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**THE EFFECT OF CRUDE OIL PRICES ON THE FOREIGN
TRADE DEFICIT - CASE OF TURKEY (2000-2015)**

Graduation Thesis

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ABSTRACT

In this study, the relationship between Turkey's foreign trade deficit and oil prices, was analyzed with non-linear cointegration analysis for the period 2010-2015. The variables were analyzed using the Johansen Cointegration analysis after first differences were taken and stabilized. The results of the analysis revealed, a long-term positive relationship between foreign trade deficit and oil prices. The fact that the change in oil prices affected the foreign trade deficit with a delay of three periods is also among the findings of the study. It has been found with the Error Correction Model that the relationship is positive and the long-run correlations between oil prices and foreign trade deficit have stabilized by 38% compared to the previous turn. The findings of the econometric analysis, showed that the long-term relationship between oil prices and foreign trade deficits is positive consistent with the previous studies.



Key Words:

Foreign Trade Deficit, Energy, Oil, Oil Price, Import, Export, Cointegration Test.

ÖZET

Bu çalışmada petrol fiyatları ile Türkiye dış ticaret dengesi arasındaki ilişki, 2000-2015 dönemine ait aylık veriler kullanılarak, doğrusal olmayan eşbütünleşme analizi yöntemi ile incelenmiştir. Değişkenler, birinci farkları alınarak durağan hale getirildikten sonra Johansen Eşbütünleşme analizi uygulanmıştır. Analiz sonucunda dış ticaret açığı ile petrol fiyatları arasında uzun dönemli bir ilişkinin varlığı tespit edilmiştir. Petrol fiyatlarındaki değişimin dış ticaret açığını 3 dönem (3 ay) gecikme ile etkilediği de çalışmanın bulguları arasındadır. Hata Düzeltme Modeli (ECM) ile ilişkinin pozitif yönlü olduğu ve petrol fiyatları ile dış ticaret açığı arasındaki uzun dönemli ilişkiden sapmaların bir önceki döneme göre %38 düzelerek dengeye geldiği sonucuna ulaşılmıştır. Yapılan ekonometrik analizin sonucunda petrol fiyatlarıyla dış ticaret açığı arasındaki uzun dönemli ilişkinin önceki çalışmalarla uyumlu olduğu görülmektedir.

Anahtar Kelimeler:

Dış Ticaret Açığı, Enerji, Petrol, Petrol Fiyatları, İthalat, İhracaat, Eşbütünleşme Analizi.

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LIST OF ABBREVIATIONS

- ADF:** Augmented Dickey-Fuller
- EEC:** European Economic Community
- AIC:** Akaike Information Criterion
- ECM:** Error Correction Model
- EIA:** Energy Information Administration
- EU:** European Union
- FPE:** Akaike's Final Prediction Error Criterion
- FTCC:** Foreign Trade Capital Companies
- GDP:** Gross Domestic Product
- HQ:** Hannan-Quinn Criterion
- IEA:** International Energy Agency
- KPSS:** Kwiatkowski-Phillips-Schmidt-Shin
- OPEC:** Organization of Petroleum Exporting Countries
- PIGM:** Petrol İşleri Genel Müdürlüğü
- PP:** Phillips-Perron
- SC:** Schwarz
- SPO:** State Planning Organization
- TPC:** Turkish Petroleum Corporation
- WTI:** West Texas Intermediate
- WTO:** World Trade Organization
- VAT:** Value Added Tax

1. INTRODUCTION

In the economic stabilization program called "January 24th Decisions" in 1980, it was envisaged to implement a growth policy based on export rather than import substitution policies. The export-based growth strategy emphasizes that the main determinant of economic growth is the increase in exports. In this context, according to the Classical and Neo-Classical approach emphasizing that there is a close relation between foreign trade and economic growth, while the increase of foreign trade increases efficiency, one side also promotes specialization in the production of goods subject to foreign trade (Ghartey, 1993: 1145). The foreign trade deficit is a result of the trading of the countries in their trade with each other. According to this, the fact that one country purchases goods from other countries is higher than the goods it sells to other countries, this leads to foreign trade. What is important in foreign trade is to provide a balance. In other words, if the goods sold and bought by an country are equal, this is an ideal foreign trade. From here, it is possible to say that the most important condition of sustainable foreign trade is foreign trade balance. Turkey's economy is a fragile economy. The current account deficit is the most important reason why the economy is fragile. Foreign trade deficit is also the most important item in the current deficit. as the oil prices directly affect the foreign trade deficit, the relationship is the main motivation.

In this study, it is aimed to investigate the relationship between crude oil prices and foreign trade deficit. After reviewing the literature in this section, information about the data set to be used and the analyzes applied by referring to the methodology was given, and in the last part, analysis results and interpretations were given. Cointegration was used in the model. Since the series are stationary in their first difference, cointegration can be used.

The following sections of the study are going on as follows, in the second chapter, energy and energy supply are examined in the context of the effects on the country's economies. In the third chapter, the concept of foreign trade and the aims and benefits of foreign trade are mentioned. For this purpose, energy was emphasized first and then oil

was concentrated. In the fourth chapter, the historical analysis of the foreign trade deficit was examined. After the studies investigating the relationship between petroleum prices and macroeconomic variables in the literature search, this study also investigated the relationship between oil prices and foreign trade deficits. As a result of the econometric analysis, It was seen that there was a cointegration between foreign trade deficit and crude oil prices and it is determined that this finding overlaps with other studies in the literature.

2. A BRIEF OVERVIEW OF OIL MARKET

2.1. Energy and Energy Types

2.1.1. Fossil fuel

Fossil fuels are extremely high energy sources that can not be renewed, spontaneously formed in nature and take up hundreds of years to form. Today, 87% of the world's total energy production is covered by fossil fuels (Bayraç, 2009: 117).

It is accepted that petroleum was created by the natural phenomenon of stacking of earth beds and the help of bacteria under appropriate heat and pressure in the airless environment, which was deposited millions of years ago on the animals and plants that have fallen into the sea. For this reason, crude oil is also known as "fossil fuel" such as natural gas and coal (Acar , 2007,). 15,000 years for oil to be formed and 1,000,000 years for collecting (Gün, 2011: 31).

Fossil fuels like oil are also very important for the environment economy. The consequence of the use of fossil fuels in thermal power plants, transportation, heating and other industrial areas is causing pollution of the air, resulting in the release of harmful gases such as sulfur dioxide, nitrogen oxides, carbon monoxide and carbon dioxide. The atmospheric effects of fossil fuels cause global warming and acid rain (Keles and Hamamci, 1993). Using such fuels as all kinds of energy sources and using them as raw materials in the industry causes environmental pollution.

2.1.2. Renewable energy

Energy sources are at the forefront of the basic inputs that are essential for the economic development of the countries. Sustainable energy policies aim at providing supply security and diversification of supply sources, as well as supplying energy demand at a low cost, demanded quantity and quality to the collection required (Bayraç, 2009).

On the other hand, with the rapid increase in oil consumption and demand, the world has been searching for alternative energy sources. Although renewable sources do not yet have the technology to compete economically with other conventional sources, energy policies are increasingly foreground in terms of both energy consumption and resource stimulation, especially in the EU (Özsabuncuoğlu and Uğur, 2005). As the

creation of alternative energy sources and the use of this energy type grows, the sub-structures of especially emerging sectors are built on alternative energy sources. Thus, it is aimed to reduce petroleum dependency as much as possible in order to leave oil to use in more important places.

On the other hand, the high cost of acquiring renewable energy types in general, the difficulty in storing the energy obtained in a large proportion of these, and the limited renewable energy infrastructure, hamper the widespread use of renewable energy in the world (Bayraç, 2009).

All renewable resources, especially solar, wind and geothermal, are regarded as energy sources of the future because they are clean fuel and need to be renewable (Karacan, 2007).

2.2. Oil and The Importance of Oil

Oil, hydrogen and carbon, which contains a small amount of nitrogen, oxygen and sulfur, a simple formula is not possible. Crude oil is also known as "Hydrocarbon" because it is the main component of natural gas, hydrogen and carbon (PIGM, 2007).

It can be stated that petroleum is the most important element of the country and international economies if it is taken into consideration that the oil which is not in the hands of people and produced for a long time has a great share in energy consumption of many countries and the resources are limited. Indeed, if there is no other type of energy that can be substituted for oil, neither industry nor technology can be mentioned. Apart from being used as fuel, petroleum is the essence of raw materials in many sectors such as many petroleum products and compounds produced from crude oil.

In addition, within the next 30 years, the IEA estimates that most of the world energy demand will be covered by fossil resources, especially oil and natural gas (Bayraç, 2009).

2.2.1. Oil market

Along with being the supply-demand balance, the main determinant of oil prices is; The functioning of the supply-demand mechanism in the oil market is different from other markets. This difference stems from the fact that oil is a limited resource that can not be

renewed and that it is exposed to scarcity rent due to the lack of close proximity, the dependence of the global economy on oil and OPEC's market power (Solak, 2012).

Manufacturers in the energy market are usually very large-scale firms working internationally. Especially oil-processing firms are large scale and very few in the market. The extraction, processing and transport of the energy are carried out at great expense. These markets tend to be monopoly or oligopoly, since every firm can not easily enter the market (Gün, 2011). These firms, which constitute a great economic power, can influence national and international decision making mechanisms (Önertürk, 1983). The petroleum industry was largely dominated by international major oil companies until 1973 when the first petroleum crisis was experienced from the first commercial production of petroleum; This first period is a period when these companies are very influential in the supply of oil and hence prices (Solak, 2012).

Oil prices increased by 400% in 6 months and rose to 15 dollars in 1975 (Özhan, 2005) with the implementation of the first petroleum embargo in 1973, when oil prices were around 3 US dollars. OPEC has tested its power in this crisis and showed that it has a say, with the Israeli-Arab War being a major force.

After 1973, OPEC went ahead with the market and the oil market and oil prices were largely under OPEC control (Solak, 2012). OPEC has continued this dominance until 1986 when the market mechanism was introduced. Since 1986, OPEC and international big oil companies have been shifting to the free market mechanism by breaking the power to determine prices. It has been a period of continuing from 1988 until the end of the day, with relative dominance of consumer countries on the markets and a decline in OPEC's power (Baddour, 1997). Since 1986, petroleum has been trading on both spot and derivative markets and is being used as an investment vehicle.

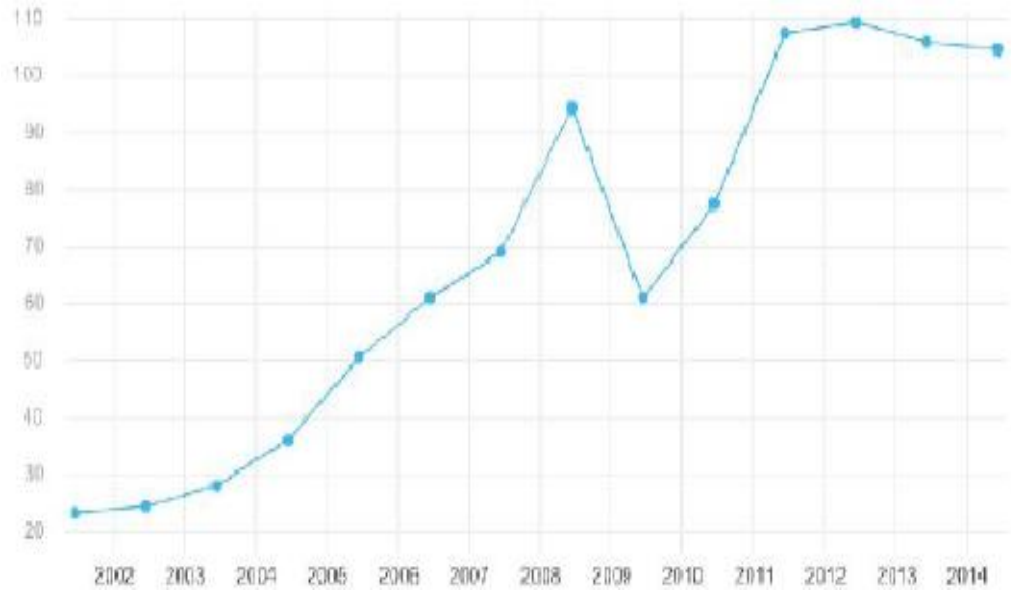


Figure 2.1: Oil prizes (USA dollar). Oil prices also fluctuated between 2002 and 2014.
Source: OPEC

Oil price and reserve values are the main influences that guide the oil market. Two basic measurement tools are used to determine the oil prices. West Texas Intermediate (WTI) is the preferred unit along with Brent crude oil price.

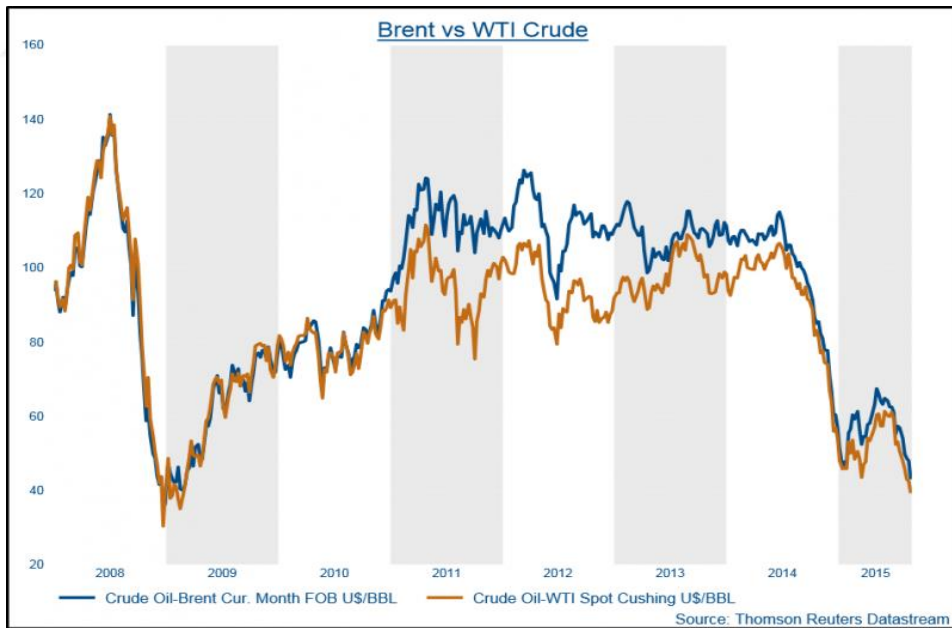


Figure 2.2 :WTI-Brent Oil

Source: <http://www.cumberlandplace.co.uk/news/investment-themes-qe-and-commodities/attachment/brent-vs-wti-crude/>

The above is a comparison of WTI to Brent crude price. As it is clear from the chart, the price of Brent crude oil is more prevalent and valued than WTI.

Reserve values also play an important role in the distribution of power in countries in world politics. Countries with a high share in oil reserves are among the world's strongest countries. These countries determine the oil prices based on the oil reserves in their hands. Given the fact that oil is the primary energy source in the world economy and that technology and industry are the building blocks, changes in oil prices and developments in the sector can be said to have driven the world economy.

In assessing the oil supply-demand balance, it can be said that the near absence of petroleum and the dependence of the global economy on oil are very important. These two points lead to a low price elasticity of oil demand. In the short term, demand elasticity is very low since demand is not so much affected by price fluctuations. In the long term, the prices of alternative energy sources, which have a limited energy intensity and limited use of alternative energy sources, are comparatively more comparable to those of large oil prices.

Looking at oil prices in the past, prices seem to trend upward. In this, it can be said that the increase in oil demand has a great role. The main reason for the increase in demand for oil is that the world population and the per capita income show an increasing trend (Tsoskounoglou, 2008). Since oil production did not increase at the same rate as demand, balance prices were up. However, despite the increase in prices, oil demand continued to increase. In the coming years, it is highly probable that the upward trend in oil prices has continued in the past. There are two main reasons for this. The first is that many of the countries that have produced production outside the OPEC member countries are already at the peak of production or expected to arrive soon. Therefore, it is expected that countries producing in the coming years outside of the OPEC member countries will be able to meet a very small part of the oil demand (Horn, 2004). This will lead to an increase in OPEC's influence on prices. Second, the world is approaching the peak of oil production. In the absence of very important technological advances and great reserve

discoveries, the likelihood of a decline in oil production after reaching a peak is quite strong (Solak, 2012).

2.2.2. Oil reserve

With petroleum becoming increasingly important, the oil sector is rapidly evolving in financial and technological terms. Most of the world oil production is covered by OECD and Middle East Countries. Figure 4 shows the distribution of world crude oil production.

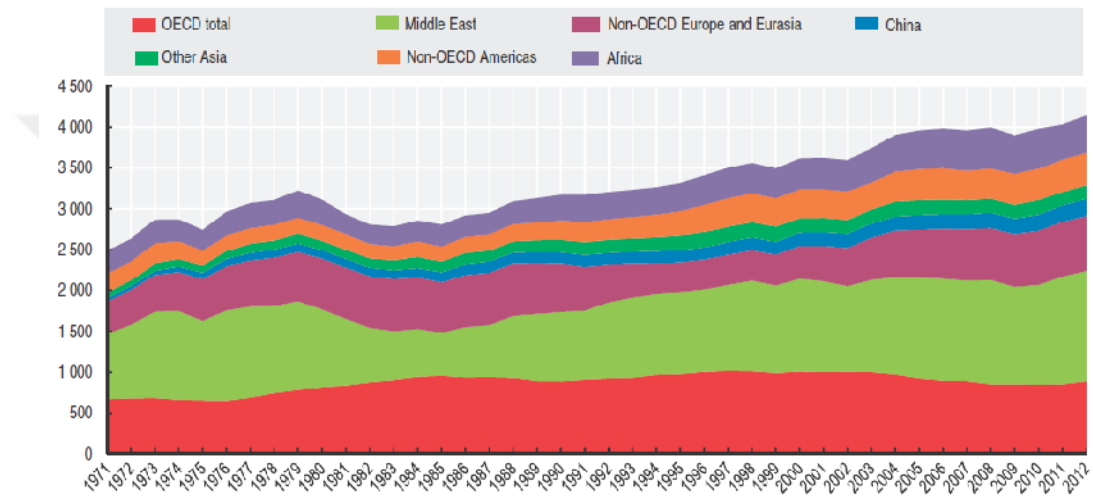


Figure 2.3: World Crude Oil Production

Source: OECD Factbook 2014:121.

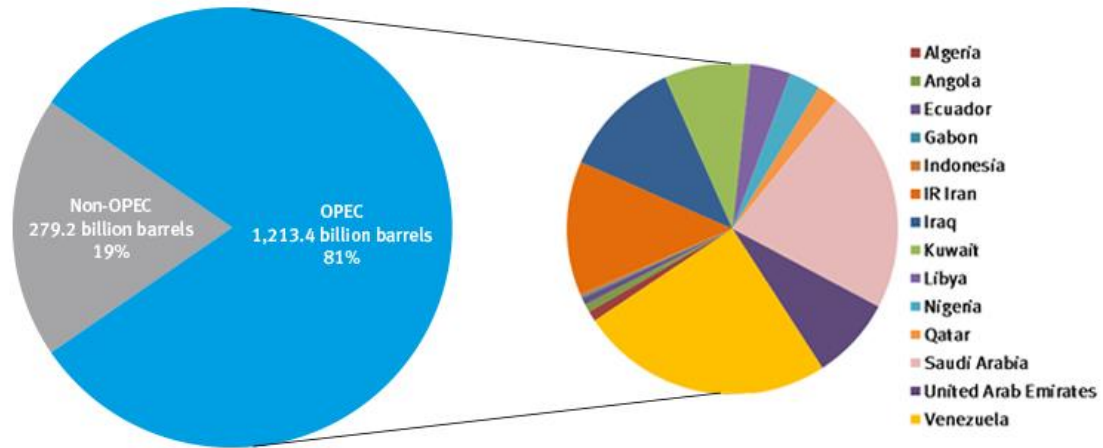
Among the OPEC members, S.Arabia, which has the highest output in the Middle East region, has steadily increased production for the last ten years, while Iran has maintained the position of the second country, which has the largest share in the region among OPEC countries for years. Although Africa's oil production does not change in general, the most important oil producing countries are Libya and Algeria. Nigeria has become increasingly important as it has begun to appreciate the energy potential it has in recent years.

World-proven petroleum reserves; As it is seen in Figure-5, it is approximately 1,477 billion as of 2012 year. Approximately 81% of these reserves are in member countries of the Organization of the Petroleum Exporting Countries (OPEC). and about 6.6% are members of the Organization for Economic Co-operation and Development

(OECD) countries. Considering the year 2012 production and reserve figures, it is estimated that the reserve is about 45 years old.

Regionally, Venezuela is the country with the most reserves, with 24.8% of the total reserves of the world. Saudi Arabia (22%). Iran (13.1%). Iraq (11.7%). Kuwait (8.4%). United Arab Emirates (8.1%) and Libya 4,0%) (opec.org data base 2015).

OPEC share of world crude oil reserves, 2015



OPEC proven crude oil reserves , at end 2015 (billion barrels, OPEC share)

Venezuela	300.88	24.8%	Kuwait	101.50	8.4%	Qatar	25.24	2.1%	Indonesia	3.23	0.3%
Saudi Arabia	266.46	22.0%	United Arab Emirates	97.80	8.1%	Algeria	12.20	1.0%	Gabon	2.00	0.2%
IRIran	158.40	13.1%	Libya	48.36	4.0%	Angola	9.52	0.8%			
Iraq	142.50	11.7%	Nigeria	37.06	3.1%	Ecuador	8.27	0.7%			

Source: OPEC Annual Statistical Bulletin 2016.

Figure 2.4: Crude Oil Reserve – 2015

Source: http://www.opec.org/opec_web/en/data_graphs/330.htm

2.3. Turkey's Role in The Oil Market

The energy policies applied in Turkey, which imports half of the energy sources consumed today, are greatly influenced by the general structure of the world energy sector. Depending on the geological and natural structure in Turkey, reserves of fossil resources other than lignite are low and production is very low (Bayraç, 2009). 39% of the primary energy consumed in Turkey is supplied by oil, 27% by natural gas, 27% by coal and 13% by renewable energy sources (Bayraç, 2009). The share of imports in energy consumption is 70%. In addition to high external dependence on energy, 65% of natural gas imports are made from the Russian Federation, which causes significant

distress in terms of energy security. Due to its geopolitical position, Turkey is located in many important projects as it is adjacent to the countries of the region which have three quarters of the world oil and natural gas reserves. It is estimated that a significant part of the world primary energy demand, which is expected to increase by 40% until 2030, will be met from the resources of the region we are in (Gün, 2011).

In the energy market, not only the reserves, but also the ways in which these resources reach the consumer and the security of the routes through which the pipelines pass have a great prospect for the consumers (Pamir, 2006). For this reason, both supply-demanders and trade routes need to be safeguarded together.

Turkey approaches energy security in terms of using the advantage of its strategic position. As it can be seen in that figure, it is obvious that Turkey is in the position of a node point in terms of transmission lines.

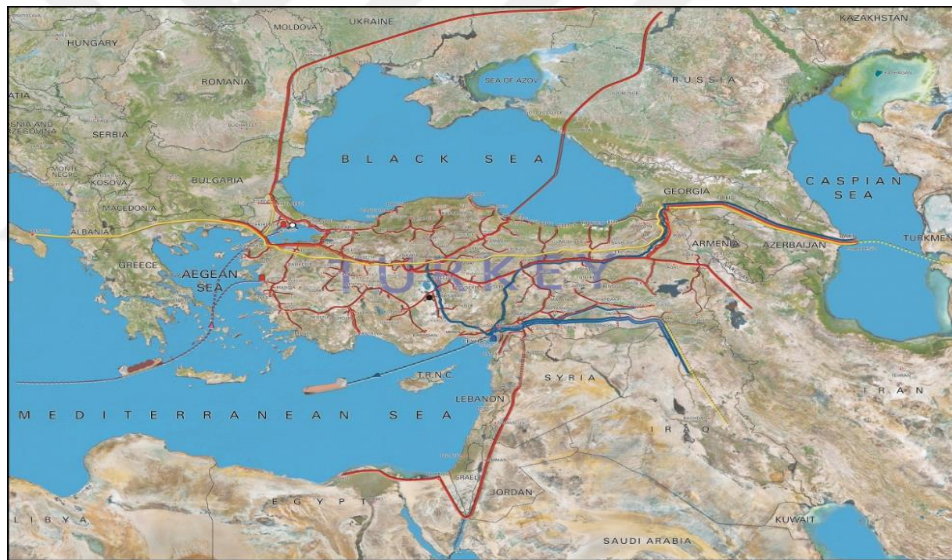


Figure 2.5: Natural Gas and Oil Transport Lines (General) Source: BOTAŞ
Soruce:BOTAŞ

2.4. Oil Production in Turkey

Turkish Petroleum Corporation (TPC) is the most important and most comprehensive organization that conducts exploration, drilling, production and refinery activities of petroleum and derivatives in Turkey. TPC has been working in order to meet

Turkey's increasing oil and natural gas demand, Land areas and the Black Sea in recent years, especially in the seas and many oil and natural gas exploration and production projects are realized. Production quantities realized between 1999 and 2015 are given in Table 1. TPC has initiated various reservoir studies in order to increase the production of oil and has accelerated the projects to increase the production of oil.

- West Raman Field Oil Production Upgrade Project
- Raman Field Production Increase Project
- Garzan Area Water Injection Project
- West Kozluca Area plans to increase oil production through the WAG (CO₂ / Water-Sequential-Gas Injection) Project.

Table 2.1. Crude Oil Production by Years

Years	Crude Oil Production (M.Tn)
1999	2 939 896
2000	2 749 105
2001	2 551 467
2002	2 441 534
2003	2 375 044
2004	2 275 530
2005	2 281 131
2006	2 175 668
2007	2 134 175
2008	2 160 067
2009	2 401 799
2010	2 496 113
2011	2 367 251
2012	2 337 551
2013	2 398 454
2014	2 455 893
2015	2 515 662

Source: PiGM

In the Project for the Upgrade of Western Raman Field Oil Production; From 1986 to the end of 2012, 108.8 million barrels of oil were produced, of which 72.8 million barrels were produced by the project. In addition, 12 wells were drilled during the year.

Within the scope of the Raman Field Production Increase Project, 25.1 million barrels of oil were produced at the end of 2012 and about 100.000 barrels of oil were produced in 2012. Garzan Water Injection Project has produced 29 million barrels of crude oil from Garzan-B Field and 13.3 million barrels of oil from Garzan-C Field by the end of 2012.

2.5. Formation of Oil Prices

Oil prices, like all other commodities traded in the free market, are determined by basic / structural supply-demand balance. However, petroleum market is separated from other markets by the fact that most economic activities are directly or indirectly dependent on petroleum, whereas petroleum reserves are limited, about 77% of existing reserves and about 42% of oil production are controlled by OPEC member countries (Solak, 2012). Moreover, factors that affect or anticipate short or long term supply-demand imbalance are setting the stage for speculation, leading to large fluctuations in prices.

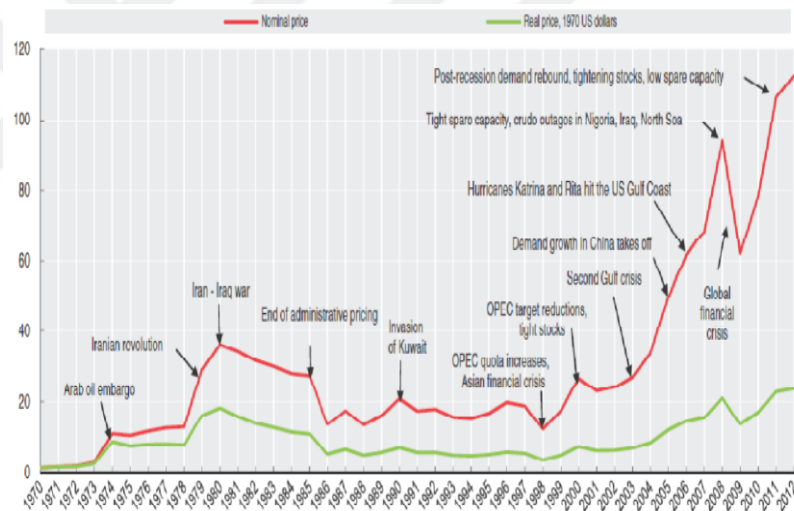


Figure 2.6: World Oil Prices (Barel, USD Dollar)

Source: OECD Factbook 2014:123.

2.6. Oil Prices in Turkey

In the formation and growth of oil prices in Turkey, as well as world oil prices and exchange rates, government intervention is also important. Governments in Turkey are receiving Special Consumption Tax (VAT) and VAT (Value Added Tax) on the prices of fuel products. The Fuel Price Stabilization Fund, which has previously reduced the

fluctuations in oil prices in the country and made a profit on the other hand, transferred its function to Excise Tax with the abolition of funds and Fuel Consumption Tax was also included in this tax (Bayraç and Yenilmez, 2005).

The following table provides information on crude oil prices, oil and energy dependency in Turkey between 2000 and 2012. Crude oil prices, which were sold at an average of 24.4 dollars per barrel in international markets in 2001, have increased continuously since 2009 due to the global contraction due to the 2008 US crisis. Compared to 2000, the price of oil has increased by 291 percent in 2012. The average oil price between 2000 and 2012 is \$ 61.37. Imported crude oil was over 20 million tons until 2008, but the amount imported with increasing use of natural gas decreased after 2008.

Table 2.2. Oil Prices in Turkey

	2000	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012
Crude Oil Pri. (\$)	28,4	24,9	28,8	54,4	65,1	72,5	97,0	61,5	79,4	111,2	111,5
Import (1000 Ton)	21,08	23,7	24,2	23,39	23,78	23,44	21,83	14,21	16,87	18,04	19,47
Imp. Value (Milyon \$)	4.208	4.088	4.777	8.649	10.706	11.784	15.639	6.415	9.647	14.888	16.133
Share of oil pri. In imports	13,94	14,46	12,95	14,03	15,07	14,58	16,74	14,39	14,65	8,46	-
Energy dependency ratio	66,13	67,52	69,69	71,63	71,67	72,72	70,58	68,99	69,34	70,86	66,13

*The energy dependency rate is the percentage of energy that is imported in total energy use.

Source: Altıntaş, 2013:8.

Despite the absence of an extraordinary increase in crude oil imports, the increase in the price of oil increased to the cost of the Treasury; The oil bill, which was 4.2 billion dollars in 2000, has exceeded 16 billion dollars in 2012. In the last 13 years of the 2000-2012 period, the total payment for petroleum imports was \$ 116.8 billion. In 2011-2012 period, the share of the payments made to the oil within the total export income is 10 percent. According to 2000 payments, the increase in crude oil payments in 2004 was 45 percent, 105 percent in 2005, and 284 percent in 2012. Considering that the share of crude oil in total imports in Turkey does not decrease due to the fact that alternative energy

sources are not found and accordingly energy dependency rises to 70 percent, it is expected that energy demand will increase further and energy payment will increase further in the coming years.

2.7. Oil Export and Import in Turkey

Nearly half of Turkey's primary energy consumption is crude oil consumption. Much of this demand is provided by foreign oil producers (Altınay, 2007). While about 9% of Turkey's total imports constitute crude oil, 2.27% of GDP is spent for oil imports (Bayraç, 2009). In Turkey, exports are largely dependent on imports and accordingly imports of imported intermediate goods (for example, goods or goods that have been traded or not traded for industry, investment goods and parts of transportation vehicles) used in exports (automobiles, durable and semi-durable consumption Goods) are used as input in exports. As a result, exporters operating in the manufacturing industry are able to reflect the cost of intermediate and semi-finished goods, which they import intensively, into their export goods. Due to the high level of demand and income elasticity of these products due to their moderate technology intensive products, despite the oil prices, they did not prevent the relative increase in exports in Turkey (Altıntaş,2013)

3. THE FOREIGN TRADE

3.1. Import and Export Definitions

There are two factors arising from the definition of foreign trade and distinguishing the forms of realization of foreign trade. Among them, the import is called import of goods or services and the other is export which is the sale of goods or services. The understanding and assimilation of these two concepts is crucial for a complete understanding of foreign trade.

Goods and services produced in a country are not only used by the citizens of that country but are also exported to other countries (Unsal, 2005).

It is called exports in order to ensure redistribution of resources from dynamic to dynamic rather than from the relative sectors (Fosu, 1990).

It is called importation when one country purchases goods and services produced by other countries. Public institutions, private institutions or individuals can import (Zortuk, 2002).

It is easier to understand what foreign trade is and how to understand what export and import mean. The above definitions indicate that foreign trade refers to a trade made through exports and imports.

3.2. History of Foreign Trade

It is known that international commercial relations are based on very ancient histories. The advantages of international trade are important in the work of Adam Smith and David Ricardo, who are called the founders of today's economics (Dinler, 2006). Buddha pointed out that international trade is based on very ancient histories.

Historically, when we examine foreign trade, Adam Smith's theory of absolute superiority comes first. According to this theory, a country should specialize in the production of goods and exports them if it can produce at low cost, according to another country. On the other hand, it must reduce its costs to the minimum level, provided that

the goods it produces costly are imported from another country (Seyidođlu, 2001). In this theory, which Adam Smith published in 1776 in the book of *Wealth of Nations*, it is emphasized that the countries in the foreign trade relationship will be profitable and that this relationship will be a positive summed relationship. The theory of absolute superiority has created a specialization effect on the world and has allowed the countries that are involved in the trade to gain a certain share in trade with an increase in world production (Unsal, 2005).

However, the need for a more realistic and feasible theory has arisen as a result of the inability of the theory of absolute advantages to explain foreign trade. As a result, David Ricardo put forth the theory of comparative advantages about forty years after Smith and based his theory of comparative advantage on the basis of international trade, not absolute. Since the theory of comparative advantages has a very strong structure, it is still the basis of international trade. According to Ricardo's theory, it is not necessary for some countries to produce commodities cheaper than other countries, which is necessary for international trade. On the contrary, what is important for Ricardo is the degree of international superiority in the goods to be produced. In other words, if one country has higher superiority in the production of certain goods compared to the other, those goods must be produced and specialized (Seyidoglu, 2013). With the theory of comparative advantages, the efficiency and efficiency of countries are improved by providing specialization in certain commodities in world markets (Mayer, 1996). Ricardo's theory of comparative advantages reveals that even if a developed country has absolute superiority in the production of all goods, there is still profitability in the conduct of foreign trade. Because, according to the theory of comparative advantages, it is more profitable for countries to produce goods superior to production and to direct all of the resources here.

The reasons for foreign trade and the gain from foreign trade are explained in detail in his book *"Principles of Political Economy and Taxation"* published in 1871 by Ricardo. Accordingly, Ricardo's theory of comparative advantages explains foreign trade with international comparative costs. Ricardo's theory of external equilibrium, perfect competition, fixed yield, full employment and so on. It is open to debate the assumptions

of However, it should be said that today's modern foreign trade theory is the continuation of Ricardo's theory of comparative advantages (Ricardo, 1971).

Comparative superiority is a dynamic process before anything else. Such a comparative advantage is a theory that aims to transform an economy that exports low added goods, an economy that has high added value, and exports goods that require technology and skilled labor. In this process, the comparative advantages of the country will surely change. As the share of agriculture decreases with the growth in the countries, the share of the manufacturing industry and services sector will increase gradually, and in this case, the reflection on foreign trade will be positive (Chenery and Syrquin, 1975). In addition, in this process, the share of the industry does not increase only in the total exports of the countries, and the structure of the exports of the industrial products also changes (Das, 1998)

The rise of foreign trade with globalization has also directly affected the economic growth figures of countries. One of the important areas of study of economics is the relationship between exports and economic growth. The relationship between exports and economic growth was born in the 19th century by the free trade model of Smith and Ricardo. Then, neo-classical economists such as Kravis and Nurkse, in their study of the 1960s and 1970s, carried out a solid grounding in the economic literature on the interaction between exports and economic growth (Giles and Williams, 1999). Moreover, economic theorists such as Grosmann and Helpman, Coe and Helpman, Miller and Upadhyay in the 1980s have shown that the main reason for the spread of technology and knowledge is free trade. After these studies, the interaction between exports and economic growth has strengthened its place in economics (Thenuwara, 1994).

The independent states on the Earth are in close contact with each other. So much so that, after the 1950s, in addition to their political affiliation, they also entered into the race for integration in economic terms. Along with the globalization process in recent years, these relations have become more intense (Dinler, 2006:15).

Today, foreign trade is considered as one of the most important factors in the continuation of the development of the countries and in the integration with the countries of the world. Therefore, the countries that have to take care of their interests are taking

precautions that restrict or encourage foreign trade for this purpose (Ertekin and Kutlu, 2000).

Today, international trade is indispensable for countries. The fact that the countries are now not only economically but also culturally and politically closely related, and the existence of transnational organizations that enable countries to act together, have made foreign trade inevitable. Today, when a globalization is happening on the world and technological developments are getting closer even in the distance, foreign trade becomes more and more important in meeting the human needs which are especially limitless. So that countries are forming economic cooperations, organizations and even communities for this purpose. This shows how important foreign trade is today and that this will continue to increase in the future.

3.3. Development of Foreign Trade in Turkey

There is generally an increase in the foreign trade volume of Turkey from the establishment of the republic. However, this increase was observed to be relatively slower in the first years of the republic than in later periods, and it has been determined that it has developed as rapidly as the day-to-day, especially in the 1980s. In the first years of the Republic, industrialization (import substitution) policies were implemented in our country especially until the planned turn-over, and as a result of the low exchange rate policy, export-based foreign trade policy was not given sufficient importance (Özcan, 1998).

In the 1960s and 1970s, Turkey built its economic growth and industrialization plans on a policy of import substitution. Even this policy has taken its place in Turkey since the founding of the republic. Within the framework of the statism politics put into practice during the first years of the Republic, some domestic consumption goods imported until then were supported in the country and the First Five Year Development Plan was implemented for this purpose. Following the achievement of success in the First Five-Year Development Plan, wider and more comprehensive II. Five-year Development Plan was prepared and it was decided to establish more than one hundred factories in this framework. However, this plan prepared with great hopes and expectations II. It did not achieve the desired success with the influence of World War (Egeli, 1997).

In order to talk about growth in a country based on foreign trade, it is necessary to apply an explicit policy, not import substitution industrialization policies. The import-substitution industrialization policy is an economic policy based on the principle of domestic production of goods that are generally applied by developing countries and imported from abroad. The Buddha suggests that import substitution is nothing more than an economic policy oriented towards industrialization (Korum, 1977).

When it came to 1980's, with the effect of globalization and the emerging global competitive environment, instead of import substitution policy in Turkey, an export-oriented policy was put into effect by aiming economic growth with a policy based on exports. Along with the new policy understanding, all financial instruments existing in the markets have been mobilized and the aim of the Turkish economy to integrate with the global system (Doğanlar, 2004). In Turkey, on 24 January 1980, foreign trade policy changes were made and a new restructuring aimed at exports-based growth and international competition, which will be more effective in the private sector, was targeted. For this purpose, exports were supported, foreign capital inflows were facilitated and foreign exchange regimes were liberalized (Özbey, 2000). With these changes, rapid increases in exports-based growth have been seen since the 1990s.

When Turkey's foreign trade policy came into the 1980s, fundamental changes took place and efforts were made to give importance to the opening of the economy and the open foreign development policy was applied. As a result, there have been significant changes in the structure of exports, and agricultural exports, which have been made up to this time, have left the place of exports mainly made of industrial products. These policies, especially applied in the post-1980 period, have accelerated our economy's efforts to open up and integrate with the world (Özcan, 1998).

Today, foreign trade is the most important actor in ensuring sustainable development. Therefore, studies are being carried out especially to increase exports, new products to be exported and market searches are increasing day by day (Özcan, 1998).

3.4. Current Balance and Foreign Trade Balance

3.4.1. Current trade balance

Before explaining the foreign trade balance, it is necessary to touch on the concept of current balance. Because of this, foreign trade balance emerges as one of the subheadings of current account balance.

Like the trade balance, the current balance is actually a subset of the balance of payments, another concept. Balance of payments is a balance sheet reflecting the economic activities of countries in other countries. The most important sub-account is the account of the current account or the current account.

Statements of payments is a bilateralism in which the economic relations of an country with the outside world are monitored. Payments determines whether the revenues of the country through economic transactions such as goods, services and capital flows are equal to the payments made outwards, and this shows the recovery or deterioration in the payment power of that country (E. Sahin, 2011).

Balance of Payments Balance; Current account balance, capital movements balance reserve movements and net error and omissions calculations. The current balance, or in other words the current account balance, is the most important main account of the balance of balance accounts. Foreign trade (exports-import balance). services (service purchases-service sales). investment (net factor) incomes (foreign investment incomes-foreign investment expenditures) and current transfers (external incomes - unearned external incomes) (E. Şahin, 2011) are the subheadings of the calculation of the current balance.

If the revenues of the country from the current transactions are greater than the expenses incurred in the current transactions, this is in excess of the current account or in other words the current account surplus; The current account deficit or current account deficit is defined as income if the income from the current account is smaller than the expenditures made on the current account. In a clearer sense, if the revenue from goods and services trade and net transfers can not meet the payments in this account, it means

that the account of the current account of the country is open (Peker and Hotunluoğlu, 2009).

Payments are usually defined as a system of records showing the consequences of all the economic transactions that people residing in one country with people living in another country during a particular period (Seyidoglu, 2013). It is called *bilansosu*, which is an external payment to a table where the payments made by an income of the country from the foreign realm in a certain period and the foreign profits are made. More specifically, it is possible to describe foreign balances as an account of an exchange of foreign currency income and foreign exchange expenditures that are not smuggled at a given time. Foreign payments The sub-items of the balance sheet are accounts of current account, capital and finance accounts and reserve movements (Dinler, 2006).

The balance of payments is called the bilateral balance of payments that an economy calculates for its economic relations with foreign markets. Balance of payments shows the annual foreign exchange inflows and outflows of one country. This balance sheet consists of four main accounts: current account balance, capital movements balance, reserve movements and net error / omissions account. According to the accounting registration system rules, the balance totals of these four accounts must be zero (Yeldan, 2005).

Payments are defined as a calculation of the current account (balance). which is one of the four main accounts of the balance sheet, the trading of goods by the real sector of the economy, and the foreign exchange income and expenses of the producer factors. Accordingly, the sub-accounts of the current account are; Foreign trade balance, tourism income and expense balance, foreign contracting services, foreign workers' remittances, interest payments and profit transfers (Yeldan, 2005).

The difference between the debtor and creditor sums of the three sub-currencies of the current account is called the current account balance. In case the sum of debts and receivables are equal to each other, the current account is in balance. However, if the receivable account is more than the debts account, the current account deficit becomes more than the current account deficit, if the debtor accounts more than the account holder (Gottheil, 1996).

The current account consists of accounts, goods trade and foreign trade balance, service trade, investment incomes and current transfers accounts (Dinler, 2006). The current account has more than one item as seen in the account. The income and expenses from each of these items constitute the current account. Current account is also expressed as current balance. If current account deficit can not be achieved, current account deficit or current account deficit is generated.

Foreign Payments A large part of the balance sheet accounts for the current account. Because of this, foreign payments are often referred to as current balance. The main reason for this is that the current account is an effective account of the external balance of payments.

After these explanations, it is possible to explain the concept of current account deficit as follows. The current account deficit means that the foreign exchange income that an individual has obtained in a given period through the transactions of goods, services trade, investment incomes, current transfers, capital and finance transactions and reserve assets that he has made with other countries is less than the foreign exchange expenditures he has spent for these transactions Is a concept. In other words, the current account deficit is also called as the foreign exchange balances of one country.

There is a negative effect on the country's economy in the current account deficit, which is a wider and important concept as it is the foreign trade deficit. The high current deficit poses a crisis for that country. The high expected current incapacity means that there may be a devaluation in the country. Financing the current account with portfolio investments poses a great risk. The higher the interest rates, the faster these investments can be withdrawn and a devaluation becomes inevitable. If the ratio of current account deficit to GDP in a country reaches 4%, it means that the country has entered the red zone which is dangerous in terms of crisis (Dornbusch, 2001). In Turkey, the current account deficit that can be sustained without danger is only 2% of GDP (Uygur, 2001).

The most important income type that gives foreign exchange to the countries is exports. Turkey has high foreign debt stock and foreign debt payments are made in foreign currency. As a result, one of the most important reasons for the foreign trade deficit is the export disadvantage. Inadequate exportation creates difficulties in foreign

exchange revenues and foreign debt payments. In this case, the borrowing is re-borrowed for the payment of foreign debts, and the current account deficit cycle continues (Söyler, 2001).

Payoffs balance or balance sets out the balance between the income that an entity provides from the outside world and the payments it makes to the outside world. The balance or imbalance in the balance of payments of an entity reflects the improvement or deterioration of the international payment power of that country, Is interpreted as a demonstration of the economic and financial interest in the area (Seyidoglu, 2000). Payments have significant effects on economic variables such as openness or surplus value of the country, national income level, employment level, rate of development, inflation rate, exchange rates, wage increases. As a result, It is necessary to constantly monitor the balance of payments statistics to determine whether the economic relations are in a healthy way, to take the necessary precautions in a timely manner and to make policy arrangements if there is a problem (Seyidođlu, 2001).

3.4.2. Foreign trade balance

Foreign trade balance is widely used in our country in the same sense with the current balance. However, this is a widespread application despite the fact. Because the current balance is a wider economic situation and the current deficit in our country is smaller than the foreign trade. Foreign trade balance is one of the subheadings of current account balance. Foreign trade deficit is bigger than the current account deficit because the current account balances give more than the other headlines are not clear. Now let us explain what is the trade balance, which is a sub-account of the current account.

Foreign trade balance is expressed as the balance between total goods imports and total goods exports (Seyidoglu, 2013).

The difference between total exports and imports of an country in a given period is called foreign trade balance. The fact that the difference is greater than zero indicates that the country gives more foreign trade (sells more than it buys) and less than zero shows that the country gives more foreign trade deficits (XTB, 2012).

At the beginning of our work, the definition of foreign trade and the discourse about the topic of various opinions are shared with you. From this point of view, foreign trade can be expressed as the purchase and sale of goods and services that an individual has made through other countries. So foreign trade is a double-sided trading. Countries are also buying goods and services from the outside as well as selling goods to the outside. Here, the balance of trade is exactly at this point emerging as a very important indicator of entering the opposition.

The goods and services that countries receive from other countries are expressed as imports. That is, when we refer to the import of an country, we understand goods and services that the country has purchased from outside. Similarly, goods and services that an country sells to other countries are called exports. In short, for a country, imports are expressed as foreign purchases, while exports are understood as foreign sales.

It is called importation when one country purchases goods and services produced by other countries. Public institutions, private institutions or individuals can import (Zortuk, 2002).

Goods and services produced in a country are not only used by the citizens of that country but are also exported to other countries (Unsal, 2005).

From this point of view, the balance between an export and import of an country is called foreign trade balance. Foreign trade balance can vary according to the foreign trade characteristics of the countries. So much so that some countries do more foreign trade (imports). foreign imports (exports) are less, whereas in some countries foreign imports can do more than foreign imports. As a result of these different foreign trade variations of the countries, the foreign exchange inputs and outputs are also different. That is, while some countries may have more foreign exchange inflows than others, some may have more foreign exchange inflows.

The fact that imports and exports are the same indicates foreign trade balance. If imports and exports of an country are not the same, it is not possible to talk about the balance of foreign trade. Today, however, there is no country that can keep imports and exports at the same level. In this case, instead of foreign trade balance, the foreign trade

deficit and foreign trade surplus enter the literature. If the imports of one country are higher than the exports, the foreign trade deficit is more than the imports of the exports but the foreign trade is more. A wider definition is that the goods and services bought by other countries from the other countries are more monetary than the goods and services they sell. If the foreign trade deficit is higher than the monetary value of the goods and services for which the goods and services are sold, Is called excess.

When the balance of trade of our country is analyzed from past to present, it will be seen that almost every year we can not achieve equilibrium. This imbalance is negative and it is antagonistic as foreign trade deficit. For this reason, especially in the case of foreign trade balance for Turkey, it is more understood foreign trade deficit. In this case, instead of the concept of foreign trade balance in our country, the foreign trade opportunity has been used. In other words, when import-export data is analyzed today, it is no longer a balance but directly related to foreign trade.

In parallel with the above data, the concept of direct foreign trade deficit will be used in this study instead of foreign trade balance. Because we will do our review during the period of 1990-2012, our country will never see the foreign trade surplus every year will be seen in the next part of the open.

3.5. What is Foreign Trade

The concept of foreign trade essentially refers to all goods and services trade between countries. Foreign trade balance is the comparison of total exports realized by an individual country at any time with total imports. If the import of the country is more than its exports, then there is a foreign trade deficit in that country. This foreign trade deficit stems from the fact that the total value of goods sold by the country to other countries is less than the value of goods bought from other countries. In this case, other incomes or borrowing are sought to cover the gap.

3.5.1. Purpose of foreign trade

The aims of foreign trade between countries can be grouped as follows

a. Applying external payments imbalances

Countries experiencing external openness are facing the depletion of their foreign exchange resources. The governments of these dangerous countries resort to restrictions on imports so that foreign currencies that are already scarce due to extinction do not get out of the country. The closure of the foreign trade opening is achieved by increasing foreign exchange revenues. To this end, governments are implementing a number of export-promoting policies. Sometimes import-restrictive policies and export-promoting policies are concurrently applied.

b. To get rid of the troubles in the market

Within the country, if a commodity's market is monopolistic, consumers may have to pay higher prices for lower-priced goods. The reason for this is that the amount of production in the monopoly market is relatively lower than other markets at a certain price, and at a higher cost. In order to increase production, prices must also increase. For this reason, the government reduces customs duties and ensures that imported goods are sold cheaper than goods produced in the monopoly market within the country. It aims to break the monopolistic or oligopolistic structure within the country. To this end, the government imposes a lower tax on the importation of the relevant commodities and aims to sell the commodities to the public at a cheaper price by the domestic industry. In this way, it improves the competition in the domestic market and enables the production resources to be used more effectively.

c. Provide economic development:

Two types of industrialization policy are applied in order to ensure economic development in a country. These;

- The policies of reform of the import substitution,
- Outward open industrialization policies.

Import-substitute industrialization "the state, the domestic industry to protect the various policies with the purpose of applying. In open industrialization, the state follows policies to encourage exports. With this policy, the short term aims to increase the foreign exchange income of the country. It supports the importation of investment goods which are necessary for the economic development of the country but not produced in the country.

d. Protect domestic industry from external competition

Governments want to protect their industrial sectors, which have the potential to export in the long run, with new developing and high-cost industries, from the impact of international competition. It implements domestic industrial protection policies by putting quotas, increasing import taxes, and even bringing high import bans. It increases the price of imported products. Maintain the price of goods produced by domestic industry.

e. Provide domestic economic stability

With the aim of ensuring stability in the country, governments are able to attract domestic goods from imported goods by putting obstacles such as quotas and customs tariffs. Thus, unemployment is prevented by the rise of domestic industry. In addition, the government releases the demand for the economic units of the country by releasing imports related to the declining price of the domestic market. Increase in inflation is prevented at the level of overcoming supply obstruction. In this way, price stability is achieved.

f. To provide income to the treasury

Taxes on foreign trade constitute the income sources of the treasury. Especially in developing countries it is of great importance to generate income from treasury. Taxes on oil and energy, for example.

g. Self-Control (Autarchy)

Governments can adopt "not to progress in industry, agriculture and service sectors, only with the resources of their own countries, by reducing foreign trade flows to other countries to the minimum level. In this case, governments can ban all kinds of imports.

However, none of the countries in the world have a complete picture of the resources needed for economic development. Every country needs the resources of another country.

h. Objectives of foreign policy

International relations are mainly based on the acquisition of economic interests and the protection of political security. For this reason, establishing peaceful relations between the countries and ensuring the continuity of these relations is crucial for mutual benefit. Therefore, the political relations established with other countries have a role in determining the applied foreign trade policies. For example; While import taxes against friendly countries are kept low or no tax is levied, others can not benefit from such privileges. There is also trade between friendly countries regarding defense industry products, but not with other countries.

3.5.2. Benefits of foreign trade

International trade has developed over the years because of the many advantages offered by different countries around the world. International trade is the exchange of goods, goods and capital between various countries and regions without any obstacles. International trade constitutes a significant part of an economy's gross domestic product. It is also one of the major sources of income for a developing country.

International trade among different countries is not a new a concept. History suggests that in the past there were several instances of international trade. Traders used to transport silk, and spices through the Silk Route in the 14th and 15th century. In the 1700s fast sailing ships called Clippers, with special crew, used to transport tea from China, and spices from Dutch East Indies to different European countries.

The economic, political, and social significance of international trade has been theorized in the Industrial Age. The rise in the international trade is essential for the growth of globalization. The restrictions to international trade would limit the nations to the services and goods produced within its territories, and they would lose out on the valuable revenue from the global trade.

For the last half of the 20th century, the benefits of international trade became one of the main drivers of growth. Nations with strong international trading have become

prosperous and have the power to control the world economy. Global trade can be one of the most important factors contributing to poverty reduction.

David Ricardo, a classical economist, explained how trade can benefit all parties, such as individuals, companies and trading countries, as long as the goods are produced at different relative costs at the beginning of comparative advantage. Net benefits from such activities are called gains from trade. This is one of the most important concepts in international trade.

Adam Smith, another classical economist, has shown that using an absolute advantage principle, an entity benefits from trade if it has the lowest absolute cost of producing a good, ie, yielding a higher output per unit input.

According to the comparative advantage principle, the benefits of trade depend on the cost of production opportunity. The opportunity cost of the production of goods specifies the amount of production of a commodity in order to increase a unit of production by one unit. A country that does not have any absolute advantage in any form, namely the country, can still benefit from focusing on the export of goods with the lowest production cost, not the most authoritative producer for any goods.

If the barriers to trade in agricultural and manufactured goods are significantly reduced, the benefits of International Trade can be further increased.

Some important benefits of International Trade

- Increase domestic competitive power
- Uses international trade technology
- Increase sales and profits
- Expanding the sales potential of existing products
- Maintain cost competitiveness in your domestic market
- Increase your potential to expand your business
- Gaining global market share
- Reduce dependence on existing markets
- Balance seasonal market fluctuations

4. FOREIGN TRADE DEFICIT

4.1. Historical Analysis of the Foreign Trade Deficit in Turkey

Periodical examination of Turkey's foreign trade policies starting from the last period of the Ottoman Empire to the present day can be grouped under the following headings:

4.1.1. In the last period of the Ottoman Empire

During the Ottoman Empire, the Turks were active in the field of bureaucracy and military service, and were not interested in industry and commerce. In the first years of the 19th century, the Ottoman Empire's foreign trade volume did not exceed 2% of its total production. The long distance trade within the Ottoman Empire, which was spread over a wide area like Balkans, Egypt, Anatolia and Syria, seemed to be more important than foreign trade. Moreover, the state's trade with the countries of the Middle East and Eastern Europe was more important than its trade with Western Europe.

This brought the "economic relations" with the industrialized West and Central European countries of the so-called "xiao-osmanian" as much as the First World War, to a rise in import and export volumes. In this "period," the economy of the Ottomans came to an economy that exported raw materials and foodstuffs, while importing finished goods and certain foodstuffs. Before the First World War, the Ottoman Empire had the potential to export more than 10% of its total output. The most basic export goods of the Ottoman State in the 20th century were agricultural products such as tobacco, grapes, figs, raw silk, mohair, oak mackerel, opium, hazelnut, cotton and olive oil, especially hand made carpets and kilims.

Most of the imports consisted of finished goods, especially cotton and woolen textiles. Besides these, the Ottoman State also imported railway materials, weapons and ammunition, various machines, foodstuffs and other manufactured goods.

4.1.2. 1923 – 1929 period

In the first years of the Republic of Turkey, most of the exports are composed of cereals and raw materials; Imported products are generally industrial products. In this period, it was accepted that development would be realized with industry and it was considered as the basis of development of industrialization. The economy congress held in Izmir in 1923 and the private sector were seen as the most fundamental elements for achieving economic development in order to bring Turkey to the level of the developed countries and to determine the economic policy that can be applied for this reason.

The decisions taken in Izmir Congress "are:

- Protection of the producer and production,
- .Activities aimed at increasing and developing exports,

The protection of the national industry, the local production "and the workers"

- The development of railways.

Turkey İş Bank was established as "the first national bank of the republican period" on the date of "26 August 1924" in line with the decisions taken at the congress. In 1925, the Industrial Bank and the Maadin Bank were established. In 1927, the "Incentive Industry Law" was issued and isanayi production was encouraged with certain exemptions. These; Tax exemptions, land grants, duty-free import permits for investment goods, and reduction in transportation costs. In fact, government agencies were encouraged to buy their products 10% more expensive. (Gürsoy, 2013).In 1929, interventionist practices began in other countries with the world crisis. Turkey has also directed development to state capital. The state has begun to take control of the private enterprise. This was the period when state intervention was first seen and felt most rapidly and felt.

4.1.3. 1930 – 1950 period: Mixed economy period

In 1930, the Law on the Central Bank of the Republic of Turkey was adopted. On 3 October 1931 the Central Bank was established. "Law on the Protection of the Value of Turkish Currency", "Law on the Establishment of Clearing Commissions", "Securities and Exchange Exchange Law" and "Turkish Exchange Control Regime" were put into effect in 1930. In this period, the government started to interfere with foreign trade. Parallel to the protectionism that is prevailing all over the world, the "Clearing System" (a type of bilateral trade agreements between countries that basically pays for goods) has also been adopted by Turkey. In 1932, the State Industry Office to examine and evaluate the projects of the Industrial Credit Bank, public and private sector and Sumerbank in 1933 were established. In the period up to 1933, the state was engaged in various activities for social development and education, and it hardly ever entered into industrial hegemony. The importation of compulsory foodstuffs and imports of all the materials entrusted to the industry for the raw materials required for the industry have been made. During the years 1930 - 1939, outside of 1938, outside trade was not open. The most important event that took place during this period was the May 1934 "Five-Year Industry Plan" entering into force. The purpose of this project is; It has been to establish the industrial sectors that can be supplied from domestic sources. These industries are; Textile industry, mining industry, cellulose industry, ceramic industry, chemical industry. Railways, tramway, Tunnel company, Izmir telephone company and Zonguldak Coal Company, which are mostly in the hands of foreigners during the First Five-Year Industrial Plan period, were expropriated and nationalized and land reformed.

4.1.4. 50's Liberalization effort

1950's are years when the change in the political and economic environment began in Turkey. In 1950, liberalization policies were tried to be implemented in foreign trade, but the applied policies increased the foreign trade deficit very rapidly.

The changes that took place in the economic structure since 1953-1954 revealed that state intervention in economic matters is necessary. The economic policy followed since 1950 has re-devalued in 1958, both in the country and in the international arena, due to the short-lived dissolution of Turkey's already insufficient foreign exchange

reserves. The stabilization measures taken following this devaluation have shown that liberal politics is completely out of the question. On the other hand, in 1959 Turkey applied for a partnership agreement with the European Economic Community.

Developments in foreign trade in this period can be listed as follows:

- Industrial Development Bank was established.
- We adopted a fixed but adjustable exchange rate system.
- Foreign Investment Incentive Law entered into force.
- In 1954, the state petroleum explorer was abolished.
- With the Tourism Encouragement Law, foreigners were allowed to buy real estate in the village.

- Turkey's export products are agricultural products.
- State Economic Enterprises (KIT) was established.

4.1.5. Planned period from 1960 to 1980

Turkey has entered the period of planned and imported substitute development in 1960. State Planning Organization (DPT) was established during this period. Development plans were maintained with five-year plans after this date.

The Ankara Agreement, which established a joint membership status between Turkey and the European Economic Community (EEC). was signed in 1963 and entered into force on 1 December 1964. This agreement envisaged the gradual establishment of a Customs Union between Turkey and the European Economic Community. The ultimate goal of the agreement was to establish an economic and political union with Western Europe.

The reason for the anticipation of the gradual realization of the customs union with the European Economic Community in the Ankara Agreement; The conditions of the Turkish economy were not yet suitable for entering the community. From 1964 to 1971, during the preparation period, the European Economic Community implemented a number of one-off tariff reductions to Turkey and a number of financial actions were carried out.

With the First Five-Year Development Plan (1963 - 1967). investments towards import substitution were accelerated. In order to create capacity and encourage investments, "investment reduction" application has begun. Facilities were introduced in

customs to encourage investments. Industrial Investment and Credit Bank and State Investment Bank were established in this period. In the Second Five-Year Development Plan (1968-1972). it was aimed to reduce the dependence on foreign resources with the 7% rate of development in the economy.

In the first half of the planned period, policies for promoting the production of the domestic market were implemented, but in 1970, a devaluation was made and 1 US Dollar was raised to 14.85 Turkish Liras. Thus, even though exports have been tried to be encouraged, the share of total exports in Turkey in world exports has not changed because of the increase in world trade volume.

Middle class income-transfer arrangements were made. There are two types of external sources used in this period. These; In 1971, workers' remittances were introduced and foreign aid and loans increased. These developments were entered into the transitional period for the Customs Union to be formed with the European Economic Community, with the Additional Protocol being put into force on 1 January 1973.

The main aim of the transition period was to achieve a customs union in industrial goods traded between Turkey and the European Economic Community. From 1971 onwards, the customs, duties and fees of the said goods have been deregulated by the community, and coal, steel and agricultural products are excluded from the Customs Union.

During the planned period of 1960 - 1980, the share of agricultural products in export goods decreased and the share of industrial products increased.

4.1.6. 80's period: Development based on export, integration with the world

Some important decisions were made in Turkey on January 24, 1980, when Turkey was trying to combat the balance of payments in the period of transition for the Customs Union. With these decisions, a devaluation of 49% has been taken and the development policy based on imports has been abandoned and a step has been taken to adopt export-based development policy.

Decisions taken on 24 January 1980 are as follows (Gürsoy, 2013):

- Flexible exchange has started.

- Decisions have been taken to reduce the state's role in the economy.
- Subsidies and support are limited.
- Emphasis has been placed on liberalization in foreign trade.
- Liberalization was gradually achieved in imports.
- Tax exemption has been initiated in export.
- Low interest loan and financing opportunities are provided.
- Export customs exemption has been introduced to the exporting company.
- The incentive system is determined according to the sectors.
- Foreign currency trading is released.
- With the removal of price restrictions and controls, the transition to the free market economy has been targeted.

Customs duties were gradually reduced after 1980. Import has been liberalized, the exchange rate system has been made flexible, interest rates have been freed and interest rates have been allowed to exceed the inflation rate.

On April 14, 1987, Turkey applied to the European Community for full membership and started intensive preparatory and cohesion work on this framework. The customs cuts and workings previously deferred have also been accelerated.

In this period, "Foreign Trade Capital Company (FTCC) model is encouraged and these companies are thought to provide services such as finding irregularities, executing foreign trade transactions, promoting. A model based on large companies for export mobilization has been developed. FTCC's share in exports reached 35%. "Türk Eximbank" was established in 1987 with the aim of meeting the needs of exporters to provide financing and to export to chickens.

With the decree on the protection of the value of Turkish currency, in 1989, a number of new incentives for foreign capital were provided through the reduction of bureaucracy, capital movements and foreign trade liberalization. Thus, while the economy was

undergoing restructuring in the 1980s, the share of the manufacturing industry in GNP continued to increase. Tourism and exports exploded in this period.

4.1.7. 90's period: Joining to the Customs Union

In the 1990s, as the recession in the world economy and the external factors such as the Gulf Crisis, the country experienced the 1994 crisis in the country as a result of the high inflation rate in the economy, the increase in internal and external debt burden and increasing public deficits. In the 1990s, parallelism was achieved between the rates of growth experienced in imports and exports. In addition, Turkey has accepted the obligations of the World Trade Organization provisions and has entered the EU and the Customs Union. The Customs Union also covers the harmonization of the basic elements of the common trade and common competition policies of the Community. With the aim of promoting and marketing their products on the external market, "State Aid" programs for exporting were introduced from the beginning of 1995. In 1995, Turkey became a member of the World Trade Organization (WTO). Our country has accepted the binding of WTO provisions. The crisis started in the middle of 1997 in the financial markets of the Far East countries, seriously affecting the real sector negatively. The global crisis hit Russia in August 1998 has also affected our country's exports negatively. As a result of the earthquakes that occurred on August 17, 1999 and after, our country's economy and therefore our foreign trade was negatively affected. As of 1989, our exports increased by 1.4% in 1999 and decreased to 26.5 billion dollars.

4.1.8. 1994 Local economic crisis impact on foreign trade of Turkey

The Turkish economy and especially foreign trade are also affected by developments in world economies. Given the fact that the Gulf crisis that emerged in 1990 affected our country's exports negatively. The early general election in 1991 also caused our export potential to be adversely affected. In 1994, the Turkish economy faced a serious domestic debt problem. As a result of the rapid increase in interest rates, short-term hot money from abroad has caused an increase in entry to the country for speculative purposes. In addition, Turkish Lira increased its value in real terms against foreign currencies, while braking exports, imports increased. As a result of these developments,

in 1993 there was a foreign trade deficit exceeding 14 billion dollars. The fact that T. C. M. B.'s efforts to prevent measures have also failed has caused uncertainty and fluctuations in foreign exchange and financial markets. Decisions of April 5, 1994 were put into force with the aim of getting rid of this situation, reducing inflation and stabilizing the economy. With these decisions, it is aimed to make the economy stable quickly and on the other hand to make the structural reforms which will make the stability permanent (Hepaktan, 2008).

At the beginning of 1994, Turkey faced the biggest current deficit in the history of the Republic and the public deficit. This data, reaching a dimension that can not be sustained in the medium and long term, has been dragged into a major crisis with a series of decisions taken on April 5th. In the middle of 1993, the political authority announced that the interest rate of the bank was too high and explained that the policies to be applied in the short term would be aimed at lowering the interest rates and the economy started injecting liquidity. However, the demand for beating interest rates has risen rapidly, as interest rates are expected to fall, higher liquidity and higher current account deficit expectations. The exchange of money to the market to reduce the foreign exchange demand of the political authority did not work, and as a result, the dollar, which was 19 000 TL in January 1994, reached 38 000 TL in April 1994. Central bank foreign exchange reserves, which were 7 billion dollars in this period, also decreased by 3 billion dollars (Turan, 2011).

The result of the Turkish economy, which had been dragged by a large crisis with the April 5th decisions, came to light as a decrease in wages, an increase in unemployment, a high devaluation and three-digit inflation. After the crisis, interest rates were increased until 1996, in order to prevent the rapid increase in foreign exchange demand and thus the excessive increase of exchange rate. However, this situation caused the public to become almost unable to invest because the excess debt of the public sector increased (Turan, 2011).

Reflections of the 1994 crisis on the Turkish economy continued on foreign trade. The economic side expected to be most affected in a period when exchange rates are so high is undoubtedly foreign trade. In this respect, the pre-crisis and post-crisis foreign

trade statistics of Turkey should be examined and the effects of this crisis on foreign trade should be presented.

Table 4.1: Foreign Trade Data Before and After the Economic Crisis

Years	Export	Import	Foreign Trade Deficit	Export vs Import (%)
1992	14 714 629	22 871 055	8 156 426	64,3
1993	15 345 067	29 428 370	14 083 303	52,1
1994	18 105 872	23 270 019	5 164 147	77,8
1995	21 637 041	35 709 011	14 071 970	60,6
1996	23 224 465	43 626 642	20 402 178	53,2

Source: TÜİK, 2013

Table 3 shows Turkey's foreign trade statistics for the two years preceding and following the 1994 crisis. According to the table, it is seen that the exports of Turkey in this period have increased continuously. It is observed that our exports, which were in the level of USD 14.7 billion in 1992, increased to USD 23.2 billion in 1996. The most important reason for this situation is the positive reflection of foreign exchange exports which increased after the devaluation in 1994. However, considering the import data of this period, it is seen that imports, which were seen to increase until 1994, fell in 1994. In the two years that followed, imports, which saw significant increases, rose to about \$ 43.6 billion in 1996. The main reason for this situation is to increase the interest rates until 1996, in order to prevent the increase of foreign exchange demand in 1994. In terms of foreign trade, especially in 1994, the crises have seen a sharp decrease with the increase of exchange rates. However, in 1995 and 1996, the rapid increase in foreign trade deficit increased to the level of US \$ 20.4 billion at the end of 1996. Due to the increase in foreign exchange rates, the ratio of export imports approaching 78% with the effect of increasing exports and decreasing imports decreased by 53% at the end of 1996.

When the impact of the 1994 crisis on Turkey's foreign trade was examined in general, the effect of the crisis on the foreign trade outlook was positive in the crisis period, but in fact it caused the foreign trade deficit to increase rapidly and thus the export-

As far as I can see, April 5, 1994 is a dark history in terms of the Turkish economy will always stay in memory.

4.1.9. Impact of Asian crisis on foreign trade in Turkey

This development of the eastern and southeastern Asian countries, which have been experiencing rapid growth since the mid-1970s, has been shown as a miracle and is exemplified in other developing countries. However, the crisis that first started in Thailand in 1997 quickly spread to other countries in the region and caused a great economic crisis. In the beginning, the national currencies of the countries depreciated against the dollar and the stock markets collapsed. Then the world was faced with a global crisis, many countries went back years and political instability started to take place (Seyidođlu and Yildiz, 2006). The Asian Crisis has led to the contraction of economies, the collapse of stock exchanges, the rise of unemployment, the bankruptcy of companies and banks, the rise in interest rates at national and international markets, and the decline of credit flows and trade volume in the international arena, especially in countries where crises erupted. Considering the consequences of the crisis, it is possible to say that the Asian crisis is a financial crisis. Regarding the reasons for the emergence of the crisis, the fact that the countries in the region do not have a sound financial system, that they are closed to the outside, the banks' misbehavior and credit policies are among the most important reasons (Turan, 2011).

As you can see, the 1997 Asian crisis has affected not only Asian countries but all world economies. Especially in developing countries, this crisis, which makes us feel more like it, also has a great effect on our country's economy. The Asian crisis, which affects almost all the channels of the Turkish economy, has become too big to ignore the impact on the foreign trade of our country.

Table 4.2. : Foreign Trade Data Before and After the Asian Crisis

Years	Export	Import	Foreign Trade Deficit	Export vs Import (%)
1995	21 637 041	35 709 011	14 071 970	60,6
1996	23 224 465	43 626 642	20 402 178	53,2
1997	26 261 072	48 558 721	22 297 649	54,1

1998	26 973 952	45 921 392	18 947 440	58,7
1999	26 587 225	40 671 272	14 084 047	64,4

Source: TÜİK, 2013

In Table , Turkey's foreign trade data for two years before and after the Asian Crisis were given. When we look at the pre-crisis exports of our country, it is seen that it increased by more than 1 billion dollars. Although our exports in 1997 showed an increase of about 3 billion dollars, our exports in the years after the crisis increased very little. As a main reason for this situation, the purchasing power of the countries entering the crisis is shown to decrease. The negative impact of the countries that our country exports from this crisis has reduced the exports of our country. When we look at the import data of the years before the crisis, it is seen that the imports of our country increased by an average of over 6 billion dollars. In the years following the legacy crisis, imports of our country have fallen by nearly 8 billion dollars. The decrease in imports of our country is mainly due to the decrease in the purchasing power of the internal market and the increase in foreign currency exchange rate. The foreign trade in this period was very weak compared to the crisis before. Especially after the 1994 local crisis, the rapidly increasing foreign trade deficit fell after the 1997 Asian crisis. In this period, the ratio of exports to imports rose from 54% to 64%.

It is possible to say that the Asian crisis is positively reflected in the foreign trade of our country. However, it should be said that this positive effect does not originate from the increase in exports but rather from the downward trend in our imports. With the Asian crisis, both foreign trade and foreign trade volume have narrowed.

4.1.10. 2000 and during the 21th century

As a result of the economic crises of November 2000 and February 2001, significant reductions in investment and consumption expenditures were observed. With the devaluation, exports increased and imports decreased. However, in 2002, the rate of increase in imports seems to be higher than the rate of increase in exports. The process of slowing down the world trade in 2001 became even more apparent with the US attacks on September 11th. After the economic crisis experienced in February 2001, the exports of our country started to increase. After the crisis, the Turkish Lira was devalued to 100%

and left to free float. As a result of the domestic demand, which has narrowed down largely due to the crisis, firms have turned to export. As a result, the upward trend in exports started.

It is seen that agriculture occupies an important place in Turkish exports before 1980. Turkey's foreign trade structure has also changed with the 1980 Economic Decisions ". When the years after 1980 are examined, it is seen that the share of agriculture in our exports has decreased and the share of the industry has increased rapidly. While the share of agriculture in total exports in 1990 was 18.4%, this figure decreased to 7.8% in 2000. In 1990, the share of the industrial sector in our total exports increased from 79.0% to 91.2% in 2000 (Serin, 2001, TUIK, 2009). Moreover, the fact that the major exporting sectors in Turkey are important importing sectors at the same time is an important indicator of export dependence on imports (Eşiyok, 2008).

According to the data of the Turkish Statistical Institute; Long term and cheap credit support was applied through Eximbank to exporters with the regulations made in 2010. In foreign trade, explorations for new markets were initiated. At the end of 2011, the export record of 134.6 billion dollars was broken. In 2012, the figure reached 152.5 billion dollars. When we look at the years 2012 and 2013, according to the temporary foreign trade data created by the joint study of the Turkish Statistical Institute and the Ministry of Customs and Trade, Exports decreased by 8.2% in October 2013 compared to the same month of 2012, while imports increased by 3.7%.

2023 Turkey Export Strategy and Action Plan on 13 June 2012 has been put into practice by the High Planning Council for 2012 - 2015, consists of 9 action plans and 19 strategic objectives:

Market Share

- Increasing current market share,
- Increasing market share in target markets with high growth potential,
- Increasing number of exporters and export capacity,
- Increasing the brand awareness of the Turks,

- Increasing exporters' global competitiveness,
- Investment and infrastructure,
- Strengthening the logistics infrastructure in order to increase international competitiveness,
 - Foreign investors are attracted to my country in the field of foreign trade,
 - Improving the investment climate to create international and national competitive production conditions,
 - Providing quick access to accurate information and market intelligence,
 - Development of domestic raw material and intermediate goods procurement in order to increase the value added of the export,
- Environment,
- Aligning export structure with environmental and sustainable growth obligations,
- Technology,
- To increase the exports of advanced technology production with investments and applications directed at innovation in export and AR-GE,
- Collaborations,
- Strengthening bilateral and multilateral trade cooperation,
 - Development of relations with exporters, public, private sector, non-governmental organizations (NGOs) and universities,
- Financing,
- Increasing the use of financial instruments and commercial support tools and ensuring that they are used efficiently,
- Human Resource,
- Increasing the human capital, which is highly efficient and effective,
 - Strengthening the export structure through "Occupational Health and Safety"

4.2. The Effects of Foreign Trade Deficit on The Country's Economy

When we look at the studies made about the sources of economic growth and development, it is observed that the subjects related to the concept of foreign trade are frequently emphasized. The increase in imports and exports can lead to an increase in economic growth by reducing the employment and labor productivity through the transition to the scale economy, by creating technological innovations. Therefore, the positive effect of foreign trade on growth is mostly emphasized in the models of economic growth.

Foreign trade has many important effects on the country's economy. Influences on domestic economic equilibrium, transforms. With the development of foreign trade, it triggers to grow in the country, and with the increasing competition, the work force works more efficiently. It protects the internal economy and avoids the loss of employment by opening the companies outward instead of the constricting domestic economy. Foreign trade also has a multifaceted function, which is to grow as a series, affect national income, aggregate demand and welfare increase, and indirectly many different components.

Foreign trade seems to have touched many macroeconomic components by increasing exports. Therefore, increasing the exports in a country, giving importance to the productions of the companies, encouraging the manufacturing industry, supporting policies that can be done easily and in small sizes can actually benefit the economy of the country and reduce the foreign trade deficit. This theoretically possible situation can only be realized in practice if the state supports incentives and state policies to produce. In our increasingly globalized world, imports and exports have a significant impact on both the financial and real economy. Studies show that; Exports have a positive impact on economic growth. One of the main reasons for this effect is to close the foreign exchange position which is in the balance of foreign payments by increasing the foreign exchange income of the exports. In this way technology, intermediate goods and investment goods as well as the import of final products are also increased. In addition, firms can make large-scale production by way of exports, they can benefit from the advantages of scale economy. Companies that produce on a large scale are also reducing their costs in this way.

In other words, exporting organizations have a more efficient production process and a more dynamic production process than non-exporting enterprises. Numerous studies have been conducted highlighting the relationship between exports and economic growth, highlighting the impact of exports on economic growth. Because this relation is very suitable for economic expectations and economic theory.

When the statistics are examined, it is seen that the foreign trade deficit continued to rise with the increase in production after 2001. Despite this, the current account deficit was financed by external resources. Thus, import and export volume has been increased despite the external deficit, and economic growth has been gained momentum. The fact that the imports of intermediate goods in the volume of the "importing in Turkey" in Turkey are very high indicates that the reason for the increase in imports is due to a considerable input demand. Therefore, the increase in economic growth in connection with the increase in the import volume of intermediate goods "imports. In the post-2001 period, when the export "revenues were not able to meet even the demand for imports", the high rate of increase in import volume increased the economic growth, while the worsening of the foreign trade balance led to a rise in the current account deficit.

4.3. History of Turkish Foreign Trade with Figures

The period of cultural, economic and political development that our Republic has been up to date from its foundation; It also shows itself in the field of foreign trade volume, import and export. When we look at the foreign trade openness of Turkey, the most striking issue is; Except for the 1930s and 1940s. The following years, numerical information on imports, exports and foreign trade of important data are shown according to years:

Table 4.3. Foreign Trade by Years, 1923-2015

Years	Export	Import	Foreign trade balance	Foreign trade volume	The import coverage ratio of exports (%)
1923	50 790	86 872	- 36 082	137 662	58,5
1925	102 700	128 953	- 26 253	231 653	79,6
1930	71 380	69 540	1 840	140 920	102,6

1940	80 904	50 035	30 869	130 939	161,7
1950	263 424	285 664	- 22 240	549 088	92,2
1960	320 731	468 186	- 147 455	788 917	68,5
1970	588 476	947 604	- 359 128	1 536 081	62,1
1980	2 910 122	7 909 364	-4 999 242	10 819 486	36,8
1990	12 959 288	22 302 126	-9 342 838	35 261 413	58,1
2000	27 774 906	54 502 821	-26 727 914	82 277 727	51,0
2004	63 167 153	97 539 766	-34 372 613	160 706 919	64,8
2005	73 476 408	116 774 151	-43 297 743	190 250 559	62,9
2006	85 534 676	139 576 174	-54 041 498	225 110 850	61,3
2007	107 271 750	170 062 715	-62 790 965	277 334 464	63,1
2008	132 027 196	201 963 574	-69 936 378	333 990 770	65,4
2009	102 142 613	140 928 421	-38 785 809	243 071 034	72,5
2010	113 883 219	185 544 332	- 71 661 113	299 427 551	61,4
2011	134 906 869	240 841 676	- 105 934 807	375 748 545	56,0
2012	152 461 737	236 545 141	- 84 083 404	389 006 877	64,5
2013	151 802 637	251 661 250	- 99 858 613	403 463 887	60,3
2014	157 610 158	242 177 117	- 84 566 959	399 787 275	65,1
2015	143 861 522	207 206 813	- 63 345 290	351 068 335	69,4

Source: TÜİK, Foreign Trade Statistical, Foreign Trade Data Base February 2016

As you can see at table, while exports, which were about 51 million dollars in the year the Republic was founded, declined to 143.8 billion dollars at the end of 2015; Our imports also rose from \$ 87 million in 1923 to \$ 207.2 billion at the end of 2015. The concept of foreign trade highlighted in this study and the fact that foreign trade which is not fully resolved in Turkey and which can not be fully resolved is a bleeding wound is emphasized with these figures.

5. TESTING THE RELATIONSHIP BETWEEN CRUDE OIL AND FOREIGN TRADE DEFICIT

In this study, the relationship between Turkey's foreign trade deficit with oil prices, using monthly data belonging to 2010:01-2015:12 periods, was studied using non-linear cointegration analysis. After our country is determined production and consumption of oil to the world and in Turkey, which occupies an important place in the total imports, empirical studies considering developments in oil prices, the world is the effect of increasing the deficit of foreign trade developments in oil prices with the help of cointegration analysis it has been identified.

Other studies that are supporters of this study are as follows.

As a result of the oil shocks of the 1970s, the number of studies on the impact of oil prices on different countries' economies has increased. While Hamilton (1983). Burbidge and Harrison (1984) and Gisser and Goodwin (1986) were among the earliest studies examining the effects of oil shocks on macroeconomic variables, the surge in oil prices in the 2000s, To investigate the effect. Mehrara (2008). Prasad. (2007) and Jayaraman and Choong (2009) have concluded that oil prices have an impact on economic growth in their analysis for different types of countries.

Nevertheless, it has not been adequately examined how a positive shock in oil prices affects cargo deficits of oil exporters or importer countries, and how shocked it affects developed and developing countries. Today, since crude oil and substitute energy sources can not be found, an important income for oil producing countries is also an important expense item for countries consuming too much oil, especially Turkey. At this point it is certain that oil trading has an important place in the external balance of the countries. The first study to examine the relationship between oil prices and external equilibrium is from Agmon and Laffer (1978). In their work on developed countries, the authors reached the conclusion that immediately after the oil price shock, the trade balance immediately deteriorated but the imbalance again occurred immediately after the initial deterioration. Similarly, Rebucci and Spatafora (2006) allege that oil price shocks are short-lived on the current account deficit.

Zaouali (2007) concludes that the price increase is a considerable effect on the current balance in the study of the impact of a positive oil price shock on the Chinese economy. Schubert (2013) notes that a sustained increase in the price of oil during the study of the effects of oil price shocks on small-country economies has shown a J curve on the balance. In other words, a permanent increase in the price of oil is deteriorating the current balance. However, this deterioration in the equilibrium is recovering with time and comes to a balance. Finally, Chuku (2011) for Nigeria, both oil importer and exporter, has come to the conclusion that the change in oil prices is the short-run effect on the current account balance. When we look at the international literature on the subject, it is believed that the effect is lost in the long term while it is present in the short term.

The Turkish economy has led the review of the literature, which has the largest share of foreign trade transactions in the current account, to examine the effect of oil prices on the current account balance of foreign trade in general. Karabulut and Danisoglu (2006). Peker and Hotunluoğlu (2009). Togan and Berument (2011). Erkılıç (2006). Yücel (2003) are examples of studies examining the determinants of current account balances. Karabulut and Danisoglu (2006) have identified the most important variables affecting the current account balance as exchange rates, growth and rising oil prices, respectively, by using the quarterly adjusted error correction model "VECM" for the years 1991-2004. According to the findings of the study, there is a positive relationship between oil prices and the current account deficit, and a negative relationship with the growth rate. Peker and Hotunluoğlu (2009) who investigated the reasons for the current account deficit in Turkey and tested for the period 1992: 01-2007: 12 with the help of VAR method; Real exchange rate, real interest rate and the current account deficit of the securities stock index. In the study, contrary to the expectation of the authors, the share of crude oil import prices in the current account deficit variance was low both in the beginning period and in the long term. In the context of Togan and Berument (2011). again, in the context of the same subject, the elasticity approach used to explain the current account balance with the VAR method for the period of 1993: 01-2010: 03 is more meaningful and the real exchange rate for the current balance, the domestic and foreign income ratios, As variables are more descriptive. According to Erkılıç (2006). which uses the VAR method in the period of 1980-2004 period, the determinants of the current account balance are

again the current deficit values, the domestic growth rate and the real exchange rate. Erdoğan and Bozkurt (2009) examining the determinants of current account deficit in Turkey have been investigated with the help of MGARCH models in 1990: 01-2008: 10 period. In the study, the highest correlation is reached for export import coverage ratio, the second highest value being attributed to oil prices. According to Yucel (2003), exchange rate, foreign trade momentum, growth and reserves of the Central Bank are statistically significant in explaining the changes in the current account. Demirci and Er (2007). 1991: 01-2006: 12 investigated the impact of crude oil price volatility on the current account deficit in Turkey using three different methods: autoregressive moving average (AR-MA), VECM and VAR. As a result of the study, the effect of oil prices on the current account deficit is negative, and as the number of periods increases, the variance in oil prices has reached the conclusion that the current account deficit is increasing.

Using the VAR and VEC model, Kılıç (2009) 1994: 1-2008: 11, which is trying to determine the effect of exchange rate on import and export prices, nominal effective exchange rate index, manufacturing industry import price index, manufacturing industry export price index, oil price index, Industrial production index and manufacturing industry wholesale price index data are used. In the study, the effect of oil prices on import and export prices is weak compared to the exchange rate. Firuzan (2010) found that the effect of price adjustments of OPEC was insignificant in the period of 1981: 01-2007: 12 in the study on the volatility of oil prices in Turkey, whereas the effect of Iraq-USA chaos on oil prices was meaningful. Lastly, Ozlale and Pekkurnaz (2010) examined the effect of the open price on oil prices with the SVAR analysis technique from 1999 to 2008. As a result of the studies, the authors reached a conclusion that the reaction to the increase in oil prices was temporary.

While global oil prices have been steadily increasing since 2003, oil prices have more than doubled in January 2004. Demand, supply and speculative factors, and the reciprocal relationship of these factors led to a steady increase in oil prices. In recent years, strong economic performance in emerging Asian countries such as China and India has increased global demand for oil (Anam Hassan and Zaman, 2012: 2125). According

to Zaouali (2007). oil demand will increase by 1.3% every year until 2030, and 70% of the increase in petroleum demand will come from emerging countries, especially India and China, and the annual increase in petroleum demand of the two countries to 2030 Each year will increase by 2.5 percent on average.

Disadvantages in foreign trade balance are mostly caused by energy imports. The fact that industrial production in our country depends entirely on the importation of intermediary goods, as well as importing a large part of the energy needs, especially oil and natural gas, leads to a high current account deficit. Turkey, which imports more than 70 percent of its energy needs, needs to closely monitor every kind of development that will affect oil prices. Considering that Turkey imports about 170 million barrels of oil a year, every \$ 1 increase in prices increases the value of oil imports by \$ 170 million and thus has a negative impact on the current account deficit (Bayraç, 2009).

5.1. Data Set and Methodology

The data in the study were obtained from the World Bank database and the EIA database. Foreign trade data is taken from the World Bank database as imports and exports in \$. Spot market Brent crude oil prices were taken in \$ / barrel. All of the data are on a monthly basis and are \$ denominated. The sample analyzed is 192 diverts to investigate whether there is a cointegration between the monthly Brent crude oil prices and foreign trade deficits for the period 2000: 01-2015: 12. The logarithmic form is used for all variables because foreign trade data have huge values in oil prices.

The descriptive statistics of the data used in model are given below.

Tablo 5.1. Descriptive Statistics

<i>crude oil</i>		<i>dt</i>		<i>export</i>		<i>import</i>	
Mean	66,11609375	Mean	4620311122	Mean	8127835068	Mean	12748146190
Standard Error	2,368083189	Standard Error	187207430,2	Standard Error	276473477,5	Standard Error	447286311,7
Median	62,2	Median	4390094632	Median	8502080180	Median	12733353843
Mode	25,66	Mode	#N/A	Mode	#N/A	Mode	#N/A
Standard Deviation	32,8131232	Standard Deviation	2594022246	Standard Deviation	3830928879	Standard Deviation	6197780939
Sample Variance	1076,701054	Sample Variance	6,72895E+18	Sample Variance	1,4676E+19	Sample Variance	3,84125E+19
Kurtosis	-1,278070452	Kurtosis	-0,868063564	Kurtosis	-1,37418096	Kurtosis	-1,363091055
Skewness	0,252172736	Skewness	0,262764309	Skewness	-0,145338847	Skewness	-0,082614613
Range	114,01	Range	10031122964	Range	12636027343	Range	20207311474
Minimum	18,71	Minimum	421938810	Minimum	2044083437	Minimum	3037989208
Maximum	132,72	Maximum	10453061774	Maximum	14680110780	Maximum	23245300682
Sum	12694,29	Sum	8,871E+11	Sum	1,56054E+12	Sum	2,44764E+12
Count	192	Count	192	Count	192	Count	192

Tablo 5.2. Descriptive Statistics (for logs)

<i>log(dt)</i>		<i>logpetrol</i>	
Mean	9,571312	Mean	1,758945
Standard Error	0,022973	Standard Error	0,017409
Median	9,64245	Median	1,793789
Mode	#N/A	Mode	1,409257
Standard Deviation	0,318319	Standard Deviation	0,24123
Sample Variance	0,101327	Sample Variance	0,058192
Kurtosis	0,005871	Kurtosis	-1,22979
Skewness	-0,86387	Skewness	-0,29515
Range	1,393994	Range	0,850863
Minimum	8,625249	Minimum	1,272074
Maximum	10,01924	Maximum	2,122936
Sum	1837,692	Sum	337,7175
Count	192	Count	192

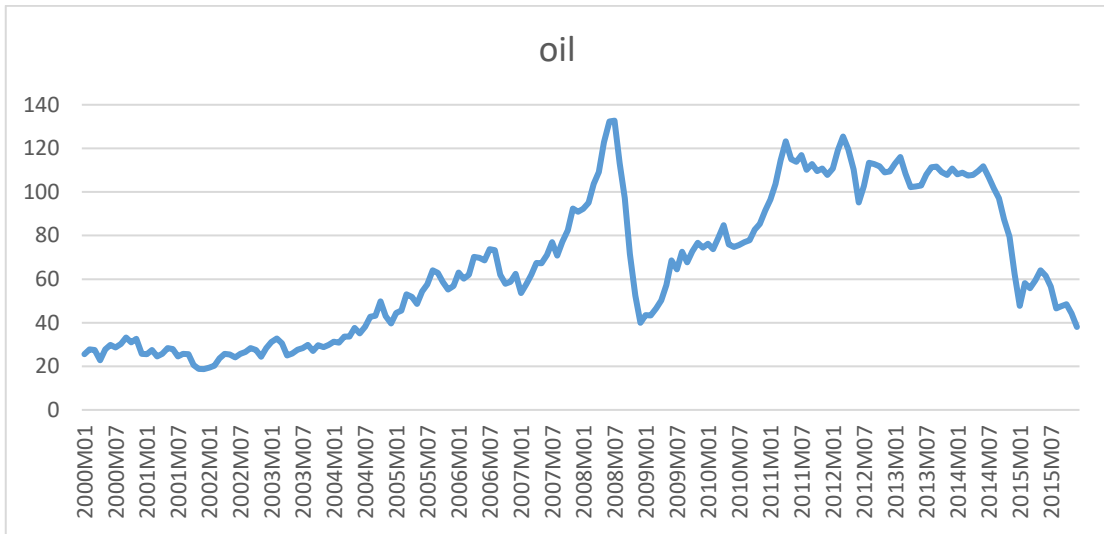


Figure 5.1. Brent crude oil prices (\$/barel). 2000-2015.

When the course of Brent crude oil prices in 2000-2015 is examined, it is observed that it is in a rising trend until the 2009 global crisis and it is falling with the crisis. Along with this, it has surpassed its previous levels in 2011 and remains in these levels until 2014. As of 2015, there has been a significant decline in oil prices. There has been a decline in price levels behind the 2009 crisis. This can be expressed as a reflection of factors such as economic slowdown, stagnation in global trade, and oil prices.

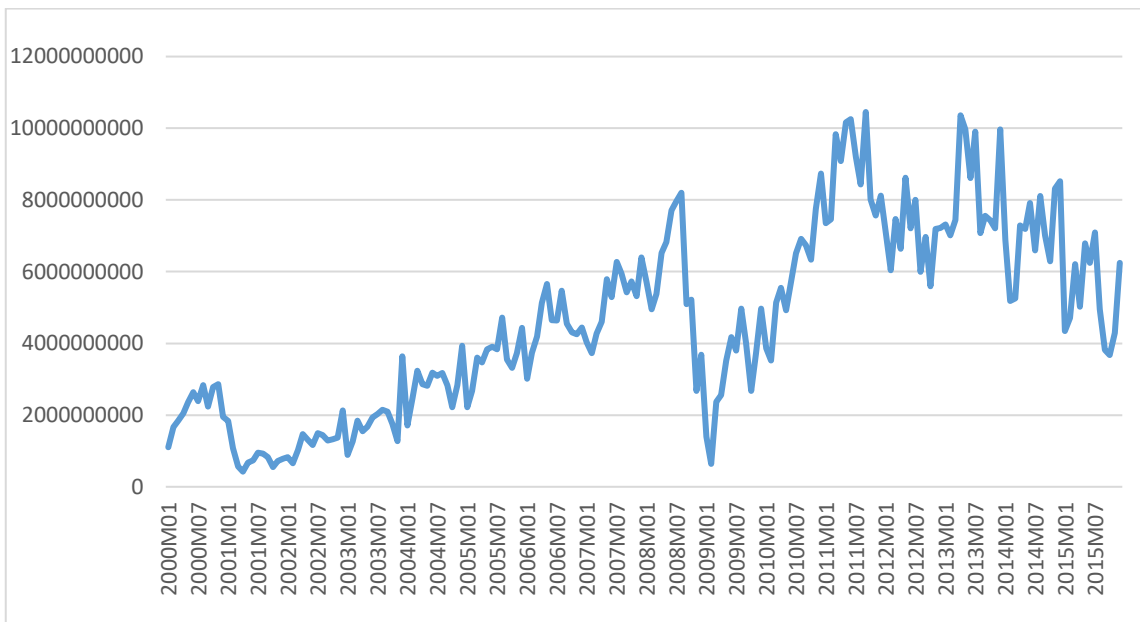


Figure 5.2. Foreign Trade Deficit (Export-Import, 2010/\$). 2000-2015

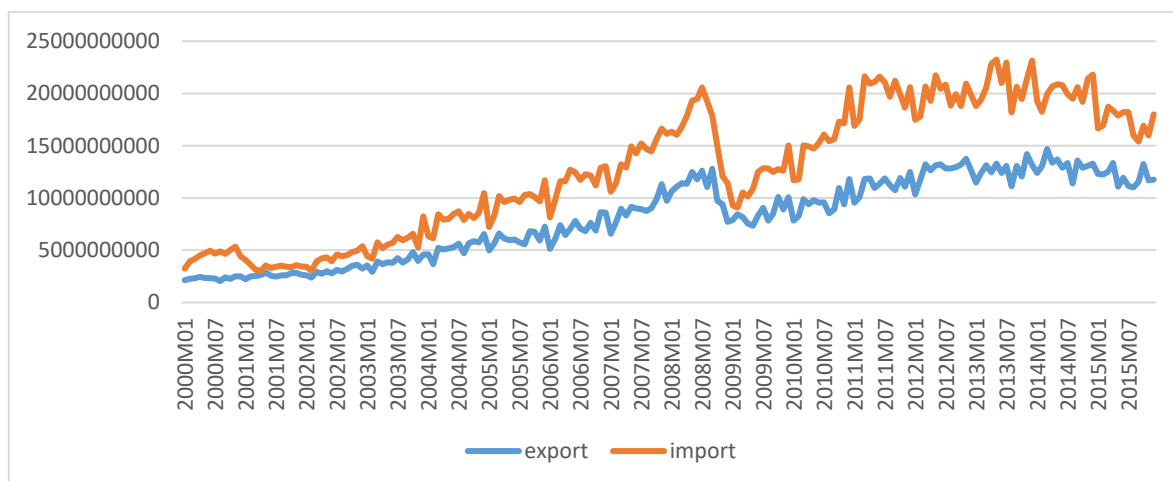


Figure 5.3. Export and Import (2010/\$). 2000-2015.

The level of difference between post-crisis imports and exports generally increased until 2015. While there was an upward trend in foreign trade due to the rise in imports until 2009, the foreign trade deficit tended to decrease with the 2009 global crisis. Until 2015, there were fluctuations in imports and exports. With all of this, the year 2011 is the year when foreign trade is the biggest.

5.2. Unit Root Test

In the evaluation of the data, firstly it was investigated whether the variables were stationary or not. Determining whether the variables are stationary or stationary are important for choosing the most reliable analysis. Whether or not the variables are stationary is determined by unit root tests.

In the time series, the unit root entity causes the series to have a non-stationary structure. The concept of stationarity expressed for time series is that the variance and the average are constant over time and the covariance of the variables in the two delayed time periods depends on the delay between the variables and is not time dependent. (Gujarati, 2004)

In this study, three tests were used to determine the stationarity of the series. These are the augmented Dickey-Fuller (ADF TEST) unit root test, the Phillips-Perron (PP) unit root test, and the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) unit root test. (Gujarati)

ADF Test;

H1: there isn't unit root

If the H_0 hypothesis is rejected, the series is stable at the original level, and if the H_0 hypothesis can not be rejected, the result is that the series is not stationary. The cyclical differences are taken until the non-stationary series is stable at the original level.

PP Test;

H1: there isn't unit root

The H_0 hypothesis confirms that the alternative hypothesis series is stationary while giving non-stationary data.

KPSS Test;

H1: trend isn't stable

KPSS test Unlike the ADF and PP test, hypotheses have been replaced. The null hypothesis argues that the series is stationary; the alternative hypothesis argues that the series is not stationary.

Table 5.3. ADF Test

	ADF Test	Level	1.difference
Brent Crude Oil	no constant and no trend	0,05(1)	11,05(0)*
	Constant	1,59(1)	11,02(0)*
	constant and trend	0,93(1)	11,12(0)*
Foreign Trade Deficit	no constant and no trend	0,39(2)	12,71(1)*
	Constant	1,92(2)	12,69(1)*
	constant and trend	3,50(1)*	

* in %5 is stable.

Note: The critical value for the ADF 5% significance is 1.96 for the unstable and trendless model, 3.09 for the fixed and trendless model, and 3.79 for the fixed and trendy model. The parenthesized values are the delay values calculated according to Schwarz and Newey-West Bandwidth criteria.

According to the ADF test results, Brent crude oil prices and foreign trade deficit are becoming stationary. To analyze with non-stationary time series, the differences in the first or more grades are usually taken. Since the series are stationary in their first difference, cointegration can be used.

Both time series are not stable, the long-run relationship between variables is cointegrated tests have been put forward.

Table 5.4. PP Test

	PP Test	Level	1.difference
Brent Crude Oil	no constant and no trend	0,03(3)	11,06(2)*
	Constant	1,65(3)	11,03(2)*
	constant and trend	0,73(2)	11,15(3)*
Foreign Trade Deficis	no constant and no trend	0,62(8)	18,38(6)*
	Constant	2,68(1)	18,35(6)*
	constant and trend	4,29(5)*	

* in %5 is stable.

Not: ADF %5 anlamlılıkta kritik değer sabitsiz ve trendsiz model için 1,96, sabitli ve trendsiz model için 3,09, sabitli ve trendli model için 3,79'dür. Parantez içi değerler Schwarz ve Newey-West Bandwidth kriterlerine göre hesaplanan gecikme değerleridir.

PP test results show that Brent crude oil prices and foreign trade deficit are becoming stationary.

Table 5.5. KPSS Test

	KPSS Test	Level	1.variation
Brent Crude Oil	Constant	1,27(11)	0,26(3)*
	constant and trend	0,26(10)	0,08(2)*
Foreign Trade Deficit	Constant	1,37(10)	0,05(8)*
	constant and trend	0,17(10)	0,02(8)*

*in %5 is stable.

Note: The critical value for the ADF 5% significance is 1.96 for the unstable and trendless model, 3.09 for the fixed and trendless model, and 3.79 for the fixed and trendy model. The parenthesized values are the delay values calculated according to Schwarz and Newey-West Bandwidth criteria.

$H1:r+0$ there is cointegration

According to KPSS test results, Brent crude oil prices and foreign trade deficit are becoming stationary.

Brent crude oil prices and foreign trade deficit are at stagnant levels. For this reason, long term relationships can be determined by cointegration analysis. Cointegration analysis is not used at different stationarities. An important job that must be done before starting the cointegration analysis is to determine the appropriate number of delays. One of the most widely used criteria for this purpose is the Akaike Information Criterion.

5.3. Cointegration Test

Whether or not there is cointegration between variables is investigated by Johansen cointegration test. Co-integration refers to the long-term stability of linear combinations of non-stationary variables, so that variables are co-integrated with each other, modeling and predicting the long-term relationship between time series. The existence of co-integration between variables means a real long-term relationship. (Gujarati)

The delay length was determined before the cointegration analysis. The number of delays depends on obtaining the model without autocorrelation.

Table 5.6. Delay length for Cointegration Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	104.5693	NA	0.001124	-1.114884	-1.079939	-1.100721
1	480.5883	739.7765	1.97e-05	-5.158569	-5.053734*	-5.116078
2	487.4497	13.34976	1.91e-05	-5.189670	-5.014945	-5.118852
3	496.2882	17.00452	1.81e-05*	-5.242263*	-4.997648	-5.143117*
4	499.4748	6.061458	1.83e-05	-5.233421	-4.918917	-5.105949
5	501.0106	2.888049	1.88e-05	-5.206637	-4.822243	-5.050837
6	502.0648	1.959507	1.94e-05	-5.174618	-4.720333	-4.990491
7	508.5978	12.00080*	1.89e-05	-5.202150	-4.677976	-4.989696
8	510.5006	3.453904	1.93e-05	-5.179354	-4.585290	-4.938572

Delay length was determined as 3 according to FPE (Akaike's Final Prediction Error Criterion), AIC (Akaike Information Criterion) and HQ (Hannan-Quinn Criterion) criteria.

Table 5.7. Cointegration Test

Variables	H ₀ Hypothesis	Trace Statistic	Max. Eigen Value	0,05 Critical Value	p
Brent Crude Oil- Foreign Trade Deficit	r=0	15,891	0,0614	15,494	0,0436*
	r≤1	3,969	0,0208	3,841	0,0463*

* Indicates the presence of the cointegration relationship I (1) at the level of 5% significance.

There is I (1) cointegration relation between Brent crude oil prices and foreign trade deficit at the level of Max Eigen value, both 5% and 1% significance level. In this case, the H1 hypothesis is accepted and Brent crude oil prices and foreign trade deficit It is concluded that it is a rotating cointegration.

5.4. Error Correction Model

The cointegrated variables are the principle of multiplication, which is the deviation of the long-run equilibrium over time. The cointegrating regression so far considers only the long-run property of the model, and does not deal with the short-run dynamics explicitly. Clearly, a good time series modelling should describe both short-run dynamics and the long-run equilibrium simultaneously. For this purpose we now develop an error correction model (ECM).

Table 5.8. Error Correction

Variable	Coefficient
D(PETROL)	0.559408
Errorterm(-1)	-0.382896
C	0.002847
R-squared	0.211820
Adjusted R-squared	0.203435
S.E. of regression	0.108246
Sum squared resid	2.202844
Log likelihood	155.1538
F-statistic	25.26212
Prob(F-statistic)	0.000000

In the cointegration test we took the differences of the variables. For this reason the variables are lose in value.

An error correction model belongs to a category of multiple time series models most commonly used for data where the underlying variables have a long-run stochastic trend, also known as cointegration. ECMs are a theoretically-driven approach useful for estimating both short-term and long-term effects of one time series on another. The term error-correction relates to the fact that last-periods deviation from a long-run equilibrium, the error, influences its short-run dynamics. Thus ECMs directly estimate the speed at which a dependent variable returns to equilibrium after a change in other variables. The error correction model is statistically significant and negative. Therefore, it will come to the re-balance direction in the face of the departures from the long term equilibrium. Approximately 38% of divergences are corrected when distancing from balance occurs.

6. CONCLUSION

In this study, the relationship between oil prices and foreign trade deficit was examined by cointegration test and long term relationship was determined. Turkey's foreign trade deficit in the long term are influenced by oil prices. Depending on the industry to operate in a country dependent on foreign imports of Turkey, causes affected by the price of oil. Turkey's oil resources and a lack of mandatory oil imports increased foreign trade in oil prices due to the realization that it is possible to say why the open.

Turkey exports depend on imports. Because raw material inputs are met through imports. Industries are turning the resources they import like oil into export products. In such a case, the increase in the prices of imported goods will restrict the efficiency of the industry and this will affect exports negatively. Turkey is among the entries for the petroleum industry and the dependence on foreign oil is a matter of question. It is possible to say that the increase in oil prices will affect industrial production negatively in the long term. The adverse effect of industrial production can lead to a decrease in exports and a further increase in the foreign trade deficit.

Except that the amount of oil consumed as fuel input Turkey industry is also high. The increase in oil prices directly affects the consumption of petroleum products as fuel, which causes price increases. However, it is not possible to restrict the petroleum products which are regarded as compulsory consumption. In addition, the lack of policies directed this embodied in alternative energy sources can be seen in Turkey as a result of the dependence on oil. The increase in oil prices increases the amount of imports, which in turn affects the foreign trade deficit negatively.

Especially in the oil industry that is heavily used as a major problem in ensuring the balance of foreign trade in Turkey it can focus on alternative inputs by going to the oil savings. Alternative sources of energy can be sought to reduce the dependence on oil, both in the public domain and in the industrial sector. The development of the use of various energy sources, especially in the case of oil used as fuel, will affect the country's economy positively.

Policies for granting of export subsidies, especially in the closure of the foreign trade deficit and the realization of export-oriented production in Turkey will be important to produce. In the future studies, the impact of energy prices on foreign trade can be examined more broadly, including oil prices as well as the prices of other energy sources.

Bayat, Sahbaz, Akcaci (2013) In this study, they investigate the relationship between real oil price and foreign trade deficit in Turkey by using monthly data belonging 1992M1-2012M4 period. In this regard, we employ nonlinear cointegration, nonlinear causality and frequency domain Granger type causality analysis methods. Empirical findings imply that there is a uni-directional nonlinear causality running from real oil price to foreign trade balance. Demirbas, Turkay, Turkoglu (2009). stated that, it is seen that the development of oil prices is the effect of increasing the current deficit. The increasing effect of world oil price developments on the current account deficit has been determined with the help of error correction model. Yigit (2014). has examined the impact of the trade deficit on Turkey's economy. According to the results of this study, Turkey's foreign deficit is increasingly continuing and some important and effective solutions are to be created for he matter. These are inevitable for the economy. Energy importation is accepted as the result of the increasing foreign deficit. Long term plans are needed as solutions. increase in foreign trade deficit; manufacturing industry intermediate goods and energy imports. Other studies that examine the relationship between oil prices and foreign trade deficits coincide with this study.

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Add.1 cruid oil and foreign trade by years

aylar	petrol	dt	aylar	petrol	dt	aylar	petrol	dt
2000 Ocak	25.51	1105968521	Mart	62.05	4276340831	Mayıs	109.54	7193214459
Şubat	27.78	1668077343	Nisan	67.49	4605969346	Haziran	111.8	7911948016
Mart	27.49	1847135816	Mayıs	67.21	5787534999	Temmuz	106.77	6596287107
Nisan	22.76	2052892797	Haziran	71.05	5285699413	Ağustos	101.61	8111236222
Mayıs	27.74	2359846949	Temmuz	76.93	6276291932	Eylül	97.09	7012860310
Haziran	29.8	2638707895	Ağustos	70.76	5944978868	Ekim	87.43	6292980318
Temmuz	28.68	2389181077	Eylül	77.17	5420340165	Kasım	79.44	8317216673
Ağustos	30.2	2834944166	Ekim	82.34	5731315869	Aralık	62.34	8519006103
Eylül	33.14	2240220950	Kasım	92.41	5313084594	2015 Ocak	47.76	4343890300
Ekim	30.96	2779352322	Aralık	90.93	6395856271	Şubat	58.1	4709069264
Kasım	32.55	2863116087	2008 Ocak	92.18	5706381908	Mart	55.89	6206196815
Aralık	25.66	1948470535	Şubat	94.99	4948621528	Nisan	59.52	5024135779
2001 Ocak	25.62	1835178073	Mart	103.64	5383501108	Mayıs	64.08	6788392067
Şubat	27.5	1078703698	Nisan	109.07	6525506120	Haziran	61.48	6249498298
Mart	24.5	562872513	Mayıs	122.8	6828164302	Temmuz	56.56	7095985253
Nisan	25.66	421938810	Haziran	132.32	7705933697	Ağustos	46.52	4947247687
Mayıs	28.31	674129554	Temmuz	132.72	7962001238	Eylül	47.62	3821212136
Haziran	27.85	737300370	Ağustos	113.24	8204505254	Ekim	48.43	3677661536
Temmuz	24.61	952780392	Eylül	97.23	5091413758	Kasım	44.27	4290833366
Ağustos	25.68	922677267	Ekim	71.58	5219745696	Aralık	38.01	6241364687
Eylül	25.62	829241705	Kasım	52.45	2677631758			
Ekim	20.54	551932972	Aralık	39.95	3682972116			
Kasım	18.8	717705680	2009 Ocak	43.44	1396644125			
Aralık	18.71	780405563	Şubat	43.32	639547920			
2002 Ocak	19.42	824868486	Mart	46.54	2366553160			
Şubat	20.28	654397555	Nisan	50.18	2558623113			
Mart	23.7	1019752580	Mayıs	57.3	3521290667			
Nisan	25.73	1469713005	Haziran	68.61	4170898071			
Mayıs	25.35	1304162107	Temmuz	64.44	3800552188			
Haziran	24.08	1166037275	Ağustos	72.51	4971257118			
Temmuz	25.74	1496075639	Eylül	67.65	4004295898			
Ağustos	26.65	1442927573	Ekim	72.77	2676738087			
Eylül	28.4	1291680706	Kasım	76.66	3714524657			
Ekim	27.54	1328976022	Aralık	74.46	4964883604			
Kasım	24.34	1368699975	2010 Ocak	76.17	3862500336			
Aralık	28.33	2127417376	Şubat	73.75	3518373361			
2003 Ocak	31.18	891850459	Mart	78.83	5135735548			
Şubat	32.77	1262562717	Nisan	84.82	5547409010			
Mart	30.61	1847292949	Mayıs	75.95	4926133982			
Nisan	25	1548918643	Haziran	74.76	5690206417			
Mayıs	25.86	1671383378	Temmuz	75.58	6513795870			
Haziran	27.65	1931130633	Ağustos	77.04	6910585103			
Temmuz	28.35	2031318899	Eylül	77.84	6734527362			
Ağustos	29.89	2146040688	Ekim	82.67	6333093460			
Eylül	27.11	2090850904	Kasım	85.28	7752398587			
Ekim	29.61	1750999261	Aralık	91.45	8736353632			
Kasım	28.75	1275265213	2011 Ocak	96.52	7354300104			
Aralık	29.81	3639242012	Şubat	103.72	7461060005			
2004 Ocak	31.28	1710296127	Mart	114.64	9832394780			
Şubat	30.86	2474938797	Nisan	123.26	9080188906			
Mart	33.63	3233845531	Mayıs	114.99	10163661273			
Nisan	33.59	2859571294	Haziran	113.83	10255351698			
Mayıs	37.57	2820491748	Temmuz	116.97	9201303895			
Haziran	35.18	3183381606	Ağustos	110.22	8434296600			
Temmuz	38.22	3096327276	Eylül	112.83	10453061774			
Ağustos	42.74	3175870484	Ekim	109.55	8011989835			
Eylül	43.2	2830268176	Kasım	110.77	7570785053			
Ekim	49.78	2220249844	Aralık	107.87	8116413521			
Kasım	43.11	2834230779	2012 Ocak	110.69	7120788781			
Aralık	39.6	3933141486	Şubat	119.33	6039292622			
2005 Ocak	44.51	2222400138	Mart	125.45	7468922793			
Şubat	45.48	2671995545	Nisan	119.75	6642587230			
Mart	53.1	3604493714	Mayıs	110.34	8618917630			
Nisan	51.88	3467368425	Haziran	95.16	7206739760			
Mayıs	48.65	3834394239	Temmuz	102.62	8004527601			
Haziran	54.35	3908964582	Ağustos	113.36	5997083197			
Temmuz	57.52	3832656689	Eylül	112.86	6971653724			
Ağustos	63.98	4719314182	Ekim	111.71	5595927159			
Eylül	62.91	3551670053	Kasım	109.06	7194930775			
Ekim	58.54	3317633084	Aralık	109.49	7222033081			
Kasım	55.24	3730553149	2013 Ocak	112.96	7321046830			
Aralık	56.86	4436298964	Şubat	116.05	7009422769			
2006 Ocak	62.99	3012485967	Mart	108.47	7437296425			
Şubat	60.21	3737968970	Nisan	102.25	10356938801			
Mart	62.06	4193924436	Mayıs	102.56	9968091665			
Nisan	70.26	5131011733	Haziran	102.92	8612861013			
Mayıs	69.78	5652658321	Temmuz	107.93	9906344541			
Haziran	68.56	4650290261	Ağustos	111.28	7080065333			
Temmuz	73.67	4641972811	Eylül	111.6	7560448434			
Ağustos	73.23	5464885167	Ekim	109.08	7428932039			
Eylül	61.96	4546427558	Kasım	107.79	7212992016			
Ekim	57.81	4310744233	Aralık	110.76	9964173157			
Kasım	58.76	4255099984	2014 Ocak	108.12	6886729285			
Aralık	62.47	4444029189	Şubat	108.9	5186395019			
2007 Ocak	53.68	4027326009	Mart	107.48	5251598363			
Şubat	57.56	3726226300	Nisan	107.76	7287487508			

CIRRICULUM VITAE

Pınar KAYHAN UNUTUR, born in 1989 in İstanbul, graduated from Hasan Polatkan Anatolian High School in 2007. And then she graduated from Business Administration Programme at Dođuş University in 2013. She worked various part-time jobs throughout the University education. She has been working at Dođuş University. She is currently a special student at Dođuş University Business Administration Ph.D Programme.

