



Hacettepe University
Graduate School Of Social Sciences
Department Of Economies

**THE IMPACTS OF TRANSATLANTIC TRADE AND INVESTMENT
PARTNERSHIP (TTIP) INITIATIVE ON TURKEY'S FOREIGN TRADE**

Şerife Duygu TURANLI

Master's Thesis

Ankara, 2019

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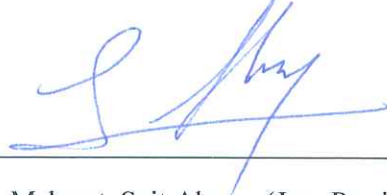
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ACCEPTANCE AND APPROVAL

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ETİK BEYAN

Bu çalışmadaki bütün bilgi ve belgeleri akademik kurallar çerçevesinde elde ettiğimi, görsel, işitsel ve yazılı tüm bilgi ve sonuçları bilimsel ahlak kurallarına uygun olarak sunduğumu, kullandığım verilerde herhangi bir tahrifat yapmadığımı, yararlandığım kaynaklara bilimsel normlara uygun olarak atıfta bulunduğumu, tezimin kaynak gösterilen durumlar dışında özgün olduğunu, **Prof. Dr. Arzu Akkoyunlu Wigley** danışmanlığında tarafımdan üretildiğini ve Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Yazım Yönergesine göre yazıldığını beyan ederim.

Şerife Duygu Turanlı

ÖZET

Turanlı, Şerife Duygu. *Transatlantik Ticaret ve Yatırım İnisiyatifinin Türkiye'nin Dış Ticareti Üzerine Etkileri*, Yüksek Lisans Tezi, Ankara, (2019).

Bu çalışmanın amacı, ABD ve AB arasındaki Transatlantik Ticaret ve Yatırım Ortaklığı (TTIP/TTYO) üzerine yapılmış çalışmalar göz önünde bulundurularak, Türkiye'nin dış ticareti üzerindeki etkilerini ölçmeyi amaçlamaktadır. TTYO'unun amacı, ticaret engellerini kaldırarak AB ve ABD arasındaki ticareti geliştirmektir. Amerika Birleşik Devletleri ve Avrupa Birliği arasındaki TTYO inisiyatifinin, üçüncü ülkelere etkisi çok önemlidir. Özellikle AB ile Gümrük Birliği olan Türkiye için çok önemlidir. Bu çalışmada farklı senaryolar altında TTYO'nun Türkiye'nin imalat sanayi sektörleri ithalat ve ihracatı üzerindeki etkileri Dünya Bankası, SMART modeli kullanılarak tahmin edilmektedir. Çalışma sonuçlarına göre, anlaşma dışında olmanın ve anlaşmaya katılmanın Türkiye'ye farklı etkileri vardır. Çalışmanın sonuçları, Türkiye'nin AB ve ABD arasında kurulacak bir Serbest Ticaret Anlaşması'na taraf olduğu durumda en yüksek kazancı elde edeceği buna karşılık anlaşmadan dışlandığı durumda ticaret sapması etkisi nedeniyle refah kaybına uğrayacağı sonucuna oluşmaktadır.

Anahtar Sözcükler

TTIP, Türkiye, imalat sanayi, kısmi denge analizi, SMART model

ABSTRACT

Turanlı, Şerife Duygu. *The Impacts of Transatlantic Trade and Investment Partnership (TTIP) Initiative on Turkey's Foreign Trade*, Master's Thesis, Ankara, [2019].

The aim of this study is to analyze the Transatlantic Trade and Investment Partnership (TTIP) on Turkey's foreign trade. The aim of the TTIP is to remove all trade barriers in order to develop trade relationship between European Union (EU) and United States (US). TTIP will also have very important impacts of TTIP on third countries. These impacts are especially important for Turkey due to the Customs Union (CU) between Turkey and the EU. In this study, the effects of TTIP on exports and imports of Turkish manufacturing industry sectors are examined by using the SMART model of the World Bank. Our study points out that the effects of TTIP on Turkey depends on whether Turkey is included or not. Our results show that Turkey will benefit most if becomes a partner of Free Trade Agreement (FTA) between the US and the EU. However, if Turkey excluded from the FTA welfare will decrease mostly due to the trade deflection effect.

Keywords

TTIP, Turkey, manufacturing industry, partial equilibrium analysis, SMART model

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LIST OF ABBREVIATIONS

CCT: Common Custom Tariff

CEPR: Center for Economic Policy Research

CU: Customs Union

EU: European Union

FTA: Free Trade Agreement

GATT: General Agreement on Tariffs and Trade

IFO: Information and Forshung (Research)

MFN: Most Favoured Nation

NAFTA: North American Free Trade Agreement

NTBs: Non Tariff Barriers

ROW: Rest of the World

TTIP: Transatlantic Trade and Investment Partnership

TURKSTAT: Turkish Statistical Institute

US: The United States

WITS: World Integrated Trade Solutions

WTO: World Trade Organization

INTRODUCTION

Economic integration, which aims to remove the trade barriers in foreign trade between countries, has shown a rapid development over time. The aim of economic integration is to reduce any kind of costs related to trade for customers and producers, and this, in turn, is believed to benefit the economy of target countries that arises from economic integration.

There is notable increase in the number of preferential trade agreements (PTAs) in last years. Event though the non-discrimination among trading partners is one of the important basis of the WTO, PTAs, are exemptions and authorized under the WTO. PTAs have progressed dramatically in recent years, especially since the 1990s (Low, 2015). The number trading agreements was 50 in 1990 and this number reached to 291 in 2019 (WTO, 2018 and World Bank 2018). While the number of PTAs is increasing, the nature of the PTAs is also chancing as well. Today, PTAs covers not only tariff and other border measures elimination mostly in goods like in the earlier PTAs but also different areas related to trade in services as well as and investment in goods and services. In other words, the so-called “deep” PTAs covers “behind-the border-regulations”. These initiatives, which are also called new generation agreements are not only about classic trade barriers like customs duty and some non-tariff measures like tariff quotas, quantity restrictions and trade protection measures but also includes comprehensive arrangements about investment, regulatory issues, digital trade which is called beyond the border. Due to trade relations developed in the 21st century, regional trade agreements began to cover many issues that were not previously seen as directly related to trade and focus on trade, services and investments (Global Relations Forum, 2018).

Accordingly, “mega-regional” agreements have emerged as a current trend over the years. TTIP, the Transpacific Partnership (TPP) and the Regional

Comprehensive Economic Partnership (RCEP) are the three mega agreement regulatory reforms (Akman et al. 2015).

In line with mega-regional agreements, the US and the EU started negotiations for a mutual trade agreement that is called the Transatlantic Trade and Investment Partnership (TTIP). Although TTIP is an attempt to form free trade agreement between the US and the EU, it is considered as a mega economic agreement. Like the other mega-regional agreements main focus of TTIP is also a non-tariff barriers and targets to enhance market access for products, facilities and public investment by removing non-tariff barriers and improving regulatory coordination. TTIP negotiations have been canceled by Trump administration. However, as it is stated by Beesley and Donnan (2017), countries do not want to cancel existing agreements completely, and consider the costs of moving away from platforms that will bring new rules and regulations in trade (Beesley and Donnan, 2017). Therefore, there might be a revival of the TTIP initiative in the future.

Studies examining the likely effects of TTIP show that the EU and the US will gain economically from positive impacts of trade agreement (Erixon and Bauer, 2010; Barker and Workman, 2013; CEPR, 2013; Akhtar and Jones, 2013; European Commission Report, 2014; ECORSY, 2017). Since Turkey established a CU (CU) with the EU in 1996, TTIP has direct effect on the Turkey's foreign trade irrespective of whether Turkey will be a part of the agreement or not. EU is Turkey's most important trade partner, accounting for 36% of imports and 50% of exports in 2018 (Turkish Statistical Institute). Similarly, US is one of the important trading partners of Turkey. US was the fifth most important export and fourth most important import destination for Turkey in 2018 (Turkish Statistical Institute).

Because of these reasons, there are studies that investigate the likely effects of TTIP on Turkish economy (Boyras, 2015; Kirisci, 2013; Akman et al. 2015; Akman, 2014; Akman, 2013; Aran, 2015). However, empirical researches that

have studies the effects of TTIP on Turkey's foreign trade are limited and they mostly have used the general equilibrium approach. As we now, there is no study that analyses the effects of this agreement on Turkey's foreign trade at sectoral level by using the partial equilibrium method. In order to fill this gap partially, the aim of this study is to estimate the potential impacts of TTIP on exports and imports of the Turkey's manufacturing industry sectors by using a partial equilibrium analysis. The main advantage of partial equilibrium approach is to enable to study at a very disaggregated level and therefore eliminates the aggregation bias that most general equilibrium studies suffers. The other advantage of partial equilibrium analysis over the general equilibrium analysis is that it requires less data than general equilibrium analysis. Additionally, partial equilibrium model also enables to determine the welfare effects as well.¹

With that purpose World Bank, SMART model of the World Integrated Trade Solution (WITS) is applied to nine manufacturing industry (manufacturing of food, beverages and tobacco industries, textile, wearing apparel and leather industries, manufacture of wood and wood products including furniture industries ,manufacture of paper and paper products industries, printing and publishing industries, manufacture of chemicals and chemical, petroleum, coal, rubber, plastic products industries, manufacture of non-metallic mineral products, except products of petroleum and coal industries, basic metal industries ,manufacture of fabricated metal products, machinery and equipment industries ,other manufacturing industries) at International Standard Industrial Classification (ISIC) Rev. 2 (ISIC Rev.2) classification for the year 2017. As far as we know there is no study using the SMART model of the World Integrated Trade Solution, which makes this study different from the existing studies on Turkey.

¹<https://wits.worldbank.org/wits/wits/witshelp/Content/SMART/Rationale%20for%20Partial%20Equilibrium.htm>

This study consists of four chapters. In Chapter 1, in order to provide a theoretical background, types of economic integration as well as the effects of economic integration are presented. Chapter 2 is a brief overview of the empirical studies that consider the impact of TTIP on the US, the EU and Turkey. After a brief introduction of the TTIP initiative, Chapter 2 examines the empirical studies analyzing the impacts of TTIP on US, EU and Turkey. Chapter 3 presents briefly the Turkey-US and Turkey-EU economic relationship.

Chapter 4 of the study aims at measuring the impacts of this agreement on Turkey's foreign trade at sectoral level by using the partial equilibrium approach. In Chapter 4, the findings of the quantitative estimates of the impacts of TTIP on Turkey's manufacturing trade are presented. The impacts of TTIP on Turkey's trade are evaluated at two different scenarios. First scenario assumes that the US and the EU will establish an FTA and Turkey will also be a member of this FTA. Under this scenario, there is an FTA between the EU and the US and Turkey will also be a part of this FTA. Following the existing empirical literature on the effects of TTIP on US and the EU, it is assumed that US and Turkey will eliminate all custom duties applied on each other's trade.

In the second scenario, we assume that the US and the EU will establish an FTA but this time Turkey will be excluded from this agreement and the US-Turkey trade will continue under status quo. Under the first scenario, the US and the EU will establish an FTA and Turkey will also be a member of this FTA. This requires the mutual removal of tariffs on each other's trade. Under this assumption, Turkey's export from the US and the EU are expected to increase firstly due to the income increase caused by TTIP. In order to quantify the effects of the income increase of EU and the US on Turkey's exports, income elasticities approach will be used. Secondly, removal of tariffs of the US on Turkey's trade also means that Turkish export products will be relatively cheaper in the US market; hence, it will create further increase in exports. The effects of the price decrease caused by the elimination of tariffs on the sectoral exports are calculated by using the SMART model. After estimating the effects

on Turkey's exports for manufacturing industry at sectoral level by the help of the income and price effects, the effects of TTIP under first scenario on Turkey's import at sectoral level will also be calculated. Removal of bilateral tariffs between Turkish-US trade also means that Turkey's imports from US will increase as a result of Turkey's elimination of tariff. In order to predict the elimination of tariffs on the sectoral imports, partial equilibrium approach is applied by using the SMART model.

SMART model enables us not only to estimate the trade but also the welfare impacts of trade liberalization. Therefore, under Scenario 1, welfare effects, tariff revenue as well as consumer surplus changes for Turkey and US will be presented in this chapter. Second scenario examines the likely trade effects of TTIP under the assumption that Turkey does not become a partner in the Free Trade Agreement (FTA) between the US and EU. In the conclusion chapter, we will briefly evaluate the results of the study.

CHAPTER 1

ECONOMIC INTEGRATION

In the first part of the chapter, we present the history of economic integration briefly. Secondly, we discuss the classification of the economic integration with the distinction of the traditional classification of the economic integration as well as the mega-regional agreements. In the last part of the chapter, effects of economic integration and empirical studies focusing on the economic integration will be examined.²

1.1. HISTORY OF ECONOMIC INTEGRATION

In the past, the world has gone to be united since institutions, technology remove the barriers in front of the mobility of goods, capital, and labour (Peretto, 2003). The process of globalization has rendered an integrated world inevitable. Various mechanisms including social, institutional, political, individual as well as economic have been under change through this journey. Although it is impossible to consider these factors separate from one another, economic cooperation has a crucial place in shaping world. Because of a better understanding the integrated world we live in, there is immense need for more academic research understanding and explaining the effects of economic integration. The main goal of economic integration is to reduce the any kind of costs related to trade for customers and producers, and this, in turn, is believed that it will increase the welfare of the member countries.

Although the regional economic integration is a very common phenomenon now, the history of economic integration can be traced back to very long time

² Empirical studies focusing on the effects of TTIP will be discussed in the next chapter of the study.

years previously, explorers started a period of trade among far distances. This trade was advanced with the help of improving European ship and navigation technology. Many products such as sugar, tobacco, tea, silk and the auspices of the Dutch and English trade companies (Bernanka, 2006) shipped various metals intercontinentally. Further, global economic integration experienced another jump with the end of the Napoleonic Wars in 1815. In this post-Napoleonic era, the flow of cross-border financial capital and labour increased significantly. The driving force behind this increase was the technological advances such as steam power, which decreased transportation cost, and telegraph which decreased communication cost.

In 19th century, governments supported openness in the trade by lowering their barriers to trade, especially in Europe. The belief in this era was that importing and exporting goods are not vain; rather, it is beneficial to everyone involved in the system regardless of their roles (Bernanka, 2006).

On the other hand, there was also increasing domestic protest against open trade policies of governments in European countries because the landowners in the core were not happy about the flowing of cheaper products from periphery countries. As a result, many countries, except Britain, raised tariffs. Unlike other European countries, Britain did not yield to protectionist protests and passed a legislation, which allowed goods to be stamped with the country of origin. Later in 20th century, politic confrontations and battles affect the progress on economic integration. This worsening situation, however, led to more integration in the post-war era. Accordingly, the major powers adopted important roles to rebuild the flow of international trade and monetary systems (Bernanka, 2006).

In addition, new powers emerge, one of them is the US became among core countries. Post-war economic integration was supported by both technological and political factors. As such, advances in communication and transportation technologies lower the costs and caused more products to be traded internationally. Similarly, tariff that was increased in the Great Depression

period was lowered again. However, countries were still sceptical about opening their borders for international trade, recalling the financial crisis during the Great Depression. Therefore, some adopted regulations aiming to control the flow of international goods to some extent. Further, economic integration in the Western countries was regarded as a tactic to fight the Cold War (McCarthy, 2006).

Some consistent patterns can be readily observed throughout the historical evolution of global economic integration. First, technological advances expand international trade and market by lowering the transaction costs such as communication and transportation. Second, open international trade might increase nationalist protectionist movements within the country. However, England's trade approach even in the 19th century stands as a counter-example to this case. This is because Britain encouraged free trade and free capital flow even in the protectionist era of Western countries, and this, in return, served to increase the level of international economic integration (Baldwin et al. 2006).

Today, the world seems to be more integrated in any aspects of life including social, diplomatic, and commercial. Global free trade was advocated by round of negotiations. On the other hand, there has been an increase in the number of regional trading agreements especially in the recent years. The number trading agreements was 50 in 1990 and this number reached to 280 in 2017.³ Whereas the number of PTAs has been increasing, the nature of the PTAs also changing as well. Today, unlike the traditional classification of the economic integration PTAs cover not only tariff and other border measures elimination mostly in goods like in the earlier PTAs but also different areas related to trade and investment in goods and services. In other words, the so-called "deep" PTAs covers behind-the-border regulations like, government procurement rules.

³<https://www.worldbank.org/en/topic/regional-integration/brief/regional-trade-agreements>

1.2. TYPES OF ECONOMIC INTEGRATIONS AND CHANGING NATURE OF PTAs

Initiatives, which are also called new generation agreements are not only about traditional trade barriers such as customs duty and some non-tariff barriers such as tariff quotas, quantity restrictions and trade protection measures but also includes comprehensive arrangements about investment, regulatory issues, digital trade which is called beyond the border. Following the traditional classification of economic integration, we will focus on the changing nature of PTAs within the context of the mega-regional agreements.

1.2.1. Traditional Classification of Economic Integration

Balassa provides one of the most accepted definitions of the economic integration concept (Balassa, 1994). Moreover, the author pays attention to the difference between cooperation and integration. While cooperation is an attempt to lessen discrimination, integration includes a process to suppress some forms of discrimination. It should be considered that economic cooperation does not mean a one-level concept. As such, Balassa (1994) provides a five-stage model of integration as following.

A) Free Trade Agreement (FTA): It stands for the abolition of tariffs between the participating countries while maintaining their own tariffs against non-members (Balassa, 1994). Free trade agreements, in general terms, aim to reduce the barriers to trade (i.e. tariffs imposed on trade) among trade partner by increasing flow goods of services among the members. However, this level of integration does not encompass the flow of labour and capital (Balassa, 1994). A free trade agreement might be of three kinds: one or two sided, many-sided. Accordingly, unilateral agreement is only one country imposes trade restrictions while no other country opts for same regulations. One might question whether there might be a case where one country loosens its trade

restriction unilaterally. This sort of restriction is not very common since it is disadvantageous for the country. However, this can be seen in pursuit of foreign aid done by the US or other developed countries. As for bilateral free trade agreements, two countries decide to loosen their trade restriction in order to expand the trade between two. These agreements mostly focus on key domestic industries. Concerned goods mostly revolve around the sectors of automotive, oil and food. The TTIP has signed by US and EU is considered as most extensive free trade agreement in world, negotiation for this agreement is still underway. Lastly, multilateral free trade agreements consist of at least three countries. Since it includes more countries, coming to some terms among the participants might be very difficult in the initial negotiation process. As more participants are involved, more difficult, the negotiation will be. On the other hand, they cover a larger geographic region than of unilateral and bilateral trade agreements; therefore, they are considered more powerful in trade. (NAFTA) is known as leading multilateral agreement, involving United States, Canada, and Mexico. Moreover, there was a larger multilateral agreement underway called, but the US administration withdrew from the negotiation in 2017.

B) Customs Union (CU): A CU is a free trade agreement with a common external tariff to the third countries. A CU is a higher form of economic integration than a simple free trade agreement. In a CU, when a good is exported to a country in a CU, the exporter country makes only one payment for the determined tariff (duty), then the goods can move freely within the union after they pass the borders of union (Balassa, 1961).

On the other hand, economic impacts of CU are often measured by trade creation and sum of trade diversion impacts. The CU between Turkey and the EU entered force in 1996 is an example of CUs. It should be noted that while Turkey has a CU agreement with EU, Turkey is not included in the EU's single market. After joining the CU, Turkey turns into EU's fifth main trade partner. In meantime, the Turkey's vital ally is EU, making up about 41 percent of Turkey's international trade (Vesterby and Akman, 2017).

C) Common Market: The members are allowed for the free movements of commodities labors and capital. In common market, duty-free and tax obstacles are also diminished in terms of developing trade with easier transferring products, labour. A common market might also require additional rules and harmonization in micro-level economic policies among the member countries. (CAP) in the EU serve as good examples of regulations targeting specific key industries and products (Baldwin and Venables, 1995).

Common market is considered as first movement toward establishing single area. It should be noted that not all common markets achieve to be a single market. In that sense, the EU is an epitome of establishing of a single market (Balassa, 1961). In a free area, of the EU, people, goods, services, and capital can move freely as they are allowed to do in a single country.

D) Economic and Monetary Union: This arrangement provides a single market where all tariffs and constraints on goods and factors of production are removed. Monetary union aims at creating a single currency area and the national exchange rates are irrevocably fixed. It also requires single central bank to implement single monetary policy. The EU was established in 1993 with the members engaging the Maastricht agreement. In that sense, the EU cooperates on social and financial policies and has a common currency (Balassa, 1961).

E) Political Union (called total economic integration by Balassa): It is the most advanced level of integration where there is a central authority above the members and accepts the unification of monetary, fiscal, social, and policies (Balassa,1994). It is considered the last stage of integration process. It should be noted that political union do not necessarily exclude national policies. Rather, national policies continue to exist in the line of provisions of accepted common institutions. There are some arguments that the EU also is heading toward a political union while there are still doubts as to what kind of a political

union the EU is planning to adopt (Dullien and Torreblanca, 2012). On the other hand, it is known that the EU has common political values such as the understanding of individual sovereignty (Dullien and Torreblanca, 2012).

Another type of integration called Preferential Trade Agreement (PTA) can be added to the Balassa's list. In this integration type, while there is no general reduction on internal tariffs or a common external tariff, tariffs between the members are reduced only for some goods or services. It is also possible to see unilateral agreement in this form of economic integration. The Table 1 below summarizes the differences and similarities of various types of economic integration mentioned by Balassa based on some common features.

Table 1: Types and Characteristics of Economic Integration

Level of Integration	The Removal of Tariffs on Intraregional Trade	Common External Tariff Against (ROW)	Free Movements of Labour and Capital	Coordination of Economic Policies and Harmonization of Standards
PTA	X	-	-	-
Free Trade Area (FTA)	X	-	-	-
CU	X		-	-
Custom Market	X	X	X	-
Economic and Monetary Union	X	X	X	
Political Union	X	X	X	X

Source: Hrvoje Jošić and Mislav Jošić (2013)

Baldwin and Venables (1995) compare the FTAs and CUs from the point of economic impacts on member nations. According to author, the basic difference between them is that while FTA country puts out tariff, a CU country has fixed out trade policy with the other members has two economic implications. First, it requires the adjustment of regulations, which aims to make stop trade only the less -tax countries and allows transferring products originated in FTA. Rules of origin does not allow for re-export of goods. Therefore, it is believed to have welfare cost for the countries (Baldwin and Venables, 1995; Krueger, 1997). Second, a CU requires joint decision making for trade policies while a free trade is more flexible (Baldwin and Venables, 1995). This allows countries in a FTA to arrange their tariffs and external trade more flexibly than countries in a CU based on their profit expectation. Richardson (1993) argues that this is the reason why most regional economic integrations consist of free trade agreements (FTA) instead of CUs.

On the other hand, Baldwin and Venables (1995) have different categorization for the levels of economic integration comparing to Balassa (1994). Baldwin states that regional integration agreements provide geographically discriminatory policies and shape trade world trade and economies around the world (Baldwin and Venables, 1995).

Therefore, Baldwin calls scholars` attention on to the effect of regional agreements, and the author talks about three very common kinds of national cooperation: FTA, CU, common market (CM), as opposed to Balassa`s five level categorizations. Baldwin further explains the differences among these three regional agreements. Accordingly, the author states the nuance a free economic collaboration and custom alliance as that while the former does not require the members to have a fixed trade policy with non-members, the countries participating in the latter regulate economic policies with excluding partner same way. On other hand, common market lets the flow products, labors, facilities freely among members. Although the literature provides distinct definitions of three kinds, the variety of rules and arrangements goes beyond

the defined structures (De Torre and Kelly,1992). Moreover, some have argued that not all functions of these integrations are fully implemented by the members in some cases (De Torre and Kelly,1992). Therefore, it is safe to assume that the inclusion and exclusion of services, or to what extent the members regulate tariffs might be different from case to case.

Baldwin and Venables (1995) put great emphasis on regional integration agreements, especially on Europe and North America are the two largest examples around the world. Accordingly, in 1965, Canada and the US signed an agreement, which allows easy exchange in the vehicle sector. Economic association between Canada and the US went further and eliminated barriers very commodities. This, in return, helped them liberalize rules covering foreign investment. In 1993, with participation of the Mexico, the FTA between Canada and the US turned into a FTA in North American FTA (NAFTA). The new FTA signed by three countries (the US, Canada, and Mexico) provided a free trade of manufacturing products eliminating restrictions on direct venture (Baldwin and Venables, 1995).

Another large regional integration is the EU, and it started earlier than the integration in the North America and went much further (Baldwin, 1994). In 1968, the European Community (EC) finalized its common market integration. Later 1974, all EC and EFTA countries signed bilateral agreement, which is some sort of de facto duty-free zone covering the region (Baldwin and Venables, 1995).

1.2.2. The Changing Nature of the PTAs

World economy and trade relations went through many important changes in recent years. Today, production processes have become a complex structure with indolent of many nations. It is important the fragmentation of production namely the increasing specializing in the production of stages of a good through Global Value Chains (GVCs) for trade. In this vertical specialization process, the

production stages of certain products in different countries enabled the increase of intermediate goods trade between countries, while increasing the global demand for final products by decreasing production costs (Global Relations Forum, 2018). Accordingly, vertical specialization increased the world trade volume. Secondly, global free trade was advocated by round of negotiations by GATT and later by World Trade Organization (WTO). Due to the reduced trade barriers especially customs tariffs, world trade has increased to a great extent (Global Relations Forum, 2018).

Despite these developments, The Doha Round, which begun in 2001 under the WTO could not be concluded for years. The US, the EU and China started to seek new strategies and new ways of negotiating for this happening. This period of uncertainty in global trade, which is called as “new normal” casts a doubt on the future of the global trade system. Additionally, trend of protectionism has increased since the 2008 crisis, particularly in developed countries (WTO, 2017).

As a recent year development, world face to a period that is called trade wars. Trade wars have become increasingly controversial issue, because other countries have also taken counter-measures following the practices followed by the US and targeting specific trade partners (Global Relations Forum, 2018). Because of these developments, effectiveness of international organizations especially the WTO in regulating the global trade system is beginning to be questioned.

Therefore, challenges in the Doha Round are one of the main reasons of the search for PTAs and Trans-Atlantic partnership. There was no agreement on liberalization and market access in agriculture and in non-agricultural products and in service trade and it has not provided possible to develop new rules, especially in the EU and partly in the US (Global Relations Forum, 2018).

Another reason for the search for PTAs is to eliminate the threat from China's increasing competitiveness. In particular, "the US has tried to protect for itself its Transatlantic relationship in the competition against China on the other hand safeguarding through TPP negotiations in the pre-Trump period" (European Commission, 2016).

These conditions have led the EU and the US to determine their trade relations through regional and bilateral trade agreements that include non-tariff barriers and regulatory areas with the countries they seem important to them without completely abandoning the WTO system. With the Global European Trade Strategy, the EU has started comprehensive agreements with countries that have high market potential due to its economic size and growth rate but also, they have with high protectionism. These agreements are also designed to include advanced liberalization of services trade and investments (Global Relations Forum, 2018).

"Mega-regional" agreements have appeared as a current trend over the years (Akman et al. 2015). These initiatives not only about traditionally trade barriers such as customs duty and some non-tariff barriers such as tariff quotas, quantity restrictions and trade protection measures but also these incentives include comprehensive arrangements about investment, regulatory issues, digital trade which is called beyond the border. Due to trade relations developed in the 21st century, regional trade agreements began to cover many issues that were not previously seen as directly related to trade, but which focus on trade-services-investments regional trade agreements have been negotiated by major economies and trade volume in the world has brought a different aspect to the issue. It can be said that economies, which have a predominant role in the global trade system, do not merely initiate such initiatives for market access or developing preferential trade, but also try to regulate many policy areas for trade and economic relations with new rules (Global Relations Forum, 2018).

TTIP, the Transpacific Partnership (TPP) and the Regional Comprehensive Economic Partnership (RCEP) are the three mega agreements regulatory

reforms adopted by countries are also not fundamentally discriminatory as opposed to tariff preferences (Akman et al. 2015). Low (2015) states that these mega agreements changed the existing trade relations and at the same time increased the concerns on multilateralism.

In the next section, we will firstly analyze the types of economic integration as well as the changing nature of RTAs. Within this context, we will analyze characteristics of the “deep” RTAs. Then we will provide an overview of empirical literature on the suggested impacts of economic integration.

1.3. THE IMPACTS OF ECONOMIC INTEGRATION

There are many studies interested in analyzing the impacts of various kind of economic integration on member states. Existing literature on economic integration is filled with mixed results when it comes to explaining impacts of economic collaboration on member countries. Curiosity over the impacts of economic incorporation started in 1960s with the foundation of the European Community dismantling trade barriers, and it has later evolved into common external tariffs, building an economic union.

Viner first explained the theory of CUs in 1950. Then, many others (Meade, 1955; Lipsey, 1957) have modified and extended his work. Viner (1950) argues that CUs and free trade areas do not necessarily enhance the welfare; it may, however, lesser global economic welfare depending on trade creation and diversion effects.

Much endeavor has given to explain the impacts of CUs as a type of economic integration, because not only it is a common form of integration but also due to scholars` interests to explain how EU would turn out and how effective it has been. In the extant literature, possible impacts of CUs are static and dynamic effects. Whereas former focuses possible benefits alliance, the latter takes

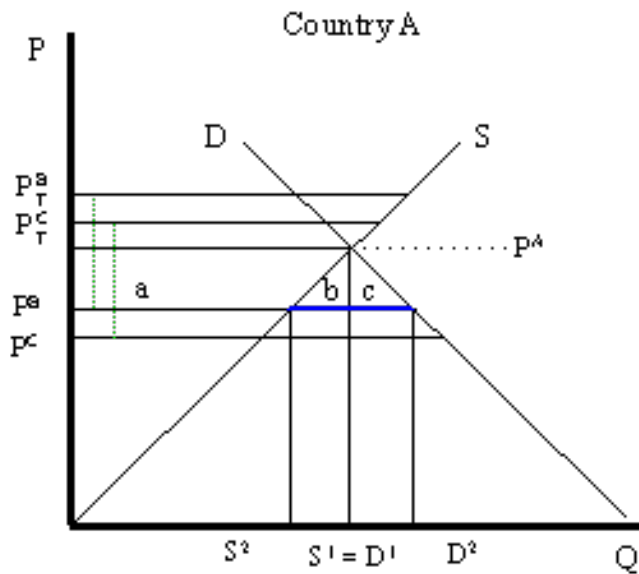
other issues such as changed economic conditions and trade environment into consideration (Marinov, 2014).

1.3.1. Static Effects

The static effect of economic integrations is interested in explaining how the establishment of a CU affects welfare. Jacob Viner (1950) describes as trade creation, trade diversion its impacts. Simply, trade creation affects stand for substitution of exclusive local manufacturing from low-cost production member states moving, more expensive supplier to less expensive supplier and rising revenue in partner nations. Trade diversion means transferring of low-cost manufacturing non-member states from high-price manufacturing a member state.

In the meantime, Viner (1950) argues that trade diverting diminishes the welfare since it causes a shift of trade from less expensive seller in excluding nations partner more expensive seller partner countries. The static effects may be better comprehended in simple illustration, inspired by the illustration in the study of Peiris et al. (2012). On the other hand, while subsequent works by Meade (1955) and Lipsey (1957) appreciate the study of Viner, they attempt to modify the argument. Accordingly, Meade argues that a CU might raises the level of trade under the trade diversion, when requirement is enabled to be much flexible. In the same line with Meade, Lipsey (1957) also argues that trade diversion does not result in the reduction of income gain. Author states that Viner had focused on the production effect but ignored consumption side impact. The consumption effect increases the consumption of products in member nations and causes the replacement of goods among members.

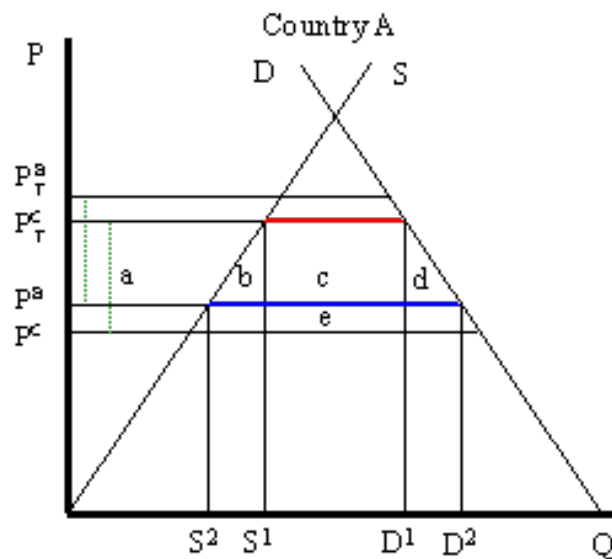
Figure 1: Diagram of Trade Creation



Source: Suranovic (2010)

The Figure 1 above illustrates that while it symbolizes the price from country B for free trade supply, P_C represents the price from country C. It is assumed in this chart that country C can supply the product cheaper in respect to B. Also, country A applies same tariffs in trade others. After adding tariffs, the rates raise. Green dotted lines illustrate that the tariffs for both B and C are equal. P_A , showing the price of product in country a, shows that P_T^B and P_T^C are higher than domestic supply price. Therefore, in this case, the product will not import the product, but supply it domestically at the cost $S^1 = D^1$. In another scenario, supposing two of nations establish collaboration and eliminate trade barrier bilaterally. With the new assumption, the prices equal to P_B and P_T^C . As a result, P_B is lower than P_A , and P_T^C is higher than P_A . Therefore, nations one can buy good nations b with blue line representing the new import ($D^2 - S^2$). Overall, the area ($a + b + c$) represents the consumer surplus in country A (importing country), showing that consumers in country A benefit from tariff removed trade between nations one and two. However, producers' surplus would be equal to $-a$, indicating that producers in country A suffer from free trade. Moreover, nations' aggregate gains of nations would be calculated as $b + c$, by adding the gains and losses ($a + b + c - a$).

Figure 2: Diagram of Trade Diversion



Source: Suranovic (2010)

The Figure 2 above, illustrates a trade diversion impact of a FTA country A. The same assumptions with Graph 1 are applied in this case as well. It is seen that nations one can buy goods county three, no iniating any trade nation two. In this sense, the red line represents the expected imports ($D^1 - S^1$), which also yields to initial tariff revenue of “ $c + e$ ”. In this case, trade can escalate. Therefore, initial trade (between A and C) will be diverted to a further effective provider (B) in the condition of signing agreement nation one and two.

A (importing country), showing that consumers in country A benefit from tariff removed trade between nations one and two. However, producers' surplus would be equal to “ $-a$ ”, indicating that producers in country A suffer from free trade between countries. Also, the government revenue is equal to “ $-(c + e)$ ” due to the losses of tariff revenues that it initially collected from the trade with country C. Moreover, the aggregate welfare of the country would be calculated as “ $(b + d) - e$ ”, by adding all the gains and losses in the country.

It is important to note that above illustrations are drawn on one county with simple assumptions of supply and demand relationships among the countries.

However, there are many countries in the market. Therefore, one country may form many FTAs with different countries, while some of which yields to trade diversion, others might bring about trade creation effects. In this case, the simple expectation is that the national welfare will increase when the TC gains are more than TD losses for nations (Suranovic, 2010). Moreover, when talking about increasing welfare. In this sense, Viner's analysis of CUs simply relies on the static gains which is result of the removal of tariffs among members. However, this approach pays no attention CU's dynamic impacts on developing trade.

1.3.2. Dynamic Effects

The effects of economic integration other than trade, such effectiveness, high-tech progress, sharing reserve, capital spending are considered as dynamic effects (El Agra, 2004). Balassa (1961) raised economic integration's dynamic impacts. In 1960s, it is understood by some scholars that static explanation that focuses on the allocation of resource was not sufficient to understand the reason why a CU or a FTA is formed (Marinov, 2014). Therefore, Balassa introduced a new instrument (the analysis of dynamic effects) to analyze how economic integration influence the welfare. Viner's (1950) analysis of CU focuses on the static effects (due to the abolition tariffs among members) but paid no attention dynamic effects CU on welfare. One of the main underlying arguments in dynamic theory is that competitiveness emerged out of free trade affects the efficiency of production and consumption on the global market as well as in a single country (Marinov 2014). For instance, market extension, which is not a concern of the static explanations, is one of the most obvious dynamic consequences of a CU. Due to a CU, efficient producers reach out to the national trade area for all partner nations.

As a consequence, inefficient producers start losing the national market and might eventually exit from the market. However, without a CU, producers' accesses to other nations are blocked by trade restrictions. Therefore, a CU

enables firms to accomplish economies of scale. In this sense, Balassa's new dynamic approach toward the effect of economic integration on welfare encompasses various considerations including technological changes, rivalry, efficiency, insecurity, financing, and so forth (Marinov, 2014). According to Balassa (1961), there are four criteria to measure the economic welfare emerged out of integration:

- 1) An alteration of product number
- 2) Elimination of discrepancy national and external commodities
- 3) A reallocation of revenue among nations
- 4) Revenue allocations for singular nation's. However, third and fourth criteria measure the welfare effects of economic distribution (Peiris et al. 2012). On the other hand, Schiff and Winters (1998) define the economic integration's dynamic influences as medium and sustained economic development of partners in an integration agreement.

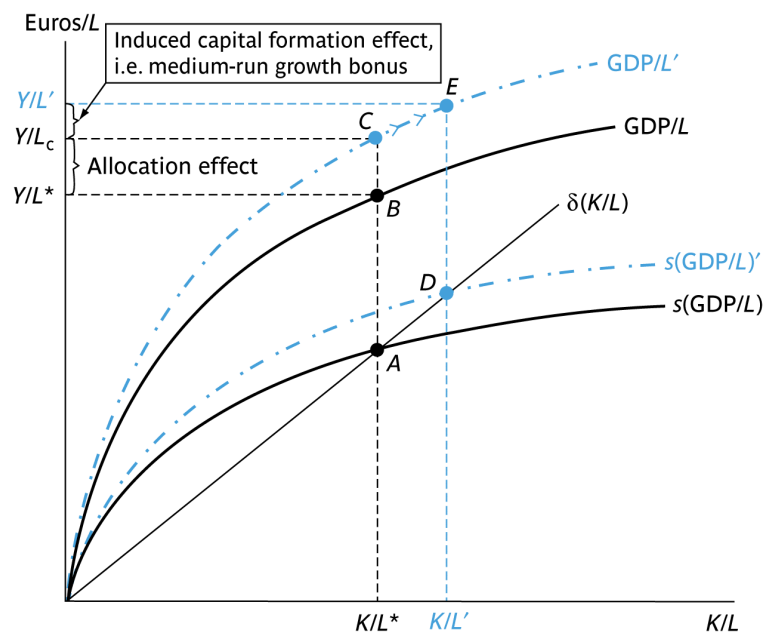
The literature can be divided as static theory and dynamic theory of CUs. Hosny (2013) points to this division by calling Viner's static theory old decentralization whereas naming dynamic impacts "new localization". Regardless, scholars on number of aspects criticize two approaches.

Accordingly, Lawrence (1997, as cited in Marinov (2014)) states that static theory fails to explain the changing conditions in the world by not considering issues; for example, these issues are business enterprise, facilities. Besides, dynamic theory has been criticized by its lack of reliable quantitative measurements (Marinov, 2014).

The analysis of European integration presents utmost importance to understand the dynamic effects of integration. This is because European leaders have long focused on the growth effect, which takes human, physical, knowledge capital into consideration (Baldwin and Wyplosz, 2009). This is quite a different path from the analysis of allocation of resources. In this sense, the growth effect is classified as: economic integration's medium-run and long-run growth impacts. While former focuses on induced physical capital formation. Simply, the logic of

development medium, long period is follows: the more goods are produced, the investment in material, human investment, know-how increase as well, and this, in turn, leads to the overall growth under these three categories. In a symbolical illustration, medium-term growth effects of economic integration can be explained by Solow growth model in Figure 3.

Figure 3: Medium-run Growth Effects



Source: Baldwin and Wyplosz (2009)

EU is considered as a single economy with free movement of labours and capitals across the members who have the same level of technology. This means when workers are provided with more equipment. However, proportion with equipment per worker does not rise; it is seen from the concave curve of the GDP/L (Baldwin and Wyplosz, 2009).

On the other hand, the equilibrium K/L (capital/labor) ratio shows that it is assumed in Solow's diagram individuals keep, capitalize their earnings annually, because of flow of investment means segment into GDP (Baldwin and Wyplosz, 2009).

The figure above illustrates that economic integration advances the efficiency of the European economy by leading to the member for effective reserve sharing in Europe. That affirmative sharing impact, in return leads to the movement of the GDP/L bend. Additionally, the alteration observed in the curve also caused an alteration in the saving curve as constant saving value gives rise to a great amount of production. As a result, it generates greater amount of investment flow considering the present K/L (Baldwin and Wyplosz, 2009). In this sense, the Euro is thought to have made easier and safer to invest in EU (Baldwin and Wyplosz, 2009). When “s”, showing the investment rate in the above diagram, is raised to s' , $s(\text{GDP/L})$, indicating the inflow of capital. The EU accession, therefore, provide a natural experiment to analyze the Solow’s medium-term growth effects of European integration. This is because such countries experience a sudden increase after joining the EU (Baldwin and Wyplosz, 2009).

1.4. EMPIRICAL STUDIES FOCUSING ON THE EFFECTS OF ECONOMIC INTEGRATION

The empirical literature on the effects of economic integration provides us mixed results. Accordingly, while some have highlighted the positive effects of integrations on countries (Badinger, 2005), others have been more concerned about the downsides of integration (Grossman and Helpman, 1997). On the other hand, Landau (1995) finds no significant effect of being a member of the European Commission on growth.

Many scholars have gathered around the idea that economic integration is beneficial to the countries. Badinger’s study (2005), in this matter, pays attention to the well-known fact that the latter of era is formed increasing level of both regional and global integration. Badinger is interested especially in the development of EU within and outside the Europe. Accordingly, the author believes that the development of the EU reflects the effects of both regional and global integration.

Badinger sees GATT as a many-sided agreement that helps adjust foreign economic relationships as a main indicator of global integration, he argues that it brought about a reduction in the EU members' harmonized external tariff. Accordingly, while the harmonized external tariff was about 17 percent among the EU members in 1968, it went down to 3.6 percent in 2000 (Badinger, 2005). In the meantime, the number of members in the EU has risen over time, and the members have established a single market (Badinger, 2005).

Another support for the positive effect of economic integration comes from the study of Rivera-Batiz and Romer (1990) indicating that developed economies and integration can pave the way for worldwide growth. The authors focus on the effect of the research and development sector on growth, and they argue that integration will bring about growth in the long-run. Another research shows that FTA provides advantages for global economic activity (Baier, 2007).

Conventional wisdom suggests that the more integrated countries are, which allow the flow of all goods, ideas, and labor across regions, the wealthier they get. However, this assumption needs to be tested with proper data, which allows a long enough time to observe as well. Andrei (2012) argues that we are just at the beginning of economic integration, and it is still very early to talk about its positive and negative endings. Andrei implies that the world will become more integrated.

On the other hand, Richardson (1995) argues that joint decision-making might be beneficial to the countries in some certain scenarios. For instance, if the members of a CU have similar external trade patterns, the members will gain more than they will gain from the decisions set by an FTA. Moreover, "hub and spoke" type of relationship might occur in FTAs. For instance, the US, which is part of NAFTA, has bilateral FTAs with Israel (Baldwin and Venables, 1995). In these cases, the hub nation benefits more than the spoke nations (Kowalczyk and Wonnacott, 1992).

Krugman (1993) has suggested the same argument about “hub and spoke” system. He argues that there is an imperfect competition in the market, and company is placed in the focal point in order to reach customers comparing to the spoke. This will, in return, lead the hub to have more industries and higher wages than the spoke.

When it comes question impact a national economic cooperation on non-member nations, Baldwin and Venables (1995) argue that if the integration is limited to a relatively small region and there is a perfect competition in the region, the integration will not have a significant effect outside the region. However, if the regional economic integration paves the way for imperfect competition and causes product shifting, there might be negative effect of the integration for the rest of world. As a general conclusion about regional economic integrations, Baldwin and Venables (1995) argue that regional integrations provide the participants with improved welfare, but they might have negative spill over effects for the non-members although this effect would be small.

Since our study’s purpose is to analyze TTIP’s effects on Turkey’s trade, in the next chapter we will first introduce the TTIP in a historical context and focus on the empirical literature analyzing TTIP’s impacts on US, EU, and third parties include Turkey.

CHAPTER 2

TRANSATLANTIC TRADE AND INVESTMENT PARTNERSHIP

It has been discussed the literature on economic integration and its effects on countries as well as the findings of the empirical research on this subject. Although there has been much research for this matter, the literature lacks knowledge on the effect of (TTIP) sets trade integration US and the EU. Since this study's purpose is to examine the effects of mega trade agreement on Turkey's trade with a comprehensive exploration of the existing literature on the likely impacts of TTIP. To present a clearer picture of the literature, this section consists of four sections. First section introduces the TTIP initiative, its scope, and the history of the negotiation process. Second, it discusses what the existing research foresees about the impact of TTIP member countries. Next, the literatures on the possible impacts of TTIP on third countries are discussed. Lastly, a particular attention is given to the studies focusing on the effects of TTIP on Turkey.

2.1. TTIP INITIATIVE

In line with mega-regional agreements that we examined in the previous chapter, the US has started to focus on PTAs without withdrawing the WTO negotiations. These are the Trans-Pacific Partnership (TPP), which includes 11 Pacific countries and the Transatlantic TTIP initiatives with 28 EU countries (European Commission, 2016).

The road that has led to TTIP can be traced back to 1990s when the European Community (EC) and the US signed a Transatlantic Declaration aiming to

initiate a transatlantic trade-oriented friendship. This attempt was followed by the Transatlantic Business Dialogue (TABD), which consists of business people to create pressure on both sides to a more comprehensive partnership. Then, dialogues between the US and the EU continued, bringing about the creation of intercontinental trade alliance, later intercontinental economic association. Conclusions of this communication leads to the initiation of negotiations for deeper FTA between the US - EU in 2013 (Ioana, 2016).

TTIP is the comprehensive trade, investment partnership process that was planned to be signed between EU and US. The first round of negotiations was held to discuss the rules of the transatlantic agreement. It was held between 7-12 July 2013 in Washington DC. Finally, the 15th round of talks was held on October 3-7, 2016 in New York (Palyoş and Sandalcılar, 2017). Thus, the first step for establishing partnership in order to strengthen trade and investment relations was taken in this meeting. In this context, a High Level Working Group on Growth and Employment has formed to carry out the necessary issue for the partnership between the EU and the US. Then, on February 13, 2013, the EU and the US announced that negotiations between the TTIP would begin and deals' aim is to be completed within two years (European Commission, 2016).

The goal of TTIP is simply to lower the trade barrier to zero between the US and the EU to encourage investment and in turn boost the economic growth of two allies. It is considered as mega economic agreement with a comprehensive agenda including deep trade liberalization between two powerful economies (Lopez, 2015). Moreover, the agreement is believed to set the global standards after its implementation, considering its competitiveness and capacity around the world (Lopez, 2015).

TTIP that represents a change of US trade policy from multilateralism to mega-regionalism has significant expected gains. First of all, The TTIP is expected to apply to regulatory procedures.

With this perspective, “it will enhance international cooperation of trade concerns, ultimately modernizing the global trade structure by embracing innovative ideas which may ultimately “multilateralized” in the WTO” (Braga, 2015).

The negotiations aimed to eliminate the problems of the existing trade system. The main goals of the TTIP are to reduce tariffs, prevent trade obstacles, adjustment of standards and regulation, removing NTBs, reaching of global economic aim (Holmes et al. 2013).

In other words, TTIP targets to enhance market access for products, facilities and public investment by removing non-tariff barriers and improving regulatory coordination. Since non-tariff barriers and regulatory differences make it difficult to market access and significantly increase the cost of production (Francois et al. 2013), non-tariff barriers, rather than tariffs, has been the main topic in TTIP's main negotiations. Therefore, the abolition or harmonization of existing restrictive internal regulations, especially financial services (banking and insurance), communication and transportation sectors, construction services and commercial services, are the basis of TTIP negotiations. The services sector constitutes an important part of the national income of the EU and the US. However, the failure to complete the Doha negotiations has prevented the arrangements in the service sector. Liberalization in the service sectors, on the other hand, is required the parties to make significant internal arrangements and regulations (Global Relations Forum, 2018).

TTIP's main benefit is considered elimination of technical barriers in areas related to trade in the domestic markets. However, in the negotiation process, comprehensive negotiations on the elimination of these barriers could not be carried out due to the strong attitude of conflict groups and the independent regulatory institutions on both sides. For example, trade in food products has been canceled by regulatory differences in health and labeling standards. The

fact that one of Trump's first presidential actions is to withdraw from the TPP agreement does not lose the importance of the issues contained in the agreement and the issues discussed in the negotiations (Global Relations Forum, 2018).

However, TTIP's targets are not limited to the above mentioned aims, TTIP also aims to set regulatory rules on intellectual property rights the ecosystem, labor, e-trade, standardization (Jones et al. 2013, Timini et al. 2014).

Digital commerce; environmental standards; labor laws; child labor and workplace health and safety; and new issues that are not directly related to trade, such as anti-corruption and data protection. The US may be willing to bring such issues to the agenda in the negotiations of the new generation trade agreements (Global Relations Forum, 2018).

Through TTIP, it is aimed to establish common rules for the protection of the intellectual property rights of both parties against third countries. Rather than an absolute harmonization in this area, priority was given to identifying differences. With respect to public procurement, it has been aimed at increasing transparency and preventing the necessity of using domestic goods in the negotiations. Another important aim is to regulate the area between investment and trade. Since the internal regulations of many EU countries put restrictions on foreign investors, this topic becomes an important issue. The mechanism of settlement of disputes between foreign investors and the state: In the areas of mega-agreement initiatives, the most important issues in the negotiations are the arrangements for dealing with possible problems between the foreign investors and the state with the arbitration committee. In short, ISDS (Investor-State Dispute Settlement), the issue of resolving disputes may arise between the government and foreign investors, has been one of the negotiation part in which the most serious opposition to the TTIP has arisen in public opinion (Global Relations Forum, 2018).

It should not be overlooked that the TPP, which was recently completed but withdrew from the US as a result of President Trump's trading strategy. As for the TTIP, there is no clear opposition, but the negotiations have been canceled. In addition, the reactions to free trade and trade agreements in both the US and Europe have challenged these agreements. It is seen that such reactions are reflected in the regulated -policy of politicians (Global Relations Forum, 2018).

In spite of this challenging situation of world trade and protectionist practices, it is understood that countries do not want to cancel existing agreements completely, and consider the costs of moving away from platforms that will bring new rules and regulations in trade (Beesley and Donnan, 2017). US Trade Secretary W. Ross stated on 23 April 2017 that “they did not withdraw from the TTIP negotiations and that it was beneficial to continue negotiations with the EU” (Beesley and Donnan, 2017).

2.2. ECONOMIC IMPACTS OF TTIP ON THE US AND THE EU

The existing literature on TTIP largely concentrates on the impacts on US and EU economies. Studies show that both the EU and the US will benefit from possible positive economic impacts of trade agreement in a great deal (Erixon and Bauer, 2010; Barker and Workman, 2013; CEPR, 2013; Akhtar and Jones, 2013; European Commission Report, 2014; ECORSY, 2017).

ECORYS (2009) explains the potential trade influence of trade liberalization, concerning non-tariff measures and investment between countries. ECORYS used variety of quantitative and qualitative methods (i.e. literature reviews, business surveys, econometric estimations of effects of duty free actions concerning level harmonization of these measures). The research was essentially based on business surveys from the firms of different sectors in both the US and the EU. By doing so, levels of restrictiveness were created through these surveys and checked against OECD (2007, 2009) restrictiveness indicators.

ECORYS (2009) applies two main scenarios in deeper integration and integration scenario. While in deeper integration assumes that 50 percent of NTBs and regulatory divergences will be abolished, limited scenario, which the study considered to be more realistic one, and takes 25 percent elimination in NTBs. The results of study are as summarized in the Table 2 below. For this study, time period covers between 2008 and 2018 which allows for investigation of both the US`s and EU`s economies for 10 year period; it is believed to be long enough to observe the effects of regulatory alignments on economy.

Table 2: Summary of Macroeconomic Modifications Following NTBs Eliminations and Adjustments

	Deeper Integration Situation- Short Run	Deeper Integration Situation- Long Run	Integration– Short Run	Integration- Long Run
Income, billion (\$)				
US	24.7	53.0	10.1	23.8
EU	59.7	158.0	19.4	53.6
Real Income, changes in per cent				
	0.13	0.28	0.05	0.13
EU	0.27	0.72	0.11	0.32
Real household income, changes in per cent				
United States	0.16	0.31	0.07	0.14
EU	0.32	0.79	0.14	0.35
Real wages, changes in per cent (unskilled labor)				
US	0.24	0.35	0.11	0.16
EU	0.40	0.82	0.17	0.36
Real wages, changes in per cent (skilled labor)				
US	0.26	0.38	0.11	0.17
EU	0.36	0.78	0.16	0.34
exports, changes in per cent				
US	6.12	6.06	2.72	2.68

EU	1.69	2.07	0.74	0.91
Ratio of imports, changes in per cent				
US	3.97	3.93	1.76	1.74
EU	1.63	2.00	0.72	0.88
Terms of trade, changes in per cent				
US	-0.15	-0.23	-0.06	-0.10
EU	0.11	0.07	0.05	0.03

Source: ECORYS (2009)

Above results indicate that real income of EU and US will increase \$158 and \$53 billion, respectively, in long term under ambitious scenarios while under limited scenario, the numbers will be \$53.6 billion and \$23.8 billion, respectively. As for the methodology, the study uses in the aim of measurement impacts of NTBs on EU, US economical activity. Accordingly, how much of costs concerning trade and investment can be eliminated is calculated through the gravity analysis. However, since the nature of trade between EU and US is complex and inter-dependent, a possible change in NTBs might lead to different effects on different sectors. Therefore, the links among sectors are analyzed in computable general equilibrium (CGE) model (ECORYS, 2009, p.13).

However, the study by ECORYS (2009) did not consider the possible spill over impacts of bilateral trade liberalization and environmental concerns. In this regard, (CEPR) updated ECORYS (2009) study in 2013. Accordingly, relying on computable general equilibrium (CGE) estimates, the research examines possible impacts of tariff and non-preferential tariff obstacles, these evaluations are targeted at the predictable transformations in GDP and employment.

In CEPR (2013) research, different policy options are tested. There are limited and comprehensive scenarios, which differ in level of ambitions, taking into consideration in this research (see Table below). Accordingly, limited scenarios include the cases where policy options between the US and EU would cover tariffs only, services only, procurement only, or an agenda covering simultaneous tariff, procurement, and services. As for comprehensive scenarios, two options are suggested: less ambitious and ambitious scenarios. In the ambitious scenarios, tariffs removals are full in deeper integration, NTBs are eliminated 25%. Whereas in the less ambitious scenario, tariffs are eliminated as 98%, and NTBs decreases by 10%. The results of CEPR (2013) study point to positive and significant increase in the economies of both sides. More specifically, with a comprehensive agreement, it is expected EU's GDP will rise ranging 68.2, 119.2 billion euros, US's GDP will escalate from 49.5 and to 94.9 billion euros.

Instead, under scenarios where FTA was limited to tariff, services, or procurement only arrangements, significantly lower gains are estimated. The overall findings show that more comprehensive liberalization between two economies will bring greater benefits for both sides. Another main finding of CEPR (2013) is that the US, EU attempts to lower NTBs obstacle are critical to economical liberalization.

Table 3: Summary of Macroeconomic Estimated Effects by CEPR (2013)

	Tariffs Only	Services Only	Procurement Only	Less Ambitious	Ambitious
Change in GDP (in million euros)					
US	23.7	5.2	6.3	68.2	119.2
EU	9.4	7.3	1.8	49.5	94.9
Bilateral Exports (in million euros)					
EU to US	43.8	4.5	6.9	107.8	186.9
US to EU	53.7	2.8	3.4	100.9	159.1
Net Exports (in million euros)					
Extra- EU	43.7	5.7	7.1	125.2	219.9
US	57.3	5.4	5.9	142.1	239.5

Source: CEPR (2013)

Furthermore, CEPR (2013) argues that welfare growth is results of increase in trade and EU exports to US is expected to increase by 28 percent. Also, the research finds that increased level of economic activities between US, EU gains profit labour markets on earnings and employment lastly, the study asserts that such a comprehensive agreement would bring about significant impacts on CO2 releases maintainable consume of raw materials.

A recent study by ECORYS (2017) updates the results of CEPR (2013). The ECORYS report argues that many studies fail to concentrate on overall financial effects of TTIP for EU as a whole, since they focus on individual states in the EU. In addition, it uses the exact same methodology. Accordingly, ECORYS

(2017) extends the time period in CEPR (2013), The Table below compares the outcomes against original results of CEPR (2013) and ECORYS (2009).

Table 4: Macroeconomic Effects of TTIP Estimated by CEPR (2013) and ECORYS (2009)

Variable	Updated CEPR 2013 (ambitious)	Updated CEPR 2013 (less ambitious)	CEPR 2013 (ambitious)	CEPR 2013 (less ambitious)	ECORYS 2009 (ambitious)
GDP					
EU, %	0.5	0.3	0.5	0.3	0.7
US, %	0.4	0.2	0.4	0.2	0.3
EU (Euro)	-	-	119	68	122
US (Euro)	-	-	95	50	41
National income					
EU, %	0.3	0.2	0.4	0.3	-
US, %	0.3	0.2	0.3	0.2	-
EU (Euro)	-	-	86	48	-
US (billion Euros)	-	-	65	33	-
Household income					
EU, %	0.4	0.2	0.5	0.3	0.8
US, %	0.3	0.2	0.4	0.2	0.3
EU (billion Euros)	-	-	71	40	-
US (billion Euros)	-	-	68	30	-
Wages, less skilled					
EU, %	0.5	0.3	0.5	0.3	0.8
US, %	0.4	0.3	0.4	0.2	0.4

Wages, more skilled					
EU, %	0.5	0.3	0.5	0.3	0.8
US, %	0.3	0.2	0.4	0.2	0.4
Total Exports					
EU, %	8.2	4.6	5.9	3.4	2.1
US, %	11.3	7.2	8.0	4.8	6.1
Total imports					
EU, %	7.4	4.0	5.1	2.9	2.0
US, %	4.6	2.9	4.7	2.8	3.9
Bilateral Exports					
EU to US, %	27.0	15.3	28.0	16.2	-
US to EU, %	35.7	22.0	36.6	23.2	-
Terms of trade					
EU, %	0.5	0.3	0.0	0.0	0.1
US, %	-0.3	-0.2	-0.2	-0.1	-0.2

Source: (ECORYS, 2017)

Table 4 points out some significant key findings for updated CEPR 2013 results on the impact assessment of TTIP. First, it seems that domestic revenue is projected 0.3% greater for both US and EU yearly. Second, their income gains seem to be 0.5%, 0.4%, separately.

Third, in the EU, incomes are expected to increase 0.5% while US 0.3% increase income for qualified workers 0.4% increase unqualified employee are expected. Fourth, aggregate selling goods and imports augments the EU the US, being 8.2% growth EU's export 11.3% rises in US's exports and 7.4% rises in EU's import and 4.6% rises in US's import. Fifth, terms of trade are estimated to improve 0.5% for EU, it deteriorates 0.3% the US. Lastly, bilateral trade is estimated to go up significantly, with 27 percent grow in EU's selling goods to US and 35.7 percent enhance US's sending goods to EU. It also important to note that both CEPR (2013) and ECORYS (2017) examine the possible impact of

TTIP on various sectors and find that TTIP will influence all sectors at different level.

Moreover, Erixon and Bauer (2010) lays out the possible effects on the GDP, welfare, and the scholars calculate benefits in sustained period; they find positive results for both. Based on their estimated benefits for them authors make a conclusion that TTIP has substantive benefits for both sides.

However, Raza et al. (2016) approach the argument from a different perspective by using an alternative assessment of TTIP, it is highly plausible to expect benefits for both sides (the US and EU) from such an agreement; however, one also should question whether recruitment, allocation of earnings would be affected on nations and industries. To answer this question, they use a structuralist CGE-model instead of commonly used CGE models. Their findings show that the US's earnings are bigger when it is compared to the EU, and earning is not equal across European countries. Another finding of the study suggests a positive impact on recruitment US, EU, but negative for low skill labours. Moreover, according to the model, the scholars argue that countries, which are not part of TTIP, will be negatively affected.

On the other hand, despite the above-mentioned positive economic effects of TTIP, TTIP causes possible negative effects in Europe, such as food safety, the precautionary principle, and so forth. However, European Commission Report (2015) states that such concerns are not necessary because required cautions are being made by the rules available in the agreement.

According to CEPR (2013), EU will gain of maximum 0.48% income gain in integration and deeper integration conditions; US will gain maximum 0.39% income gains. This study applies two scenarios. In the condition of exclusion of Turkey from agreement, its welfare decreases about 4 billion dollars, when Turkey signes similar agreement with the US and it leads to increase its gains. Its participation helps to develop better welfare influence them. Aichele et al.

(2016) revised study showed that more ambitious scenario US will gain 0.5%, EU will gain 0.4% respectively.

CESifo (2014) claims that under the assumption of deep trade liberalization, welfare increases by 2.7%. Welfare in EU grows by 2.1% by with TTIP. Under the assumption of shallow TTIP agreement expected welfare gains are 2.1% for the US, 1.6% for the EU. Non-TTIP countries real income increases by 0.05%. GDP rises in EU by 0.5% and in US by 0.4%. Turkey's GDP increases by 0.1%. Turkey's export increase is higher than rising import. Therefore, the study shows impacts of TTIP are positive on Turkish economy.

Similarly, Francois et al. (2015) shows that EU's welfare is expected to grow with a comprehensive aggregate of 119.2 billion euros, US's grows to 94.9 billion euros (in integration and deeper integration. It is estimated to be 23.7 (0.10 percent) EU, 9.4% growth for the US under a FTA limited to tariff liberalization. The study observes TTIP's probable impacts. GDP is predicted to increase by 0.21% (less ambitious scenario) and 0.39% (more ambitious scenario) in the US, respectively. For EU, GDP increases 0.27% in less ambitious scenario and 0.48 more ambitious scenarios.

Center for Economic Policy Research (2013) reports agreement's impacts under different scenarios between EU-US. Results show that elimination tariffs bring to welfare increase for both of them. US's income increase is 0.16% under integration and 0.31% in deeper integration. For the EU's, GDP can increase by 0.37% in less ambitious and by 0.61% in more ambitious integration. Fontagné et al. (2013) shows that exports may increase by 2.1% in US and by 0.4% in EU under less ambitious scenario. Kinnman and Hagberg (2012) apply two different scenarios to calculate TTIP's impacts. One is more ambitious which includes average a 50% reduction in NTB and the other one is less ambitious scenarios, which means that almost 25% elimination NTB. As a result, reduction of all tariff leads to decrease in the costs on import, increase the demand for import in US and EU. Accordingly, US 's import increases between 0.24% and 0.51% and

EU will gain 0.12% and 0.22% in the integration and a deeper integration scenario.

Ecorys (2009) applies two scenarios one is a less ambitious scenario and the other is more ambitious scenario, which includes reducing all NTBs costs, full of tariff eliminated. US will gain of between 0.13% and 0.28% in the less and more ambitious scenarios; EU will gain of between 0.32% and 0.72%, respectively.

Like the above mentioned studies Felbermayr et al. (2014) also examines the impacts of TTIP in deep trade liberalization and shallow agreement. If there is deep trade liberalization, the US's welfare growth is 4.8%, EU's welfare growth is 3.4% as result of TTIP. Under the second scenario the expected welfare gains are 0.4% increase in real income for US and 0.3% for EU.

Fontaigne (2013) predicts that the US'S GDP increases by 0.3% (in both shallow agreement and deeper integration). For the EU, GDP increases by 0.2 in less ambitious scenario and by 0.3 more ambitious scenario. Table 5 summarizes results of the studies on the welfare gains attained by US and EU due to of TTIP.

Table 5: GDP Increase in US and EU due to TTIP

Welfare Gains	US%	EU%
Hufbauer et al. (2009)		
Less ambitious scenario	0.12	0.21
More ambitious scenario	0.96	0.98
Ecorys (2009)		
Less ambitious scenario	0.13	0.32
More ambitious scenario	0.28	0.72
Hufbauer et al. (2010).		
Less ambitious scenario	0.1	0.1
More ambitious scenario	0.4	0.3
Hagberg Kinmann (2012)		
Less ambitious scenario	0.24	0.12
More ambitious scenario	0.51	0.22
Fontaigne (2013)		
Less ambitious scenario	0.3	0.2
More ambitious scenario	0.3	0,3
Cepr (2013)		
Less ambitious scenario	0.16	0.37
More ambitious scenario	0.31	0.61
Francois et al. (2013)		
Less ambitious scenario	0.21	0.27
More ambitious scenario	0.39	0.48
Mavuş (2013)		
Less ambitious scenario	0.06	0.009
More ambitions scenario	0.30	0.28
Fontaigne (2013)		
Less ambitious scenario	0.3	0.2
More ambitious scenario	0.3	0,3
Felbermayr et al. (2014)		
Less ambitious scenario	0.41	0.32
More ambitious scenario	4.89	3.94
Cesifo (2014)		
Less ambitious scenario	2.1	1.57
More ambitious scenario	2.7	2.1
Francois (2015)		

Less ambitious scenario	0.21	0.27
More ambitious scenario	0.39	0.48
Aichele et al. (2016) revised		
More ambitious scenario	0.5	0.4
Less ambitious min	0.06	0.009
Less ambitious max	2.1	1.57
More ambitious min	0.20	0.07
More ambitious max	4.89	3.94

2.3. ECONOMIC IMPACTS OF TTIP ON THIRD PARTIES

However, a study by Bertelsmann Shifting (2013) argues that non-member countries will face a reduction in their per capita income if the TTIP negotiations end up as a trade agreement with only the eliminations of tariffs. However, other studies (CES ifo, 2014; ECORYS, 2017) argue that more inclusive and deeper integration cooperation will have positive impacts for both the EU and US. On the other hand, mixed results have been found by various studies as for the potential effects of TTIP on ROW. Although much research expects to see increasing in world's GDP and trade flow, they pay particular attention to the fact that these effects will not be equally distributed across the third countries and the sectors (CEPR, 2013; CES ifo, 2014; ECORYS, 2017).

Many studies argue that TTIP will have an effect on the participant countries as well as non-participants. However, the direction and intensity of this possible effect has remained puzzled. Particularly, while the idea that TTIP effects on the EU and the US positively it is supported by many studies, the answer of the question of how third countries will be influenced is not certain. ECORYS (2017) acknowledges that a thorough prediction for the effects of TTIP on third countries are not possible with the analysis of final terms to which the US and EU come on TTIP negotiation. However, the studies identify several main channels through which third countries may be affected.

The first channel that is emphasized in the literature is the trade diversion and preference erosion for the third countries caused as well as the difficulties faced by the third countries due to the regulatory procedures. TTIP will reduce their trade costs and this leads to trade diversion away ROW. This may bring the negative impacts on third countries since they will have to compete with producers EU and US because of less trade cost (ECORYS, 2017).

One of the reason is the trade erosion because of increase of US and EU's increasing competitiveness in each other market due to the TTIP. Another reason is the trade diversion resulting from asymmetries between countries (Ülgen, 2014). Felbermayr et al. (2015) indicates that TTIP may effect negatively other countries, which are excluded from agreement, especially with regard to regulatory cooperation and access to the market.

Similarly, Mattoo (2013) also attracts the attention to the difficulty in market access of excluded counties to US and EU and concludes exports of emerging countries, which are not included agreement decrease. These asymmetric impacts may emerge as emerging-country companies are harmed more by increasing rules strictness and benefiting less in incorporated markets.

Akman (2015) states that its consequences are ambiguous for third nations and the multilateral trading process. It is not simple to assess the effect on non-TTIP countries, as deals do not show predictable current strategy for minimizing any associated problems. It is evident, though. TTIP's worldwide concerns will be broader greater dangers and results of discriminatory effect; difficulties of regulatory requirements for intra- TTIP trade and decreasing of the chance of finding appropriate alternatives for problems of third parties. It is argued spillover benefits may make up for the damage caused by trade diversion (Ülgen, 2014). Liberalization and harmonization of non-tariff barriers may be other concern for outsiders. Such procedures, to the detriment of non-members, may cause trade diversion and it is detrimental for third counties which are

excluded from agreement. Nonmembers' goods face to TTIP's rules, norms, regulatory procedure, and intellectual property rights, it will be damage their economy.

Contrary to the studies emphasizing the trade erosion and trade diversion effects caused by TTIP on third parties, there are also studies focusing on the positive spillover effects caused by TTIP on third parties. Pelkman et al. (2014) states that TTIP is unusual because many NTBs are aimed to be reduced, mainly legislative and regulatory obstacles. Within this context, TTIP may cause spillover effects, including direct spillovers (MFN-based) and indirect spillovers (outsiders faces to lower obstacles to trade in TTIP region). Study emphasizes that direct positive spillovers may be caused by TTIP, it would postulate regulatory consideration of the alternatives in TTIP deals are related to MFN.

Indirect spillovers can also be available when other nations are deliberately adopting EU and US regulatory procedures or processes (TTIP). TTIP will result in further alignments on standards and regulations of products in the EU and the US. Therefore, producers from other nations does not need to abide different procedures since there will be only one procedure due to the TTIP. It can be beneficial for third countries if the mutual recognition will cover a wide range of products (ECORYS, 2017). Therefore, it creates a direct spill over effect that benefits both the insiders and the outsiders they enjoy less divergent conditions in the US and the EU markets (François, 2013; European Commission 2013, Baldwin 2011).

Hamilton and Pelkmans (2015) shows that spill over benefits can compensate trade diversion and preference erosion. Freytag et al. (2014) also points out that non-discriminatory regulatory system is beneficial in the world economic system because European members get an opportunity to establish requirements without discrimination toward third sides, because they are already employed and do not need to adapt to new values.

However, Akman (2015) and raised a concern about the alleged positive spillover effects on many grounds. TTIP negotiators do not give guarantees that regulatory obstacles are not going to be more rigid than those current ones. Third parties are worried that TTIP will effect by, growing rules and regulatory obstacles. TTIP is seen as “reinforcing the multilateral arrangement” in regulations, environmental regulations, intellectual property problems, export restrictions, localization initiatives. Furthermore, the effect of cost reductions and growing trade is obscured when TTIP is considered a political and economic power that is implementing global regulations that non-TTIP nations endure. The issues are enormous since it is uncertain TTIP initiatives will ultimately lead to 'reduced trade prices' for third parties.

Similarly, Felbermayr et al. 2014 asserts that spillover effects are unambiguous because of three reasons: supposing indirect spillover estimates have no reliable proof, TTIP is mainly depended on market access for products, in reality, less probability of regulatory integration; and direct acceptance of third-parties' goods on mutual acceptance has not been guaranteed.

Another channel that TTIP effects the third countries is the welfare increase in the US and EU caused by TTIP. Accordingly, TTIP will increase the welfare in participant countries, and this will increase demand for the third country goods. As a result, it will increase the production in the third countries (ECORYS, 2017).

One of the important studies that evaluate TTIP's impacts on the third countries is CEPR (2013) finds that if NTBs are non-discriminatorily reduced, this can bring positive influence ROW due to trade creation. In addition, the research suggests that the sectors, which are more likely to lose in terms of getting access to EU-US market, are agriculture, pharmaceuticals. Findings of research are summarized in Table 6 below:

Table 6: Total Impacts of TTIP on GDP of the Third Countries

	Integration		Deeper Integration	
	Million Euros	Per cent	Million Euros	Per cent
EU	68.2	0.2	119.2	0.4
US	49.5	0.2	94.9	0.3
Total Third Countries	46.6	0.1	99.1	0.1
<i>Whereof:</i>				
Other OECD, high income	15.9	0.1	36.3	0.1
Eastern Europe	1.1	0.1	2.3	0.3
Mediterranean	237	0.1	1.1	0.08
China	3.8	0.02	5.4	0.03
India	946	0.02	2.3	0.04
ASEAN	15.1	0.4	29.8	0.8
MERCOSUR	624	0.01	1.5	0.03
Low Income	1.06	0.09	2.3	0.2
Rest of World	7.9	0.05	17.8	0.1

Source: CEPR (2013)

As seen from the Table 6 above, the total gains ROW are expected almost 46.6 billion euros under less ambitious scenario, which corresponds to 0.07 percent increase in GDP. On the other hand, it seems that the total gains will be 99.171 billion euros which amounts to 0.14 percent increase in world's GDP. Moreover, a closer look at the Table 6 shows all nations goes through some increase in their welfare. Especially, this is more apparent in the ASEAN case. As seen from the Table, in ASEAN region, 15.1 billion euros 29.8 increase in GDP are expected, under less ambitious and ambitious scenarios respectively, which amounts to 0.45 and 0.89 percent increase, respectively. It, basically, means that ASEAN economies will benefit largely if there will a decrease in global trade costs due to the indirect spillovers effect (CEPR, 2013).

Moreover, CEPR (2013) study reports the expected changes in exports by regions, as summarized the Table 7 below. It is understood from the results that the primary effects are seen in the regions, which have FTA with either the US or EU. In addition, it can be concluded that the spillover effects are expected to increase the exports in rest of the world. Especially, it seems that this holds true for ASEAN. The reason, suggested by the study, is that ASEAN region is likely to see the greatest NTB reductions since it has greater GDP value.

Table 7: Exports Changes with Respect to Regions (2027 benchmark), %

	Limited Integration	Deeper Integration
EU	3.37	5.91
US	4.75	8.02
Total Third Countries	0.51	1.04
<i>Whereof:</i>		
Other OECD, high income	0.50	1.00
Eastern Europe	0.42	0.95
Mediterranean	0.28	0.59
China	0.47	0.96
India	0.43	0.94
ASEAN	1.17	2.31
MERCOSUR	0.47	0.97
Low Income	0.42	0.95
Rest of World	0.37	0.76

Source: CEPR (2013)

CESifo (2014) finds that average GDP will go up in the world, some excluding nations from agreement especially in East, Asia, are more likely to fail to benefit from TTIP. The study argues that this result will be because of the potential trade creation within TTIP. It finds that TTIP will benefit more those who lie across the Atlantic and its component regions.

Furthermore, the study by Brakman et al. (2015), finds that there will be an increase by 0.2% in total trade flows for third countries. The authors argue that changes in trade for third countries will not originate from change in the costs rather, because of possible impacts trade creation and trade diversion effects of TTIP. Also, they argue that income changes will be among primary reasons of changes in trade. Specifically, the authors expect trade creation for EU and US can grow the demand for products of African countries. They assert that next beneficiary of TTIP after African countries will be Turkey and Russia due to their close trade relationship with the EU. Also, the author put forward that nations gain more welfare and as suppliers for EU producers. On the other hand, the countries which have trade links to the US, such as Canada, Mexico, and Japan, is expected to experience a decrease in their total trade due to trade diversion effect since the US is expected to move its trade toward the EU. Contrary to these studies, Raza et al. (2016), relying on a structuralist CGE-model points out that countries which are not part of TTIP will be negatively affected.

2.4. EFFECTS OF TTIP ON TURKEY

Turkey is a key partner, which needs further considerations in case of such an agreement. This is because Turkey has been part of CU (CU) with the EU since 1996. As a member of the CU, Turkey is obliged to open its market to third parties automatically. However, Turkey does not have a right to enter on an equal base to the markets of the countries that EU signs a FTA because it is not a member of the EU. The effects of TTIP on Turkey depends on whether Turkey will be included or not into the agreement. If there is an FTA between the EU and the US, Turkey's exports will be diverted from the US market since Turkey will become a third party. Akman (2013) raises this concern and states that the effect of TTIP on Turkey is that Turkey's products can't gain competitive advantage in the US market against EU products. Turkey and US have not signed free trade agreement, therefore the continued protectionism of Turkish

export goods in the U.S. market, however, tariffs will be removed to EU origin products, leads to faces Turkey's unfair competition in the face of the EU (Akman, 2013).

Similarly, Since Turkey and the EU has signed a CU agreement, the United States imports goods, which can enter Turkey through any EU member country as duty free. Because of this asymmetry, trade deflection via will occur (Akman, 2014) and Turkey may lose control on imports from the US. It could have unintended consequences as if Turkey eliminates the tariffs unilaterally against the US.

While it is still a question whether Turkey will be included in TTIP, some believe that Turkey is potential future participant of TTIP (Akhtar and Jones, 2013), and others think that even though Turkey cannot be part of TTIP directly, it can use indirect ways to benefit from TTIP, such as expanding the CU with EU and making (FTA) US (TURKONFED, 2016 ; Boyraz, 2015).

Furthermore, Yesilyurt and Paul (2013) suggest five alternatives for Turkey to decrease negative impacts of Turkey's excluding from TTIP. First option is to become an EU member although the authors acknowledge that this is not a realistic scenario in the short run for Turkey. Secondly, Yesilyurt and Paul (2013) argue that EU and Turkey could purpose to make an agreement; they think that it might weaken EU-Turkey relations and be harmful for both sides. Thirdly, they suggest that Turkey could aim to replace two-sided economic alliance with US in the way of signing recent FTA. According to authors, another option would be to have parallel negotiation with third countries if Turkey could get the EU to ask these countries. Lastly, they think that Turkey could be given observer status at council meeting in TTIP negotiations. By this way, the authors argue that Turkey might have a chance to present its perspective.

Most studies put high emphasis on the importance of TTIP for Turkey's economy (Boyraz, 2015; Kirisci, 2013; Akman et al. 2015; Akman, 2014;

Akman, 2013; Aran, 2015; Altay 2017). Kirisci (2013) suggest that the involvement of Turkey in TTIP would strengthen the Turkish Economy. The author argues that it would create many jobs for Turkey`s relatively young population. Moreover, Kirisci sees TTIP as an opportunity for Turkey to grow its economy, to have better political relationships with the EU and the US, and to maintain the stability in the region.

Moreover, many scholars consider TTIP not only beneficial to the EU and the US but also to Turkey (Akman et al. 2015; Kirisci, 2013; Kirisci and Ekim, 2015; Mavus et al. 2013). These scholars point to the facts that Turkey is a member of several cooperation, and Turkey is located in a strategically important region. Altay (2017) claims that Turkish companies can gain profit from the positive spillovers, particularly when the US and the EU eliminate existing NTBs in a non-discriminatory way.

Moreover, by using Standard GTAP General Equilibrium Model, Mavus et al. (2013) claim that Turkey`s inclusion in the agreement is associated with higher GDP growth for the US and EU. As the scale of partnership among the EU, the US, and Turkey broadens, economic gains for these three will be larger. While some scholars consider TTIP as an opportunity for Turkey, others mention the possible downsides of being excluded from the deal.

Accordingly, Boyraz (2015) predicts TTIP`s negative influences for Turkey in case of Turkey being stayed out of TTIP, such as decrease in foreign trade balance, GDP, and employment, and the deterioration of bilateral relationships with the US and the EU.

According to Aran`s (2015) analysis of TTIP, this trade will open the doors of global market for Turkey if it is included. Also, the author argues that TTIP will also provide Turkey with a more effective CU with Europe. Aran argues that in addition to being a member of NATO and the CU, Turkey can establish a strong triangle by “docking” itself into TTIP.

On the other hand, ECORYS (2017) suggests that Turkey can be effected adversely from the TTIP initiative. As a results of study indicate that there will be a decrease in GDP by 2.5 percent and a decrease in employment by 0.4 percent. It should be highlighted that the Bertelsmann study assumes a much more comprehensive agreement than the one that is under negotiation (ECORYS, 2017). On the other hand, quantitative studies point to different results, as well.

ECORYS (2017) argues that expected impact on Turkey is because of the indirect spillover effects. As seen from the above Table, the study suggest that Turkey will experience an increase in its GDP by 0.1 percent under both ambitious and less ambitious scenarios. On the other hand, Turkey's rising exports and imports has estimated to be 2% and 1.4%. However, ECORYS (2017) study points out that the total impact on trade is not likely positive, given the current numbers corresponding to imports and exports. In addition, it can be argued that TTIP will increase wages in Turkey, which will influence low-skilled workers slightly more. The study indicates that while the Turkey's export to US is awaited increase 1.3%, the Turkey's buying good from the US becomes likely go up by 23.7%. Main reason underlying these numbers is the fact that while the US will enjoy tariff-free trade when exporting to Turkey, Turkey may not enjoy the elimination of tariffs due to rules of origin which is likely to be in TTIP's final text.

The ECORYS (2017), however, suggests that possible adaption of standards and regulations for them it may create unquestionable influence on Turkey. Study makes several suggestions for Turkey to get the most benefits from this agreement. First, it is suggested for Turkey that it can try to start a FTA with the US. However, it is also acknowledged in the study that earlier attempts to form such a FTA have failed. Another option for Turkey, as suggested by the study, is that Turkey can try to make some revisions with the current CU and aim to benefit more from the TTIP.

Mavus et al. (2013) argue that although Turkey's CU with the EU seems to be beneficial for Turkey, it has also some side effects. First, Turkey currently has no right to participate in the ongoing TTIP negotiation between the EU and US; therefore, it has no say in it to protect its potential benefits. Second, due to regulations upon the initiation of TTIP, the US will have the benefit of duty free exports both EU and Turkey), but Turkey will not have the same privileges as does the US if no further arrangement concerning the trade between Turkey and the US is made on the TTIP negotiations. Mavus et al. (2013) estimates the potential impact on Turkey under an ambitious scenario where the full of elimination of tariffs, 5 percent reduction in NTBs, and 20 percent of direct spill over are assumed, and find that Turkey would experience -0.19 percent change in GDP and 0.13 percent change in its exports. The authors assume, in this case, regulations not permit the equal management of commodities from Turkey and the EU on US market. However, the authors predict that the changes in question which is 3.8%, 6.9%, comparing to when same treatment is allowed. Mavuş et al. (2013) analyzed possible TTIP's effect between the US and the EU. It is the concern that Turkey will be part of this agreement or not. The study tries to analyze result of Turkey's inclusion or exclusion with two scenarios. Inclusion of Turkey means that Turkey's participation of EU-US in FTA, Turkey can launch new cooperation autonomously with the US. There is a various scenario of TTIP on the US's and the EU's GDP. The first step is the abolition of the tariff and quota. The second step is to reduce non-tariff barriers, gradually and the third step is completely reducing them. Besides, legislative alignments bring the spill over effects of elimination non-tariff barriers for other third parties in third step. According to the model, TTIP effects, in the first scenario, it does not effect for the US the EU will increase after including Turkey. This shows that free trade and economic globalization brings advantages for everyone.

According to Mavuş et al (2013), increase in GDP varies between 0.4% and 3.8%. Conversely, the excluding of Turkey from TTIP will negatively effect on Turkey. Its involvement will bring enlargement profit gained from agreement all

party exception of Turkey can go through negative effects on both GDP and export. Study shows that a decrease in non-tariff barriers will bring many more advantages for Turkey, than a tariff abolition. Since Turkey is exposed to non-tariff barriers by the EU, the CUA has to be regulated in a way to eliminate those barriers.

It is expected to reduce tariffs on US export to Turkey with TTIP. However, Turkey has the not same admission to the US, because Turkey is not a member in TTIP. They have been CU since 1995. It is a treaty in members undertakes to remove whole tariffs on goods on their area and to apply a same duty for outside region, same adjustment regulations, communal trade tax outer EU. Because of CU, the TTIP which has signed by EU and US has an absolute impact on Turkey. Mavuş et al. (2013) that it has drawbacks CU, it is related to TTIP rules of origin custom duties, when US exports to EU, Turkey, it can to have benefit of the elimination of tariffs. However, Turkey will have not benefit from tariff elimination between the EU and the US. Other example is the US economic association with Turkey. Turkey's import duties on US commodities will fall by this agreement in this way US's selling good ratio boosts 21%.

The US does not abolish trade duties on Turkish goods by agreement, however Turkish seller is effected by trade changes negatively on US. Turkey's selling product to the US decreased by 5%. Central Bank the Republic of Turkey founded that Turkey economy can gain 35 billion USD, after participating of TTIP, GDP ratio is up to 4.6% (Mavuş et al.2013). They find positive GDP changes if Turkey is included in the TTIP, and negative GDP changes if Turkey is excluded. Mavuş et al. (2013) have estimated a deeper integration situation due to the elimination of tax, Turkey can have income shifting 0.19%, sending good and services to another country transforms of 0.1% because of regulations EU and Turkish commodities are not allowed to be treated in the US market, EU and Turkish products about enter the US market will be 8% and 6.9%.

According to Güneş et al. (2013), if TTIP eliminates just the tariffs; it is estimated that decreasing of GDP of Turkey would be 0.1% and its export would decrease 0.2%. If tariff elimination applied, the loss of gains will increase. GDP of Turkey would decrease 0.5%, also export would be 0.4%. If directly spill over effect becomes in this agreement, harmful effects would be weakening for Turkey. In the condition of inclusion of Turkey in agreement, outcomes would become positive GDP is estimated between 0.4% and 4%, the increasing of the export would be between 1.3% and 6.9%. In sum, the agreement has minor effect on EU, US (0.009%, 0.004%) it is applied only duty reduction.

Akman et al. (2015) claims that impacts of TTIP will rely on a several factors, for example it is important the standard of before preferential arrangements of TTIP members and third parties. Third countries' ability to adopt harmonized TTIP standards is very important. Third countries should take some precautions in order to prevent losses, Turkey should carry out changes about standards, reforms, and legislative areas. It has to adjust to new arrangements to develop its economy; Turkey's economy will grow with impact of CU and new preferential rules. If TTIP is well planned implemented, it would be advantage for Turkey inclusion of Turkey in the TTIP might also help to strengthen democratic governance in Turkey. It could have made a booster effect to Turkish economy.

CHAPTER 3

THE RELATIONSHIP BETWEEN TURKEY- THE US and TURKEY- THE EU

3.1. TURKEY- THE US RELATIONSHIP

The US-Turkey relationship dates back 1831 year, in these years the US sat up diplomatic relations with the Ottoman Empire. Turkish Republic has established the following I. World War. The US and Turkey enter into The Economic and Technical Cooperation agreement on July 12, 1947. Cooperation between them develops with this agreement. Turkey is an ally of the US in a long time and taking a part of the transatlantic alliance. Turkey joined NATO in 1952. Economic collaborations will develop the relationship between the two countries (Kirişçi, 2013).

The two-side political affairs for the US and Turkey are very good despite the great economic potential, economic relations are not at the same level and trade is behind the potential because of this reason both sides try to develop this relationship. The US is attractive for Turkish exporters due to the size of the US market. Establishment of FTA between US and Turkey will be an important issue in case of the revival of TTIP is current debate issue (Özgöker and İnamoğlu, 2017).

The TTIP will help the US's goods accession to Turkey without barrier because of CU, but Turkish goods will struggle from trade barriers in the US market when TTIP implemented this leads to asymmetric condition this effects Turkey's trade with the US in a negative way (World Bank, 2014). Although Turkey does not participate in the EU as a partner, they signed an agreement (CU). Besides, EU competitors will have more gains in the US market than Turkish exporters.

Because of that, the competitiveness of Turkish exporters will decrease (Özçelik, 2016).

As a results of TTIP, US products will access to Turkey as without duty through the US. However, Turkey suffers from the custom tariffs, which is applied by the US. Economic relationship between Turkey-US may be affected negatively for Turkey. Some sectors have very high rates of tariffs. This brings disadvantages in terms of competition in the sectors. This competition is not good for Turkish producers; they will not endure against EU goods in US markets when the US employs the custom tariffs to Turkey. Despite US's goods will enter Turkey as duty-free; Turkey will face a tariff barrier in the US market. That is to say, it is a disadvantage for Turkey. Turkish companies would be struggling from by the competition from the US when TTIP is implemented and other third-party companies benefiting from preferential access to the EU has an advantage for other thirds party companies (Akman, 2014: 17).

Turkish goods will face to trade barrier as before, but the US will access easily to Turkish Markets without any problem (Akman, 2013: 13). EU and US have a share of half of all world income (46%), because of those launching negotiations for a comprehensive free trade agreement have an influence on a trading relationship in all over the world. Turkey has intense trade relationship with both countries; TTIP will have an important effect on Turkey. US and EU economic relationship will bring benefits for accessing to world markets. This is the main reason why Turkey is trying hard to be included in the TTIP negotiation (Akman, 2014: 2; Şahin, 2015: 59).

Competitiveness of Turkey is weak compared to the EU because of those signing agreements with EU effects this competitive capacity. EU seems to have a strong comparative advantage in some sectors, Turkey should take precautions in order to protect itself. It deals with competitors in the duty-free situation. If Turkey signs an agreement with the US, this can effect on EU and in member countries. Turkey and the EU signed with CU because of this

agreement Turkey has responsibility obeying procedure and application in Europe. With signing TTIP, whereas Turkey exporting goods to US markets will faces custom tariff. American goods exported to Turkey will not face any problem. Turkish trade balance will be influenced by this situation in a very negative way. It is possible that losing annual 20 billion dollars it can deteriorate the Turkish Economy (Atılal and Erçevik, 2013).

TTIP causes very important loss or gains for Turkey's economic activity in the US. It does not affect Turkey indirectly, because of that Turkey signed the CU Agreement of EU 1995, and Turkey aims that it would help as a full member. It is the main reason why Turkey trying to prevent the possible negative impacts of TTIP. There is one possibility for Turkey, US and Turkey can initiate negotiations on a parallel FTAs. It is not quite clear how to solve this asymmetry problem, it can nevertheless be said that TTIP negotiations have as been an important driving force for Turkey to launch negotiations on the CU (Özçelik, 2016).

Finally, Turkey is a very important country for world trade because of its geopolitical position, it has crucial economic relations between US and EU, Turkey faces to trade barrier while trading with the EU and US despite being a party to CU (Vesterbye and Akman, 2017).

Table 8: Turkey's Exports and Imports with US, 2009-2018

YEAR	EXPORT(US\$ THOUSAND)	IMPORT(US\$ THOUSAND)	US's SHARE IN EXPORTS (%)	US's SHARE IN IMPORTS (%)
2009	3.240.597	8.575.737	3.2	6.1
2010	3.762.919	12.318.745	3.3	6.6
2011	4.584.028	16.034.121	3.4	6.7
2012	5.604.229	14.130.546	3.7	6.0
2013	5.640.246	12.596.170	3.7	5.0
2014	6.341.841	12.727.562	4.0	5.3
2015	6.395.841	11.141.562	4.4	5.4
2016	6.623.346	10.867.793	4.6	5.5
2017	8.654.267	11.951.744	5.5	5.1
2018	8.304.719	12.377.681	4.9	5.5

Source: TurkSTAT

According to Table 8 share of US in Turkey's exports has 3.2% in 2009 to 4.9% in 2018. However, share of US in Turkey's imports has decreased from 6.1% to 5.5% during the same period.

3.2. TURKEY - THE EU RELATIONSHIP

EU will have crucial effects on Turkey's economic relations since 1950. Turkey did not have an EU full membership. However, EU is Turkey's major trading partner. Turkey's export share percentage for Europe was almost 52 percent in 2001. Whereas, its import share for Europe was almost 45 percent in the same year. Trade balance grew between Turkey and EU. Agricultural products have significant share in Turkey's export in past times. So as to make Turkey a more

attractive destination for foreign direct investment Turkish Government has made great initiatives. Turkey's movement towards the EU has made the FDI come to Turkey from European countries. The countries who are member EU are by the highest group of investors (65% in 2002) in Turkey. Germany and Britain have had dominant roles for transmitting technology by foreign direct investment. Over a lot of Turkish employees start to work EU, transfers of payment income increase 3 billion US-\$ yearly. Besides, Turkey has important benefit from tourists who are come from European (Yilmaz, 2003).

Closer relationships with Europe led to Bilateral Preferential Trade. Turkey launched for participation organization EEC in 1959. Turkey signed the Ankara Agreement in 1963 with the EU. Turkey and the EU signed a CU in 1996. Bilateral economic activity suddenly has increased after the establishment of CU for them. Banking crisis in 2001 affected Turkey's trade balance, in terms of import. Bilateral trade has slow down in 2008 (European Commission, 2016).

Kirisci (2015) states that Turkey has to obey of EU's standards and procedures in trade, and thanks to CU Turkey's markets have strong competitive capacity. European economic legislations are in close relationship with Turkish laws. Some 55 percent of European economic legislation corresponds to Turkish laws.

Table 9: Turkey's Exports and Imports with EU, 2009-2018

YEAR	IMPORT(US\$THOUSAUD)	EXPORT(US\$ THOUSAND)	EU's SHARE IN EXPORTS (%)	EU's SHARE IN IMPORTS (%)
2009	56.616.281	47.226.874	46.2	40.2
2010	72.390.763	52.933.824	46.4	39
2011	91.438.711	62.587.953	46.3	38
2012	87.657.349	59.394.412	38.9	37.9
2013	92.457.482	63.038.192	41.5	36.7
2014	88.783.500	68.514.122	43.4	36.6
2015	78.681.251	63.998.186	44.4	37.9
2016	77.501.069	68.343.294	47.9	39
2017	85.205.086	73.906.184	47.1	36.4
2018	80.812.547	83.962.061	49.9	36.2

Source: TurkSTAT

Table 9 shows the Turkey's trade with EU. According to Table 9, EU's share in Turkey's exports has increased from 46.2% in 2009 to 49.9% in 2018. However, EU's share in Turkey's imports has decreased from 40.2% to 36.2% during the same period. Turkey's exports to EU was 80 billion dollars in 2018 while imports were 83 billion dollars in 2018, whereas Turkey's imports from EU was 56 billion dollars in 2009, Turkey's export is 47 billion dollars in 2009.

As a summary, Turkey's 36% of imports and 50% of exports of Turkey is with the EU in 2018 (TurkSTAT). Similarly, US is an important trading country for Turkey. US was the fifth major export and fourth most important import destination for Turkey in 2018. In addition, because of the CU with EU, TTIP is expected to have important effects on Turkey's foreign trade.

CHAPTER 4

THE EFFECTS OF TTIP ON TURKEY'S FOREIGN TRADE

With the aim of evaluating the impacts of TTIP on Turkey's trade, we have constructed two scenarios. First scenario assumes that the US and the EU will establish a FTA and Turkey will also be a member of this FTA. Under this scenario, there is a FTA agreement between the EU and the US. It is assumed that Turkey will also be a part of this FTA and accordingly the US and Turkey will eliminate all custom duties applied on each other's trade. In the second scenario, we assume that the US and the EU will establish an FTA but this time Turkey will be excluded from this agreement and the US-Turkey trade will continue under status quo.

Partial equilibrium approach is used to analyze the potential effects of TTIP on Turkish manufacturing industry trade under the assumption that both the US and Turkey will eliminate unilaterally MFN tariffs. The purpose of the partial equilibrium is to measure the impact of tariff changes on products. Partial equilibrium analysis employs existing data to predict the short run expected effect. It employs the existing data to estimate those changes by ignoring how other variables will change. One of the advantages of partial equilibrium analysis is that it enables to forecast future trade regulations concerns, taking into account current trade relations. Secondly, it uses highly reliable trade data, allowing identifying goods, which are affected by policy (Holmes et al. 2013).

4.1. SCENARIO 1: EU-US FREE TRADE AGREEMENT WITH THE INCLUSION OF TURKEY

Under this scenario, the US and the EU will establish an FTA and Turkey will also be a member of this FTA. This requires the mutual removal of tariffs on each other's trade. Under this assumption, Turkey's export from the US and the

EU are expected to increase because of two reasons; firstly, as I have examined in the previous chapter, quantitative studies analyzing the effects of TTIP on the EU and the US show an income increase to a different extent for both parties. This means that we expect an increase for Turkish exports to both the US and the EU. This effect is indeed independent from whether Turkey will be a member of FTA between the US and the EU. Therefore, it will be evaluated under both scenarios. With the aim of quantifying the impacts of the income increase in the EU and the US on Turkey's exports, income elasticities approach will be used. Namely, increase in income will be multiplied by the income elasticities of manufacturing industry sectors.

At the same time removal of tariffs of the US on Turkey's trade also means that Turkish export products will be relatively cheaper in the US market, hence create further increase in exports. We refer this effect as the exports increase due to the price effect. In sum we expect Turkey's exports will increase because of two reasons; income and price effects. In order to calculate the Turkish export increase due to the price effect, partial equilibrium approach will be applied by using the World Bank, SMART model of the World Integrated Trade Solution (WITS). In order to evaluate the effects on Turkish exports, the effect on sectoral imports of US from Turkey from estimated by using the SMART model. Data on Trade and Tariffs of both US and Turkey are collected from the UNComtrade online database and TRAINS online database. In the same vein, removal of Turkey's tariff on US product also causes an increase in the imports from US. Potential impacts of tariff removal on Turkey's manufacturing industry imports will also be estimated by using the SMART model of World Bank. Table 10 shows the MFN tariff rates of US applied to Turkey in 2017.

Table 10: MFN Tariff Rates of US Applied to Turkey in 2017, %

Products	Duty Type	Simple Average	Weighted Average
		Duty Rate	
31 Food, Beverages and Tobacco	MFN	30.07	115.7
32 Textile, Wearing Apparel and Leather	MFN	8.5	6.6
33 Wood and Wood Products, Including Furniture	MFN	1.3	0.2
34 Paper and Paper Products, Printing and Publishing	MFN	0.1	0.1
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	MFN	3.3	2.5
36 Non-Metallic Mineral Products, except Products of Petroleum and Coal	MFN	3.9	2.9
37 Basic Metal Industries	MFN	1.1	0.2
38 Fabricated Metal Products, Machinery and Equipment	MFN	1.4	1.3
39 Other Manufacturing Industries	MFN	3.4	5.3

Source: World Bank, WITS

The highest tariff rate is applied in the food, beverages and tobacco sector. Table 11 shows the MFN tariff rates of Turkey applied to US in 2017.

Table 11: MFN Tariff Rates of Turkey Applied to US in 2017, %

PRODUCTS	Duty Type	Simple Average	Weighted Average
31 Food, Beverages and Tobacco	MFN	26.6	8.1
32 Textile, Wearing Apparel and Leather Industries	MFN	8.4	6.0
33 Wood and Wood Products, Including Furniture	MFN	2.0	1.5
34 Paper and Paper Products, Printing and Publishing	MFN	0.3	0.0
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	MFN	4.5	2.5
36 Non-Metallic Mineral Products, except Products of Petroleum and Coal	MFN	3.6	2.9
37 Basic Metal Industries	MFN	3.97	2.22
38 Fabricated Metal Products, Machinery and Equipment	MFN	2.39	2.00
39 Other Manufacturing Industries	MFN	2.83	2.23

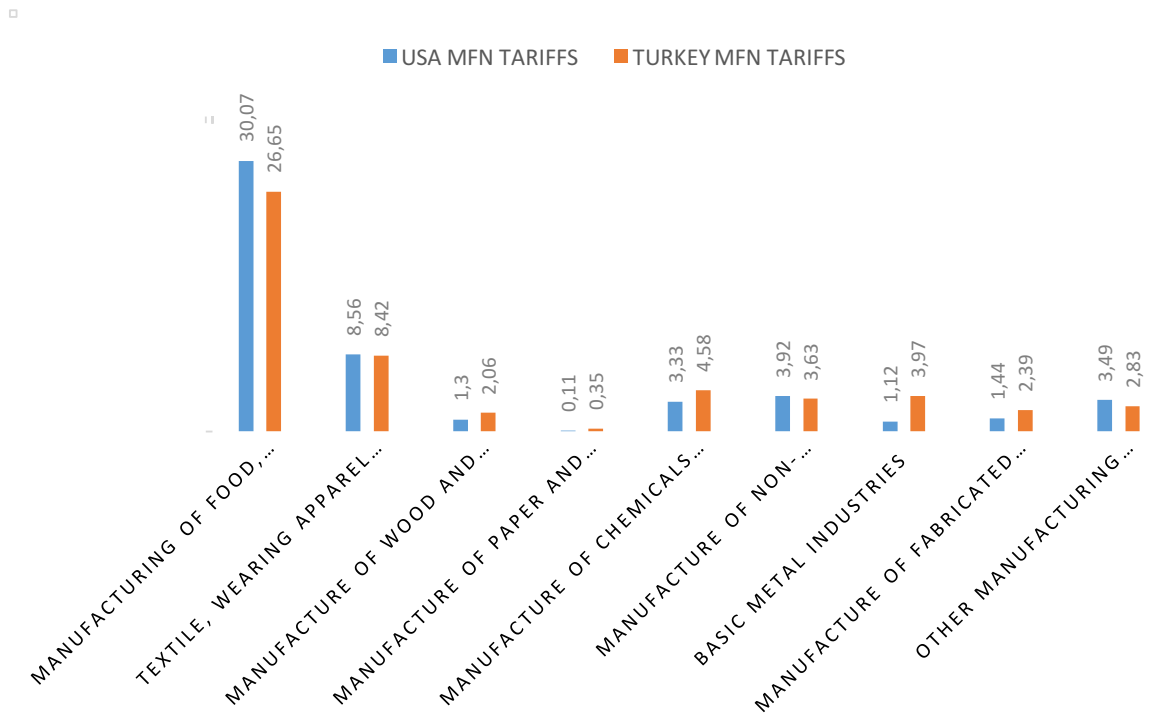
Source: World Bank, WITS

Table 11 shows that the highest tariff rate is applied by Turkey is also the in the food, beverages and tobacco sector.

Figure 4 shows the comparison of MFN Tariff Rates of Turkey and the US in 2017. Figure shows that both countries tariff rates are relatively high in Food, Beverages and Tobacco industry and Textile, Wearing Apparel and Leather

Industries. US tariff rate is slightly higher than the Turkey's tariff rates in these sectors. Additionally, US tariff rate is slightly higher than the Turkey's tariff rates, non-metallic mineral products, except products of petroleum and coal and other manufacturing industries.

Figure 4: Comparison of Trade Weighted Applied (MFN) Average Tariff Rates of Turkey and US in 2017



Source: World Bank, WITS

4.1.1. Effects On Turkey's Exports Under Scenario 1

The impact of the EU's and the US's increasing income as a result of FTA on Turkey export in sectoral level will be analyzed in this section. In order to quantify the effects of the income increase of the EU and the US on Turkey's exports, increase in income of the EU and the US resulting from the FTA will be multiplied by the income elasticities of manufacturing industry sectors. With that aim, firstly, the maximum and minimum income increases that are estimated under the assumption of FTA between US and the EU both for more ambitious and less ambitious scenarios from Table 5. Income demand elasticities at

sectoral level that are taken from Guloglu and Bayar (2016) are illustrated in Table 12 below. Since the sectoral classification in Guloglu and Bayar (2016) is different and more detailed than the ISIC Rev. 2 two-digit classification that we used in our study, we aggregated the sectors and take the averages to find the elasticities values at ISIC Rev. 2 two-digit classification.

Table 12: Income Demand Elasticities of Turkish Manufacturing Sectors

PRODUCTS	INPGDP
31 Food, Beverages and Tobacco	3.8
32 Textile, Wearing Apparel and Leather Industries	3.4
33 Wood and Wood Products, Including Furniture	7.4
34 Paper and Paper Products, Printing and Publishing	1.5
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	5.1
36 Non-Metallic Mineral Products, except Products of Petroleum and Coal	3.0
37 Basic Metal Industries	5.2
38 Fabricated Metal Products, Machinery and Equipment	5.9
39 Other Manufacturing Industries	5.7

Source: (Guloglu and Bayar ,2016)

Finally, income demand elasticities at sectoral level at Table 12 has multiplied with minimum-maximum income gains (SOURCE: Table 5) taken from current studies. As we have examined before, studies on TTIP also shows an income increase for the Turkey under the FTA between the EU and the US. In order to calculate the potential increase in Turkey's sectoral exports because of the likely increase in the US income elasticities approach will be employed once again.

Our calculations show that the Turkey's exports to US increases at every sector under the assumption of deeper integration, namely FTA between the US and the EU (it is calculated for minimum and maximum income increases under the

assumption of deeper integration). For food, beverages and tobacco industry, a minimum export increase is 1% and maximum exports increase is 18.9% in deeper integration. For textile, apparel and leather industry, minimum increase is 0.9% and maximum increase is 16.7% in deeper integration. For wood and wood products, including furniture industry, minimum increase is 2% and maximum increase is 36.3% in deeper integration. For paper and paper products, printing and publishing industry, minimum increase is 0.4% and maximum increase is 7.5% in deeper integration. For chemicals and chemical, petroleum, coal, rubber and plastic products industry, minimum increase is 1.4% and maximum increase is 25.3% in deeper integration.

For non-metallic mineral, except for products of petroleum and coal industry, minimum increase is 0.8% and maximum increase is 5.1% in deeper integration. For the basic metal industry, minimum increase is 1.4% and maximum increase is 25.7% in deeper integration. For fabricated metal products, machinery and equipment industry, minimum increase is 1.6% and maximum increase is 29.2% in deeper integration.

For other manufacturing industry, minimum increase is 1.6% and maximum increase is 27.9% in deeper integration. In sum, the highest exports increase will be attained for wood and wood products, including furniture industry (36.3%) maximum income increase under deeper integration. It is the lowest value for paper and paper products, printing and publishing sectors (0.4%) minimum in deeper integration.

As we have examined before, studies on TTIP also shows an income increase for the Turkey under FTA between the EU and the US. In order to calculate the potential increase in the sectoral exports because of the likely increase in EU income, elasticities approach will be employed once again. Results of our calculations show that Turkey's exports to EU increase in every sector. For food, beverages and tobacco industry, minimum increase is 0.2% and maximum increase is 15.2% in deeper integration.

For textile, wearing apparel and leather industry, minimum increase is 0.2% and maximum increase is 13.5% in deeper integration. For wood and wood products, including furniture industry, minimum increase is 0.5% and maximum increase is 29.3% in deeper integration. For paper and paper products, printing and publishing industry, minimum increase is 0.1% and maximum increase is 6% in deeper integration. For chemicals and chemical, petroleum, coal, rubber and plastic industry, minimum increase is 0.3% and maximum increase is 20.4% in deeper integration.

For non-metallic mineral, except products of petroleum and coal industry, minimum increase is 0.2% and maximum increase is 12.1% in deeper integration. For basic metal industry, minimum increase is 0.3% and maximum increase is 20% in deeper integration. For fabricated metal products, machinery and equipment industry, minimum increase is 0.4% and maximum increase is 23.5% in deeper integration. For other manufacturing industry, minimum increase is 0.4% and maximum increase is 22.5% in deeper integration.

In sum, it is the highest value increase in the wood and wood products, including furniture industry (29.3%) maximum in deeper integration. It is the lowest value for paper and paper products, printing and publishing industry (0.1%) minimum in deeper integration. Before Turkey's export value and these results above, (the EU's import changing ratio by using EU's welfare change gains is multiplied), it is estimated Turkey's export value is increasing. At the same time, removal of tariffs of the US on Turkey's trade also means that Turkish export products will be relatively cheaper in the US market; hence it will create further increase in exports. In order to calculate the effects of the price decrease due to the elimination of tariffs on the sectoral exports partial equilibrium approach is applied by using the SMART model.

In addition to trade effects, SMART also enable us to determine the magnitude trade creation and trade diversion effects. Trade creation is described as the

increase in imports because of the reduction in tariffs. Trade diversion is the additional in imports from the partner country replaces the imports of good from third countries. Decreasing the tariffs on imports from Turkey decreases the domestic price goods that is imported from Turkey in US. Therefore, trade creation effect is positive.

Trade diversion has no effects in US. Turkey's exports share increases against third countries' exports share. In other word, decrease in export from third countries is offsetted by the increase in exports from Turkey. Therefore, for the US market, the total trade effect is only trade creation. Increase in imports from Turkey is equal to the summation of trade creation and diversion effects. In other words, for Turkey, total increase in exports is the summation of trade creation and diversion effects.

If the US removes all tariffs for Turkey, SMART model enables us to calculate the trade and welfare impacts on the sectoral imports of the US from Turkey that means the sectoral exports of Turkey. Trade creation shows a part of the increase in US's import from Turkey. Trade diversion shows decrease in the US imports from the third countries. Finally, summation of the trade creation and diversion shows the total increase in imports of the US from Turkey (namely total increase in exports of Turkey from US). Study utilizes 2 digits industrial sectors (ISIC Rev.2) for the year 2017. Two nations apply the reduction of trade obstacles for each other, these impacts can be assessed by calculating trade creation (TC) and trade diversion (TD) for goods in member nations. ISIC sectors are 31-39 in the manufacturing sector. SMART model results for manufacturing industries are given in the Table 13.

Table 13: Trade Creation, Trade Diversion and Total Effects in Manufacturing Industries if US Eliminates Tariffs against Turkey

PRODUCTS	Trade Creation Effect	Trade Diversion Effect	Total Trade Effect	TC as % Of Total Import From Turkey	TD as % Of Total Import From Turkey	Total Trade Effect as % Of Total Import From Turkey
31 Food, Beverages and Tobacco	31.474.422	29.946.315	61.429.314	9.1	8.6	17.6
32 Textile, Wearing Apparel and Leather	267.533.833	141.364.613	408.946.122	15.9	8.4	24.3
33 Wood and Wood Products, Including Furniture	628.488	334.137	966.688	0.5	0.3	0.8
34 Paper and Paper Products, Printing and Publishing	103.196	46.653	150.303	0.2	0.1	0.4
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	42.296.559	18.171.937	60.497.653	7.6	3.2	10.9
36 Non-Metallic Mineral Products, except Products of Petroleum and Coal	23.534.613	20.236.200	43.778.862	4.1	3.4	7.4
37 Basic Metal Industries	9.524.178	5.079.562	14.610.546	0.6	0.3	1.1
38 Fabricated Metal Products, Machinery and	62.751.421	59.775.659	122.582.771	2.1	1.9	4.1

Equipment						
39 Other Manufacturing Industries	35.845.093	22.640.903	58.493.167	11.7	7.4	19.2

Source: Calculated based on SMART

As a result of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in manufacturing of food, beverages and tobacco industry (which is equal to the TC as a percentage of total imports) is equal to 9.1%. Total trade effect (sum of TC and TD) that is the total increase in imports from Turkey is 17.6% in this sector. 8.6% of this increase originates from the trade diversion effect, namely the increase in Turkey's exports to the US that replace the other countries' exports to the US. For food, beverages and tobacco industry, when the US reduces tariff on imports from partner Turkey, the United States' total import from Turkey will increase approximately by 61 million dollars 31 million dollars of which is due to trade creation and 29 million dollars is due to the trade diversion effects in food, beverages and tobacco industry (total trade effect).

As a result of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in textile, wearing apparel and leather industry is equal to 15.9%. The total increase in imports, which is called total trade effect, from Turkey is 24.3% in this sector. 8.4 % of this increase comes from the trade diversion effect, namely the increase in Turkey's exports to the US that replace the other countries exports to the US. When the US decreases tariff on imports from Turkey for textile, wearing apparel and leather industry, the United States' total import from Turkey will increase approximately by 408 million dollars 267 million dollars of which is thanks to trade creation and 141 million dollars is due to the trade diversion effects in textile, wearing apparel and leather industry, (total trade effect).

Because of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in wood and wood products, including furniture industry is equal to 0.5%. Total trade effect, namely the total increase in imports from Turkey is 0.8% in this sector. 0.3% of this increase emerges from the trade diversion effect, namely the increase in Turkey's exports to the US that replace other countries' exports to the US. For wood and wood products, including furniture industry, if the US chooses to reduce tariff on imports from its partner (Turkey), the United States' total import from Turkey will go up approximately by 966 thousand dollars. 628 thousand dollars of this sum is due to trade creation and 334 thousand dollars is due to the trade diversion effects in wood and wood products, including furniture industry (total trade effect).

As a result of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in paper and paper products, printing and publishing industry is equal to the 0.2%. Total trade effect that is the total increase in imports from Turkey is 0.4% in this sector. 0.1% of this increase originates from the trade diversion effect, namely the increase in Turkey's exports to the US that replace the other countries' exports to the US. For paper and paper products, printing and publishing industry, when the US reduces tariff on imports from partner Turkey, the US's total import from Turkey will increase approximately by 150 thousand dollars of which 103 thousand dollars is due to trade creation and 46 thousand dollars is due to the trade diversion effects in paper and paper products, printing and publishing industry (total trade effect).

Because of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in chemicals and chemical, petroleum, coal, rubber and plastic products industry is equal to the 7.6%. In this sector, total trade effect is the total increase in imports from Turkey is 10.9%. 3.2% of this increase comes from the trade diversion effect, namely the increase in Turkey's exports to the US which substitutes the

other countries' exports to US. For chemicals and chemical, petroleum, coal, rubber and plastic products industry, If the US reduces tariff on imports from partner Turkey, the United States' total import from Turkey will increase approximately by 60 million dollars, 42 million dollars of which is comes from trade creation and 18 million dollars is from the trade diversion effects in chemicals and chemical, petroleum, coal, rubber and plastic products industry (total trade effect).

Because of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in non-metallic mineral products, except products of petroleum and coal industry is equal to the 4.1%. Total trade effect that is the total increase in imports from Turkey is 7.4% in this sector. 3.4% of this increase originates from the trade diversion effect, namely the increase in Turkey's exports to US that replace the other countries' exports to the US. For non-metallic mineral products, except for products of petroleum and coal industry, when the US reduces tariff on imports from partner Turkey, the US's total import from Turkey will increase approximately by 43 million dollars 23 million dollars of which is thanks to trade creation and 20 million dollars is thanks to the trade diversion effects in non-metallic mineral products, except products of petroleum and coal industry (total trade effect).

As a result of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in basic metal industry is equal to the 0.6%. Total trade effect which represents the total increase in imports from Turkey is 1.1% in this sector. The trade diversion effect, namely the increase in Turkey's exports to the US which replace the other countries' exports there, is responsible for 0.3% of this effect. For basic metal industry, when the US reduces tariff on imports from partner Turkey, the United States' total import from Turkey will increase approximately by 14 million dollars. 9 million dollars of this value comes from trade creation and 5 million dollars is from trade diversion effects in basic metal industry (total trade effect).

Because of the complete removal of the US tariffs against Turkey, imports increase in the US due to the trade creation as percentage of total imports in fabricated metal products, machinery, and equipment industry is equal to the 2.1%. Total trade effect that is the total increase in imports from Turkey is 4.1% in this sector. 1.9% of this increase originates from the trade diversion effect, namely the increase in Turkey's exports to US that replace the other countries' exports to the US. For fabricated metal products, machinery, and equipment industry, when the US reduces tariff on imports from partner Turkey, the United States' total import from Turkey will increase approximately by 122 million dollars of which 62 million dollars is because of trade creation and 59 million dollars is due to the trade diversion effects in fabricated metal products, machinery, and equipment industry (total trade effect).

As a result of the complete removal of the US tariffs against Turkey, imports increase in US due to the trade creation as percentage of total imports in other manufacturing industry is equal to the 11.7%. In this sector, total trade effect which represents the total increase in imports from Turkey is 19.2%. 7.4% of this increase emerges from the trade diversion effect, namely the increase in Turkey's exports to US that replace the other countries' exports to the US. For other manufacturing industry, when the US reduces tariff on imports from partner Turkey, the United States' total import from Turkey will increase approximately by 58 million dollars. 35 million dollars of this sum is due to the trade creation and 22 million dollars is due to the trade diversion effects in other manufacturing industry (total trade effect). Table 14 shows the overall of result of our calculations on exports increase of Turkey to US due to the price and income effects.

Table 14: Exports Increase of Turkey to US as a result of Price and Income Effects

PRODUCTS	Price Effect	Income Effect (min)	Income Effect (max)	Total Effect (min)	Total Effect(max)
31 Food, Beverages and Tobacco	17.6	1.0	18.9	18.6	36.5
32 Textile, Wearing Apparel and Leather	24.3	0.9	16.7	25.2	41
33 Wood and Wood Products, Including Furniture	0.8	2.0	36.3	2.8	37.1
34 Paper and Paper Products, Printing and Publishing	0.4	0.4	7.5	0.8	7.9
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	10.9	1.4	25.3	12.3	36.2
36 Non-Metallic Mineral Products, except Products of Petroleum and Coal	7.4	0.8	5.1	8.2	12.5
37 Basic Metal Industries	1.1	1.4	25.7	2.5	26.8
38 Fabricated Metal Products, Machinery and Equipment	4.1	1.6	29.2	5.7	33.3
39 Other Manufacturing Industries	19.2	1.7	27.9	20.9	47.1

Source: Calculated based on SMART, Us's maximum and minimum income increases are employed

Last two columns of this Table gives us total exports increase which is the summation of the exports increase due to the income increase in US because of the TTIP (income effect which is calculated by income elasticity approach)

and the exports increase due to elimination of US tariff against Turkey (price effect calculated in Table 14). Table 14 indicates that highest exports increase is attained in the textile, wearing apparel and leather industry.

4.1.2. Effects On Turkey's Imports Under Scenario 1

Removal of bilateral tariffs between Turkish-US trade also means that Turkey's imports from US will increase as a result of Turkey's elimination of tariff. In order to predict the elimination of tariffs on the sectoral imports, partial equilibrium approach is applied by using the SMART model.

Within the context of the SMART model, decreasing the tariff on imports from US decreases the domestic price of goods that is imported from US in Turkey. Therefore, trade creation effect is positive. Trade diversion has no effects on the Turkish market. US exports share increases against third countries' exports share. In other word, decrease in export from third countries is offsetted by the increase in exports from US. Therefore, for the Turkish market, total trade effect is only trade creation. However, increase in imports from the US is equal to the summation of trade creation and diversion effects. Table 16 shows the trade creation, trade diversion and total effects in manufacturing industries obtained by using the SMART.

Table 15: Trade Creation, Trade Diversion and Total Effects in Manufacturing Industries if Turkey Eliminates Tariffs against US

PRODUCTS	Trade Creation Effect	Trade Diversion Effect	Total Trade Effect	TC as % Of Total Import From USA	TD as % Of Total Import From USA	Total Trade Effect as % Of Total Import From USA
31 Food, Beverages and Tobacco	166.760.139	27.786.271	194.554.109	36.5	6.1	42.5
32 Textile, Wearing Apparel and Leather	12.606.600	4.866.720	17.533.524	19.4	7.5	27
33 Wood and Wood Products, Including Furniture	1.319.231	576.676	1.899.004	4.7	2.1	6.8
34 Paper and Paper Products, Printing and Publishing	42.007	39.782	81.789	0.1	0.1	0.2
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	56.062.247	61.197.134	117.309.991	2.9	3.1	6.1
36 Non-Metallic Mineral Products,	1.922.538	2.562.677	4.496.244	2.5	3.4	6.1

except Products of Petroleum and Coal						
37 Basic Metal Industries	5.967.882	5.723.743	11.718.763	3.1	2.9	5.9
38 Fabricated Metal Products, Machinery and Equipment	140.473.792	105.843.20	246.395.705	2.7	2.1	4.8
39 Other Manufacturing Industries	1.023.954	978.627	2.022.926	3.1	2.9	6.1

Source: Calculated based on SMART

In Table 15, summation of trade creation and trade diversion shows the total increase in Turkey's import from US. Trade diversion shows decrease in Turkey's import from ROW. For food, beverages and tobacco industry, trade creation is around 166.8 million dollars. This is the highest trade creation value among all manufacturing industries. Trade creation as a percentage of total import from Turkey is 36.5. Lowest trade creation value is 42.1 thousand dollars. Lowest trade creation effect is on trade creation as a percentage of total import from Turkey is 0.1% for paper and paper products, printing and publishing industry, trade diversion effect is highest for the of manufacture fabricated metal products. It is around 105.8 million dollars. Lowest trade diversion effect is also this sector. It is 39.8 thousand dollars in paper and paper products, printing and publishing industry. As a percentage of trade creation and total effect has the highest value in two sectors for Turkey, one of them is food, beverages and tobacco industry because of fact that simple average duty rate is very high 26.6. Other is the textile, wearing apparel and leather industry. It has also a high duty rate 8.4, when Turkey eliminates tariff on imports from

partner United States, Turkey's total import from the US will increase 194.5 million dollars in this industry.

If Turkey completely removes the tariffs against the US in the food, beverages and tobacco industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 36.5%. Total trade effect that is the total increase in imports from Turkey is 42.5% in this sector. 6.1% of this increase originates from the trade diversion effect, namely the increase in US exports to Turkey that replaces the other countries' exports. For food, beverages and tobacco industry, when the Turkey eliminates tariff on imports from US, Turkey's total import from the US will increase approximately by 194 million dollars 166 million dollars of which is due to trade creation and 27 million dollars is due to the trade diversion effects in food, beverages and tobacco industry (total trade effect).

If Turkey completely removes the tariffs against the US in the textile, wearing apparel and leather industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 19.4%. In this sector, total trade effect which represents the total increase in imports from Turkey is 27%, 7.5% of this increase results from the trade diversion effect, namely the increase in US exports to Turkey that substitutes the other countries' exports. When the Turkey eliminates tariff on imports from the US for textile, wearing apparel and leather industry, Turkey's total import from the US will increase approximately by 17 million dollars. 12 million dollars of this money is thanks to trade creation and 4 million dollars from the trade diversion effects in textile, wearing apparel and leather industry (total trade effect).

If Turkey completely removes the tariffs against the US in the wood and wood products, including furniture industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 4.7%. Total trade effect that is the total increase in imports from Turkey is 6.8% in this sector. 2.1% of this increase originates from the trade diversion effect, namely

the increase in US exports to Turkey that replaces the other countries exports. In the wood and wood products, including furniture industry when the Turkey eliminates tariff on imports from the US, Turkey's total import from US will increase approximately by 1.8 million dollars 1.3 million dollars of which is due to trade creation and 576 million dollars is due to the trade diversion effects in the wood and wood products, including furniture industry (total trade effect).

If Turkey completely removes the tariffs against the US in the paper and paper products, printing and publishing industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 0.1%. In this sector, total trade effect which represents the total increase in imports from Turkey is 0.2%. 0.1% of this increase results from the trade diversion effect, namely the increase in US exports to Turkey that substitutes the other countries' exports. When the Turkey eliminates tariff on imports from the US for paper and paper products, printing and publishing industry, Turkey's total import from the US will increase approximately by 81.7 thousand dollars. 42 thousand dollars of this gain is thanks to trade creation and 39.7 thousand dollars from the trade diversion effects in paper and paper products, printing and publishing industry (total trade effect).

If Turkey completely removes the tariffs against the US in the chemicals and chemical, petroleum, coal, rubber and plastic products industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 2.9%. Total trade effect that is the the total increase in imports from Turkey is 6.1% in this sector. 3.1% of this increase comes from the trade diversion effect, namely the increase in US exports to Turkey that replaces the other countries exports. For chemicals and chemical, petroleum, coal, rubber and plastic products industry, when the Turkey eliminates tariff on imports from US, Turkey's total import from the US will increase approximately by 117 million dollars 56 million dollars of which is due to trade creation and 61 million dollars is due to the trade diversion effects in chemicals and chemical, petroleum, coal, rubber and plastic products industry (total trade effect).

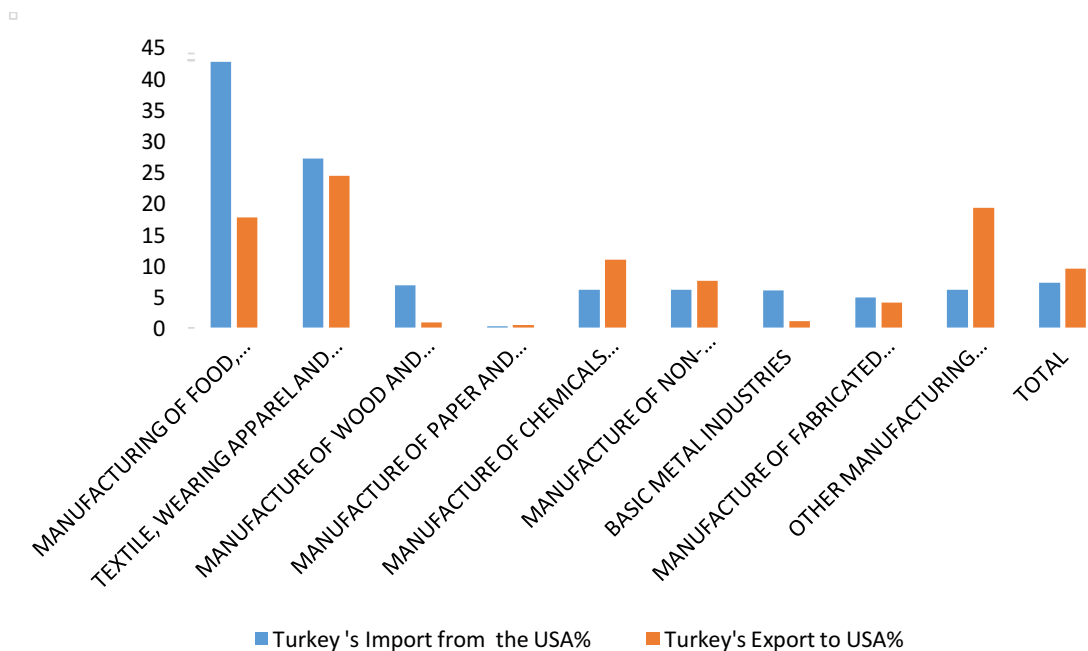
If Turkey completely removes the tariffs against the US in non-metallic mineral products, except products of petroleum and coal industry, import increase from the US due to trade creation as percentage of total imports in this sector is equal to the 2.5%. Total trade effect that is the the total increase in imports from Turkey is 6.1% in this sector. 3.4% of this increase originates from the trade diversion effect, namely the increase in US exports to Turkey that replaces the other countries exports. For the non-metallic mineral products, except products of petroleum and coal industry, when the Turkey eliminates tariff on imports from US, Turkey's total import from US will increase approximately by 4 million dollars of which 1.9 million dollars is due to trade creation and 2.5 million dollars is due to the trade diversion effects in non-metallic mineral products, except products of petroleum and coal industry (total trade effect).

If Turkey completely removes the tariffs against US in basic metal industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 3.1%. In this sector, total trade effect which represents the total increase in imports from Turkey is 5.9 %. 2.9 % of this increase comes from the trade diversion effect, namely the increase in US exports to Turkey that replaces the other countries' exports. In terms of basic metal industry, when Turkey eliminates tariff on imports from the US, Turkey's total import from her will increase approximately by 11 million dollars. 5.9 million dollars of that sum is because of trade creation and 5.7 million dollars is because of the trade diversion effects in basic metal industry (total trade effect).

If Turkey completely removes the tariffs against US in fabricated metal products, machinery and equipment industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 2.7%. Total trade effect that is the total increase in imports from Turkey is 4.8% in this sector. 2.1% of this increase originates from the trade diversion effect, namely the increase in US exports to Turkey that replaces the other countries exports. When Turkey eliminates tariff on imports from the US, Turkey's total import from

the US will increase approximately by 246 million dollars 140 million dollars of which is due to trade creation and 105 million dollars is due to the trade diversion effect in in fabricated metal products, machinery and equipment industry. If Turkey completely removes the tariffs against the US in other manufacturing industry, import increase from US due to trade creation as percentage of total imports in this sector is equal to the 3.1%. The total increase in imports which is called total trade effect from Turkey is 6.1% in this sector. 2.9% of this increase comes from the trade diversion effect, namely the increase in US exports to Turkey that substitutes the other countries' exports. If Turkey eliminates tariff on imports from US, Turkey's total import from US will increase approximately by 2.02 million dollars for other manufacturing industry. 1.02 million dollars of this value is thanks to trade creation and 978.6 million dollars is thanks to the trade diversion effect in other manufacturing industry (total trade effect).

Figure 5: Increase in Turkey's Exports to US and Imports from US as a result of Bilateral Tariff Elimination



Source: Table 13 and Table 15

For food, beverages and tobacco industry, increase in Turkey's imports from the US resulting from relative price change is 42.5%. Increase in Turkey's export to the US is 17.6%. Increase in Turkey's imports from the US due to the relative price change is 27%. Increase in Turkey's export to the US is estimated to be around 24.3 % for textile industry. 6.8% represents the increase in Turkey's imports from the US in Turkey while 0.8% represents the increase in Turkey's export to the US in wood industry. For paper industry, increase in Turkey's export to the US is 0.4%, while the increase in Turkey's imports from the US is 0.2% for Turkey. For manufacture and chemical industry, increase in Turkey's export to US is 10.9% for Turkey. Increase in Turkey's imports from the US is 6.1%. Increase in Turkey's export to the US is found to be 7.4% in non-metallic industry and increase in Turkey's imports from the US is 6.1% in this sector.

Increase in Turkey's export to the US is 1.1% for basic metal industry and increase in Turkey's imports from the US is 5.9%. Increase in Turkey's export to the US is found to be 4.1 for fabricated metal products, machinery and equipment industry, whereas, increase in Turkey's imports from the US is 4.8% for this sector. Increase in Turkey's export to the US is 19.2% in other manufacturing industry. Increase in Turkey's imports from US is 6.1%. Total increase in Turkey's export to US is found to be 9.5% for all sector respectively and increase in Turkey's imports from the US is 7.2% total for all industries. While in most industries, the increase in Turkey's imports from the US is slightly higher than the increase in Turkey's exports from US, there are four main exceptions: paper and paper products, printing and publishing industry, chemicals and chemical, petroleum, coal, rubber and plastic products industry. Increase in Turkey's imports from the US has relatively high value in these sectors. Total increase in Turkey's imports from the US gains is higher than total increase in Turkey's export to the US.

As a conclusion, Figure shows that as result of the elimination of the elimination of tariffs bilaterally with US, balance of trade only improves in two sectors;

chemicals and chemical, petroleum, coal, rubber and plastic products and other manufacturing industry.

4.1.3. Welfare Effects, Tariff Revenue Change, Consumer Surplus for Turkey and the US

SMART model also enables us to calculate the effect of economic tariff removals on tariff income, consumer surplus, and welfare. Table 16 shows the welfare, tariff revenue and consumer surplus changes for US as result of the removal of all tariffs against imports from Turkey.

Table 16: Welfare Effects, Tariff Revenue Change, Consumer Surplus Changes for US

Products	Welfare Change	Tariff Revenue Change	Consumer Surplus
31 Food, Beverages and Tobacco	1.645.123	-40.723.225	876.514
32 Textile, Wearing Apparel and Leather	18.339.665	-366.510.996	17.808.673
33 Wood and Wood Products, Including Furniture	23.143	-609.961	6.247
34 Paper and Paper Products, Printing and Publishing	478	-25.259	27
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	1.438.528	-67.406.514	882.259
36 Non-Metallic Mineral Products, except Products of Petroleum and Coal	951.728	-11.883.201	589.127
37 Basic Metal Industries	182.629	-9.180.635	70.424
38 Fabricated Metal Products, Machinery and Equipment	965.731	-61.050.295	684.072
39 Other Manufacturing Industries	1.643.699	-8.820.278	930.705

Source: World Bank, WITS

As Table 16 shows welfare and consumer surplus increases in all sectors and tariff revenue decreases in all sectors. US's highest welfare effect is estimated as 18.4 million dollars in textile, wearing apparel and leather industry. The lowest welfare effect is estimated to be 478 thousand dollars in fabricated metal products, machinery and equipment industry. Increase in Consumer surplus is the highest for textile, wearing apparel and leather industry (17.8 million dollars). The lowest value is 27 thousand dollars for fabricated metal products, machinery and equipment industry.

Tariff revenue decrease is 366.5 million dollars in textile, wearing apparel and leather industry. It should be noted that this is the highest value. Lowest tariff change reviewed is 25.2 thousand dollars for fabricated metal products, machinery and equipment industry. Table 17 shows the welfare, tariff revenue and consumer surplus changes for Turkey as result of the removal of all tariffs against imports from US.

Table 17: Welfare Effects, Tariff Revenue Change, Consumer Surplus Changes for Turkey

Products	Welfare Change	Tariff Revenue Change	Consumer Surplus
31 Food, Beverages and Tobacco	10.226.484	-25.890.498	55.998.512
32 Textile, Wearing Apparel and Leather	295	-9.021.765	381.801
33 Wood and Wood Products, Including Furniture	7.341	-344.762	6.307
34 Paper and Paper Products, Printing and Publishing	778	-69.596	34
35 Chemicals and Chemical, Petroleum, Coal, Rubber and Plastic Products	963.329	-83.590.354	822.905
36 Non-Metallic Mineral Products, except Products of Petroleum and Coal	26.081	-2.181.636	24.718
37 Basic Metal Industries	111.563	-3.832.181	74.183
38 Fabricated Metal Products, Machinery and Equipment	1.413.804	-122.750.639	1.364.983
39 Other Manufacturing Industries	14.452	-1.869.663	18.237

Source: World Bank, WITS

As Table 17 shows welfare and consumer surplus increases in all sectors and tariff revenue decreases in all sectors. Turkey's highest welfare effect is estimated at as 10 million dollars in textile, wearing apparel and leather industry. Lowest welfare effect is estimated to 295 thousand dollars in textile, wearing apparel and leather industry. Increase in consumer surplus is the highest for textile, wearing apparel and leather industry (55.9 million dollars). The lowest value is 34 thousand dollars for paper and paper products, printing and publishing industry. Tariff revenue decrease is 122.7 million dollars in fabricated metal products, machinery and equipment industry, which is the

highest value. The lowest tariff change is reviewed is 69.5 thousand dollars for paper and paper products, printing and publishing industry.

As a result of calculations, Turkey's highest welfare effect is estimated at 10.3 million dollars. For example, the lowest welfare effect is estimated to be 778 thousand dollars for paper industry. Consumer surplus is the highest value for food industry. It is 55.9 million dollars. Lowest tariff change reviewed is -69.6 million dollars for the in paper and paper products, printing and publishing industry. Highest tariff revenue decrease is 122.7 million dollars for fabricated metal products, machinery and equipment industry.

4.2. SCENARIO 2: TTIP EU-US FREE TRADE AGREEMENT WHEN TURKEY IS NOT A PARTNER

In this scenario, if Turkey does not become a partner in the free trade agreement between the EU and the US, tariff rates of the countries that is applied on each others' trade will stay at their current level. Increase in exports of Turkey to the US is only due to the income effect that has been calculated in Section 4.2. In this scenario, since there will be no tariff elimination between Turkey and the US, Turkey will not have a chance to increase her exports due to the price effects that we calculated in section 4.2.

Turkey faces a condition: when it reduces tariff, its import increases, but the US does not reduce all tariffs to Turkey. Because of this reason, Turkey's export does not increase because of the price effect. This scenario is the worst scenario for Turkey due to the trade defection. Since Turkey has a CU agreement with the EU, it means that the US's imports goods, which can enter Turkey through any EU member country as duty free. As a result, Turkey may lose control of imports from the US. This may have an effect as if Turkey eliminates the tariffs unilaterally against the US. Although it is difficult to predict the extent of trade deflection, our calculations on imports increase from US under the assumption that Turkey eliminates all tariffs against the US based on

SMART model gives the upper limits of trade deflation. In other words, the increase in Turkey's imports can occur as we calculated in the previous scenario a total of 596 million dollars (total trade effect) in all nine sectors. (If Turkey eliminates all tariffs applies to US). Moreover, this means that Turkey's imports from the US increase unilaterally because the Swill put the customs duties for Turkey if Turkey does not negotiate any agreement with the US and the EU. US can get advantage: it can reach Turkish market through the EU, which brings about trade deflection because of CU; US does not apply duty free access to Turkey; their domestic manufacturers do not face high competition in comparison to Turkish manufacturers.

CONCLUSION

Given the importance of the EU and US as major trade partners as well as the binding obligations of the Turkey-EU CU, this study aims at estimate the likely effects of TTIP on exports and imports of the Turkey's manufacturing industry sectors. To that end, partial equilibrium analysis specifically the World Bank, SMART model of the World Integrated Trade Solution (WITS) is employed for nine manufacturing industry sectors at ISIC Rev.2 classification for the year 2017. In this research, the impacts of TTIP initiative on Turkey's foreign trade (imports and exports) are examined.

With that aim, two different scenarios are established to calculate the impacts on exports and imports of Turkey. Under the first scenario, the US and the EU will establish an FTA and Turkey will also be a member of this FTA. This requires the mutual removal of tariffs on each other's trade.

In order to quantify the effects of the income increase of the EU and the US on Turkey's exports, increase in income of the EU and the US resulting from the FTA is multiplied by the income elasticities of export demand of manufacturing industry sectors. With that aim, we used the both the maximum and minimum income increases that are estimated by relevant studies under the assumption of FTA between US and the EU and the income elasticity of export demand of manufacturing industry sectors. Minimum and maximum income increases calculated in the relevant studies under the assumption of deeper integration for the US and the EU are taken into consideration.

Our results show that exports of all manufacturing industry sectors increase as a result of the income increase in the US and the EU due to the TTIP. As far as the exports increase resulting from the US income increase, Turkey's highest exports increase will be attained for wood and wood products, including furniture industry (36.3%). Lowest exports increase is for the paper and paper

products, printing and publishing sectors (0.4%). Similarly, highest exports increase is attained in the wood and wood products, including furniture industry (29.3%) and lowest value for basic metal industry (0.3%) because of the income increase in the EU due to the TTIP.

As far as the sectoral exports changes due to relative decrease in exports price caused by the removal of tariffs on the sectoral exports that are calculated by using the SMART model also show that there will be an increase in exports in all sectors because of the elimination of all tariffs by the US. Turkey's highest exports increase will be attained for textile, wearing apparel and leather industry. The total increase in imports, which is called total trade effect, from Turkey is 24.3% in this sector. 8.4% of this increase comes from the trade diversion effect, namely the increase in Turkey's exports to the US that replace the other countries exports to the US. Turkey's lowest export increase to the US occurs in paper and paper products, printing and publishing industry. Because of the complete removal of the US tariffs against Turkey, Total trade effect that is the total increase in imports from Turkey is 0.4% in this sector. 0.1% of this increase originates from the trade diversion effect, namely the increase in Turkey's exports to the US that replace the other countries' exports to the US. Highest exports increase due to the income increase in US (income effect) and due to elimination of US tariff against Turkey (price effect) is attained in the textile, wearing apparel and leather industry.

The effects of the price decrease caused by the elimination of tariffs on the sectoral imports of Turkey are also calculated by using the SMART model. If Turkey completely removes the tariffs against the US, highest sectoral increase in imports from the US is in the food, beverages and tobacco. Total trade effect that is the total increase in imports to Turkey is 42.5% in this sector. 36.5% and 6.1% of this increase emerges from the trade creation and trade diversion effects respectively. Turkey's import from the US shows the lowest increase in the paper and paper products, printing and publishing industry. The total increase in imports from Turkey that is total trade effect is 0.2% in this sector.

0.1% of this increase emerges from the trade diversion effect, namely the increase in US exports to Turkey, which substitutes the other countries' exports.

SMART model results also shows welfare and consumer surplus increase in all sectors and tariff revenue decreases in all sectors in both countries. Highest welfare and consumer surplus increase in Turkey is gained in the food, beverages and tobacco industry, highest tariff revenue decrease are in the fabricated metal products, machinery and equipment industry and chemicals and chemical, petroleum, coal, rubber and plastic products industry respectively. On the other hand, highest welfare and consumer surplus increase is attained in Textile, wearing apparel and leather industry for the US. This industry is also the source of the highest tariff revenue lost for the US.

If Turkey does not become a partner in the free trade agreement between the EU and the US, tariff rates of the countries that is applied on each others' trade will stay at their current level. Increase in exports of Turkey to the US is only due to the income increase caused by the TTIP. In this scenario, since there will be no tariff elimination between Turkey and the US, Turkey will not have a chance to increase her exports due to the price effects caused by the elimination of tariffs. This scenario is the worst scenario for Turkey because of the trade deflection. Since Turkey has a CU agreement with the EU, it means that the United States imports goods can enter Turkey through any EU member country as duty free. Therefore, even though there will be an increase in exports from the US and the EU due to the likely income increase as a result of the TTIP, this positive effect will be outweighed by the increase in imports from the US as a result the trade deflection caused by the Turkey-EU due to CU. Accordingly, our study by using a partial equilibrium analysis, confirms the results of the other studies that points out the inclusion of Turkey in the TTIP as the best possible outcome for Turkey.

Our study shows that if Turkey is included in TTIP or sign a FTA with US, this has a positive influence on Turkey's trade. In contrast, if Turkey is excluded from the agreement this will have an effect on Turkey's trade as if Turkey

eliminates the tariffs unilaterally against the US. Because of these reasons, Turkey will develop alternative policies in order to avoid the above-mentioned negative effect in the case of the revival of the TTIP in the future. Best possible solution in this is the renewal of the CU agreement with the EU to include the condition that Turkey should be automatically added to the EU's future agreements. Even TTIP will not revived at all, it is stated in the (Global Information Forum, 2018), "TIP, TPP, NAFTA" and similar mega agreements are expected to provide guidance in trade negotiations as they raise issues that may affect the trading system. Therefore, better understanding of negotiations parties' demands should be the guiding for Turkey in her trade relations with the US and the EU".

The limitation of this study is that it measures the impact of TTIP on Turkey's foreign trade within the context of tariff reduction and, therefore, ignores the effects of non-tariff barriers. It is hoped that it inspires further studies aimed at analyzing the effects of the reduction of non-tariff barriers due to TTIP on the Turkish economy.

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APPENDIX 1 SMART METHODOLOGY

SMART Simulation Methodology

(Laird and Yeats ,1986). Smart simulation is a partial equilibrium model. It can be downloaded the data from the Smart module with WITS for detailed information on the methodology and the data used in the UNCTAD. Trade Policy Simulation Model (TPSM). The model has applied mainly to UNCTAD's protectionist policies to evaluate multiple Global Trade Preference System (GSTP) suggestions between emerging nations. It is applied to evaluate trade impacts of trade policy change on countries Model may be defined as an ex-ante model for which is applied for estimating different impacts of trade liberalization, which is associated tariff change, to measure the impacts of applied trade changes. In the scenarios the most significant estimations concern the direct trade impacts. There are estimated two separate impacts:

The trade creation

Decreasing national demand for goods from a specific trading partner is triggered by a decrease in the cost of the exported product compared to the cost of the nationally produced good which is replaced because of the impact of trade reduction.

Trade diversion

The impact of trade diversion has replaced products from external providers with products which is exported from the other external providers. This can be caused by changing the MFN rate, preferential rate, If a preferential ratio is implemented or decreased for one group of nations while MFN ratio is applied for the other group of nations thus positive trade diversion for preference receiving nations and negative trade diversion will occur for the other nations. The impacts of trade creation and trade diversion show, if it is not preferential receiving countries or not, the actual impact in each member industry for each member nation. The model is applied to calculate the impacts of trade liberalization on prices, revenues and welfare. It is also applied to evaluate the direct trade impacts of liberalization on production and labour, in conjunction with information from the UNIDO Data Base on Industrial Statistics.

In this regard, there is potential for further growth. Partial equilibrium models are open to critique that they do not bring into consideration the economical impacts of adjustments, even if they can be expanded to estimate the outcomes of sector impacts and balance of trade. General equilibrium models are technically more satisfying because they also bring into consideration inter-industry impacts and impacts on exchange rates. While the partial equilibrium approach equilibrium seems to have a amount of limitations, it has the benefit of serving details as a modeling strategy. Relying on entirely on the tariff classification information and the amount of trading members, continuing to work at this stage of information allows for significant reliability in defining important goods and trading collaborators impacted by specific situations of trade change. Since the UNCTAD model utilizes previous elasticity data to take from other studies (i.e. it is a simulated design rather than an estimation system), it is comparatively simple to evaluate new policy alternatives on ex ante basis.

THE BASIC DATA AND PARAMETERS

Tariffs

For most advanced market-economy nations (DMECs), tariff data is taken from GATT that are not accessible for all members. Tariff data is coded in UNCTAD's Trade Information System or emerging nations. I tariff data on emerging nations is used in the perspective of the impacts of the Generalized System of Trade Preferences among emerging nations. UNCTAD also brings into consideration ceilings or quotas in the implementation of the GSP in the basic tariff data additionally. tariff rates for emerging countries, the TIS focused primarily on recording the MFN rate, it is required to convert particular rates to ad valorem terms.

Non-tariff barriers (NTBs)

Extensive data on government-imposed trade regulations on main industrialized nation economies is a main necessity for using the model to evaluate the trade liberalization impacts of eliminating NTB Although these studies were usually focused on manufacturing, some information on product security are also included.

Imports

Trade information for emerging nations are obtained from the United Nations Commodity Trade Statistics, Series D, which utilizes the United Nations Standard International Trade Classification (SITC), both in Revision 1 and Revision 2, although mainly for growing nations in Revision 1. Import information in this sequence are registered in the importing nation at the moment of entry.

Elasticity of export supply

Information on export supply elasticity has not yet been clearly applied in the model as there is not easily accessible extensive data about the parameters. The primary models usually apply a presumed value of infinity, and performing "sensitivity" tests depending on models for different variables, namely inelastic supply models. Simulations with additional measurements have provide that when supplies arc are presumed to be comparatively inelastic, the volume changes are significantly lower, although there is a beneficial impact on the prices earned by exporting countries, which continues to adjust. significant impact is not considered where elasticities of supply is non-infinite. This is the corresponding impact of trade liberalization on a wide range of economies, as could occur after multilateral agreements. Such liberalization along with non-infinite supply elasticity is probable to trigger a much lower trade volume growth than the model's current version predicts.

USES OF THE MODEL

Two of the model's primary applications is in association with UNCTAD's research on protectionism and structural change, as well as offering technical support to GSTP work. Another instance of using the model is to define in depth how trade strategy methods will impact particular goods. It's something the model is particularly adapted for at this stage of information, general equilibrium methods do not function. An instance of this model applying is the identifying of important products in specific industries where trade liberalization will profit emerging nations. O, this sort of implementation could help emerging nations to come up with suggestions for trade liberalization with potential multilateral agreements. A using the model is to assess the direct trade impacts of current

preferences for emerging nations under the Generalized System of Preferences (GSP). The model may be applied to measure the impacts of changes in systems and to represent the potential impacts of additional alternatives that could be viewed. Related implementations may contribute significantly to the development and adoption of GSTP by emerging nations.

The model is also used in the evaluation of trade strategies, on demand, to provide data for emerging nations. The model is also used to support emerging countries to analyze the potential impact that trade liberalization activities could create to reducing the global debt burdens of these nations.

Technical Description of the UNCTAD Trade Policy Simulation Model

NOTATION*⁴

M imports

X imports

P price

W welfare

Y national income

M_n imports from non-preference-receiving countries

V output in the importing country

R revenue

T tariff rate or non-tariff distortion in ad valorem terms

E_m elasticity of import demand with respect to domestic price

E_x elasticity of export supply with respect to export price

E_s elasticity of substitution with respect to relative prices of the same product from different sources of supply

TC trade creation

TD trade diversion

i subscript denoting commodity

j subscript denoting domestic/importing country data

k subscript denoting foreign/exporting country data

⁴ Technical descriptions are taken from Laird, S., and Yeats, A. (1986, October). The UNCTAD trade policy simulation model. In A Note on the Methodology, Data and Users, United Nations Conference on Trade and Development (Discussion Papers núm. 19).

- In certain expressions the subscript K is used to denote data for an alternative foreign/exporting country

d prefix denoting change

Examples:

P_{ijk} Price of commodity i in country j from country k (i.e domestic price in j)

P_{ikj} Price of commodity i from country k to country j (i.e. export / world price j)

M_{ijk} Imports of i by j from k

X_{ikj} Exports of by k to j

Sets of formulas and calculations from simulations is derived, which can define the basic model.

The basic model The importing country j's import demand function for commodity i produced in country k can be stated as:

$$(1) M_{ijk} = F(Y_j, P_{ij}, P_{ik})$$

the export supply function of the producer / exporting nation k for product it can be described as:

$$(2) X_{ikj} = F(P_{ikj})$$

the preceding identification is linked to the expressions (1) and (2):

$$(3) M_{ijk} = X_{ikj}$$

regarding to the assumption that, in a scenario of free trade, the national cost of the commodity I in the importing country j is equal to the export cost of the nation k added shipping and insurance fees, it takes that this cost will increase by a sum equivalent to the ad valorem rate of any tariff or non-tariff change given to the product. Thus:

$$(4) P_{ijk} = P_{ikj} (1+t_{ijk})$$

it is also evident that k's export revenue are :

$$(5) R_{ikj} = X_{ikj} \cdot P_{ikj}$$

Trade creation

The impact of trade creation is the enhanced demand from exporting nation k for commodities i arising from the cost reduction connected with the presumed

total transfer of cost shifts when tariff or non-tariff distortions are decreased or eliminated. Because of the fundamental model composed of phrases (1) to (5), the fundamental formula for trade creations can be written.

First, from expression (4) it is possible to derive the total differential of domestic price with respect to tariffs and foreign price:

$$(6) dP_{ijk} = P_{ikj} \cdot dt_{ijk} + (1+t_{ijk}) \cdot dP_{ikj}$$

the standard definition elasticity of import demand may be rearranged as follows in regard of internal cost.

$$(7) dM_{ijk} / M_{ijk} = E_m \cdot (dP_{ijk} / P_{ijk})$$

Substituting from expression (4) and (6) into expression (7) gives:

$$(8) dM_{ijk} / M_{ijk} = E_m \cdot (dt_{ijk} / (1+t_{ijk}) + dP_{ijk} / P_{ijk})$$

The standard expression for the elasticity of export supply with respect to the world price can be rearranged as follows:

$$(9) dP_{ikj} / P_{ikj} = (dX_{ikj} / X_{ikj}) / E$$

From expression (3) it follows that:

$$(10) dM_{ijk} / M_{ijk} = dX_{ikj} / X_{ikj}$$

Substituting (10) for (9) and (8) results in the expression which can be used to calculate the impact of Expression (3) equals the increase of exports of commodities from nation k to nation j. This is the ratio. The term trade creation can be formulated

$$(11) TC_{ijk} = M_{ijk} \cdot E_m \cdot dt_{ijk} / ((1+t_{ijk}) \cdot (1 - (E_m/E_x)))$$

the denominator to the right side of the expression (11) can be observed if the elasticity of export supply is infinite in terms of the global price.

Trade diversion

The word "trade diversion" refers to importers' inclination to replace products from one supplier to another as a reaction to a shift in the trade cost of supplies from one provider, but not from the option. If prices decrease in one foreign country. Exporters can buy more products from this country and less from other countries whose products keep constant price in the market

i) The formulation for trade diversion can then be written:

$$(13) TD_{ijk} = TC_{ijk} \cdot (M_{nij} / V_{ij})$$

This formula implies "the substitubility between a commodity of the emerging nation and a comparable good manufactured, non-preference holding countries, need to be comparable to that of a item manufactured in the importing country donated by emerging nations and a comparable commodity manufactured in the receiver.

" (Id.).

The total trade effect

Trade creation and trade diversion effects can be summed for finding the total trade effect.

The price effect

If the export supply elasticity is infinite then there is no price effect on exports.

Otherwise

the price effect can be obtained by substituting expression (10) into (9), giving:

$$(16) \frac{dP_{ikj}}{P_{ikj}} = \left(\frac{dt_{ijk}}{1 + t_{ijk}} \right) \cdot \left(\frac{E_m}{E_m - E_x} \right)$$

The revenue effect

In calculating the income impact for an exporting country, expression (16) has clear implementation.

Otherwise the income rise is equivalent to the export growth ratio plus the price rise proportion. This can be illustrated by getting from definition (5) the total differential of revenue with export cost and quantity:

$$(17) dR_{ikj} = P_{ikj} \cdot dX_{ikj} + X_{ikj} \cdot dP_{ikj}$$

Dividing the left-hand side (LHS) of (17) with the LHS of expression (5) and the right-hand side (RHS) of (17) with the RHS of (5) gives:

$$(18) \frac{dR_{ikj}}{R_{ikj}} = \frac{P_{ikj} \cdot dX_{ikj} + X_{ikj} \cdot dP_{ikj}}{P_{ikj} \cdot X_{ikj}}$$

Reducing and substituting from expression (10) gives: (19) $\frac{dR_{ikj}}{R_{ikj}} = \left(\frac{dM_{ikj}}{M_{ikj}} \right) + \left(\frac{dP_{ikj}}{P_{ikj}} \right)$

Alternatively, this can be written:

$$(20) \frac{dR_{ikj}}{R_{ikj}} = \left(\frac{dt_{ijk}}{1 + t_{ijk}} \right) \cdot E_m \cdot \left(\frac{1 + E_x}{E_x - E_m} \right)$$

The welfare effect

The welfare effect comes from the advantages buyers in the importing nation originate from lower national prices when non-tariff distortions have been removed or reduced. However, for an increasing in imports, net welfare earnings

are equal to the value of imports by the domestic buyer (except for the price of supply, except tariffs). The net welfare effect is therefore usually forecasted to enhance the import price after the ad valorem incidence impact of trade barriers. The welfare increase may also be considered as an increase in consumer surplus. It can be formulated.

$$(21) \Delta W_{ijk} = 0.5(\Delta t_{ijk} \cdot \Delta M_{ijk})$$

Where export supply elasticity is lower than infinity the supply price, the production cost is greater than before. The current domestic import cost does not decrease to the complete level of the tariff change and the development of imports is lower than the infinite elastic export supply. Welfare can still be calculated using phrase (21), but it requires to be understood as a mixture of consumer surplus.



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