# ANTI-DUMPING ACTIVITIES IN INTERNATIONAL TRADE:

# A CASE FROM THE TURKISH TEXTILE INDUSTRY

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A Case From the Turkish Textile Industry

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ABSTRACT

Anti-Dumping Activities in International Trade:

A Case From the Turkish Textile Industry

A common import protection instrument, anti-dumping duty has been quite controversial despite being already used by many developed and developing countries. Turkey is one of the developing countries that has increased its usage of anti-dumping measures a great deal in the recent years. The impact of these measures on Turkey's import volumes, however, has not been studied well. Turkey is world's sixth largest supplier in textile sector and the country GDP highly depends on its profits. Expectedly, this sector is the most protected through anti-dumping duties. Therefore, in this thesis, import data of semi-finished synthetic yarn from 12 countries is analyzed as an illustrative case to observe anti-dumping duties effect on trade volumes in 5 years entailing the pre-investigation, investigation, provisional duties and final duties period. The 6 countries that are subjected to anti-dumping countries are labeled as the named countries, while the 6 countries that were not subjected to these duties are labeled as non-named countries. The results indicate that there were no significant changes on import volumes from named countries of this particular product relative to anti-dumping duty rates. However, implementing anti-dumping duties on named countries ensued the import volumes from non-named countries to increase. Even though it has been suggested otherwise by similar studies in other countries, the import volumes are increased from named countries in the investigation period.

# ÖZET

## Uluslararası Ticarette Anti-Dumping Aktiviteleri: Türk Tekstil Endüstrisinde Bir Vaka İncelemesi

İthalatta korunma önlemlerinden olan anti-dumping vergisi, birçok gelişmiş ve gelişmekte olan ülkede yaygın olarak kullanılıyor olmasına rağmen epey tartışmaya yol açmıştır. Türkiye son yıllarda anti-dumping tedbirini oldukça arttıran gelişmekte olan ülkelerden biridir. Ancak bu tedbirlerin Türkiye'nin ithalat miktarına etkisi yeterince incelenmemiştir. Türkiye tekstil sektöründe dünyanın altıncı en büyük tedarikçisidir ve ülkenin gayri safi milli hasılatına katkısı yüksektir. Doğal olarak ülkede teskstil sektörü anti-dumping vergileri ile en çok korunan sektördür. Bu nedenle bu tezde; anti-dumping vergisinin etkisini incelemek için 12 ülkenin yarı-hazır sentetik iplik ithalat miktarı, soruşturma öncesi, soruşturma süreci, geçici vergi ve kesin vergi dönemini içeren 5 yıllık ithalat miktarı bir örnek vaka olarak analiz edilmiştir. Anti-dumping vergisine tabi tutulan 6 ülke belirtilen ülke diye tanımlanırken, bu vergiye tabi tutulmayan 6 ülke belirtilmeyen ülke olarak tanımlanmıştır. Sonuçlar, ilgili ürünün ithalat miktarında belirtilen ülkelerde anti-dumping vergisinin oranına bağlı belirgin bir değişikliğe neden olmadığını göstermiştir. Ancak, belirtilen ülkelere uygulanan anti-dumping vergisi, belirtilmeyen ülkelerden ithalat miktarının artmasına sebep olmuştur. Diğer ülkelerdeki çalışmalar aksini öne sürmesine rağmen, soruşturma sürecinde belirtilen ülkelerden yapılan ithalat miktarı artmıştır.

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# CHAPTER 1

# INTRODUCTION

## 1.1 Background of the study

Anti-dumping measures are one of the most prominent and widely used but highly criticized import restriction. It started with several developed countries, such as the United States (US) and the European Union (EU). They were criticized for taking protective action first when developing countries become efficient and competitive in some sectors, even though they preach about free markets and decreasing government intervention.

In the last two decades, many developing countries increased the use of anti-dumping measures in trade restriction policies. As of late 2019, Turkey, Argentina, Brazil, China, India, and Korea are accounted for the most of the anti-dumping cases. The anti-dumping cases by developing countries also usually target the imports from the other developing countries setting up South to South protectionism (Bown, 2012).

WTO's recent reports over increasing trend of trade restrictions of member countries raise concerns for the welfare of the world economy. WTO has announced that the trade coverage of import restrictive measures that was applied between October 2018 and October 2019 has increased 27% compared to the last year with an estimated record coverage of 747 million USD since 2012 (WTO, 2019).

There are numerous studies analyzing the use of anti-dumping measures by developed countries. However, the effectiveness of anti-dumping measures used by the developing countries is an issue that requires to be explored. Turkey is predominantly employing anti-dumping measures with 187 anti-dumping cases in force mostly

targeting China. No study analyzing the trade effect of anti-dumping measures from product level data on Turkey was detected during the time that thesis has been developed. This thesis aims to fill the gap in literature by analyzing the import data of anti-dumping measures. To this aim, the trade volume effect of anti-dumping duties that are imposed to semi-finished synthetic yarn for 6 countries in the period 2014-2019 is analyzed as an illustrative case.

## 1.2 Problem statement

Anti-dumping measures which are restrained by the Anti-dumping Agreement are taken against dumping action. The early definition of dumping is international price discrimination which a product is sold in a less price in the importing country compared to the price in the exporting country (Viner, 1923). Afterwards the definition is broadened considerably. Comparing the prices in the markets is no longer enough to determine the occurrence of dumping. It requires intricate systematic steps to be carried out in order to define the fitting price in the market of both the importing and the exporting country. According to WTO's criteria, imports should be sold under the fair value and it needs to harm the domestic industry for a country to take anti-dumping measures. However, what is a fair value to sell a product is not clearly defined and it is fairly easy to take advantage of this policy.

Many economist raised concerns about the over usage of the anti-dumping measures and their effectiveness. (Blonigen & Prusa, 2003; Devault, 1996; Finger, 1993; Mankiw & Swagel, 2005) Some believes that the anti-dumping is unwarranted tool of protection and the usage of this policy is mainly motivated by the growth in trade deficit. They argued that the policy is biased against foreign exporters and it does harm to

economy more than it helps. Some previous studies claimed anti-dumping duties reduce the import volume and mitigate the injury or the threat of injury on domestic market (Konings et al., 2001; Niels, 2003). While, some studies observed an increase in imports of the said product from third countries and found no proof of impact on domestic industries due to anti-dumping (Krupp & Pollard, 1996; Prusa, 2001).

Since Turkey is relatively a new user of anti-dumping policy, there are not enough studies done over its effects on the import volumes. Based on Arellano-Bond GMM modeling using a collective data, Avşar (2013) has found that Turkey's imports from targeted countries fall and anti-dumping duties effectively protect the domestic industries. This thesis focuses on a recent anti-dumping case filed against a textile product, specifically semi-finished synthetic yarns with the 6-digit Harmonized System (HS) Code of 5402.46, to determine its effects. The study particularly examines how the import volumes were affected by the imposition of the duties for countries that was both targeted and non-targeted by the duties.

## 1.3 Justification of the study

Most anti-dumping cases in the world target the base metal and metal products followed by the chemical products and plastic and rubber articles. Over 65% of anti-dumping cases that are in force in 2020 are accounted for these sectors. However, the most protected sector with anti-dumping measures in Turkey is the textile sector. This is not surprising considering Turkey is the sixth largest supplier in the textile and clothing industry and the sector has sizably contributed the country's GDP. Therefore, the textile sector is chosen to analyze as an illustrative case for anti-dumping activities in Turkey.

Among the anti-dumping measures imposed on textile products, man-made synthetic filaments are notable due to number of these measures and its total imported value. Turkey is the 3rd biggest importer of man-made filaments but also is one of the top manufacturers of these products (ITC, 2019).

In recent years, Turkish manufacturers claim the existence of dumping activities. The firm Korteks, which is the biggest manufacturer of polyester filament yarns in Turkey, has filed complaints on dumping on yarn and its adjacent products over the past years (Turkey - Legal Gazette, 2017). One of these complaints is against semi-finished synthetic yarns product with the HS Code of 5402.46. This product segment of the textile industry has the highest imported value under after the textured filament yarn of polyester (HS Code: 5402.33). Turkish government has imposed anti-dumping tariff to the product for 7 countries at the same time. In these respects, the anti-dumping measures used in textile product, namely semi-finished synthetic yarns with the HS Code of 5402.46 is chosen to be an illustrative case in the analysis.

## 1.4 Research questions

This research aims to contribute to the trade literature by examining the effects of anti-dumping duties on imports of a primary trade product of a developing country. To this end the country Turkey is chosen being highly integrated to the international trade and experiencing some troubles related to its trade concentration. Turkey's one of the biggest trade sector, textile, and semi-finished synthetic yarns with HS code of 5402.46 is chosen as the case. A monthly data set from January 2014 to August 2019 that consists 4 different time periods of before and after the investigation and implementation of anti-dumping duties is analyzed to answer the following questions:

The primary question is whether the anti-dumping duties truly decrease the imports from the countries that are subjected to these measures (referred as named countries hereafter)? This is described as the trade destruction effect of anti-dumping measures following the terminology of Bown and Crowley (2007). As a result of the additional duties, it is presumed the import volume of semi-finished synthetic yarns reduces from the named countries.

Second question is whether there is an impact of anti-dumping protection on non-subject suppliers (non-named countries). Trade diversion effect is the increase of imports of the said product from the countries that are not subjected to anti-dumping duties (Bown & Crowley, 2007). The supply of semi-finished synthetic yarns from non-named countries will presumably increase.

The last question is whether the sole initiation of an anti-dumping investigation could influence the import volumes. It is expected that anti-dumping petitions will visibly reduce the import volumes even before the duties are determined to be necessary (Staiger & Wolak, 1994). This impact of investigation process is sometimes referred as the harassment effect of anti-dumping petitions.

The paper is arranged as follows: Chapter 2 describes anti-dumping policies and its development followed by its theories in literature and findings in previous researches. As well as it provides general information about World and Turkish textile industry. Chapter 3 explains the model and data that is used to conduct this research in detail. Chapter 4 discusses the results of the examination for both named and non-named countries. And lastly, chapter 5 is the conclusion of the research with the ending remarks.

# CHAPTER 2

# LITERATURE REVIEW

International trade has allowed countries to exchange goods and services, enabling competition and discounted prices. The economists have been debating over the advantages and the hindrances of trade through many theories over the years. Adam Smith's absolute advantage theory, Ricardo's comparative advantage theory or 'Heckscher-Ohlin (H-O)' model, all handled international trade as a tool to maximize economic performance.

Even though these theories are the foundation of international trade, they are also widely criticized. One reason is that they exclude the unemployment rates from the labor function and ignores the other production functions such as technology. They assume unrealistic perfect competition. Additionally, it overlooks the fact that capital intensive countries and labor-intensive countries still have to import same oriented goods. The theories cannot explain the trade growth between countries with similar factor endowments (Stewart, 1992).

The trade barriers are usually originated from economic, political, safety and environmental factors (Lee & Swagel, 1997). The tariffs are taxes placed to a good to restrict its trade. Export tariffs are not widely used but they are implemented to regulate domestic goods' trade to either manage inflation or to maintain enough of the good for domestic consumption. On the other hand, import tariffs are much more common and they are used to increase the prices of foreign goods in the market to protect domestic industries. Many countries try to protect their sectors with policies that would not be able to compete with the world prices and forced to bankruptcy without them. Likewise,

numerous regulations that halt or reduce trade built upon safety and sanitary concerns create a barrier.

In 1947, the General Agreement on Tariffs and Trade (GATT) was formed under the concerns of that the trade liberalization would expose economies to danger and any country with an open trade policy should be able to administer infrequent pressures to provide some exceptional protection on certain sectors. Several protection instruments were provided to the participants to implement in particular situations. Now, instead of GATT, trade relations are coordinated in many respects under the World Trade Organization (WTO) who aims to liberalize trade through the reduction of the trade barriers. However, eradicating the trade barriers causes economic failures to many domestic sectors of trading countries that are unable to compete with their foreign competitors. The three most significant protection instruments which are still in practice were anti-dumping, countervailing and safeguard duties (Aggarwal, 2003). Some extend of protectionism is accepted to be necessary for smooth adjustments to the liberalized world trade. Yet, the usage of these instruments has increased in the recent years so much that many governments are criticized for abusing their use of such trade measures.

Many WTO members including the Group of Twenty (G20) are among the countries that utilize these measures. Since WTO members are confined by the rules and tariff bindings, they do not have many options for exercising import protection. The protection measures limit the volume of south to south trade. The new measures of protection imposed by the developing countries are mainly targeting the exporters of the other developing countries. The most of these measures are directed to China in order to bound imports in product level (Bown, 2009). Besides, G20 countries are criticized for increasing implementation of import limiting trade remedies. The number of protection

measures in form of anti-dumping, countervailing and safeguards and special safeguards that is initiated and in-force by G20 countries has increased 33% between 2010 and 2020. In compared to 20 years ago, it increased 122% (WTO, 2020).

As seen in the Figure 1, the most used protection measure to restrict imports by G20 countries are anti-dumping duties. However, there are opposing assessments regarding the effectiveness of the anti-dumping measures. Anti-dumping policies are mostly criticized for not being effective to protect domestic industries.

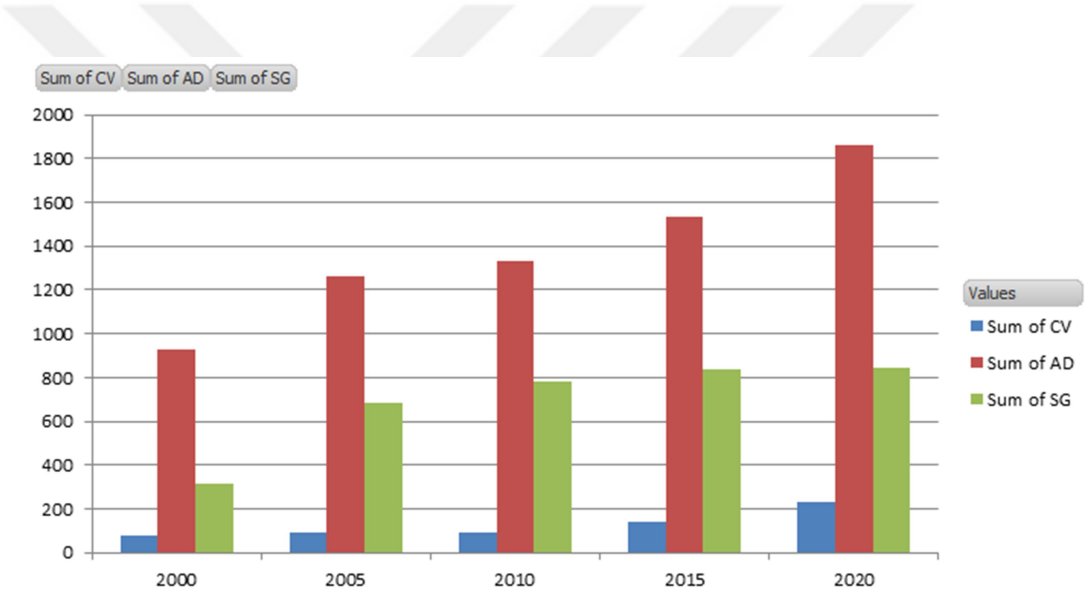



Figure 1 The sum of anti-dumping, countervailing and safeguards initiated and in-forced by G20

Source: Elaboration on WTO, Integrated Trade Intelligence Portal (I-TIP) (2020)

## 2.1 Anti-dumping measures

Dumping is usually defined as exporting a product with a less price than the price that is usually charged in the home country. Dumping may be used as a pricing strategy for acquiring market power. In this regard, it may significantly harm the domestic industry

(Gifford & Kudrle, 2009). Dumping is differentiated as price dumping and cost dumping. Price dumping occurs if an exporter set the prices lower in a foreign country than its home country. It is a practice of price discrimination. Meanwhile, cost dumping is referred to a case when an exporter charges less than its average total cost in a foreign country (Bernhofen, 1995).

Policies towards price discrimination usually ignore the total welfare and concentrate only on the protection of the domestic firms. International trade laws against dumping takes the prices of the products in the home market as a threshold and prohibit the exporters to set lower prices, even if dumping could benefit the market (Gifford & Kudrle, 2009). It is up to the policy makers to establish protection of trade when the interests of producers and consumers are contrasting. The gains from protecting an industry accumulated in the small number of producers while the losses are shared among the large number of consumers. Even though it is not efficient economically, this can validate the usage of protection since it is efficient in a political view (Lee & Swagel, 1997).

Many economists do not believe in the occurrence of cost dumping. They claim it is implausible for a firm to endure losses over a prolonged time to form a monopoly. And it is even more challenging to do that on a global scale with predatory prices in most industries (Krishna, 1997).

### 2.1.1 Anti-dumping in theory

Anti-dumping measures are regarded as unique measures by WTO due to enabling discriminatory imposition of duties which bear the risk of being exploited. Academics have different opinions on whether dumping is unfair competition or not, but most

governments act against dumping with the purpose of protecting their domestic industries. Discriminating between the nations would normally breach the binding tariffs rules but these actions are not against the WTO agreement. However, the governments' reaction towards the dumping is conducted by the Anti-dumping Agreement.

The action taken against the dumping is basically implementing an additional duty on a certain product from a certain country with the purpose of increasing the export price to a level that is closer to the domestic prices and eliminating the damage inflicted to the domestic industry (Isayenko, 2000).

Anti-dumping Agreement permits to take action against dumping when there is an actual damage to the domestic competitor industry. In order to be able to prove that the governments need to disclose the degree of dumping by calculating the difference between a products' export price and the market price in the home country of the exporter and prove that it is harming the domestic industry or putting them at risk.

"Domestic Price - Export Price = Margin of Dumping"

The law instructs there must be fair comparison between the domestic and export prices. Though, what is fair comparison is not explicitly defined by the law. In order to be able to compare prices accurately, several alterations are permitted so the prices reflect product differences such as features, quantities, taxation and terms of sale (Krishna, 1997). However, without the comprehensive instructions, national authorities tend to decide in favor of domestic industries, instead of trying to be fair.

If the margin of dumping is observed to be less than 2% of the export price the investigation must be concluded. Likewise, if the volume of imports from the exclaimed country is small enough to be insignificant the investigations are required to be ceased (Krishna, 1997).

According to Anti-dumping Agreement every country can do anti-dumping investigations with the provision that the investigation is not exceeding 18 months. However, dumping occurrence is not sufficient to take an action alone. It needs to cause a material injury in the domestic industry. The effect of dumped imports on the domestic prices and their following outcome on the home country producers must be analyzed in order to verify an injury. The injury can be physical or a threat of a physical injury or an obstacle to the domestic industry. The examination on the outcome of dumping on domestic industries should take real and possible decrease in output, profit, sales, productivity, growth, market share, employment rate, wages and many other aspects into account (Krishna, 1997).

To start an investigation, the domestic producers with combined output of more than 50% of the total production of a supposed product must partake in the application. Producers of more than 25% of the total production need to back up the investigation in order the application to be accepted. The firms importing the dumbed products are exempted from the appeal. However anti-dumping agreement does not clarify if the foreign based companies working in the country would qualify to be a part of the application.

If the all clauses are met it is up to national legislators to determine to implement anti-dumping duties or not. GATT specifies that it is more appropriate to implement a duty that is less than the margin if it is enough to eliminate the injury. There should not be a bias between suppliers damaging the domestic industry and countries and suppliers that are subjected to the duty should be named. Anti-dumping duties stay effective as long as they are needed to offset the injury of the domestic industries. The duration of the duties can be reassessed whenever by the authorities at their own will or on appeal of

the involved groups. The duties cannot be imposed for more than 5 years. Before the expiration authorities must review and determine the occurrence and the injury of dumping is continuing to extend the duration.

### 2.1.2 History of anti-dumping agreement

First anti-dumping ruling was done by Canada in 1904 followed by New Zealand in 1905 and Australia in 1906 (Aggarwal, 2003). The law was implemented in Canada due to distress about the depleted prices of steel dumped by the firms from the United States. The US as well put their anti-dumping act into effect in 1916 to combat predatory pricing done by foreign firms (Hufbauer 1999). It was aimed against European firms that might attempt to reclaim their spot in the US markets with predatory pricing strategies following the end of World War I. The act obliged the accuser to prove the act of dumping. Soon after, the US revised the law to be more similar with anti-dumping law of Canada. It penalized liable foreign firms to pay off for price gaps. Nevertheless anti-dumping was still a rarely employed tool by most countries during the postwar period (Aggarwal, 2003).

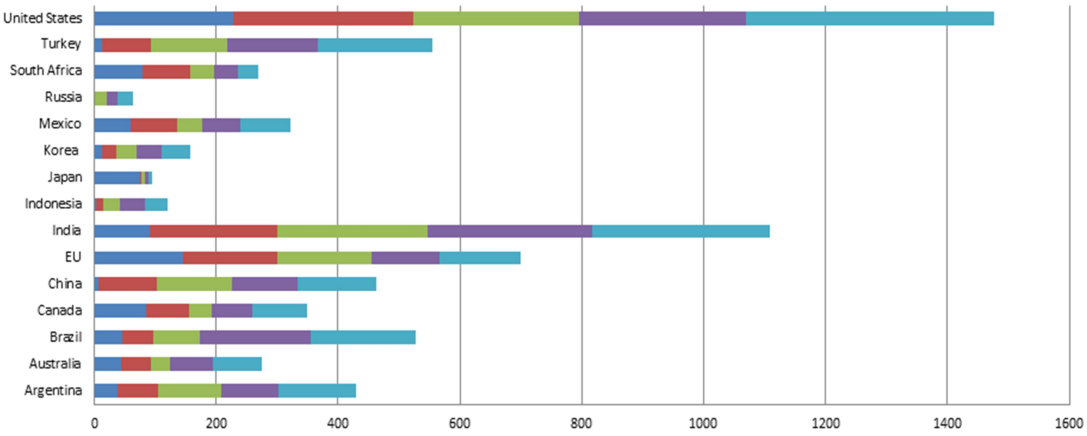
Anti-dumping has entered the international law with GATT 1947. In the 1950s and 1960s GATT has worked on the amendment of in-depth rules however, there was not much progress over it. Renegotiations that were taking place in the 1950s were substituted by Voluntary Export Restraints (VERs) in the next decade. These bilateral agreements aimed to convince countries to restrict exports on their own accord. Even though they were not backed by GATT, they were built on mutual agreements that prevented a trade war. Also, VERs allowed exporters to be compensated by higher prices in the market (Aggarwal, 2003). Since the GATT did not oblige member states to

inform about their liable actions, there is no precise global measurement for the initiated anti-dumping instruments before 1980. But the usage of anti-dumping was minimal. According to Schott (1994) there were around 10 anti-dumping appeals by all GATT members during a year in the 1960s.

Agreement on the implementation of Article VI of GATT which is shortly Anti-dumping Agreement came into effect in 1968 when it was still rarely used. Most of the anti-dumping measures were taken by six main countries: the US, Australia, Canada, the EU, New Zealand, and South Africa. The requirements to be undertaken during the process for anti-dumping investigations were defined in depth with the Tokyo Round getting into force in 1980 (Krishna, 1997). Tokyo Round was only signed by 27 countries that are mostly developed countries. The usage of the measure doubled in 1980s compared to the last decade. However, developing countries did not exercise the instrument till 1990s. The usual users initiated more than 95% action taken against dumping until the mid-1980s. After 1990s, the new countries that are mainly Turkey, Brazil, China, India, and Argentina, were accountable for the big share in total anti-dumping activity in the world. (Prusa, 2001; Vandenbussche & Zanardi, 2008).

The agreement is revised in the Uruguay Round (1994) with more detailed rules on instigating and leading anti-dumping investigations. It offers much clear explanation about verifying a product that is being dumped or not, measuring the damage that it caused to the domestic market, actions that are taken throughout the investigation and the application and the length of the anti-dumping measures. Obscuring the initiations and the prove an injury was believed to reduce the amount of anti-dumping complaints, however, on the contrary, the usage of anti-dumping has significantly increased by the developing countries after the Uruguay Round (Krishna, 1997). Nearly all WTO

member states have employed their anti-dumping bills. The rise on the use of anti-dumping measures by G20 countries can be seen from Figure 2.




| | Argentina | Australia | Brazil | Canada | China | EU | India | Indonesia | Japan | Korea | Mexico | Russia | South Africa | Turkey | United States |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2000 | 39 | 44 | 45 | 86 | 6 | 146 | 91 | 3 | 76 | 13 | 60 | 0 | 79 | 13 | 228 |
| 2005 | 65 | 49 | 52 | 69 | 96 | 155 | 210 | 12 | 2 | 24 | 75 | 1 | 79 | 80 | 295 |
| 2010 | 104 | 32 | 77 | 38 | 123 | 153 | 245 | 27 | 6 | 32 | 42 | 19 | 39 | 126 | 272 |
| 2015 | 94 | 70 | 181 | 66 | 109 | 113 | 270 | 42 | 4 | 42 | 63 | 18 | 38 | 148 | 275 |
| 2020 | 127 | 80 | 173 | 91 | 129 | 133 | 293 | 37 | 7 | 46 | 81 | 26 | 34 | 188 | 406 |

Figure 2 The sum anti-dumping measures initiated and in-forced by G20

Source: Elaboration on WTO, Integrated Trade Intelligence Portal (I-TIP) (2020)

### 2.1.3 Anti-dumping criticism

Many academicians recognize the harm of anti-dumping duties and view it as a method of protectionism. Stegemann (1980) and Finger (1993) both stated anti-dumping is being used by governments as a tool for aiding domestic industries against competition raised by the imports and should be considered as protectionism. Many economists defend anti-dumping policies are unfair towards the foreign firms (Kolev & Prusa, 2002; Krugman, 1987) and dumping incidences are common. Hindley (1988) writes “AD is not being

used in the spirit of the GATT rules. It is operating in practice as a de facto protectionist device". There are several reasons that support this view.

Anti-dumping duties are implemented in order to boost the country's economic well-being. Some academicians argue that governments need to manage their economies by taking world trade into consideration. Even though there is dumping, countries can benefit from inexpensive imports (Gruen, 1986). Before implementing anti-dumping duties, most governments check if dumping is damaging a certain industry, however they do not consider the effects of the additional duties to overall economy. The cost of anti-dumping duties, whether being greater or not than the cost of damage given to the particular domestic industry by dumping, is often not measured (Banks 1990). The cost and benefit analysis could justify the implementation of anti-dumping duties, though the application of this analysis would be too challenging and laborious (Krishna, 1997).

Additionally, most anti-dumping cases are not initiated due to predatory pricing. During anti-dumping investigations only a few incidents were confirmed to be predatory pricing, even though the concern over exploiting markets is the most amicable reason concerning the anti-dumping law (Ethier, 1982). A firm inclined to follow this strategy has to endure significant losses for an uncertain market power it can obtain depending on the competition (Krishna, 1997). Instead of a lengthy price war, the firm can favor a more fitting strategy with a better chance of success like acquisition of or agreement with the domestic trader to obtain power in the market. The fact that there is no obligation to prove the predatory drive of foreign firms in the anti-dumping law backs up the opinion of predatory pricing is not truly considered as a basis for anti-dumping policies (Banks 1990).

Anti-dumping duties are also criticized for biased treatment towards foreign firms. When a domestic firm sells their products less than their cost it does not get punished by the government and this discrimination of foreign firms harms the competition and the market structure (Gruen, 1986).

Another criticism is that the official authorities rely on information that they can obtain easily to investigate dumping action. They usually collect data from domestic firms and make a comparison with the export prices of domestic firms or they compare with the domestic production cost in addition of administrative, selling and general costs (ASGC) and an assumed profit margin (McGee & Yoon 1998). Because the investigations depend on imprecise data, it can be concluded that there is dumping incidence even if it is not the case. In some cases, officials ask for private costing information from the exporters in order to make a more proper investigation. However, not every company is willing to share this information. The method and language requirements of these reports can be hard to fulfill and create another trade cost for the exporters. These kinds of reports are especially harder for smaller firms to submit, where they receive little to no aid on how to comply with the requirements. The unfair treatment of foreign exporters causes many products to be regularly discarded from the domestic markets. Anti-dumping law also can set off the prices higher even in cases where there is no action against dumping is taken. Just because of the fear of being subjected to anti-dumping duties, it was found that many exporters are not willing to offer their best prices (Carmichael, 1986). Once anti-dumping law is embraced use of it is hardly restricted, since establishing the export price is less than rational and damages the domestic industry is rather simple (Prusa, 2001).

Moreover, it is observed that some countries retaliate with anti-dumping duties. They implement anti-dumping duties not merely to protect domestic industries against imports but also to protect their exporters from the exploitation of the law in foreign countries (Prusa, 2001). Hence, anti-dumping law functions as a protectionism tool rather than disabling monopoly.

## 2.2 Previous researches

Many academicians studied anti-dumping duties' effect on trade. Duties are intended to counter that is caused by dumping. Therefore, it is assumed it to reduce imports and reinstate employment and earnings of domestic industries. Using various methodologies, this thought and anti-dumping duties' indirect effects have been explored in significant amount of studies. Since developed countries have been applying anti-dumping policy for so many years most of the studies focus on them, but in recent years, developing countries' usage of such measures are gradually increasing.

Concerning the impact on import volumes, Staiger and Wolak (1994) observed initiating an anti-dumping investigation reduces the imports in the United States (US) notably. Prusa (1997, 2001) found the imports of the relating goods of the US are reduced by up to 50%, whereas, Egger and Nelson (2011) found it lessened the imports slightly. On the impacts in the agricultural sector, Carter and Gunning-Trant (2010) discovered considerable decrease in import volumes. For the anti-dumping measures against China, Lu, Tao, and Zhang (2013) find while starting an anti-dumping investigation does not have an effect, rising duties for 1% declines the Chinese imports of the US by 0.6%. Several researches on the European Union also find high degree of reduction on imports volume (Messerlin, 1989; Lasagni, 2000; Konings, Vandenbussche

& Springael, 2001). Jabbour, Vanino, Tao and Zhang (2019) stated anti-dumping duties imposed by the EU caused imports from China to decrease but also, Chinese exporters who managed to stay in the market to get more productive.

The effect of anti-dumping measures on the profitability of domestic firms is also studied using event study as the methodology. The studies found the concerned domestic firms do not necessarily profit because of the indirect effects. The diversion effect is one of the indirect effects of the anti-dumping measures. Prusa (1997) finds that the trade diversion rises as the imposed anti-dumping duties increase. As a result of trade diversion, anti-dumping duties effect on restricting trade is suggested to be observed larger than its actual effect. Analyzing the trade data from the US between 1980 and 1988, he found in several instances trade diversion was highly significant, although the imports from the named countries decreased after the implementation of anti-dumping duties, the total imports increased. Studying EU data, Konings et al. (2001) also found trade diversion effect on non-named countries. Therefore, the anti-dumping duty's direct effect is mostly or entirely diminished by its indirect effect. Trade diversion effect has been found to be a global occurrence with the following studies such includes India (Ganguli, 2008), Mexico (Niels, 2003), and China (Park, 2009).

An alternate indirect effect that considerably diminishes direct effects of anti-dumping measures is tariff jumping. If it is not too costly and complex, foreign exporters can avoid the duties by shifting the production to the domestic market. Several studies inspected the occurrence of tariff jumping effect after the initiation of anti-dumping measures. The findings display tariff jumping is infrequent since only the sizeable companies from developed countries could benefit from using the strategy (Belderbos,

1997; Blonigen, 2002). FDI drastically lowers the potential profits rising due to anti-dumping duties of the petitioning domestic industry.

Another focus on anti-dumping research is how trade is affected by the investigation period compared to provisional and final duties. Staiger and Wolak (1994) observed that half of the total decrease in imports happens in the investigation period. They claimed even just filling a petition results with a reduction in imports and rise in home production. Consequently, an industry can benefit from protection against foreign exporters just due to the investigation period even if the authorities decide on taking no measure.

Bown and Crowley (2007) examined anti-dumping duties' effect on third markets. They used a model with multiple countries and observed the import is reduced from the anti-dumping duty imposed x country by country m, however, the import from y country that is not liable to the duty is increased. They named these results trade destruction and trade diversion.

Bown and Crowley (2007) also stated anti-dumping duties result in additional indirect effects. Following the implementation of anti-dumping duties by country m to country x, country x could boost the supply to third countries. This effect is named trade deflection. Another effect is if country m implements anti-dumping duty to a third country, the exports of country x to that third country decreases. They dubbed this effect trade depression.

Baylis and Perloff (2010) showed that imposing anti-dumping duty on a product can lead to increase in imports of a related product. In the study, they analyzed the US's anti-dumping measure against tomatoes from Mexico which results in rising import rates of tomato paste.

Studying firm-based data from the US, Pierce (2011) observed anti-dumping protection increases productivity of an average firm. However, in more detailed inspection, it was seen that the firms with rather low productivity were improved while the firms with high initial productivity suffered loss of productivity. Trade liberalization theories also support this result.

Lee, Park and Cui (2013) demonstrate the trade restriction and trade diversion effect by analysis of the trade patterns between China and the US. They find the imports from China to the US reduced significantly in the provisional duty period, however its effects last shortly. The protective effects of anti-dumping duties are mitigated due to rise of imports from the other countries, but it enabled the prices of the concerned product to increase.

There are not many studies examining the impact of anti-dumping policy of Turkey on trade.) Cheong and Dikmener (2007) analyzed detailed industry level data to understand correlation between duty levels and import values. They observed imports from targeted countries are considerably reduced. This research aims to fill the gap in literature by analyzing the impact of anti-dumping duty to import volumes from named and unnamed countries using product level data.

## 2.3 Overview of anti-dumping policy of Turkey

Turkey's anti-dumping legislation, the Law of Prevention of Unfair Competition in Imports, is consistent with the Anti-dumping Agreement. Turkey accepts complaints that are filed by domestic firms against dumping. When determining the dumping margin authorities can consider the price of the good in the indicated country or the price of the good sold in a third country or an assumed fair value.

The complaints of dumping are refused without an investigation if dumping margin is less than 2% or the amount of dumbed product is less than 3% of the total imports of the like product. Assessment of the complaints must be concluded in 45 days and if approved the decision of investigation must be published in Turkey Legal Gazette (Cheong & Dikmener, 2007). Following the notice, questionnaires to the concerned parties are sent to be replied in 37 days. Upon request and deemed acceptable, the time limit for responses might be extended. Preliminary actions can be taken 60 days after the start of the investigation. Final duties cannot be imposed for more than 5 years from after the end of investigation. To extend further there needs to be reinvestigation confirming the injury or the threat of injury is still continuing.

Turkey has mainly resisted the protectionist pressure rising in the recent years to make widespread change to its fairly liberal import policy. Yet, Turkey's use of non-tariff measures, mainly anti-dumping, has massively increased in the last 20 years. Turkey is one of the most active users of anti-dumping policy with the total of 187 initiated cases in 2020. More than half of these cases are applied to protect textiles and steel industries. China is the top target of Turkey's anti-dumping measures as one out of the three cases initiated targets them. The remainders are mostly targeting East Asian countries which are Vietnam, Taiwan, Malaysia, Thailand, India, and Indonesia (see Table 1).

One reason for escalating use of non-tariff measures might be Turkey's sizeable current account imbalance. The export growth of Turkey did not keep up with the growth of its imports for the last two decades. Even though it may be misdirected, especially large trade imbalances might lead authorities to decrease imports through non-tariff measures.

Regarding Turkey's anti-dumping measures, slowness of authorities to eliminate the duties when the time comes causes economic concerns (Bown, 2013). According to WTO rules, anti-dumping measures should be removed in five years following its application. As of the beginning of 2020, around 70% of the imposed duties are in force for more than 5 years. Long years of imposed duties might result in with a bigger degree of trade diversion which causes Turkey's welfare to deteriorate and consumers to source from inefficient foreign suppliers.

Table 1. Number of Anti-Dumping Measures of Turkey per Country

| Partner Affected | AD Measures | Partner Affected | AD Measures |
|---|---|---|---|
| China | 63 | Israel | 2 |
| Chinese Taipei | 13 | Italy | 2 |
| Viet Nam | 13 | Pakistan | 2 |
| Malaysia | 12 | Philippines | 2 |
| Thailand | 12 | Poland | 2 |
| Indonesia | 11 | Spain | 2 |
| India | 10 | Sri Lanka | 2 |
| Korea, Republic of | 9 | Bangladesh | 1 |
| Bulgaria | 4 | Canada | 1 |
| Greece | 4 | Egypt | 1 |
| Russian Federation | 4 | Finland | 1 |
| USA | 4 | Hong Kong | 1 |
| Germany | 3 | Sweden | 1 |
| Brazil | 2 | Serbia | 1 |
| Iran | 2 | | 1 |
| Total | | | 187 |

Source: WTO, Integrated Trade Intelligence Portal (I-TIP), extract made on 18/02/2020

## 2.4 The textile industry

### 2.4.1 Textile industry in the world

Textile industry is one of the top contributors to the national economy of numerous countries for so many years. China is the foremost producer and exporter of textiles in the world. In the constantly growing market, other major competitors are the US, the EU, India, and Vietnam. Along with being one of the top producers of cotton, the US is also the leading importer of garments. As detailed in Table 2, textile and clothing products are listed under 14 groups in Harmonized System (HS) in the international trade.

Table 2. Textile and Clothing Product Codes According to the International Harmonized System Commodity Classification

| HS Code | Explanation |
|---|---|
| 50 | Silk |
| 51 | Wool, fine or coarse animal hair: horsehair yarn and woven fabric |
| 52 | Cotton |
| 53 | Vegetable textile fibers, paper yarn and woven fabrics of paper yarn |
| 54 | Man-made filaments, strip and the like of man-made textile materials |
| 55 | Man-made staple fibers |
| 56 | Wadding, felt, nonwovens, and special yarns: twine, cordage, ropes, cables, and articles thereof |
| 57 | Carpets and other textile floor coverings |
| 58 | Fabrics, special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery |
| 59 | Textile fabrics - impregnated, coated, covered or laminated, textile articles of a kind suitable for industrial use |
| 60 | Fabrics; knitted or crocheted |
| 61 | Apparel and clothing accessories, knitted or crocheted |
| 62 | Apparel and clothing accessories, not knitted or crocheted |
| 63 | Textiles made up articles. Sets, worn clothing, worn textile articles, rags |

While the garment industry is vast worldwide, the production has shifted to developing countries to cut the labor cost. Even though producing apparel domestically allows firms to be closer to the market and react to market changes faster, supply of raw materials, designing and manufacturing of textile industry is progressively centralizing in developing countries. Especially the abolishment of trade barriers and bilateral agreements has enabled the shift of production towards developing countries to occur. Top 15 textiles and clothing exporters and importers are shown in Table 3 and Table 4 respectively.

Table 3. Top 15 Textiles and Clothing Exports by Country in 2018

| **Countries** | **Exports (US$ Thousand)** |
|---|---|
| China | 211,540,526.28 |
| Bangladesh | 41,300,023.96 |
| Vietnam | 39,066,700.31 |
| India | 32,951,354.66 |
| Italy | 31,839,762.89 |
| Turkey | 30,895,806.71 |
| Germany | 27,503,621.27 |
| United States | 18,913,952.62 |
| Indonesia | 14,767,707.37 |
| Pakistan | 14,531,056.44 |
| Cambodia | 13,158,350.93 |
| France | 12,586,433.37 |
| Netherlands | 10,703,791.42 |
| Spain | 10,666,199.66 |
| Korea, Rep. | 9,597,016.82 |

Source: Worldbank, World Integrated Trade Solution (WITS) (2020)

Table 4. Top 15 Textiles and Clothing Imports by Country in 2018

| Countries | Import (US$ Thousand) |
|---|---|
| United States | 104,685,576.10 |
| Germany | 51,302,183.26 |
| Japan | 32,405,480.18 |
| China | 31,755,899.27 |
| United Kingdom | 30,127,219.02 |
| France | 28,853,300.01 |
| Vietnam | 28,432,655.68 |
| Italy | 24,924,100.16 |
| Spain | 22,792,153.74 |
| Hong Kong, China | 20,473,870.03 |
| Netherlands | 19,433,727.29 |
| Switzerland | 16,946,643.27 |
| Russian Federation | 16,754,967.92 |
| Korea, Rep. | 14,070,984.46 |
| Poland | 13,614,430.21 |

Source: Worldbank, World Integrated Trade Solution (WITS) (2020)

### 2.4.2 Textile industry in Turkey

Textile industry has a significant effect on the growth of Turkey's economy for the last 30 years. The industry has prominently grown since the economic policies put into effect to access foreign markets in 1980s and contributed to the country's GDP, employment and exports. Textile industry has around 5% share in Turkey's GNP and about 12% share in total exports in 2019 (TIM, 2019). Currently, Turkey is one of the top suppliers of textile and clothing products being the sixth largest supplier in the world.

As of late 2019, production costs in Turkey are higher compared to countries such as China and Bangladesh. However, it has advantages of having customs union with the EU, capable logistics and transportation services and high-quality production.

Turkey continues to improve its competitive advantage by investing on research and development activities, but its foreign competitors are prominently increasing their market share in Turkey and Turkey's top trade partner, the EU. As the 3rd highest supplier of apparels and second highest supplier of raw textile materials to the EU, Turkey is greatly affected by the changes in demand in the union (Gunduz, Gunduz, & Dolekoglu, 2018). It is very important for the textile industry to maintain its competitive advantage in the EU, since 44% of textile raw materials and 66% of clothing produced in 2019 are exported to the EU member countries (TIM, 2019). The concerns of an injury occurring in the textile industry urge Turkey to protect it from rising competition.

A large amount of textile production in Turkey is based on cotton. Some manufacturers are involved in every stage of production with vertically integrated facilities from fiber processing to ready-made goods, while some are small scaled non-integrated firms. Raw materials are mainly sourced from domestic suppliers. Even though Turkey produces high amount of cotton, domestic production cannot meet the demand of the country. Growing demand and declining domestic production lead to a significant amount of cotton to be imported by Turkey. In 2018 Turkey was the fourth largest cotton importer following China, Bangladesh and Vietnam as seen in Figure 3.

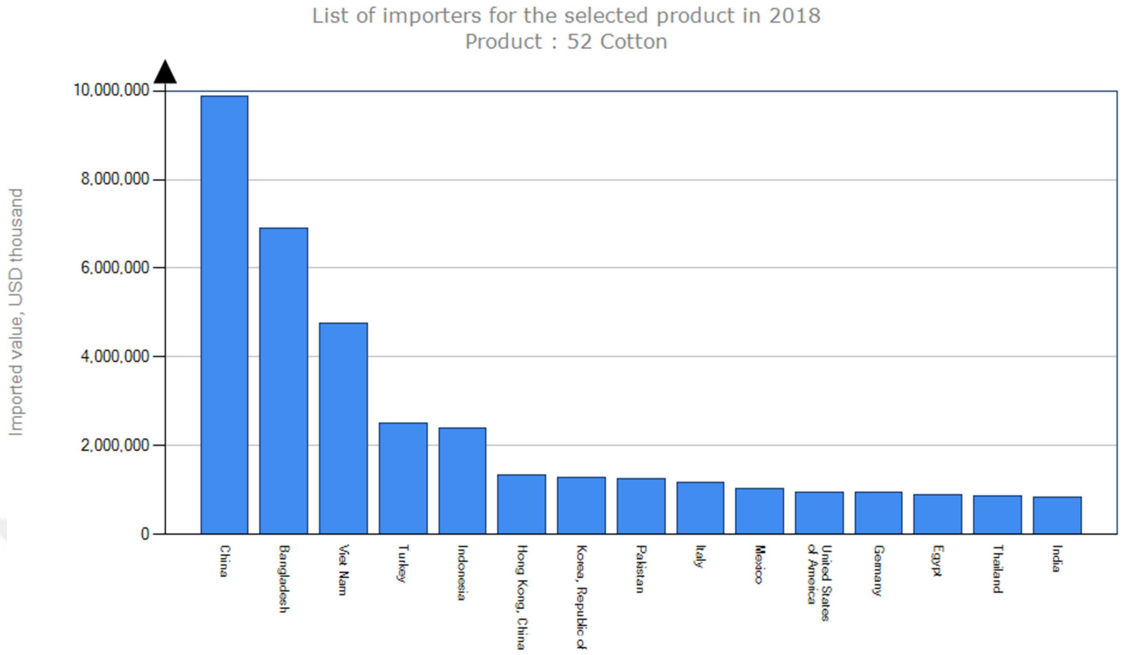



Figure 3 The largest cotton importers by country in 2018

Source: Trademap, ITC calculations based on UN COMTRADE and ITC statistics.

### 2.4.3 Synthetic filament yarn industry in Turkey

Turkey is also the largest importer of synthetic filament yarn in the world while maintaining a huge capacity of yarn production. (see Figure 4) Since it is raw material of many polyester textile products there is high demand for the fiber and its derivative products. Therefore, the import quantities of these products gradually increased. However, Turkish producers of yarn raised concerns over the low prices of imported synthetic yarn many times over the last 20 years. Synthetic yarn was subjected to anti-dumping investigation periodically to determine if there is a dumping action.

The first anti-dumping duty on yarn applied on 6-digit HS code of 5402.33 (Yarn, synthetic; filament, monofilament (less than 67 decitex), textured of polyesters,

not for retail sale, not sewing thread) for India and Taiwan in 2000. It was extended to Korea in 2006 and Thailand in 2008 which lost their effect after 5 years. Also, duties on China, Indonesia and Malaysia were applied on in 2008 and Vietnam and Thailand for the second time in 2016.

In February 2017, Turkey initiated an investigation on product with HS code of 5402.46 (Yarn, synthetic; filament, monofilament (less than 67 decitex), of polyesters (not high tenacity or textured), partially oriented, single, untwisted or twisted 50 turns or less per meter, not for retail sale, not sewing thread.) after the application of domestic yarn producers. The applicant firm Korteks claimed the anti-dumping duties that are imposed on synthetic filament yarn is not effective due to domestic firms importing untwisted or twisted 50 turns or less per meter synthetic yarn. Significant amount of the imported yarn is sold in the market after being twisted. Hence the protection of anti-dumping duties on yarn is neutralized.

During the investigation it was found that the imports of the said product drastically increased after 2010. The investigation is concluded with anti-dumping duties with distinct rates to be implemented on the same 7 countries which are China, India, Taiwan, Indonesia, Malaysia, Thailand, and Vietnam.

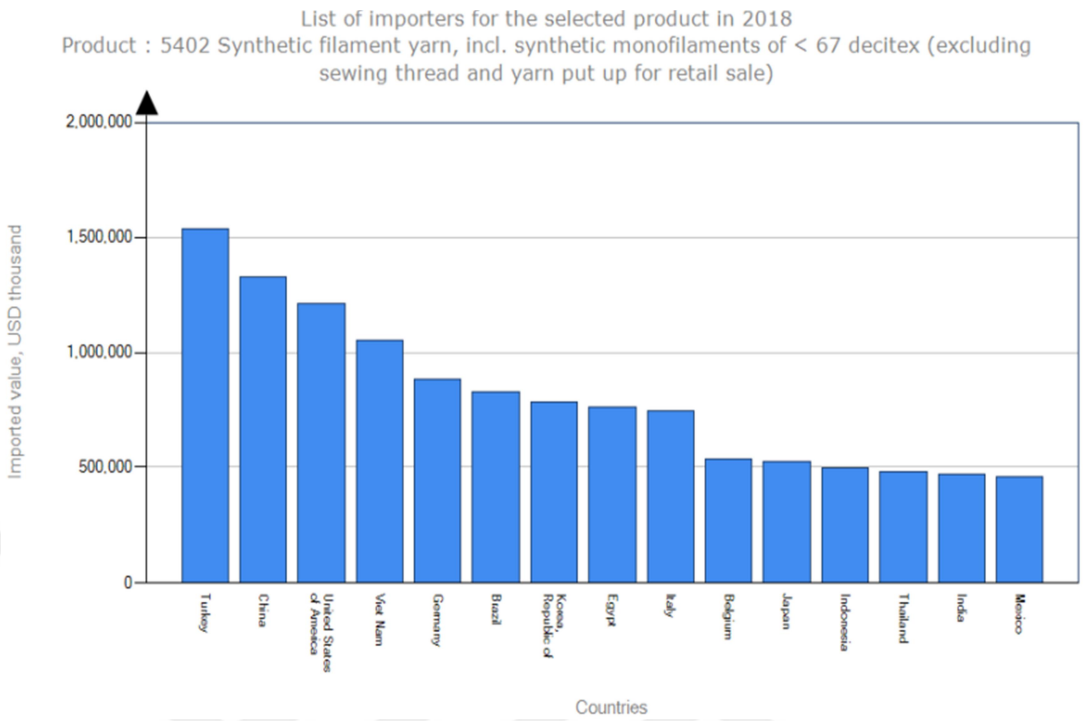



Figure 4 The largest importers of synthetic filament yarn by country in 2018

Source: Trademap, ITC calculations based on UN COMTRADE and ITC statistics.

# CHAPTER 3

# METHODOLOGY AND DATA

## 3.1 Methodology

In this thesis, the impacts of anti-dumping duties on textile industry in Turkey is analyzed using quantitative research method. Monthly data of 12 countries from January 2014 until August 2019 in order to paint a clear model of impact of anti-dumping regulations is analyzed in the study. Among these 12 countries, 6 of them are named countries that are subjected to anti-dumping duties while the other 6 that are not.

In February 2017, anti-dumping investigations in the market for synthetic yarn product which is listed with the HS code of 5402.46 was initiated for 7 named countries which are China, India, Malaysia, Thailand, Indonesia, Taiwan and Vietnam for this product after the application of domestic firms. Following the investigation, in the August of the same year, provisional duties implemented against the named countries. The investigation regarding the disablement of the measures was concluded in June 2018 and the final anti-dumping duty rates were declared through the Turkey- Legal Gazette. The provisional and final rates of anti-dumping duties are detailed in the Table 5.

Vietnam is exempted from the analysis because of that during the inspected months there were no imports of the said product. Hence, other 6 countries that is subjected to anti-dumping duties are assessed as named countries. The 6 non-named countries that are not imposed to anti-dumping duties are namely Italy, Spain, Germany, Switzerland, Korea and Iran. The data is collected for the period of 5 years between January 2014 and August 2019 for the total of 68 months. It entails 38 months of trade data before the anti-dumping investigation initiated (January 2014 - February 2017), 5

months of investigation period (March 2017 - July 2017), 11 months of provisional duties imposed (August 2017 - June 2018) and 14 months of the final decision of the duties (July 2018 – August 2019) (see Figure 5).

Table 5. Anti-Dumping Duties Applied to Named Countries

| HS Code | Origin Country | Provisional Duties (CIF %) ($/Ton) | Final Duties (CIF %)[1] |
|---|---|---|---|
| 5402.46 | China | 263 $/Ton | 8% |
| | India | 10.15% | 8% |
| | Malaysia | 138 $/Ton | 8% |
| | Thailand | 18.85% | 8% |
| | Indonesia | 120 $/Ton | 7% |
| | Taiwan | 14.3% | 8% |
| | Vietnam | 36.28% | 8% |

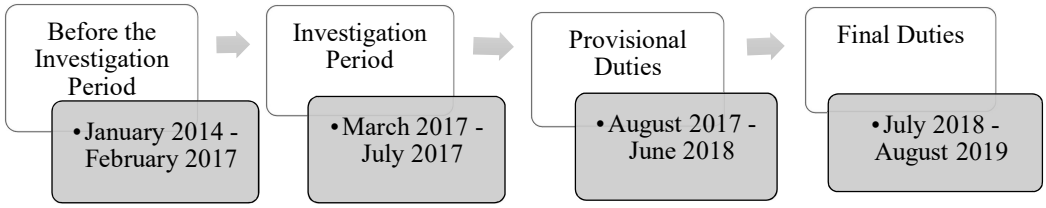



Figure 5 The period of anti-dumping measures on semi-finished synthetic yarn

The study aims to observe trade restriction and trade diversion effects of the case of anti-dumping measure on the semi-finished synthetic yarn for both named and non-named

[1] Different rates of antidumping duties are applied to several different firms from India, Thailand and Indonesia. An average antidumping duty is calculated according to their market size for unity.

countries. The reason of analyzing four different periods of anti-dumping case is to see how trade is affected in the process. Just the initiation of an anti-dumping investigation impacts the market, even before any duty is implemented. Provisional duties have higher anti-dumping rates compared to final duties and it is expected for the market to react substantially with the implementation of provisional duties compared to final duties. The import volumes (KG / Month) from the named and non-named countries are exhibited in the Figure 6 during this period.

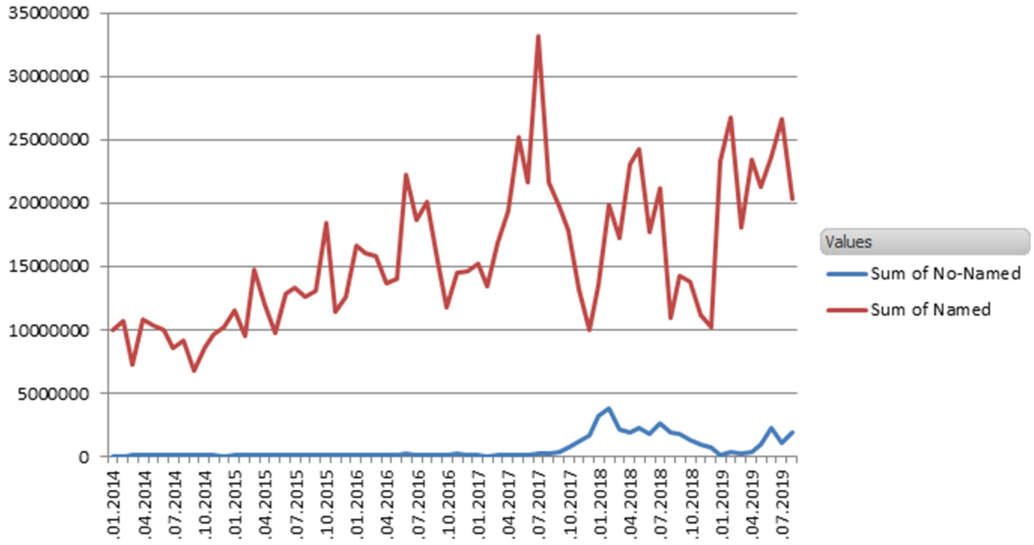



Figure 6 The sum of import volumes from the named and non-named countries

Source: Derived from Turkish Statistical Institute's (TÜİK) International Trade Statistics.

## 3.2 Econometric model

Prusa (1997) addresses the use and effectiveness of anti-dumping regulations for named and non-named countries using a properly designed model. In this thesis, the derived

from Prusa (1997) and adapted to a product-specific analysis. The model is constructed to verify the effects of both initiation and the outcome of the anti-dumping investigation on the import volumes of a specific textile product, namely, synthetic yarn with the HS code of 5402.46. Tariff, price changes and market shares of the exporter countries are taken into account. Monthly panel data of 12 countries from January 2014 to August 2019 is depicted in the econometric analysis. After checking the conditions Ordinary Least Square regressions are run. The model equation is as follows. The description of variables is given in the following section:

$$\ln M_{it} = \alpha_1 + \alpha_2 \text{Anti-dumping}_{it} + \alpha_3 \text{Duty}_{it} + \alpha_4 \text{AddDuty}_{it} + \alpha_5 \ln \text{Price}_{it} + \alpha_6 \ln \text{ER}_{it} + \alpha_7 \ln \text{Marketshare}_{it} + \alpha_8 \text{Dump1}_t + \alpha_9 \text{Dump2}_t + \alpha_{10} \text{Dump3}_t + \varepsilon_{it}$$

### 3.2.1 Description of variables

In the model equation, *i* represents the named (China, India, Malaysia, Thailand, Indonesia, Taiwan, Vietnam) and non-named (Italy, Spain, Germany, Switzerland, Korea, and Iran) countries at time *t*, which represents a month.

#### 3.2.1.1 Import volume

The dependent variable $M_{it}$ is the import volume of semi-finished synthetic yarn from country *i* at the time *t*. It indicates the demand of the home country for the said product. The model is expected to estimate the change in the total import volume from named and non-named countries to measure the effectiveness of the dumping regulations accurately.

#### 3.2.1.2 Anti-dumping duty

Anti-dumping$_{it}$ is the size of the anti-dumping duty implemented for the named country *i* at the time *t*. The magnitude of the anti-dumping is in percentage that is imposed on CIF rates. The anti-dumping duties that is defined as $/Ton is converted to percentage rates as well. For the non-named countries since there is no anti-dumping duty implemented on semi-finished synthetic yarn this rate is 0. In the model, direct effect of imposing an anti-dumping duty is expected to significantly lower the imports from named countries and increase the domestic output following the literature (B. A. Blonigen & Prusa, 2016).

#### 3.2.1.3 Duty and additional duty

Duty$_{it}$ is the customs duty applied for the imports of the said product from the country *i* at the time *t*. AddDuty$_{it}$ is 5% additional duty that came into force in January 2019 for the imports of semi-finished synthetic yarn from India, Thailand, Indonesia, China and Taiwan among the 12 countries that are studied in this research. The custom duties are 0% when there is a free trade agreement. Among the 12 countries explored, Turkey has signed free trade agreements with the EU member states, Malaysia and Korea. The agreement between Turkey and Malaysia commenced on August 2015 while the free trade agreement with Korea gradually decreased the duty rates over the time and completely eradicated on January 2018. The existence of free trade agreements significantly increases the trade flows between the partners (Baier & Bergstrand, 2002). Therefore, in the model the import volumes are expected to be higher from the countries with lower imposed duty rates.

#### 3.2.1.4 Price

$Price_{it}$ is the unit price per kilogram of the semi-finished synthetic yarn that is imported from country *i* at the time *t*. It is derived from dividing this product's total import value in a month from one country to the total volume imported. It is expected that the import volume is to be less when the unit price is higher since the demand is higher for cheaper products.

#### 3.2.1.5 Exchange rate

$ER_{it}$ denotes the monthly average nominal exchange rate where currency of foreign country is quoted in terms of Turkish Lira. The variable is included to check macroeconomic conditions. Appreciation of a country's currency increases the demand for the anew cheaper products from the foreign suppliers (Fleming, 1962). For this reason, the import volume from a country is expected to decrease if Turkish lira is depreciated against its currency.

#### 3.2.1.6 Market share

$Marketshare_{it}$ stand for the market share of the country *i* on the imports of semi-finished synthetic yarn at the time *t*. The market share is calculated by the import quantity of the semi-finished synthetic yarn from named and non-named countries of Turkey divided by the total imports of this product from the world in that month. The bigger market share the product from a country has in the Turkish market, the greater the dependency of Turkey to the imports from the said country. The effects of anti-dumping measures is expected to be lesser for the countries with large market shares due to dependency (Lee et al., 2013). Also, the exporters that supply large amount of this product to Turkey

might not be able to easily shift markets; therefore, the effects of the anti-dumping duties can be expected to be weaker.

#### 3.2.1.7 Dummy variables

$Dump1_t$ , $Dump2_t$ and $Dump3_t$ are dummy variables used to describe the effects of anti-dumping measures taken against semi-finished synthetic yarn for initiation and application periods. $Dump1_t$ variable denotes the investigation period and it is 1 from the initiation of investigation in March 2017 until the end of it in July 2017 for 5 months and 0 otherwise. $Dump2_t$ variable refers to the period when the provisional duties that are imposed on named countries for 11 months from August 2017 to June 2018. It is 1 in this period and 0 in other months. $Dump3_t$ is the dummy variable specifying the period when the concluded final duties are implemented. It is 1 from July 2018 till the end of analyzed period for 14 months and 0 otherwise. The purpose of dummy variables is measuring the effectiveness of anti-dumping regulation in each period.

## 3.3 Data

In the analysis, the data on import volumes and their total values for semi-finished synthetic yarn obtained from Turkish Statistical Institute's (TÜİK) International Trade Statistics. Unit price and market share variables are calculated using the same data set. The information on anti-dumping measures is attained from the Ministry of Trade of Republic of Turkey's data on dumping and subsidy and notifications of Turkey - Legal Gazette. While, the exchange rate information is obtained from the International Financial Statistics (IFS) of IMF data that is accessed on October 31 of 2019.

In accordance with the model, the research assesses panel data for regression analysis and the model is tested for both fixed effects and random effects estimation methods. Fixed model allows unobserved variable bias that is correlated with the variables to be controlled by assuming they are fixed quantities. The diversity of each country is depicted through independent variables. While, random effect model assumes unobserved variables are uncorrelated and it is preferred if the individual specific effects are random. In order to decide which model is more suitable to the data, Durbin–Wu–Hausman test is employed. The next chapter reveals the statistics, results of the tests that are run on the model and the analysis of the model.

# CHAPTER 4

# RESULTS AND ANALYSIS

## 4.1 Descriptive statistics

The aim of the analysis is to explore the impact of anti-dumping duties on import volumes for the semi-finished synthetic yarn in Turkey. Stata 13 statistics software is used in the study. In order to observe the trade destruction and trade diversion effects, the data is analyzed for named countries, non-named countries and for these 12 export countries separately.

The summary of the data for named countries are described in Table 6. Since the unit price is calculated by dividing the total import value to the total imported amount from a country in a month, the price is undefined when there are no imports in the specified month. The provisional anti-dumping duties for China, Malaysia and Indonesia are defined as a payment per thousand kilograms imported. To fit in with the rest of the data, the percentages of the implemented duties to their total value is calculated per month. Additional duties for semi-finished synthetic yarn are applied in January 16$^{th}$, 2019 to China, India, Indonesia, Thailand, and Taiwan. Since the regulation was practiced in the middle of the month, the additional duties were assumed to be 2.5% in January and 5% for the rest.

Table 6. Descriptive Statistics of Variables of Named Countries

| Variable | Observation | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Import Volumes | 408 | 2609591 | 4569444 | 0 | 28005128 |
| Anti-dumping | 408 | .0365714 | .0544912 | 0 | .2068015 |
| Duty | 408 | .0342549 | .0129263 | 0 | .04 |
| Additional Duty | 408 | .0045956 | .0141949 | 0 | .05 |
| Unit Price | 330 | 1.924075 | 1.304801 | .9498821 | 8.90787 |
| Exchange Rate | 408 | .2844014 | .348316 | .000178 | 1.531483 |
| Market Share | 408 | .1610615 | .2482137 | 0 | .8746854 |
| dump1 | 408 | .0735294 | .261324 | 0 | 1 |
| dump2 | 408 | .1617647 | .3686869 | 0 | 1 |
| dump3 | 408 | .2058824 | .4048413 | 0 | 1 |

Table 7 summarizes the variables of non-named countries. Anti-dumping and additional duties are 0 for every observation. These two variables are excluded from the analysis in case of non-named countries. Due to free trade agreements with the EU and Korea, the regular duty other than anti-dumping duties is less for those non-named countries. The average unit price in non-named countries is much higher compared to the average unit price of named countries. This is probably the reason why named countries are predominant in the market.

Table 7. Descriptive Statistics of Variables of Non-Named Countries

| Variable | Observation | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Import Volumes | 408 | 99552.14 | 318867.5 | 0 | 2965745 |
| Anti-dumping | 408 | 0 | 0 | 0 | 0 |
| Duty | 408 | .0085392 | .0151381 | 0 | .04 |
| Additional Duty | 408 | 0 | 0 | 0 | 0 |
| Unit Price | 278 | 4.424187 | 7.070312 | .5933196 | 111.5 |
| Exchange Rate | 408 | 2.663294 | 2.163988 | .0000805 | 7.391328 |
| Market Share | 408 | .0055477 | .0165931 | 0 | .1325963 |
| dump1 | 408 | .0735294 | .261324 | 0 | 1 |
| dump2 | 408 | .1617647 | .3686869 | 0 | 1 |
| dump3 | 408 | .2058824 | .4048413 | 0 | 1 |

## 4.2 Regression results

In order to understand the effect of anti-dumping measures on the import volume for semi-finished synthetic yarn 3 regressions are performed. Regressions for all countries, named countries and non-named countries are tested. The heteroscedasticity is detected in the linear regression form. In this regard, the log linear forms are tested. The heteroscedasticity issue is solved by the log linear form in which import volumes, price, exchange rate and market share variables are transformed into their log forms. The Hausman test showed that the fixed effect is preferable compared to random effects in each of the regressions. The model questions whether the import volume is dependent to the size of duty, unit price, exchange rate and market share. Additionally, in order to

capture the impact of anti-dumping measures, anti-dumping and 3 dummy variables representing the investigation, provisional duty and final duty periods are added. The results for all 3 groups are given in Table 8.

Table 8. Fixed Effects Model Regression Results

| logimportvol | All Countries | | Named Countries | | Non-Named Countries | |
|---|---|---|---|---|---|---|
| | Coefficient | P>\|t\| | Coefficient | P>\|t\| | Coefficient | P>\|t\| |
| Anti-dumping | -.403451 (.3917) | 0.303 | .2505758 (.9266) | 0.787 | . | . |
| Duty | -7.273093 (1.79) | 0.000 | -8.67184 (1.942) | 0.000 | -6.808838 (5.044) | 0.178 |
| AddDuty | 5.737511 (1.169) | 0.000 | 7.530541 (1.227) | 0.000 | . | . |
| Logprice | -.0872864 (.0305) | 0.004 | -.1506977 (.0514) | 0.004 | -.0691448 (.0413) | 0.095 |
| Loger | .9755417 (.1001) | 0.000 | 1.158263 (.1203) | 0.000 | .7240696 (.1754) | 0.000 |
| Logms | .970896 (.0094) | 0.000 | .9659085 (.0169) | 0.000 | .9689478 (.0121) | 0.000 |
| Dump1 | .3297432 (.0491) | 0.000 | .2833698 (.0608) | 0.000 | .4036058 (.0797) | 0.000 |
| Dump2 | .0874809 (.0525) | 0.096 | -.0398896 (.1244) | 0.749 | .1700254 (.0762) | 0.026 |
| Dump3 | -.3069846 (.0737) | 0.000 | -.5781428 (.1122) | 0.000 | -.0681475 (.1211) | 0.574 |
| _cons | 18.32348 (.1974) | 0.000 | 19.57194 (.3154) | 0.000 | 16.29592 (.2195) | 0.000 |
| Observation | 608 | | 330 | | 278 | |
| R-squared | 0.9735 | | 0.9586 | | 0.9808 | |
| Adjusted $R^2$ | 0.9726 | | 0.9567 | | 0.9799 | |

*Standard errors in parenthesis.

The high R-squares of the model is taking attention and creates a suspicion about a spurious regression. However, the data is tested for stationarity. The tests such as Im–Pesaran–Shin, Breusch – Pagan and Skewness and Kurtosis are checked and the number of observations is higher than number of countries in the model, T>N which makes the GMM (Gaussian Mixture Model) unsuitable for the model. The existence of the dummy variables, market shares and exchange rates are believed to cause high degree of explanations in the model.

### 4.2.1 All countries in the test

According to the regression results above, the size of anti-dumping duties does not have clear significant impact on import volume when all of the exporter countries are pooled in the panel data. Yet, even if it is not significant, tests on data reveal probable negative effect of anti-dumping duties. When we analyze the dummy variables, we can observe that investigation period has positive impact on import volumes. This result contradicts the results of Staiger & Wolak's (1994) study that has found the import volumes is reduced during the investigation period. The harassment effect is not observed for semi-finished synthetic yarns; instead Turkey imported the product more before any duty against dumping is imposed.

Dump2 specifies the period when provisional duties which have higher rates than the final duties are imposed. There is no clear indication on the effect of imposing the provisional duties because it has lower significance p-value but still has a positive impact. On the other hand, dump3 dummy variable denotes the final duty period and it has negative effect on the import volumes of the said product. However, its coefficient

indicates that the negative trend on the import volume barely offsets the positive trend during the investigation period.

As expected, the import duties have negative effect on the import volume. Surprisingly, additional duties that were implemented on January 2019 did not make the same impact. A possible explanation might be related to the facts that additional duties are imposed to the countries that the market is dependent, and the data examines only the 8 months of its execution.

The unit price of semi-finished synthetic yarn is also statistically significant variable and evidently has negative impact on import volumes. Against the previous findings about the exchange rates, the data suggests that as Turkish Lira depreciated the import volume is increased. Turkish lira is highly depreciated against the other currencies from 2018 onwards. This depreciation does not seem to catch up with the demand growth for semi-finished synthetic yarns. It can be presumed that Turkey's macroeconomic situation would lead the domestic firms to incline towards the domestic producers and lessen the demand from foreign suppliers. However, neither the depreciation of Turkish Lira nor the imposed anti-dumping duties resulted with a cut on the import volumes.

The market share displays the dependency of Turkey to semi-finished synthetic yarn from the 12 countries examined. Obviously, their market share has positive impact on the import volumes.

### 4.2.2 Named countries

Size of the anti-dumping duties is insignificant in the model testing including only the countries that are imposed to anti-dumping duties. There is no harassment effect of anti-

dumping regulations during the investigation period. The import volumes from named countries did not decrease in this period, they actually went higher after the news of possible new anti-dumping duties. This might have happened because Turkish importers decided to stock the product before the duties are implemented instead of searching for new suppliers.

Dump2, which is the dummy variable referring the imposition of the provisional duties is insignificant but shows a negative impact of provisional duties on imported products from named countries. At the same time, the significant Dump3 which stands for the period where final duties are imposed shows that the import volumes from the named countries decrease. Anti-dumping duties has insignificant but positive effects being different than the case of all countries. The model might have failed to give a clear answer about the impacts of anti-dumping regulations because of the diverse reaction from the market. The market is highly dependent to these exporters. Although in time anti-dumping regulations have negative effects on imports, the first reaction of the market to expected regulations is likely to purchase more and stock the product.

For the other variables, data for named countries gives similar results to all countries. The import duties have negative impact on import volume. Additional duties have positive effect on import volumes. The additional duties are implemented on so many countries and to a wide range of products at the same time. Also, the market is highly dependent upon semi-finished synthetic yarns. Probable price increases of substitutes may lead the domestic consumers to buy semi-finished synthetic yarns. So that the impact of additional duties might come out positive. Unit price has negative effect while exchange rate and market share have positive effect on import volumes, unsurprisingly same with test including all countries.

### 4.2.3 Non-named countries

The anti-dumping duty is not imposed on non-named countries, but its impacts can be observed through dummy variables. Dummy variables which signify investigation period and provisional duty period have significant positive coefficients. Compared to provisional duties, antidumping duties were reduced during the final duty period. The market must have given a mixed reaction to this change since the dummy variable for this period gives insignificant results. Overall, imposing anti-dumping duties on named countries are increasing the import volume from non-named countries. We can observe the trade diversion effect of anti-dumping duties in the semi-finished synthetic yarn market in Turkey.

Duty variable does not have significant p value. Price variable, however, has a significant p value. Although it is not possible derive a clear conclusion, the unit price has negative impact on the import volumes. Similar with all countries and named countries results, exchange rate variable depicts import volume is increased with the depreciating Turkish Lira. Even though market is more dependent to named countries compared to non-named countries, it is still evident that the market share has positive effect on import volumes.

## 4.3 The case of Vietnam

Vietnam is one of the top exporters of the textiles and clothing articles in the world. Extension of Vietnam's fast-growing textile industry into Turkish market is challenged by several anti-dumping cases. One of these cases is for the semi-finished synthetic yarns that is examined in this study. Vietnam is excluded from the study because the product is imported from Vietnam only for several months in 2017.

The anti-dumping investigation for the semi-finished synthetic yarn was initiated following the complaint that the anti-dumping duties against synthetic yarn (HS code 5402.33) are not effective due to rise in domestic firms' imports of semi-finished yarn (HS Code 540346). The anti-dumping duties for semi-finished synthetic yarn was imposed with the provisional duties for every country that was already subjected to anti-dumping measures against synthetic yarn. The highest amount of provisional duties implemented for semi-finished synthetic yarn with the rate of 36.28% was against Vietnam. As it was imposed in August 2017, the trade completely stopped. As seen in Table 9, Turkey has imported the product from Vietnam for only 6 months from 2014 to 2019. The trade in was over as soon as it is started.

Table 9. Turkey's Monthly Import Volumes of Semi-Finished Synthetic Yarn from Vietnam (KG)

| Date | Import Volumes |
|---|---|
| Jan.2017 | 21,600 |
| Febr.2017 | 25,872 |
| March.2017 | 77,616 |
| May.2017 | 51,744 |
| June.2017 | 77,448 |
| July.2017 | 149,940 |

Source: International Trade Statistics of Turkish Statistical Institute (TÜİK)

This is not the only case that anti-dumping duties have reduced the imported volume from the targeted country. The anti-dumping duty for synthetic yarn is imposed against

Vietnam in November 2016. Table 10 summarizes the import volumes of the said products from Vietnam during the 5 years period between 2014 and 2019. Following the imposition of anti-dumping duties in November 2016, the import volumes of synthetic yarn immensely dropped. As suspected, this might have driven the domestic importers to import semi-finished synthetic yarn instead in 2017. However, with the imposition of anti-dumping duties, the imports have ceased.

Table 10. The Import Volumes of Synthetic Yarn of Turkey from Vietnam

| HS Code | Description | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|
| 5402.33 | Synthetic Yarn | 50,004,860 | 37,404,225 | 21,713,366 | 77,314 | 21,524 | 23,227 |
| 5402.46 | Semi-finished Synthetic Yarn | 0 | 0 | 0 | 404,220 | 0 | 0 |

Source: International Trade Statistics of Turkish Statistical Institute (TÜİK)

The reason of the market's grand reaction to the anti-dumping measures against Vietnam compared to other countries is the size of the anti-dumping duties. The anti-dumping duties for synthetic yarn against the Vietnamese firms are given in Table 11. Changing between 34.81% - 72.56% of anti-dumping duties are generating a huge cost to import from Vietnam. Analyzing 12 countries, the study has not found a significance of the size of anti-dumping duties. Yet, the trade destruction effect of anti-dumping duties is strongly and significantly observable for Vietnam. In this respect, as an outlier case Vietnam is excluded from the data in the model testing.

Table 11. Anti-Dumping Duties Against HS Code 5402.33 for Vietnam

| | |
|---|---|
| Hualon Corporation Vietnam | 35.97% |
| Formosa Industries Corporation | 36.22% |
| Century Synthetic Fiber Corporation | 34.81% |
| PetroVietnam Petrochemical and Textile Fiber Joint Stock Company | 68.98% |
| Other Firms | 72.56% |

Source: Turkey - Legal Gazette (Notice Reference Number: 2016/40)

## 4.4 The impact on Turkish domestic industry

Since the semi-finished synthetic yarn is used as a raw material in textile industry, it is not easy to make a conclusion on how domestic producers are affected through the export growth rate. In the last 10 years, the global export value of yarn only experienced slight fluctuations. Turkey's share in the global yarn exports grew from 3% in 2011 to 3.8% in 2019 (ITHIB, 2019). Although it did not improve much since the implementation of anti-dumping duties in 2017 to 2019. So, it is not possible to claim that anti-dumping duties helped the yarn exports of Turkey grow.

Analyzing the export growth of only the synthetic filament yarn gives a more positive outcome. Table 12 displays the change in export value of synthetic filament yarn by Turkey and the world over the years. The export growth rates of Turkey are generally paralleled by the export growth rate of the world. However, after the implementation of the anti-dumping duties between the years 2018-2019, the exports of synthetic filament yarn of Turkey have grown while the global demand got lower.

Table 12. List of Exported Value and Growth to the World of the Product: 5402 Synthetic Filament Yarn

| Total Exported Value, US Dollar thousand | | | Exported Growth in Value | | |
|---|---|---|---|---|---|
| | Turkey | World | | Turkey | World |
| 2014 | 632,976 | 18,010,029 | 2013-2014 | 6% | 2% |
| 2015 | 574,075 | 15,904,492 | 2014-2015 | -9% | -12% |
| 2016 | 560,374 | 15,422,472 | 2015-2016 | -2% | -3% |
| 2017 | 605,166 | 16,242,163 | 2016-2017 | 8% | 5% |
| 2018 | 673,782 | 18,862,063 | 2017-2018 | 11% | 16% |
| 2019 | 687,131 | 17,543,125 | 2018-2019 | 2% | -7% |

Source: ITC Trade Map – June 2020

In spite of that, it is not possible to say the anti-dumping duties have positively affected the domestic industries. The sudden depreciation of Turkish Lira in 2018 has improved the demand for Turkish products. Due to cheaper prices, Turkey's exports of many manufactured goods have increased. The export growth of synthetic filament yarn is plausibly based on the depreciation of Turkish Lira.

After the implementation of the anti-dumping duties on synthetic yarn, administration made a query about their effectiveness. The firm Korteks reported that the measures were unable to reduce imports overall. However, they noticed a fall in imports from some of the named countries. Korteks positively noted that due to the anti-dumping regulations, Korteks increased their production capacity and R&D investments.

They revealed their concerns about that the other domestic firms will be injured or stop their production if these measures would be removed. In this respect, they prompted the continuation of the measures.

# CHAPTER 5

# DISCUSSION AND THE CONCLUSION

## 5.1 Discussion

The objective of the research is to find answers relating to antidumping duties. The primary question is, do anti-dumping duties truly decrease the imports from the named countries. The results indicate that the anti-dumping duties did little to affect the market. After the initial reaction, the import volumes have returned to its normal degree with continuous growth. The market for semi-finished synthetic yarn is highly dependent on the named countries. Rational of the results is perhaps the domestic production simply does not have the capacity to fulfill the demand for the product. Or it can be because the domestic production cost is much higher than the anti-dumping duty rates can compensate their prices for. The domestic producers could not find much place for growth following the implementation of anti-dumping duties.

The second question is, if there is a trade diversion effect that would lead to an increase in the import volume from non-named countries. Much like the similar researches, the results reveal the anti-dumping duties increase the volume imported from the other countries that it has not applied. Anti-dumping duties are applied against the counterparties that charges less for their exports compared to their home country. The official authorities determine a rate to subdue the possible injury that it can cause to its domestic industry. However, the anti-dumping duties still might not protect the domestic industry against the competition from other countries. And, the price might not be the only factor effecting the purchasing decision.

The third question was, if only the initiation of an anti-dumping investigation can influence the import volumes. Staiger & Wolak's (1994) research showed that the anti-dumping petition reduces the import volumes even before the duties were applied. However, thesis shows that the import volumes increased during the investigation period for semi-finished synthetic yarn. The reason might be the same for other two findings. The highly dependent market was not ready to replace their suppliers. Instead of searching for new suppliers, the importers seemed to store for later since semi-finished synthetic yarn can be stocked. That also explains the reduction in volume in the first months following the initiation of the duties. After the first months, we can observe the import volumes have returned to its usual amounts.

In the research a period of 5 years is analyzed. It is not a long period, however, prolonging this period would prevent observing the direct effect of anti-dumping, due to change of economic factors. The data had heteroscedasticity and to overcome this issue, log values of some of the variables are used. Because of this, it is not possible to comment on percentage change in import volumes during this period. The research can be improved if the percentage rates of how each value was affected could be given for each period. Results only depicts if anti-dumping duties had positive and negative impacts on import volumes.

Following this research, a future study can analyze firm-based data to inspect how the trade cost created by the anti-dumping duties impact the small, medium and large exporting firms. The country level data that is studied in this research do not answer who is harmed the most from the cost of anti-dumping duties. With this additional trade cost, if the smaller firms are put into more disadvantageous positions compared to larger firms should be investigated.

The Turkish textile industry is highly protected with anti-dumping duties. A throughout research including all these anti-dumping duties and how they impact the sector collectively needs to be researched as well. Because most of the anti-dumping duties are implemented for a long time, the sector is shaped according to them. I believe this research's results also show how the sector is accustom to these duties.

## 5.2 Conclusion

The purpose of the research is to investigate the impact of anti-dumping duties for a distinct case. It examines the impact of the anti-dumping duties on semi-finished synthetic yarn in Turkey. Empirical study contributes the literature by analyzing the product-based effects of anti-dumping in a less explored country.

Previous researches, Staiger and Wolak (1994), Prusa (1997, 2001) and Carter and Gunning-Trant (2010) found the anti-dumping duties reduced the imports considerably in the US. Whereas, Egger and Nelson (2011) found it lessened a slight bit. Similarly, the researches that was done in the EU also found import volumes were reduced following the anti-dumping duties. (Messerlin, 1989; Lasagni, 2000; Konings, Vandenbussche and Springael, 2001). In this research, however, the results indicate that the import volume is not affected by the anti-dumping duty rates.

Trade diversion effect of anti-dumping duties that is observed in many studies is also present here. Prusa's (1997) study found even though import volumes were significantly reduced from the named countries, the total imports of the concerning product were increased due to trade diversion. For semi-finished synthetic yarn, the anti-dumping duties were not significant but, the import volumes from non-named countries and in total are increased. Against the Staiger & Wolak's (1994) research, starting an

anti-dumping investigation has increased the total import volumes being specific to the imported product. Provisional duties increased the import volumes from non-named countries but, they were insignificant for named countries.

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