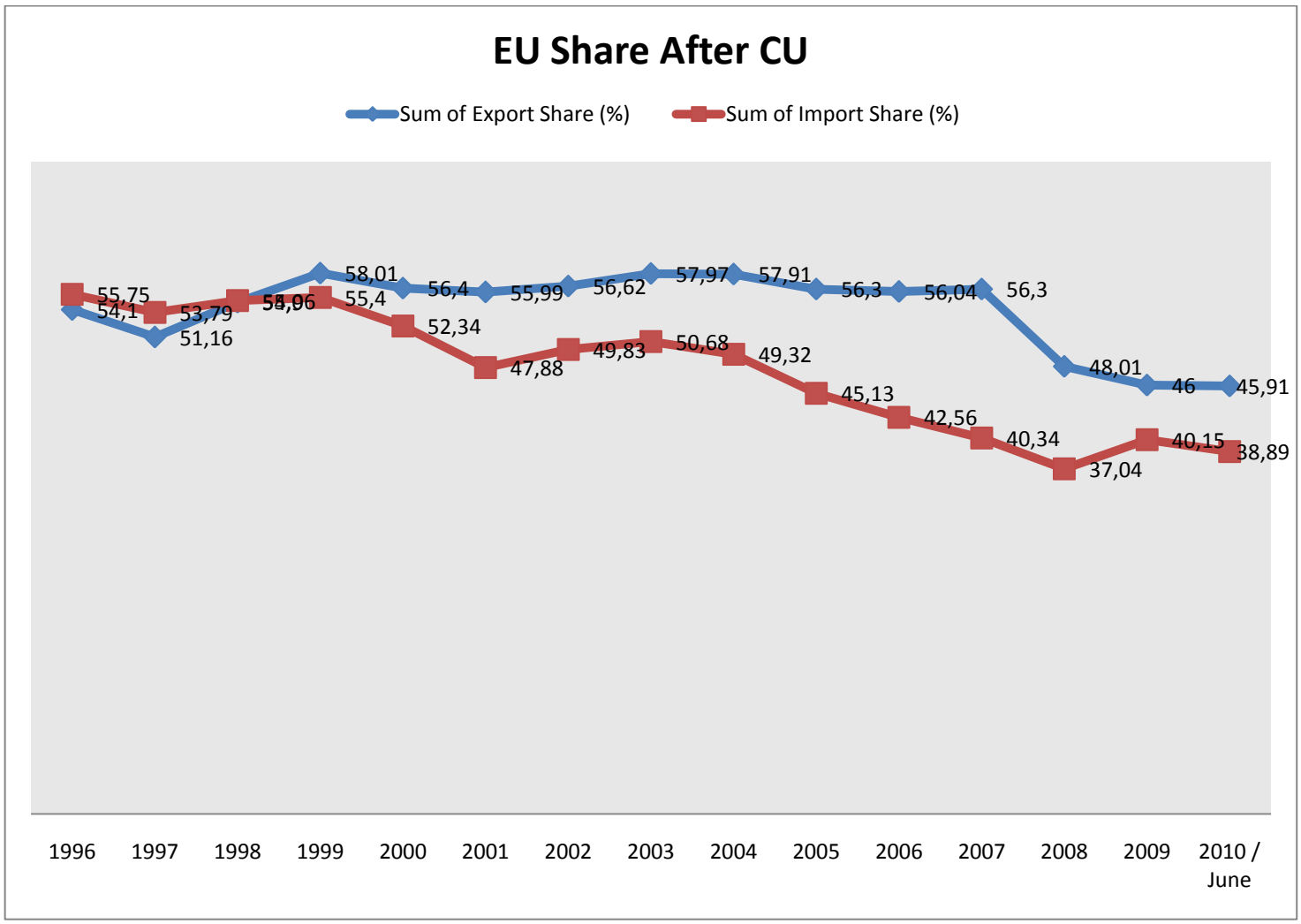
Also, in all equations, previos year's import and export values are very important over this year's foreign trade volume. This result shows that Turkey is a country which makes custom manufacturing. So, this year's import goods return

back to out of Turkey as export goods next year. Also, there are trade aggrements that Turkish companies export their products by quaranteing to import other countries products next year or for producing the same sort of goods to import to the same countries.

Figure : 5

TRADE WITH EU BEFORE AND AFTER THE CUSTOMS UNION AGGREMENT





Source: www.tuik.gov.tr

Looking to four equation, adjusted R-squared values are close to "1" and Durbin-Watson values are aroud "2". With those results, I saw in my study that growth rate of European Union and growth rate of the World don't have effect over Turkey's foreign trade volume. Also population growth rate of the world is meaning less for foreign trade with the world explanation. EU was Turkey's biggest trading partner also before Customs Union aggrement. In both comparison of export category, CU has higher probability than the import. This proofs that CU aggrement has increased import of Turkey more than export of Turkey.

Depending on those results, one can conclude than CU had caused more development in import than export of Turkey, which has also caused to increse foreign trade deficit of Turkey each year. Policy applications are beneficial in the development of export. So, the government should pay more attention to this manner than to leave a side customs.

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APPENDIX

Table 7: TRADE BALANCE ACCOUNT OF TURKEY (1975-2009)

	(Million USD Dollar)	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
A-	**TRADE BALANCE ACCOUNT**	**-1648**	**-2029**	**-3140**	**-1265**	**-1413**	**-3408**	**-1936**	**-952**	**-1923**	**-1439**	**-1013**	**-1465**	**-806**	**1596**	**938**	**-2625**	**250**	**-974**
1.	**Export f.o.b.**	1401	1960	1753	2288	2261	2910	4703	5890	5905	7134	7959	7457	10190	11662	11625	12959	13593	14715
2.	**Import f.o.b.**	-4502	-4872	-5506	-4369	-4815	-7513	-8567	-8518	-8895	-10044	-10935	-10475	-13396	-13475	-15815	-22407	-20883	-22791
	Good Balance	-3101	-2912	-3753	-2081	-2554	-4603	-3864	-2628	-2990	-2910	-2976	-3018	-3206	-1813	-4190	-9448	-7290	-8076

	(Million USD Dollar)	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
A-	**TRADE BALANCE ACCOUNT**	**-974**	**-6433**	**2631**	**-2339**	**-2437**	**-2638**	**2000**	**-925**	**-9920**	**3760**	**-626**	**-7515**	**-14431**	**-22198**	**-32193**	**-38311**	**-41946**	**-13961**
1.	**Export f.o.b.**	14715	15345	18106	21636	32067	32110	30741	29031	30825	34729	40719	52394	68535	78365	93612	115361	140.800	109.636
2.	**Import f.o.b.**	-22791	-29426	-22273	-34788	-42331	-47158	-44779	-38802	-52882	-38092	-47109	-65883	-91271	-111445	-134669	-162156	-193.821	-134.530
	Good Balance	-8076	-14081	-4167	-13152	-10264	-15048	-14038	-9771	-22057	-3363	-6390	-13489	-22736	-33080	-41057	-46795	-53021	-24894

Source: http://www.tcmb.gov.tr/odemedenge/odmainyeni.html

COINTEGRATION TEST RESULTS

FOR EQUATION : 1

Date: 09/04/10 Time: 13:17
Sample (adjusted): 1974 2006
Included observations: 33 after adjustments
Trend assumption: Linear deterministic trend (restricted)
Series: EXPORT IMPORT(-1) CU GDPT GDPW POLICY POPT POPW
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.958407	344.4476	187.4701	0.0000
At most 1 *	0.908189	239.5135	150.5585	0.0000
At most 2 *	0.867811	160.7087	117.7082	0.0000
At most 3 *	0.654358	93.93251	88.80380	0.0202
At most 4	0.488881	58.87491	63.87610	0.1226
At most 5	0.456149	36.72687	42.91525	0.1810
At most 6	0.268092	16.62721	25.87211	0.4432
At most 7	0.174490	6.327880	12.51798	0.4198

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.958407	104.9341	56.70519	0.0000
At most 1 *	0.908189	78.80485	50.59985	0.0000
At most 2 *	0.867811	66.77617	44.49720	0.0001
At most 3	0.654358	35.05760	38.33101	0.1134
At most 4	0.488881	22.14804	32.11832	0.4819
At most 5	0.456149	20.09966	25.82321	0.2374
At most 6	0.268092	10.29932	19.38704	0.5869
At most 7	0.174490	6.327880	12.51798	0.4198

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

FOR EQUATION : 2

Date: 09/04/10 Time: 14:39
Sample (adjusted): 1974 2006
Included observations: 33 after adjustments
Trend assumption: Linear deterministic trend (restricted)
Series: IMPORT EXPORT(-1) CU GDPT GDPW POLICY POPT POPW
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.950040	308.5065	187.4701	0.0000
At most 1 *	0.863816	209.6207	150.5585	0.0000
At most 2 *	0.828374	143.8271	117.7082	0.0004
At most 3	0.602700	85.66667	88.80380	0.0824
At most 4	0.497007	55.20555	63.87610	0.2157
At most 5	0.411841	32.52861	42.91525	0.3604
At most 6	0.236026	15.01357	25.87211	0.5734
At most 7	0.169507	6.129267	12.51798	0.4441

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.950040	98.88576	56.70519	0.0000
At most 1 *	0.863816	65.79370	50.59985	0.0007
At most 2 *	0.828374	58.16038	44.49720	0.0010
At most 3	0.602700	30.46112	38.33101	0.3005
At most 4	0.497007	22.67694	32.11832	0.4419
At most 5	0.411841	17.51504	25.82321	0.4153
At most 6	0.236026	8.884305	19.38704	0.7363
At most 7	0.169507	6.129267	12.51798	0.4441

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

EQUATION : 3

Date: 09/04/10 Time: 16:10
Sample (adjusted): 1974 2006
Included observations: 33 after adjustments
Trend assumption: Linear deterministic trend (restricted)
Series: EXPORT IMPORT(-1) CU GDPEU GDPT POLICY POPEU POPT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.951661	329.1266	187.4701	0.0000
At most 1 *	0.882220	229.1526	150.5585	0.0000
At most 2 *	0.767684	158.5679	117.7082	0.0000
At most 3 *	0.688190	110.3991	88.80380	0.0006
At most 4 *	0.538682	71.94216	63.87610	0.0090
At most 5 *	0.518767	46.41116	42.91525	0.0215
At most 6	0.407275	22.27482	25.87211	0.1315
At most 7	0.140986	5.014998	12.51798	0.5942

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.951661	99.97400	56.70519	0.0000
At most 1 *	0.882220	70.58479	50.59985	0.0002
At most 2 *	0.767684	48.16874	44.49720	0.0191
At most 3 *	0.688190	38.45696	38.33101	0.0484
At most 4	0.538682	25.53100	32.11832	0.2565
At most 5	0.518767	24.13634	25.82321	0.0821
At most 6	0.407275	17.25982	19.38704	0.0992
At most 7	0.140986	5.014998	12.51798	0.5942

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

EQUATION : 4

Date: 09/05/10 Time: 01:27
Sample (adjusted): 1974 2006
Included observations: 33 after adjustments
Trend assumption: Linear deterministic trend (restricted)
Series: IMPORT EXPORT(-1) CU GDPEU GDPT POLICY POPEU POPT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.938143	290.7756	187.4701	0.0000
At most 1 *	0.822995	198.9390	150.5585	0.0000
At most 2 *	0.754057	141.7969	117.7082	0.0006
At most 3 *	0.698853	95.50922	88.80380	0.0150
At most 4	0.525530	55.90410	63.87610	0.1950
At most 5	0.398451	31.30071	42.91525	0.4269
At most 6	0.248846	14.52856	25.87211	0.6138
At most 7	0.142826	5.085786	12.51798	0.5841

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.938143	91.83659	56.70519	0.0000
At most 1 *	0.822995	57.14211	50.59985	0.0092
At most 2 *	0.754057	46.28764	44.49720	0.0316
At most 3 *	0.698853	39.60512	38.33101	0.0355
At most 4	0.525530	24.60339	32.11832	0.3101
At most 5	0.398451	16.77215	25.82321	0.4771
At most 6	0.248846	9.442777	19.38704	0.6782
At most 7	0.142826	5.085786	12.51798	0.5841

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

REGRESSION ANALYSES OF TURKEY (1971-2006)

EQUATION :1

Dependent Variable: EXPORT
Method: Least Squares
Date: 02/02/11 Time: 23:45
Sample (adjusted): 1972 2006
Included observations: 35 after adjustments

	Coefficient	Std. Error	t-Statistic	Prob.
C	24850492	16387553	1.516425	0.1410
IMPORT(-1)	0.259211	0.087613	2.958575	0.0064
CU	6099648.	4445051.	1.372233	0.1813
GDPT	438470.9	241128.3	1.818413	0.0801
GDPW	**359955.0**	**730770.0**	**0.492569**	**0.6263**
POLICY	6523455.	3270415.	1.994687	0.0563
POPT	-18377524	5158529.	-3.562551	0.0014
POPW	**7945186.**	**9871226.**	**0.804883**	**0.4279**

R-squared	0.909011	Mean dependent var	16751219
Adjusted R-squared	0.885422	S.D. dependent var	16929933
S.E. of regression	5730679.	Akaike info criterion	34.15820
Sum squared resid	8.87E+14	Schwarz criterion	34.51371
Log likelihood	-589.7685	Hannan-Quinn criter.	34.28092
F-statistic	38.53439	Durbin-Watson stat	1.889321
Prob(F-statistic)	0.000000		

EQUATION : 2

Dependent Variable: IMPORT
Method: Least Squares
Date: 02/02/11 Time: 23:50
Sample (adjusted): 1972 2006
Included observations: 35 after adjustments

	Coefficient	Std. Error	t-Statistic	Prob.
C	42799556	19916671	2.148931	0.0408
EXPORT(-1)	0.772559	0.166884	4.629322	0.0001
CU	9530149.	5199419.	1.832926	0.0779
GDPT	808727.3	298304.4	2.711081	0.0115
GDPW	**222987.4**	**883381.2**	**0.252425**	**0.8026**
POLICY	**5206187.**	**3986562.**	**1.305934**	**0.2026**
POPT	-19709639	6408959.	-3.075326	0.0048
POPW	**448333.8**	**11894781**	**0.037692**	**0.9702**

R-squared	0.946504	Mean dependent var	27052985
Adjusted R-squared	0.932635	S.D. dependent var	26608941
S.E. of regression	6906302.	Akaike info criterion	34.53140
Sum squared resid	1.29E+15	Schwarz criterion	34.88691
Log likelihood	-596.2995	Hannan-Quinn criter.	34.65412
F-statistic	68.24445	Durbin-Watson stat	2.215319
Prob(F-statistic)	0.000000		

EQUATION : 3

Dependent Variable: EXPORT
Method: Least Squares
Date: 02/02/11 Time: 23:54
Sample (adjusted): 1972 2006
Included observations: 35 after adjustments

	Coefficient	Std. Error	t-Statistic	Prob.
C	13006713	6824137.	1.905987	0.0673
IMPORT(-1)	0.278832	0.111444	2.502001	0.0187
CU	3625298.	2386877.	1.518845	0.1404
GDPEU	**21027.73**	**388246.6**	**0.054161**	**0.9572**
GDPT	220751.1	132159.8	1.670335	0.1064
POLICY	5612584.	2001901.	2.803628	0.0092
POPEU	17036260	6210829.	2.742993	0.0107
POPT	-9774706.	2547073.	-3.837623	0.0007

R-squared	0.927329	Mean dependent var	9392971.
Adjusted R-squared	0.908489	S.D. dependent var	10368642
S.E. of regression	3136602.	Akaike info criterion	32.95281
Sum squared resid	2.66E+14	Schwarz criterion	33.30832
Log likelihood	-568.6742	Hannan-Quinn criter.	33.07553
F-statistic	49.21979	Durbin-Watson stat	2.045800
Prob(F-statistic)	0.000000		

EQUATION : 4

Dependent Variable: IMPORT
Method: Least Squares
Date: 02/02/11 Time: 23:56
Sample (adjusted): 1972 2006
Included observations: 35 after adjustments

	Coefficient	Std. Error	t-Statistic	Prob.
C	22474705	6870739.	3.271075	0.0029
EXPORT(-1)	0.397055	0.148922	2.666191	0.0128
CU	8859628.	2287476.	3.873103	0.0006
GDPEU	**87045.40**	**403246.1**	**0.215862**	**0.8307**
GDPT	411899.1	140126.3	2.939486	0.0067
POLICY	4191967.	2236797.	1.874094	0.0718
POPEU	**6273693.**	**7107240.**	**0.882719**	**0.3852**
POPT	-11402744	2746445.	-4.151819	0.0003

R-squared	0.953729	Mean dependent var	13248049
Adjusted R-squared	0.941733	S.D. dependent var	13504768
S.E. of regression	3259866.	Akaike info criterion	33.02990
Sum squared resid	2.87E+14	Schwarz criterion	33.38541
Log likelihood	-570.0233	Hannan-Quinn criter.	33.15262
F-statistic	79.50247	Durbin-Watson stat	2.175238
Prob(F-statistic)	0.000000		

UNIT ROOT TESTS FOR INDEPENDENT VARIABLES

EXPORT VOLUME WITH THE WORLD

Null Hypothesis: EXPORT has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		3.358570	1.0000
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(EXPORT)
Method: Least Squares
Date: 09/04/10 Time: 14:14
Sample (adjusted): 1977 2006
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXPORT(-1)	0.403340	0.120093	3.358570	0.0027
D(EXPORT(-1))	0.554285	0.479414	1.156172	0.2595
D(EXPORT(-2))	-1.341396	0.452910	-2.961728	0.0070
D(EXPORT(-3))	-2.220786	0.533809	-4.160261	0.0004
D(EXPORT(-4))	-1.482421	0.653121	-2.269749	0.0329
D(EXPORT(-5))	-1.862180	0.847959	-2.196073	0.0384
C	2035555.	1018255.	1.999062	0.0576

R-squared	0.809941	Mean dependent var	1326829.
Adjusted R-squared	0.760360	S.D. dependent var	6671990.
S.E. of regression	3266143.	Akaike info criterion	33.03708
Sum squared resid	2.45E+14	Schwarz criterion	33.36403
Log likelihood	-488.5562	F-statistic	16.33580
Durbin-Watson stat	1.927775	Prob(F-statistic)	0.000000

IMPORT VOLUME WITH THE WORLD

Null Hypothesis: IMPORT has a unit root
Exogenous: Constant
Lag Length: 6 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		6.331193	1.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(IMPORT)
Method: Least Squares
Date: 09/04/10 Time: 14:24
Sample (adjusted): 1978 2006
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IMPORT(-1)	0.567147	0.089580	6.331193	0.0000
D(IMPORT(-1))	-0.853170	0.203806	-4.186182	0.0004
D(IMPORT(-2))	-1.255689	0.192400	-6.526437	0.0000
D(IMPORT(-3))	-1.320639	0.223806	-5.900830	0.0000
D(IMPORT(-4))	-1.504608	0.283041	-5.315866	0.0000
D(IMPORT(-5))	-1.065847	0.310007	-3.438138	0.0025
D(IMPORT(-6))	-2.082014	0.300442	-6.929844	0.0000
C	2641293.	1625688.	1.624723	0.1191

R-squared	0.844314	Mean dependent var	2330841.
Adjusted R-squared	0.792418	S.D. dependent var	11041570
S.E. of regression	5030662.	Akaike info criterion	33.92895
Sum squared resid	5.31E+14	Schwarz criterion	34.30614
Log likelihood	-483.9698	F-statistic	16.26954
Durbin-Watson stat	2.177659	Prob(F-statistic)	0.000000

EXPORT VOLUME WITH EUROPEAN UNION

Null Hypothesis: EXPORT has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		4.454729	1.0000
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(EXPORT)
Method: Least Squares
Date: 09/04/10 Time: 15:41
Sample (adjusted): 1977 2006
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXPORT(-1)	0.606227	0.136086	4.454729	0.0002
D(EXPORT(-1))	0.363017	0.374560	0.969181	0.3425
D(EXPORT(-2))	-1.650381	0.358034	-4.609563	0.0001
D(EXPORT(-3))	-2.587939	0.468297	-5.526272	0.0000
D(EXPORT(-4))	-2.146473	0.643474	-3.335758	0.0029
D(EXPORT(-5))	-1.480911	0.669889	-2.210682	0.0373
C	756474.2	516595.0	1.464347	0.1566

R-squared	0.841154	Mean dependent var	797602.0
Adjusted R-squared	0.799716	S.D. dependent var	3959744.
S.E. of regression	1772110.	Akaike info criterion	31.81420
Sum squared resid	7.22E+13	Schwarz criterion	32.14115
Log likelihood	-470.2131	F-statistic	20.29901
Durbin-Watson stat	2.115136	Prob(F-statistic)	0.000000

EXPORT VOLUME WITH EUROPEAN UNION

Null Hypothesis: IMPORT has a unit root
Exogenous: Constant
Lag Length: 9 (Automatic based on SIC, MAXLAG=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.757986	0.8143
Test critical values:	1% level	-3.711457	
	5% level	-2.981038	
	10% level	-2.629906	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(IMPORT)
Method: Least Squares
Date: 09/05/10 Time: 01:30
Sample (adjusted): 1981 2006
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IMPORT(-1)	-0.183545	0.242148	-0.757986	0.4602
D(IMPORT(-1))	0.131699	0.420131	0.313472	0.7582
D(IMPORT(-2))	-0.332997	0.430907	-0.772782	0.4517
D(IMPORT(-3))	0.082074	0.455867	0.180040	0.8595
D(IMPORT(-4))	-0.254302	0.399372	-0.636754	0.5339
D(IMPORT(-5))	0.228853	0.411752	0.555804	0.5865
D(IMPORT(-6))	-0.576768	0.537091	-1.073874	0.2999
D(IMPORT(-7))	1.825315	0.610537	2.989690	0.0092
D(IMPORT(-8))	0.781483	0.588096	1.328836	0.2038
D(IMPORT(-9))	1.781615	0.565625	3.149817	0.0066
C	1175872.	958715.0	1.226508	0.2389

R-squared	0.851374	Mean dependent var	1209339.
Adjusted R-squared	0.752291	S.D. dependent var	5665694.
S.E. of regression	2819839.	Akaike info criterion	32.83837
Sum squared resid	1.19E+14	Schwarz criterion	33.37064
Log likelihood	-415.8987	F-statistic	8.592473
Durbin-Watson stat	1.723812	Prob(F-statistic)	0.000143

COUNTRY LIST OF THE WORLD WİTHOUT EU

Afghanistan	Liberia
Albania	Libya
United Arab Emirates	St. Lucia
Argentina	Sri Lanka
Armenia	Lesotho
American Samoa	Macao
Antigua and Barbuda	Morocco
Australia	Moldova
Azerbaijan	Madagascar
Burundi	Maldives
Benin	Mexico
Burkina Faso	Marshall Islands
Bangladesh	Macedonia, FYR
Bahrain	Mali
Bahamas, The	Myanmar
Bosnia and Herzegovina	Mongolia
Belarus	Mozambique
Belgium-Luxembourg	Mauritania
Belize	Mauritius
Bermuda	Malawi
Bolivia	Malaysia
Brazil	Mayotte
Barbados	Namibia
Bhutan	Niger
Botswana	Nigeria
Central African Republic	Nicaragua
Canada	Norway
Switzerland	Nepal
Chile	New Zealand
China	Oman
Cote d'Ivoire	Pakistan
Cameroon	Panama
Congo, Rep.	Peru
Colombia	Philippines
Comoros	Palau
Cape Verde	Papua New Guinea
Costa Rica	Korea, Dem. Rep.
Czechoslovakia	Paraguay
Cuba	French Polynesia
Cayman Islands	Qatar
Dominica	Russian Federation
Dominican Republic	Rwanda
Algeria	Saudi Arabia
Ecuador	Sudan
Egypt, Arab Rep.	Senegal
Eritrea	Yugoslavia
Ethiopia(excludes Eritrea)	Singapore

Fiji	Sierra Leone
Faeroe Islands	El Salvador
Gabon	Somalia
Georgia	Sao Tome and Principe
Ghana	Suriname
Guinea	Soviet Union
Gambia, The	Swaziland
Guinea-Bissau	Seychelles
Equatorial Guinea	Syrian Arab Republic
Grenada	Chad
Greenland	Togo
Guatemala	Thailand
Guam	Tajikistan
Guyana	Turkmenistan
Hong Kong, China	Tonga
Honduras	Trinidad and Tobago
Croatia	Tunisia
Haiti	Tanzania
Indonesia	Uganda
India	Ukraine
Iran, Islamic Rep.	Uruguay
Iraq	United States
Iceland	Uzbekistan
Israel	St. Vincent and the Grenadines
Jamaica	Venezuela
Jordan	Vietnam
Japan	Vanuatu
Kazakhstan	Samoa
Kenya	Yemen Democratic
Kyrgyz Republic	Yemen
Cambodia	Yugoslavia, FR (Serbia/Montene
St. Kitts and Nevis	South Africa
Korea, Rep.	Congo, Dem. Rep.
Kuwait	Zambia
Lao PDR	Zimbabwe
Lebanon	

COUNTRY LIST OF EUROPEAN UNION

Austria	Ireland
Belgium	Italy
Bulgaria	Lithuania
Cyprus	Luxembourg
Czech Republic	Latvia
Germany	Malta
Denmark	Netherlands
Spain	Poland
Estonia	Portugal
Finland	Romania
France	Slovak Republic
United Kingdom	Slovenia
Greece	Sweden
Hungary	