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**DETERMINANTS OF FINANCIAL AND INSURANCE  
& PENSION SERVICES EXPORT**

**MASTER THESIS**

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## LIST OF ABBREVIATIONS

<b>BPM6</b>	: Sixth Edition of Balance of Payment Manual
<b>CPI</b>	: Corruption Perception Index
<b>EBOP</b>	: Extended Balance of Payment
<b>ECB</b>	: European Central Bank
<b>EU</b>	: European Union
<b>FDI</b>	: Foreign Direct Investment
<b>FE</b>	: Fixed Effects
<b>FISIM</b>	: Financial Intermediation Services Indirectly Measured
<b>FRED</b>	: Federal Reserve Economic Data
<b>FSAP*</b>	: Financial Services Action Plan
<b>FSAP**</b>	: Financial Services Assessment Program
<b>FSP</b>	: Financial Services Provider
<b>GATS</b>	: General Agreement on Trade in Services
<b>GATT</b>	: General Agreement on Tariffs and Trade
<b>GDP</b>	: Gross Domestic Product
<b>GNP</b>	: Gross National Product
<b>H-O</b>	: Heckscher-Ohlin
<b>IBM</b>	: International Business Machines
<b>ICC</b>	: International Chamber of Commerce
<b>ICT</b>	: Information and Communication Technologies
<b>IHIP</b>	: Intangibility, Heterogeneity, Inseparability and Perishability
<b>IMF</b>	: Internatioanl Monetary Fund
<b>ISIC</b>	: International Standard Industrial Classification
<b>LIBOR</b>	: London Interbank Offered Rate
<b>MSITS</b>	: Manual on Statistics of International Trade in Services
<b>NAICS</b>	: North American Industry Classification System
<b>NTB</b>	: Non-Tariff Barriers
<b>OECD</b>	: Organisation for Economic Co-operation and Development
<b>R &amp; D</b>	: Research and Development
<b>TIFS</b>	: Trade in Financial Services
<b>TISMOS</b>	: Trade in Services by Mode of Supply
<b>UK</b>	: United Kingdom

**UNCTAD** : United Nations Conference on Trade and Development

**US** : United States

**WTO** : World Trade Organization

**WWII** : World War II

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<p>Hizmet sektörü özellikle İkinci Dünya Savaşından sonra, birçok ekonomi tarafından önem kazanmış olup Dünya Bankası istatistiklerine göre, Hizmet İhracatı 1980 ile 2019 arasında yaklaşık 15 kat artmıştır. Hizmetler, mal üretiminde girdi olarak bulunabildiklerinden, dünya ticaretinin yaklaşık %50'sini oluşturmaktadır. Bu oran, hizmetlerin, küresel ekonomik çıktının üçte ikisinden fazlasını oluşturduğu anlamına gelmektedir ve gelişmekte olan ülkelerde istihdamın üçte ikisini, gelişmiş ülkelerde ise beşte üçünü oluşturduğunu göstermektedir. EBOPS 2010 hizmet sınıflandırmasına göre, finans ve sigortacılık &amp; emeklilik hizmetleri iki farklı hizmet kategorileridir. Finansal kurum ve piyasalar aracılığı ile hem yerel hem de küresel ekonomik büyümenin teşvik edilmesiyle, finans hizmeti sektörünün küresel ticaret içindeki payı artış trendi izlemektedir. Literatürde, bir ülkenin finans sisteminin gelişmişliği o ülkenin ticaretinin ve karşılaştırmalı üstünlüğünün kaynağı olarak ifade edilmektedir. Ayrıca, sigortacılık hizmeti, finans hizmetinden ayrı bir hizmet dalı olmasına karşın finans sektörünün gelişmesine katkı sağlamaktadır. Finans ve sigortacılık &amp; emeklilik hizmetlerinin birbirleriyle olan yakın ilişkisini ve küresel ticarete artan hacim ve önemlerini göz önünde bulundurduğumuzda, daha bütüncül bir yaklaşımda bulunabilme adına bu iki hizmet kategorisi, bu çalışmada birlikte ele alınmıştır.</p> <p>Bu çalışmanın amacı, hacmi ve önemi artan hizmet kategorileri olarak, finans ve sigortacılık &amp; emeklilik hizmetleri ihracatının temel belirleyicilerini incelemektir. Spesifik olarak, Doğrudan Yabancı Yatırım (DYY) giriş ve çıkışlarındaki, finansal kurumların derinliğindeki, yolsuzluk algılama endeksindeki, GSYİH'deki ve FED fon oranlarındaki değişikliklerin finans ve sigortacılık &amp; emeklilik hizmetleri ihracatı üzerindeki etkileri analiz edilmektedir. Toplam 82 ülke için 2005 ile 2018 yılları arası panel veriler kullanılarak, finans ve sigortacılık &amp; emeklilik hizmetleri ihracatının belirleyicileri Sabit Etkiler Modeli ile analiz edilmektedir.</p> <p>Sonuç olarak, bu çalışma, yüksek gelirli ülkeler için finansal kurumların derinliği ve GSYİH değişkenlerinin finans ve sigortacılık &amp; emeklilik hizmetleri ihracatı üzerinde olumlu etkileri olduğuna dair kanıtlar sunarken orta gelirli ülkeler için, finansal kurumların derinliği, GSYİH ve DYY çıkış değişkenlerinin finans ve sigortacılık &amp; emeklilik hizmetlerinin ihracatı üzerinde olumlu etkisi olduğu bulgusuna ulaşmıştır. Bu çalışma, finans ve sigortacılık &amp; emeklilik hizmetleri ihracatının belirleyicilerini formüle eden ilk çalışma olduğundan literatüre katkıda bulunmaya çalışmaktadır. Yanı sıra, orta gelirli ülkelerin ekonomi politikalarıyla, hizmet sektörlerindeki yapısal boşlukları ortadan kaldırarak finans ve sigortacılık &amp; emeklilik hizmetlerine önem göstermeleri halinde önlerinde büyük bir fırsat olduğunu kanıtlamaktadır. Bu sektörlerin ihracatında lider konumda bulunan ülkelerin yanısıra, orta gelirli ülkeler finansal kurumlarının derinliklerini genişlettiklerinde ve bu genişletmeye yönelik yabancı sermaye akımının geliştirilmesi ile ödemeler dengesi bilançolarına büyük katkı sağlayacaklardır. Nihayetinde, yüksek ve orta gelirli ülkelerin, finans ve sigortacılık &amp; emeklilik hizmetleri ihracatı yolunda ekonomik, yasal, teknolojik ve beşeri alanlarda gelişme sağlayacakları öngörülmektedir.</p>	
<b>Anahtar Kelimeler:</b> Hizmet Sektörü, Uluslararası Hizmet Ticareti, Finans Hizmeti, Sigortacılık & Emeklilik Hizmetleri	

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<p>After the WWII, the service sector gained importance in many economies and services have been fast growing portion of world trade. According to World Bank statistics, service export increased approximately 15 times between 1980 and 2019. Since services are supplied as an input into the production of goods, they account is about 50% of world trade. It means that services account for over two-thirds of global economic output and employment in developing countries and four-fifths in developed ones.</p> <p>According to EBOPS 2010 service classification, two different service categories are financial and insurance &amp; pension services. The share of financial service sector in global trade has grown since 1980s by encouraging both the national and global economic growth via financial institutions and intermediaries. Financial system of a country is regarded as a source of comparative advantage and trade. Also, although insurance service is different service category from financial service, it promotes the financial service category.</p> <p>As we consider the close association of these two service categories with each other and increasing importance and volume in global trade, we show a holistic approach by handling with these two service categories together based on the most recent classification EBOPS 2010.</p> <p>Hence, the purpose of this study is to examine the main determinants of financial and insurance &amp; pension services export as service categories of increasing importance and volume. Specifically, it analyzes the impacts of changes in FDI inflows and outflows, financial institutions depth, corruption perception index, GDP (constant 2010 US\$) and FED funds rate on financial and insurance &amp; pension services export. This study uses annual panel data from 2005 through 2018 for 82 high and middle-income countries. Panel Fixed Effect (FE) model is applied to identify the impact of determinants of financial and insurance &amp; pension services export.</p> <p>As a result, this study gives evidence that financial institutions depth and GDP in high-income countries have positive impacts on the financial and insurance &amp; pension export. For middle-income countries, financial institutions depth, GDP, and FDI outflow variables promote export of financial and insurance &amp; pension services. Since this thesis study that formulate the determinants of financial and insurance &amp; pension services export is the first, it endeavours to contribute the literature of service export. In addition to this, it gives evidence that there is a great opportunity for middle-income countries if they pay attention to the financial and insurance &amp; pension services by eliminating structural gaps in their services sector with their economic policies. Besides of leading exporters, when middle-income countries expand the depth of financial institutions and develop foreign capital flows for this expansion, they will make a great contribution to their balance of payments. Hence, it is foreseen that high and middle-income countries will provide economic, legal, human, and technological development on the way to financial and insurance &amp; pension services exports.</p>	
<b>Keywords:</b> Service Sector, International Trade in Services, Financial Service, Insurance & Pension Services	

## INTRODUCTION

In the literature, there is no a common definition of services but they were being classified as non tradable goods before the 1980s. As Feketekuty (1988) cited, Adam Smith and David Ricardo as founders of modern economic theories, they have focused on merchandise trade and they have seen the services as non-tradeable. After the second half of the twentieth century, the role of agriculture and manufacturing sectors started to decrease in global trade in terms of value added in favor of the tertiary sector while service sector is gaining importance in world trade (Guarasa and Pajares, 2014). Today, services cover a large economic area and they are at the center of global trade and the engine of growth (Mattoo and Stern, 2008).

Currently, the service sector is gaining more importance in global trade. The most significant reason why international trade in services gained its portion in global trade is rapid development of technology that underlying the production of both goods and services (Feketekuty, 1988; Van Welsum, 2003; Francois and Hoekman, 2010; Grönroos, 2016; Amador, Cabral and Ringstad, 2019). Service exports increased approximately 17-fold between 1979 and 2019. Since services are supplied as an intermediate into the production of goods, they account is about 50% of world trade (WTO, 2019b), so both developing and developed countries try to improve themselves in this field.

Essentially, services compose of a large of economic activities, so there are lots of classifications that show different service categories. The first belongs to General Agreement of Trade in Services (GATS). Besides GATS classification, Extended Balance of Payments (EBOPS) 2010 is the current classification type. Among all categories, one of the key service categories is financial services (WTO, 2019b) since all economic activities depend on access to financial services. Another different service category is insurance & pension services which are closed and related with financial services in terms of functions.

El Khoury (2006) points out that financial services are a proof of a country's development level since they enable global transactions and facilitate the exchanging of goods and services. In the competitive global business environment, providing an efficient financial sector is very critical (Kono et al., 1997). According to statistics, financial service sector in global trade has grown since 1980s by encouraging both the national and global economic growth via financial institutions (like banks and insurance companies) and

markets (like stock and bond markets). Due to the relation of financial services with other services such as transportation and information and communication technologies (ICT), trade in financial services (TIFS) have gained much importance in both developed and developing countries (Gani and Clemes, 2016), so today, many countries are trying to get advantage in different service categories including financial services (Lorde et al., 2015).

In addition, insurance & pension services are included in this study because they constitute the core of financial and insurance services have a big role on the economic development (Khatun, 2016). Insurance & pension services provide assurance people who withdraw from the labor market from falling into poverty and from other risks (Cuadros-Menaca, 2020). Also, development of insurance and pension services promotes the role of the financial sector (Impavido and Tower, 2009).

In short, since the role of financial and insurance & pension services in the balance of payments is significant, since their export provide inflows of money into the domestic economy (Briggs, 2017), since countries' financial systems are accepted as a resource of comparative advantage and trade (Do and Levchenko, 2004) and since developing digital technologies encourage the export of these sectors, we will estimate between total value of financial and insurance & pension services exports and main determinants of these categories. Therefore, this study investigates the impacts of changes in FDI inflows and outflows, financial institutions depth, corruption perception index, GDP (constant 2010 US\$) of countries, and FED funds rate on financial and insurance & pension services export.

**Target of Research:** Because of developing and increasing importance of financial and insurance & pension services in global trade, the purpose of the study is to examine the main determinants of financial and insurance & pension services export for high-income and middle-income countries. Specifically, it analyzes the impacts of changes in FDI inflows and outflows, financial institutions depth, corruption perception index, GDP (constant 2010 US\$) and FED funds rate on financial and insurance & pension services export.

Since countries' financial systems (including insurance and pension services) are regarded as a resource of comparative advantage and trade (Do and Levchenko, 2004), this study attracts attention the positive effect of these sectors on the economic growth.

In terms of academical and sectoral, drawing attention to the increasing value and importance of these sectors in international trade in services and filling the gap in the literature are expected by handling financial and insurance & pension services together. With an empirical analysis method named Panel Data Analysis, enlightening and valuable findings will be acquired about these sectors' export determinants.

**Research Problem and Questions:** Financial services are defined as 'brain of the economy' by World Trade Organization (WTO). All economic activities depend on access to financial services, so if a country has developed financial system (including insurance & pension services), its economic growth will increase. Since financial and insurance & pension services can be supplied without need physical proximity between service supplier and consumers thanks to development of digital technologies, today's both developed and developing economies try to get advantage from these sectors. Therefore, financial and insurance & pension services are developing in parallel with the increasing of international trade in services in global trade.

Since domestic financial development of countries will lead to export activities in these sectors, besides of financial development determinant, we research what other determinants of these services exports. The leading financial and insurance & pension services exporters are mostly developed economies. However, among them some developing economies such as Singapore and Hong Kong are ahead of many developed economies in the ranking such as Canada, Japan, Italy, Switzerland and Australia so that this study explores the main factors of financial and insurance & pension services export. Then, with the panel data analysis method, it will be tried to interrelate with export values and variables belonging to their determinants.

**Importance of Research:** To the best of the authors' knowledge, this is the first paper that formulates the determinants of financial and insurance & pension services export. Moreover, the study endeavors to contribute the literature on service export.

In order to eliminate the gap caused by the fact that no academic study handles these two service sectors' export together via empirical analysis, we meticulously focused on the main determinants of the exports of these two different service categories by applying panel data analysis. Besides academical or scientific contribution, enlighten the global business world in a sectoral sense is one of the common effect expected from this study.

WTO (2019b) estimates that trade in services will increase 50% in 2040 year if developing countries adapt to the global developments by rising their competitiveness both in manufacturing and service sectors. Therefore, our findings for middle-income countries in the econometric analysis affirm WTO since the findings show some opportunities for middle incomes about the future of their financial and insurance & pension services export as part of international trade in services. We think that this thesis is an enlightening study for middle-income policy makers.

**Method of Research:** This paper uses annual panel data from 2005 through 2018 for 82 high and middle-income countries. Panel Fixed Effect (FE) model is applied to identify the impact of determinants of financial and insurance & pension services export. Also, the study checks the validity of the model by using Prais-Winsten Standard Errors Estimator.

**Limitations of Research:** Although financial and insurance & pension services are different service categories, some functions are common, so while we are looking for the determinants of their exports, some factors are used for both. For example, we said that financial development of domestic market is a core determinant of both categories exports. We should emphasize that although financial and insurance & pension services are two different service sub-sectors, there is no a very sharp distinction between them at some points. Therefore, we gathered their export determinants together.

Also, some variables which indicate these services' export determinants could not be gotten by secondary datas for extended time range such as foreign direct investment (FDI) in financial and insurance & pension services, so we prefer to use all FDI flows (inward and outward) as a determinant of financial and insurance & pension services export.

Lastly, since we could not reach financial and insurance & pension services export data for all 82 countries from the past years, we start to get export datas from the 2005 year for our balanced panel dataset.

## **PART 1: CONCEPTUAL AND THEORITICAL FRAMEWORK OF SERVICES AND INTERNATIONAL TRADE IN SERVICES**

In this part of the study, conceptual and theoretical framework of services and international trade in services will be examined.

In the first section, various definitions of service concept in the literature will be examined with the characteristic features and classification of services.

The conceptual framework of international trade in services are explained in the second section. The theoretical framework of international trade in services will be tackled with towards foreign trade theories in the third section.

In the last section of this part, international trade in services in the global economy by country, country groups and category will be examined numerically.

### **1.1. The Concept of Service**

In the past, especially after the second half of the twentieth century, agriculture and manufacturing sectors lose their importance in global trade in terms of the employment and in value added in favor of the tertiary sector while service sector is gaining importance in world trade (Guarasa and Pajares, 2014).

Before the explaining of the development of service sector, the concept of ‘service’ will be examined.

First of all, there have been lots of attempts to define the concept of service. Looking at the definitions of the service from past to present creates a sense of how the service has been perceived throughout history.

Table 1 shows the definitions of services in the chronological order.

**Table 1: The Historical Definitions of Services**

Physiocrats (- 1750)	The all activities except agricultural production
Adam Smith (1723-1790)	All activities that do not result in a tangible (tactile) product
J. B. Say (1767-1832)	All non-manufacturing activities that add benefit to the products
Alfred Marshall (1842-1924)	Goods (services) that existed at the time of creation

**Source:** Ozturk, S. A. (2019): *Hizmet Pazarlaması: Kuram, Uygulama ve Örnekler*, Bursa: Ekin.

According to Table 1, Physiocrats, whose main policy proposals were to raise the size of the agricultural product (Meek, 1963: cited, Burkett, 2003: 139), define the concept of service for the first time in history as all activities except agricultural production.

Conceptually, the distinction of goods and services was made by Smith (1776) for the first time in eighteenth century. Adam Smith defines services such as like that activities that do not become in a concrete product and as an inefficient sector. Since Adam Smith focused on trade in goods in the classical period, he has seen services were non-tradeable (Feketekuty, 1988).

Like Adam Smith, Say (1821) defines the service by separating it from concrete goods or products as non-manufacturing activities that add benefit to the products.

From the second half of the nineteenth century until the 1920s, the classical sense that service activities are economically inefficient has weakened. Marshall (1890) defines the concept of service by highlighting when the service occurred regardless of the distinction between goods and services. He has stated that all economic activities are efficient and that every activity requires services.

Between 1925 and 1960, services were described by Fisher (1939) and Clark (1957) as what services are not, rather than what they are (Roberts, 2018). For instance, Clark (1957) divides the economy into three groups; primary, secondary and residual tertiary. The primary sector includes agriculture, fisheries, mineral production and forestry. The secondary sector includes industry activities. The third is residual tertiary or service sector.

From 1960 until today, because of the change of social and economic conjuncture in the world, it became necessary to make modern definitions instead of traditional definitions. As a more comprehensive definition, different approaches to define services exist after 1960s in the literature (Ozturk, 2019).

Most of the modern descriptions of services depend on the differences of services from goods. While defining the services, the opposite features of the services such as being intangible and heterogeneous are taken into consideration.

In this regard, Hill (1977) makes a distinction between services with abstract qualities and goods with tangible features.

Hill (1977) defines goods as a physical object that transferable between economic units and service is defined as a change according to the situation of a person, of o a goods belonging to the economic unit.

With a similar approach, Shostack (1984) explained the concept of service by comparing with the goods. According to Shostack, while products have both spatial and time dimensions, services have only time dimensions.

Miles and Boden (2000) point out the most important point regarding the definition of service is that there are features that make the services different from goods or other types of economic activities. These features are: (i) services do not have a physical structure, (ii) service cannot be transferred and cannot be stored and (iii) service creates a direct interaction between the producer and the consumer.

Rather than the approaches which depend on the differences of services from goods to define the concept of service, there are some other comprehensive definitions which depend on mostly the characteristic features of services after 1960s as a modern description.

For example, Grönroos, (1990) emphasizes the interaction dimension of the service. This relation may be between the consumer and the service provider directly, as well as the physical resources and goods in the environment where the service is offered.

Zeithaml and Bitner (1996) defines services with the simplest words as services are movements, processes and performances.

Another comprehensive definition belongs to Kotler (1997) who defines the concept of service as an activity supplied by one party to the other that cannot be touched fundamentally and does not conclude in ownership of anything.

OECD (2005) defines services as heterogeneous outputs and when services are produced or supplied, they must have been provided to the consumers. Since services aren't stocked due to its intangible nature, the simultaneous production and consumption role is highlighted.

According to Lovelock and Wirtz (2007), the services offered by one party to another are usually economic activities that consist of time-based performances that bring the willing results to those purchasing the service since customers expect to obtain value for money, effort and time which they spend.

Spohrer and Maglio (2008) define the services as an application of talents to the benefit of other people, suggesting that service is a commitment between a customer and supplier that commonly implied as a co-creation of value.

As it is seen that there is no an accepted common definition for services. Since the services cover a large economic area and it is not easy to obtain full acceptance about the distinction between goods and services, the definition of services has not reached a consensus. In order to be able to define services, it would be a correct approach to grasp what the characteristic features of services are. Characteristic features of the services will be examined in detail in the next section.

### 1.1.1 The Features of Services

Most of the definitions for the separation of goods and services in the literature are made by evaluating the differences arising from the characteristic features of the services (Rathmell, 1974). These characteristic features of services are shown by Grönroos (1990) as untouchable (intangible), heterogeneity, simultaneous production and consumption, and ownership cannot be transferred.

Assael (1990) explains the features of services by dividing into four categories; intangibility, perishability, variability and simultaneous production and consumption. Another approach belongs to Mudi and Cotton (1998). They state the characteristic features of services as immateriality, inseparability, variability and instability in Table 2.

**Table 2: Characteristics of Services and the Limitation of Their Impact**

Features of the Services	Limiting the Impact of Service Features
Immateriality	Place (external and internal appearance of the organization), People (busy staff, adequate staff for quick service), Equipment, Information materials (folders, photos), Symbols (organization name, logo), Price
Inseparability	Selection of employees, Staff training, customers commitment Communication with customers
Variability	Motivating employees, Introduction of procedures, Partial automation of the service process, Caring for the atmosphere in the organization, Communication with customers
Instability	Price differentiation, Complementary services, Reservation systems Employment of additional staff during peak hours, Increasing of customer participation

**Source:** Mudi and Cotton (1998): cited, Spodarczyk, E. (2018). Characteristics of Services and Their Consequences for the Strategy of Social Responsibility. *European Journal of Service Management*, 25(1/2018), (pg. 291).

Table 2 shows the features of services in terms of the effect of service features to the service organization.

With a general approach, Miles and Boden (2000) identify the features of services with the difference of the service from the goods. They are: (i) services do not have a physical structure, (ii) services cannot be transferred and cannot be stored and (iii) services create a direct interaction between the producer and the consumer.

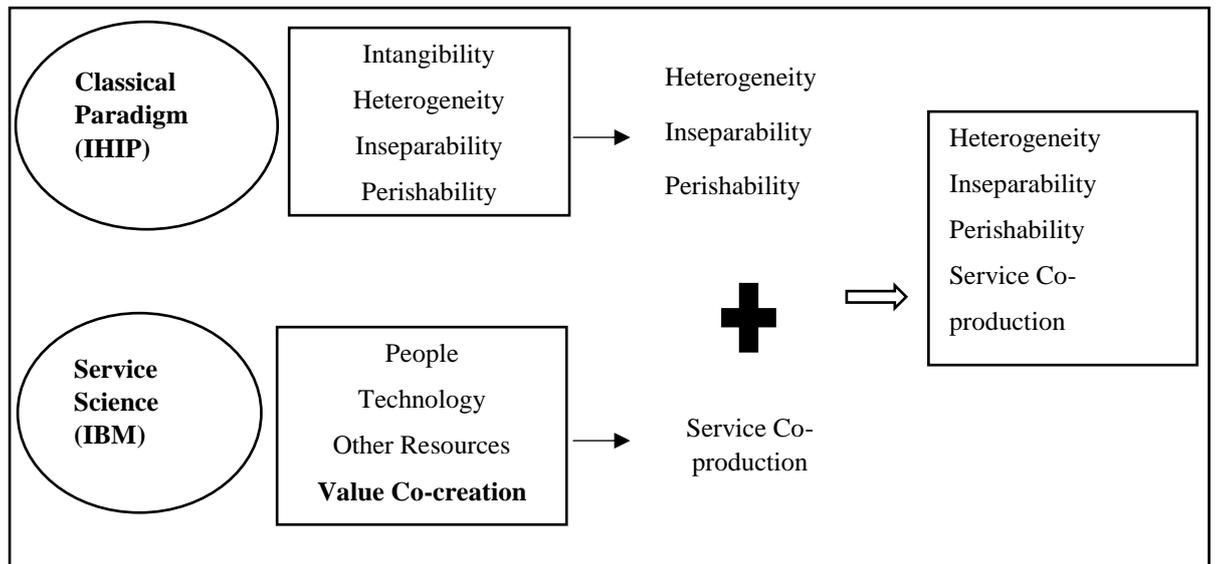
Essentially, since service sector has gained great interest in global economies, goods-centred dominant logic (GD-Logic) transformed into service-centred dominant logic (SD-Logic). GD- Logic considers production of output. Even, due to the GD-Logic, service was ignored in earlier studies. Later, services were seen as intangible products. As a result, services became characterized as products which are different from goods via four features (IHIP): Intangibility, Heterogeneity, Inseparability and Perishability (Lusch and Vargo, 2008).

As a classical paradigm, IHIP aims to show specific service features (Fonseca and Pinto, 2014). In the literature, Parry, Newnes and Huang (2011) and Zeithaml et al. (2012) use IHIP paradigm to express the features of services in their studies.

According to SD - Logic, service is an implementation of specialized competences (knowledge - skills) for the benefit of another party. These benefits are manifested on the customer (Lusch and Vargo, 2008). Therefore, today, although services are knowledge intensive and customized, it depends on customer participation and customer input (Sampson and Froehle 2006).

Thus, due to the changing the cyclical situations, beyond the classic concept of services (IHIP), specialized competencies, development of technology and information systems have led to the emergence of new approaches such as 'service science' concept. Service Science paradigm that was created by Maglio et al. (2006) and Spohrer and Maglio (2008): cited, Lusch, Vargo and Vessels, 2008: 521) is a system that people join and perform by using information, technology and other resources, in order to produce goods and services for the customers (Alter, 2008). Value co-creation means configuration of people, other internal and external service systems, technology, and shared information, so the concept of co-creation is the key element of Service Science (Maglio and Spohrer 2008).

Hence, the result of Service Science would shown by including the consumer participation / co-creation of value in IHIP (Fonseca and Pinto, 2014). Co-production of service which is a support of the Service Science is seen in the Figure 1 with IHIP paradigm.



**Figure 1: A Possible Complete Set of Service Characteristics**

**Source:** Fonseca, F.J. & Pinto, C.S. (2014). From the classical concept of Services to Service Systems. *Procedia Technology*. 16, 518 – 524.

According to Figure 1, Service Science Paradigm is not independent from IHIP, it includes consumer participation to IHIP. This is called as co-creation of value or co-production which is the key element of Service Science. Since Service System developed by the school of Service Science by IBM (International Business Machines), the name of IBM is mentioned in the Figure 1 (Fonseca and Pinto, 2014).

Fonseca and Pinto (2014) evaluate the coexistence of Service System via the classical paradigm; IHIP as a complementary effect with each other. In the Figure 1, the important role of consumer participation in the service process is shown because people work by using information, technology and other resource to produce goods and services (Alter, 2008). Hence, the harmonization of the two concepts enrich mutually.

Also, when we engage the Service Science concept with the Unified Services Theory, the role of customer participation / value co-creation is seen meaningful on services characteristics. Sampson (2001) established The Unified Theory of Services as a Service Management Discipline. According to the Unified Service Theory, with service processes, consumers provide important inputs into the process of production. With

manufacturing, consumers add their ideas to the design of the product or service. This statement defines what services are (Sampson, 2001).

The classical service concept; IHIP and customer participation (or service co-production which is the pivotal element of Service Science) characteristics will be examined in detail below.

**Intangibility:** The intangibility feature of services mean that they cannot be handled, smelled, seen, felt, packaged and carried. Assael (1990) stated the intangible feature of services as a case that consumers can not see, feel, smell and handle before they purchased it. Therefore, services are perishable due to their abstract structure. To illustrate, seats that are left empty on an airplane on a certain time will never be sold again. In other words, if a service is not consumed as a product, the economic losses that may occur and these losses can not be recovered later.

Since services have intangible structure, they can not be stocked. Services can not be stocked at the warehouses in order to be sold by producers at a later date or to get benefit economic fluctuations so manufacturers face difficulties in managing fluctuations in demand. In case of increasing service demand, producers try to meet the demand only within their production capacities (Linders, 2001).

**Heterogeneity:** Heterogeneity is considered as an element to distinguish goods from services (Parry, Newnes and Huang, 2011). Standardization of services is very difficult as the services vary. The quality of the service are not separated from the skill of a person producing it. Although the services are produced with the same person, technical and production factors each time, they differ from each other in terms of their quality.

There is no concrete and objective evaluation method to measure the quality of services and to compare them with other services. This variability can arise from time to time, from buyer to buyer, the relationship between the manufacturer and the customer, and the current situation.

**Inseparability:** Inseparability or simultaneity, means that the observation that services are produced and consumed at the same time (Sampson and Froehle, 2006). Separation of a service from its provider is not possible. When we compare the production and consumption of goods and services are compared, the goods are produced firstly, then marketed or sold and finally consumed. Services are firstly demanded, then produced or

supplied and then consumed simultaneously. For instance, going to a doctor's office, listening to music at a concert, dinner at a restaurant, travel by plane (Schmenner, 1995).

**Perishability:** Perishable feature of services such as like that when services are provided or supplied, services go to waste if they are not consumed. When an airplane seat is empty, without passenger, the value of the seat is lost since it can't be stored in inventory. Or, if a labor stops to work, the effort (service) of labor can not be stocked. Therefore, the losses can be irrecoverable. Moreover, irregular demand in some services increases perishability of services. The demand for services may change according to the seasons, days of the week and even hours during the day. Therefore, service management takes precautions regarding pricing and sales efforts to match supply and demand. To illustrate, tourism facilities can offer their off-season vacant capacities for activities such as symposiums and seminars (Ozturk, 2019).

**Customer Participation:** Customer participation is also called as co-production, or value co-creation. Consumers can participate in production both by providing themselves as labor and by providing information. If a customer adds to production with the provision of any inputs (such as with his / her idea) then the process of production becomes a service process (Sampson and Froehle, 2006).

Since customers contribute thoughts to the design of the product / service and perform by using information, technology and other resources, the role of consumer participation in services is handled with the classical paradigm; IHIP.

### **1.1.2. Classifying of Services**

Since the services cover a wide range of activities and have different characteristic features, there are many types of classifications in the literature in terms of the structure of services, degree of customization of services, tangibility/ intangibility, customer contact and sectoral.

Chronologically, according to the structure of services, Lovelock (1984) divides services as touchable and untouchable. Lovelock (1984) answers who is the beneficiary of the service in four ways classification; (i) tangible action to people's body, (ii) tangible actions to concrete products or to the physical possessions, (iii) intangible actions at people's thoughts, (iv) intangible actions directed at intangible assets.

Then, Schemenner (1986) formed ‘The Service Process Matrix’ according to the classic business services. Schemenner (1986) stated services as being either ‘high’ or ‘low’ in terms of client interaction and customization, means that classification of the services according to degree of labor intensity and degree of customer interaction.

Afterward, Chase and Aquilano (1989) used customer contact to classify the services. With customer contact approach, they represent ‘The Service System Design Matrix’ which demonstrates a relationship between the degree of customization and degree of sales opportunity. Today, because of developed technology in service sector via e-commerce, e-payment activities, the role of customization is more important (Francois and Hoekman, 2016). Therefore, the most comprehensive approach which includes technological improvements, is ‘New Classification Model’ or ‘The Service Classification Matrix’ is presented by Salegna and Fazel in 2013. The New Classification Model integrates the schemes of Lovelocks, (1984); Schmenner (1986); Chase and Aquilano (1989).

The Figure 2 shows The Service Classification Matrix which shows the relation between the degree of customer contact and customization & tangible components.

		Degree of Customer Contact			
		None to Low Moderate		High	
Degree of Customization and Tangible Components	High	With Tangibles	<b>1</b> Amazon Land's End L.L. Bean	<b>5</b> Auto Repair	<b>9</b> Cardiac Surgeons Orthopedic
		Without Tangibles (or complimentary)	<b>2</b> Expedia Turbo Tax Online Bank	<b>6</b> Support CallCenters Insurance Agents	<b>10</b> Doctors Lawyers
	Low	With Tangibles	<b>3</b> Online Retailers without 'transparent customization'	<b>7</b> Super Markets Wal-Mart Fast Food Restaurants	<b>11</b> Specialty Shops
		Without Tangibles (or complimentary)	<b>4</b> Automatic Car Wash Online MBA	<b>8</b> Hotels Airlines Movie Theaters	<b>12</b> Education Message Shops

**Figure 2: The Service Classification Matrix**

**Source:** Salegna, G. J., & Fazel, F. (2013). An integrative approach for classifying services. *Journal of Global Business Management*, 9(1), 1-11.

A major contribution of the Service Classification Matrix is inclusion of online services. E-businesses, such as online retailers, customize service offerings without the need for face-to face interaction. Therefore, due to the lack of interactivity between service producer and customer, the presence of e-service attributes is necessary to allow customers to access e-service (Kim and Kim, 2020). In an e-commerce context, the service suppliers have to use e-commerce websites to promote their e-businesses and to provide online customers.

To illustrate, in the Figure 2, Amazon (cell 1) is an e-business company and offer online assistance for customizing by sending e-mail regularly according to notices based on customers' search history. Hence, Amazon get benefit by using technology and customizing service design via innovative ways.

Shortly, the Service Classification Matrix provides for classifying e-services, a continually growing part of the service sector that has been traditionally looked at as low contact and standardized.

Besides of The Service Classification Matrix, services were classified in terms of category / sub-sector under the GATS (General Agreement on Trade in Services) that is the first multilateral trade agreement that brings all services to the free market as legal, by GATT Secreteriat in 1991 (Weber and Burri, 2012). Table 3 shows the sectoral classification of GATT / WTO.

**Table 3: Services Sectoral Classification List**

1. Business services	7. Financial services
2. Communication services	8. Health-related and social services
3. Construction services	9. Tourism and travel-related services
4. Distribution services	10. Recreational, cultural and sporting services
5. Educational services	11. Transport services
6. Environmental services	12. Other services not elsewhere included

**Source:** Secretariat, W. T. O. (1991). Services Sectoral Classification List. *GATT/WTO Doc MTN. GNS/W/120*.

As seen in Table 3, Services Classification List has 12 sub-sectors. Essentially, this sectoral classification list is a wide list of services since sub-sectors are shown under the GATS (Weber and Burri, 2013). Specifically, due to the global development of telecommunication and financial services, they are the last two sectors included in this classification (USITC, 1998).

However, the classification basis remains unsatisfactory because this classification still is the foundation for liberalization of services among WTO Members (Weber and Burri, 2012). Also, it is important to clarify how digital services can be classified within the existing classification list since WTO did not define the terms digital trade, digital products or digital services. Although the Secretariat has indicated 12 service categories, they can become the subject to upward modifications in the light of future works and developments. For instance, ignoring digital services among this classification is seen as a lack (Weber, 2010: cited, Weber and Burri, 2012: 32). Essentially, although the most digital services have existed for many years, today they are offered in a different way; via the internet, boiling down to the transmission and processing of data such as lending services, online legal services, video-on-demand-services and e-payment services (Willemys, 2018).

Moreover, when WTO makes statistical explanations in the literature about the development of international trade in services, it uses ‘commercial services’ and ‘other commercial services’ categories. It would be useful to explain them. According to WTO classification, Commercial Services involves goods-related services, transportation, travel and other commercial services. Besides, Other Commercial Services include seven sub-sectors; insurance & pension services, financial services, construction, telecommunications, charges for the use of intellectual property, computer and information services, other business services and personal and cultural and recreational services (WTO, 2015).

In addition to GATT / WTO services sectoral classification, other classifications are available in terms of national, regional and international levels. For example, IMF Sixth Edition of Balance of Payment Manual (BPM6) Statistics, Extended Balance of Payments 2010 (EBOPS 2010) Classification, International Standard Industrial Classification (ISIC), The Joint OECD-Eurostat Trade in Services Classification and North American Industry Classification System (NAICS) (Weber and Burri, 2012). Among them, new developments can mostly be seen in the classification of BMP6 / EBOPS 2010 such as like that the communication services sector are rearranged with the sub-category telecommunication as part of computer services (Willemys, 2018). Essentially, EBOPS 2010 is a widening of the main services components of the Balance of Payments Classification (United Nations, 2010).

EBOPS 2010 shows the production of statistical information at a level of detail to meet the requirements for information in the context of GATS. It builds upon the the sixth edition of the Balance of Payments Manual (BPM6) classification of services. It serves as the standard framework for statistics on the transactions between an economy and the rest of the world. It makes summary of the transactions between residents and non-residents during a psecific period, statistically. The definitions of EBOPS 2010 sub-sectors are provided by Manual Statistics of International Trade in Services 2010 (United Nations, 2010). It does out an internationally agreed framework for the compilation and reporting of statistics of international trade in services (United Nations, 2010).

In BPM6, there are 12 service sub-sectors and they are divided into a list of standard and supplementary parts. EBOPS 2010 breakdowns these components into more detailed sub-items (Appendix 1). EBOPS 2010, involves 12 main components which are shown below (United Nations, 2010).

**Table 4: Overview of BPM6 / EBOPS 2010 Services Classification**

1. Manufacturing services on physical inputs owned by others	7. Financial Services
2. Maintenance and repair services	8. Other Business Services
3. Construction	9. Telecommunications, computer and information
4. Transport	10. Charges for the use of intellectual property n.i.e
5. Travel	11. Personal, cultural, and recreational services
6. Insurance and Pension services	12. Government goods and services n.i.e

**Source:** IMF (2009). Sixth Edition of the IMF's Balance of Payments and International Investment Position Manual (*BPM6*), Washington, D.C.

As a result, although services cover up a wide range of activities, their classifications are shown in terms of the structure of services, degree of customization of services, tangibility/ intangibility, customer contact and sectoral. While some of the classifications are based on the structure of services and the relationship between service suppliers and customers (customizing service design via technology), the sectoral classifications such as BPM6 / EBOPS 2010 provide statistical and categorical information.

## **1.2. The Concept of International Trade in Services**

Today, although the importance of the service sector in the field of international trade has increased, a generally accepted definition for the sector has not been made. Essentially, the term ‘international trade in services’ covers international exchange of several types of services (Olefir and Tipanov, 2008), so it is possible to say that international service descriptions can take various forms (Roberts, 2018). Sampson and Snape, 1985; Grubel,

1987; Stern and Hoekman, 1987; Van Welsum, 2003; Mattoo, Stern and Zanini, 2008 have made the definitions of international trade in services.

While Grubel (1987) is stressing the existence of several types of international service transactions, Sampson and Snape (1985) consider how and where the international service transactions are produced and traded. They considered the physical proximity between service supplier and customer. Grubel (1987) clarifies the concept of international trade in services as a transformation after services crossed an international border. For example, the customer or end-user moves across border like students, tourists and recipients of medical treatment and then they demand and buy service.

Stern and Hoekman (1987) define international trade in services as receiving income by non-residents in exchange for their services. Since the location / where the service is produced is ignored by Stern and Hoekman (1987), Van Welsum (2003) points out the requirement of physical proximity of service supplier and customer that is one characteristic of many services, especially of non transportable services. Also, Mattoo, Stern and Zanini (2008) stress the physical proximity between producer and consumer. To illustrate, construction services (supplier moves to the location of the consumer), tourism (customer moves to the location of the supplier), and surgical operations (either the supplier or the consumer moves).

Therefore, the General Agreement on Trade in Services (GATS), entering into force on 1 January 1995, is the first set of legally enforceable rules covering international trade in services. GATS express international trade in services as the supply of a service through four modes which is based on the physical location of the producer and the consumer.

As cited in other studies Chang et al. (1999); Van Welsum (2003); Mattoo, Stern and Zanini (2008), these four modes of GATS are:

**Mode 1 / Cross Border Trade:** Services offered from the region of one country into the location of another. In this form of trade, there is no need for any physical movement of the producer and consumer, only service crosses the border. Mode 1 is seen in transactions such as management consulting (business plans and financial advices), education and training (e-learning), and e-medicine (Kuo et al., 2009).

**Mode 2 / Consumption Abroad:** It requires the consumer to move to the country of the service provider (Van Welsum, 2003). For example, when a tourist visits a museum or

travels abroad to get medical treatment, this activity becomes a trade in service with mode 2 (United Nations, 2011).

**Mode 3 / Commercial Presence:** Service suppliers offer their products in the region of another member (Mattoo, Stern and Zanini, 2008). Mode 3 realizes in that country by creating a commercial asset through legal means. For instance, financial services (a branch as oversea presence) and distribution (including warehousing) (Kuo et. al, 2009).

**Mode 4 / Movement of Natural Persons:** This is the method of service delivery through the temporary movement of people. It takes place through the temporary movement of a service provider to the customers' country (United Nations, 2011). Construction (the movement of architects), education and training (the movement of professional speakers), and sporting (the movement of coaches, trainers and promoters) (Kuo et al., 2009).

These four different modes which contribute the concept international trade in services are often intertwined in terms of production, distribution, marketing and delivering the service, so it is not always possible to associate trade in services with a single supply mode (United Nations, 2011).

Also, it is unclear why firms choose certain modes to supply services. Mattoo, Stern and Zanini (2008) express the choices of firms based on cost advantage. Furthermore, in the sense of one mode is not available, different modes of service supply are substitutes. For example, a foreign customer can buy an insurance contract via mail, so the insurance services may be directly exported (Mode 1). Or, this insurance company sets up a branch office in the foreign country in order to supply the products to foreign customers (Mode 3). Hence, the foreign customers deal with the local office of the foreign insurance company. In order to assess the claims, the insurance company sends agents from the home office that is, it could put temporary movements of staff trust in for the assessments of claims (Mode 4).

Also, when firms consider the four modes of GATS in terms of value chain, the four different modes lead to different degrees of change. In fact, the four modes of GATS offer some practical guidance in terms of value chains, the mode of trade in services from. Table 5 shows movements of value chains according to GATS Modes.

**Table 5: GATS Modes and Corresponding Movements of Value Chains**

Mode	Movement of the Value Chain
Mode 1	No Change (delivery through remote approach)
Mode 2	Movement of clients ( <i>i.e.</i> , service receiver)
Mode 3	Movement of the resources (asset/capital) of service providers
Mode 4	Movement of people at service encounter ( <i>i.e.</i> , natural persons / service providers)

**Source:** Kuo, D. L., Lin, F. R., Chih, H. H., & Yang, Y. C. (2009, January). *Determining appropriate modes for service trade from value chain and value co-creation perspectives*: 42nd Hawaii International Conference on System Sciences, Hawaii.

As seen in Table 5, the movement of value chain changes according to the feature of each modes of supply, particularly, Kuo et al. (2009) stress that a company that apply Mode 3 may affect significantly the movement of existing value chains, while Mode 1 does not have an effect on the existing value chains because the movement of resources is significant for value chain.

Besides of the features of modes, interaction of modes with each other and the effects of modes on firms' decision, the statistical view is also important. In terms of the statistical view of four modes, Rueda-Cantuche et al. (2016) criticizes the lack of statistical details of international trade in services needed by policy makers with the growing economic importance of it, so important aspects of international trade in services are not captured by standart statistics. Moreover, Meng and Huang (2009) criticized that although there is much evidence to indicate interdependence across four modes in international trade in service, the studies which quantify these effects and relations, are little in the literature.

Although there are criticisms about the lack of statistical details of international trade in services and suggestions (Rueda-Cantuche et al., 2016) about production of trade in services statistics by modes of service supply. WTO has considered this lack of official data on trade in services by mode of supply, so it created a dataset which is called TISMOS (Trade in Services by Mode of Supply). TISMOS uses official figures and estimates international trade in services from 2005 to 2017, so TISMOS is an analytical dataset and not statistical. However, it is possible to get an idea about which mode is common in world service trade.

According to TISMOS datas, from 2005 until 2017, the Mode 3 is the most common mode for trading services internationally. Currently, mode 3 is accounted for 13 trillion dollars in 2017. Mode 3 covers 58.9% of total trade in services by mode of supply in 2017. Then, Mode 1 (cross-border trade) covers with 27%, Mode 2 (consumption abroad)

includes 10.4% and the least common mode is Mode 4 (presence of people in another country) with 2.9% of total trade in services by mode of supply in 2017 (WTO, 2019b).

The sub-sector that highlights Mode 3 (commercial presence) among other modes in world trade are financial and distribution services. In 2017, 77% of financial services with 1,941 billion dollars and over 70% of distribution services with 1,852 billion dollars were traded worldwide through foreign affiliates.

Beyond the four modes of GATS, Cernat and Kutlina-Dimitravo (2014) suggest a new mode:

**Mode 5 / Services Embodied Goods:** The increasing role of services inputs in manufacturing exports has led to a new modality of exporting services; Mode 5 means that services exported as part of a goods. It plays an important role in global manufacturing as an input such as engineering, design, banking, software and logistics (Cernat, 2015). For example, if a software is sold cross-border (mode 1), this transaction is seen as service export. However, if the software is installed in an equipment such as in the car, the value of the software is seen as goods and not as trade in services anymore.

Because of the value-added role of services as an input in manufacturing trade, Mode 5 is put forward as a new concept for international trade in services, so while the four modes of GATS consider physical proximity / location of the producer and the consumer, Mode 5 is a service exported as an intermediate of a tangible product. The effect of Mode 5 in the firms's export capabilities is positive (Lodefalk, 2014). As Cernat and Kutlina-Dimitravo (2014) state that Mode 5 services exports approximately for 34% of EU (27) merchandise exports in 2014.

To summarize, international trade in services can take various forms. There are different explanations to define the concept of international trade in service. Since the location of services are considered in terms of *where* it offered/consumed, the four modes of GATS have determined the concept of international trade in service. According to modes of GATS, it is possible to know how the service transaction take place. Although studies which quantifies the effects of modes are little in the literature, we tried to exhibit the studies which discuss modes of GATS both quantitatively and qualitatively. Then, beyond the GATS of modes, Mode 5 is shown as part of a good. Since the intermediate role of services on tangible products, mode 5 concept focuses on the interrelation between

trade in goods and services. Because the technology-intensive manufacturing sectors is improving, the share of mode 5 is being expected more in 21<sup>st</sup> century trade in services.

As we show the four modes of GATS, the importance of GATS Agreement for international service trade will be examined in detail with GATT Agreement in the next section.

### **1.2.1. The General Agreement on Tariffs and Trade (GATT) and General Agreement on Trade in Services (GATS)**

The General Agreement on Tariffs and Trade (GATT) is the agreement which covers goods trade, while the General Agreement on Trade in Services (GATS) is an agreement that covers services trade (Staiger and Sykes, 2016). Thus, it is possible to say that both agreements are parallel with each other (Ahnliid, 1996).

After WWII, countries have paid attention more to the international trade in the for both their own economies and the world economy, particularly the US and its confederates, and they needed to restructure of world trade and bind international trade to the multilateral rules, so for this purpose GATT was signed with the membership of 23 countries in Geneva between April – July in 1947 (Briggs and Sheehan, 2018).

The main objectives of GATT are the abolition of customs duties (tariffs), which are barriers to free foreign trade among its members. Actually, the main goal is providing an expansion in market access primarily through negotiated reductions in tariffs (Staiger and Sykes, 2016). In the content of the GATT Agreement, there is no an issue related with ‘trade in services’ so initially, service issue was mentioned in GATT Tokyo Round between 1973 – 1979 years as one to be placed on future trade negotiaton agendas (Feketekuty, 1988). Then the importance of trade in services has been emphasized with the Uruguay Round negotiations of GATT. Hence, services were included to the GATT within the scope of GATS held which is a turning point for the international trade system in the Uruguay Round between 1986 and 1993, as desired by developed countries (Kıratlı, 2019). Predominantly, the U.S.A wanted to sign the GATS as the largest service provider (Broadman, 1994) and hegemonic power in the world (Ahnliid, 1996) even so the GNP (gross national product) of U.S was consisted by services nearly 70% in the late 1980s (Reyna, 1993: cited, Ahnliid, 1996: 71). Since the developing countries has lack of comparative advantage in service sector during the Uruguay tour such as India, Egypt and Brazil, they have opposed to liberalization of services within the scope of GATS because

they thought that they would be addicted dependent on developed countries and would be discriminated against (Jara, 1993).

As a result, after GATS has determined the multilateral legal rules of international trade in services and principles transferred to the World Trade Organization (WTO) which was established to replace GATT, was officially launched on 01.01.1995 further expanded to 164 countries in 2016 ([https://www.wto.org/english/docs\\_e/legal\\_e/26-gats\\_01\\_e.htm](https://www.wto.org/english/docs_e/legal_e/26-gats_01_e.htm)).

In terms of trade in services, the GATS' contribution to international trade in services is seen with three main pillars: (i) provision transparency and predictability of rules and regulations, (ii) providing a common framework of disciplines, and (iii) encouraging liberalization through successive rounds of negotiations.

As we mentioned in the previous section, the international four modes of GATS were set up according to the physical location of the producer and the consumer. However, GATT is recognized with only cross-border supply of goods (mode 1).

Besides of the content of the GATS, it is important to understand the structure of this agreement. When the structure of GATS is examined, the three key elements are seen (Raza, 2010): (i). Basic Rules / General Conditions, (ii). Commitment Lists showing special obligations and (iii). Additions and Decisions for the special situations.

(i). In the basic rules applied to all members of the agreement, there are provisions; most favored nation principle, transparency and increasing participation of developing countries. These three provisions are basic principles of GATS, they will be defined in detail.

(ii). The commitment lists imply that the actions to be taken by the member countries for removing / reducing some of the measures. Member countries provide a list of the conditions that they will apply to enter the market and these conditions is set up for national discrimination in the service sectors, so National Treatment Commitment will be defined in detail.

The details of the basic rules and the commitment list information are explained with the number of Articles of GATS below.

**Most Favored Nations (MFN) (Article II):** This rule obligates all members to be treated as the most privileged position. The investment and trade privileges that a country accords

to another country due to various economic partnerships must also be granted to all GATS members.

**Transparency (Article III):** In accordance with the principle, each member has to publish all trade measures related to the agreement. They should report the changes to the Service Trade Council (Yeates, 2005). In order to provide information, all members have to establish research points.

**Increasing Participation of Developing Countries (Article IV):** Since developing countries had lack of comparative advantage in service sector during the Uruguay tour, the Article IV calls specific commitments to legitimize and ensure developing countries' participation to the world economy by strengthening developing countries efficiency and competitiveness in their local market (Abdul-Aziz and Ngoh Tan, 1998).

**National Treatment Provision (Article XVII):** A commitment to national treatment is the principle of non-discrimination between locals and foreigners in a market. It refers that any member country concerned doesnot work discriminatory measures benefiting domestic service producers / suppliers. Even, foreign service suppliers may expect equal application of some national polices such as tax and financial. Therefore, a foreign investor will have the equal rights with domestic service offerers. For example, if Eximbank gives cheap loans to SMEs, it should be given to all investors both local and foreign (Yeates, 2005).

Today's, GATS principles and modes are not enough to define trade in services because behind the fast- developing technology, there is unceartinty and risk about GATS multilateral rules GATS (WTO, 2019b). Cyclic changes and diversities in services with the fast advanced technology will occur the new service branches. Digital technologies provide the internationalization of almost any type of service offering (Grönroos, 2016). For example, games traditionally were played around a table, but today, customers play games together using mobile-phone software. According to Amador, Cabral and Ringstad (2019), as digital technologies provide remote connections, more services should become tradable in the future. Briefly, because of today's conjunctural structre of world trade system in services with rapid developing technology, the GATS principle is being criticized by WTO because of the lack of the scope of the agreement with the aspect of fast developing digital technologies.

### 1.2.2. Determinants of International Trade in Services

International trade in services has lots of determinants and there are a number of factors that encourage or discourage international trade in services in terms of exports and imports. Table 6 shows the determinants of international trade in services together.

**Table 6: Determinants of International Trade in Services**

Source	Determinants / Factors
Atik (2000)	The expansion of employment in the service sector, increasing of service production / consumption and increasing of international trade in services.
La, Patterson and Styles (2005)	Barriers to internationalization, perceptions of risks, competitive environment, firm capabilities and characteristics, managerial characteristics.
Franscois and Hoekman (2010)	International demand, regulatory and institutional framework, trade policy, domestic productive capabilities, reduction of political and economic barriers and the acceleration of technological progress.
Balchin et al. (2016)	Domestic productive capabilities, regulatory and institutional framework, structural factors, trade policy, international demand and political economy.
Amador, Cabral and Ringstad, (2019)	Global value chains, technological development and the reduction of political and economic barriers to international transactions
Didier (2019)	The exchange of ideas, know-how ability, infrastructure system and technology in today's evolving digital world, especially for communication services.

When some of these determinants are gathered, their aspects towards international trade in services are explained below in detail:

*Structural factors* refer the structural factors with the location advantage of countries to offer service. For example, due to the geographical location, some countries have an advantage to offer road transportation services or some of them have an advantage to offer tourism service in both summer and winter seasons (Francois and Hoekman, 2010).

*Physical and human capital* are the most analyzed in the literature among the factors affecting trade in services. In particular, for the information-based services, developed countries benefit from educated human capital. Developing countries use intensively physical capital (natural, environmental and man-made) to offer traditional services such as tourism, transportation or construction services. Especially, knowledge intensive services require educated human capital besides technological capital, for development of regional innovation systems and long run economic growth (Guarasa and Pajares, 2014). For example, human capital is very important for education and health services for long run growth performance (Mattoo, stern and Zanini, 2008).

*Managerial characteristics* which include the number of key managers university educated and number of managers speaking a foreign language (La, Patterson and Styles, 2005).

*Regulatory and institutional framework:* Specifically, for financial, ICT, energy and transport services, regulatory and institutional framework has a critical role. For example, due to the joining in foreign companies in the private sector, the role of legal framework is important to ensure competition (Balchin et al., 2016).

*Barriers to internationalization:* The barriers include some restrictions on know-how process, some restrictions in target country and some difficulties due to the characteristic features of services (Amador, Cabral and Ringstad, 2019).

*Trade in service policies:* This is significant determinant of productivity and exports of manufactured products and foreign direct investment (FDI) since services are not supplied directly (they are embodied in exports of goods (Mode 5)) and services are sensitive to trade policies and institutional quality (Bi, Alexander and Pei, 2019), so Fiorini and Hoekman (2018) stressed the importance of considering the interaction between regulation and international trade in services policy and the quality of regulation, specifically domestic economic regulation.

*Domestic productive capabilities:* The quality of infrastructure systems, technology and the skills of employees are important for the service offerer country to define productive capabilities. They create big differences in the services export performance (Francois and Hoekman, 2010).

*Firm capabilities and characteristics* which include offering developed different services, effective communication and high service quality capability, service production cost advantage and R&D expenditures (Balchin et al., 2016).

*International trade agreements:* As Balchin et al. (2016) satate that international trade agreements play a big role to open service markets, so thanks to liberalize the trade in services, the positive effects on different dimensions of economic performance are expected.

### 1.2.3. Barriers to International Trade in Services

Due to the characteristics features of services, there is no concrete obstacles of trade in services. While barriers to merchandise trade are generally as tariffs, they arise as the type of barriers on service trade are restrictions, regulations or controls.

Trade in services has intangible structure, and the supplying or offering services is not realized by customs. Zimmerman (1999) calls the obstacles are related with services as non-tariff barriers (NTBs). Deardorff and Stern (1999) stress the difficulty of an exact definition of NTBs. They comprise all barriers to trade that are not tariffs and include import quotas and voluntary export restraints (VERs).

Whatever the name of the service trade barriers, the main reason of service trade barriers is protect the service offerers from domestic or foreign competition (Dee, 2005). For instance, the goal of government regulation or controls as legal policies is to protect the domestic service suppliers.

The trade in service measurements / restrictions are defined by GATS according to the each of modes of supply in Table 7.

**Table 7: Barriers to International Trade in Services in terms of Modes in GATS**

<p><b>Mode 1:</b> The measures that affect Cross-border trade in services:</p> <ol style="list-style-type: none"> <li>1. Affecting market entry <ul style="list-style-type: none"> <li>- quantity restrictions</li> </ul> </li> <li>2. Affecting national treatment <ul style="list-style-type: none"> <li>- instruments based on price</li> </ul> </li> </ol>
<p><b>Mode 2:</b> The measures that affect Consumption abroad in services:</p> <ol style="list-style-type: none"> <li>1. Affecting market entry <ul style="list-style-type: none"> <li>- obligations related to travel documents (country of origin)</li> <li>- exit visas</li> <li>- entry visas</li> <li>- residence permits</li> <li>- documents of vaccination</li> </ul> </li> <li>2. Affecting national treatment <ul style="list-style-type: none"> <li>- restrictions on traveling to foreign foreigners</li> <li>- taxes on travel</li> <li>- regulations on cross-border health insurance</li> <li>- rules for the recognition of diplomas and educational standards obtained abroad</li> <li>- local currency regulations</li> </ul> </li> </ol>
<p><b>Mode 3:</b> The measures that affect Commercial Presence in services</p> <ol style="list-style-type: none"> <li>1. Affecting market entry <ul style="list-style-type: none"> <li>- prohibition the provision of services through foreign direct investments</li> <li>- restriction of some investment types</li> <li>- restrictions on the placement of foreign branches in the service area</li> </ul> </li> <li>2. Affecting national treatment <ul style="list-style-type: none"> <li>- performance criteria</li> <li>- investment incentives</li> <li>- rules for financial transfers abroad</li> </ul> </li> </ol>

**Table 7 Continue**

**Mode 4:** The measures that affect Movement of Natural Persons in services

1. Affecting market entry
  - visas
  - residence permits
  - work permits
  - license permissions
2. Affecting national treatment
  - restrictions on human rights and living conditions
  - restrictions on transfers of workers working abroad
  - taxes on foreign service providers
  - discriminatory treatment of foreign workers

**Source:** Mızrak, N. Y. (2002). *Uluslararası hizmet ticaretinin kavramsal, ampirik ve analitik boyutları: iktisat politikası sorunları ve Türkiye bulguları* (Unpublished Phd Thesis). Ankara University, Ankara

As seen, the NTBs are defined very clearly and detailly according to the modes of supply in Table 7.

Currently, service categories are highly dependent on digital technologies and data flow. Technological developments especially, digital technologies lead to growing e-businesses, easy connection of billions of people and improvement of production efficiency. Besides of these benefits, they bring huge risk about security and privacy, so countries apply data policies to protect privacy data and to provide national security.

Thus, data regulations are an emerging kind of non-tariff barriers (NTBs). These regulations restrict cross-border flows to create computing equipment to store data domestically. In addition, besides of data regulations, digital taxation policies, geo-blocking and technology fragmentations are exist as non-tariff barriers to trade in services (Pasadilla, Duval and Anukoonwattaka, 2020).

### **1.3. Theoretical Framework of International Trade in Services**

Although the significance of the service sector has been discussed in terms of quantitative literature, it has been neglected in international trade theories (Melvin, 1989). When the historical process of international trade is analyzed, it is seen that the necessary interest was not given by economists until the early 1970s.

Adam Smith and David Ricardo as founders of modern economic theories, they have focused on merchandise trade and they have seen the services as non-tradeable (Feketekuty, 1988). Therefore, services are delayed to be subject to the International Trade Theory due to the difficulty of distinguishing services from commercial goods (Hill, 1977). In the beginning of the 1970s, service activities were started to be handled

in the economic models. Within the development of trade in services, whether the policies applied to commodity trade can be applied to service trade is discussed in the literature.

Although the logic of foreign trade theories does not impose any restrictions on the theory that it can only be applied to goods, it is unclear whether services sectors may be an object of international trade theories.

### **1.3.1. International Trade Theories and Applicability to Trade in Services**

Adam Smith (1723-1790) handled with scientifically international trade for the first time in 1776 via *The Wealth of Nations* book and famous economists such as David Ricardo, J. Stuart Mill, Eli F. Heckscher, Bertil Ohlin, Alfred Marshall, Paul A. Samuelson contributed to this scientific development. Adam Smith developed Absolute Advantage Theory to show how countries can earn from foreign trade by specializing in producing and then export these goods which are produced more efficiently and less costly than other countries, so Adam Smith led to countries specializing in the sectors in which they performed efficiently.

Due to the complex structure of trade in services, actually it is very difficult to associate and explain international trade in services with absolute advantage theory (Ekinici, 2007). As Mark and Helleiner (1988) referred that many economists asked why the theory of absolute advantage would not be applied to services like goods? Then they explain the reasons with characteristic features of services; intangibility, nonstorability, perishability, heterogeneity.

David Ricardo (1772-1823) has elaborated the free trade among countries and he developed Comparative Advantage Theory via *The Principles of Political Economy* (1817). According to Comparative Advantage Theory, if a country has a higher rate of superiority and efficiency in the production of what goods, it should specialize in those goods and export them (Krugman and Obstfeld, 1997).

In the literature, many hypotheses have been produced about the applicability of the comparative advantage theory, as a classical theory, to trade in services without deviated from the basic logic of the theory. While Mark and Helleiner (1988) were specifying that there may be a little doubt for the theory of comparative advantage about applying for services, Ekinici (2007) has stated that theories may be used to explain trade in services in certain aspects. Essentially, there are differences between the factors affecting

comparative advantage in commodity trade and the factors affecting comparative advantage in trade in services. While the factors of production such as land, labor and capital are determinants for commodity trade; technology, knowledge, human capital and infrastructure system are determinants of trade in services (Gibbs and Hayashi, 1990).

In terms of Factor - Endowment Theory or Heckscher-Ohlin (H-O) Theory proposed by Eli Heckscher (1919) and Bertil Ohlin (1933), whichever production factor is found more in a country, that country have comparative advantage in the related goods production. The basic assumption of H-O Theory is that countries have differences from each other in terms of factor equipment and goods have also different relative factor rates (Salvatore, 1995). Although the H-O Theory was developed for merchandise trade, it brought a new initiative by adding capital and technology to the production factors that are decisive in foreign trade. In this way, the application of foreign trade theories to some services is easier. For instance, according to the relative abundance within the country, if insurance policies are used as production factor instead of wheat or another type of product, there is no logical error in using the Factor Equipment Theory for services (Hindley and Smith, 1984).

Since most of the studies have been examined after 1980s and based on knowledge, technology, skilled labor, many theoretical and applied studies have examined and analyzed the suitability of Comparative Advantages and H-O Theories for international trade in services. In contrast to achieving different results in studies on the adaptation of comparative advantages of trade in services, the findings are generally positive. They suggest that trade in services may be explained by the comparative advantage theory. Hence, the approaches about the applicability of international trade theories to the trade in services are shown chronologically.

The first approach of testing the suitability of theory H-O for trade in service belongs to Dick and Dicke in 1979.

Dick and Dicke (1979) tried to analyze the knowledge-intensive trade structure of the services sector in their study via an econometric model by using data from 18 countries' balance of payments by including knowledge-intensive shipment services, insurance services, and other services categories. The main goal was to test an improved version of the Factor Endowments. According to the result of their crosssection estimates, the authors stated that the H-O Trade Theory is not acceptable to explain trade in services

since none of the service sectors which are included gave a meaningful result while the model is optimal for trade in goods. The reasons of why services did not give meaningful results; non-tariff barriers, changing of factor intensity and complementary relationship between goods and services.

Then, the evidence of Sapir and Lutz (1981) is opposite with Dick and Dicke's finding. Sapir and Lutz (1981) emphasized that comparative advantage trade theory can be applied to the services, too. Empirically, they found the main determinants of comparative advantages in services are human and physical capital by including transport and insurance services to the analysis. They found that insurance services are human capital-intensive sector and transportation services are physical capital-intensive sector. Also, they stated that industrialized and developed economies have a strong competitive advantage in trade in services due to the abundance of physical and human capital.

Following, Hindley and Smith (1984) have an extensive approach of the suitability of Comparative Advantage Theory on the international trade in services. They analyzed the applicability of the Comparative Advantages Theory for trade in services. They based on the differences in distribution of resources between two countries that trade in services. As a result, they stated that the dynamics of Comparative Advantages Theory cannot explain the international trade in services. They emphasized that the services should be assessed separately from the goods due to their nature, even they stated that a theory developed for goods trade cannot explain the services. However, when Hindley and Smith (1984) replaced the examples of Ricardo (1817); wine and cloth with wine and insurance policies, then defended that earnings from foreign trade would continue. Replacing of the commodities with services is not against to the logic of Comparative Advantage Theory, so they do not have a definite rejection or acceptance of the applicability of the Comparative Advantage Theory for trade in services.

Deardorff (1984) formed three different systematics of trade in services and evaluated their potential through Comparative Advantages Theory. Deardorff's first trade systematic is that service are core component for the promotion of goods exports as an intermediate product used in the trade of goods. Second is that trade caused by factor mobility, he calls like that trade and services act with the circulation of international factors. The third is that the factors of production in trade in services make contribution from a long distance.

He finds that Comparative Advantages Theory is valid in the first two service trade systematics. Yet, in the case of long distance factor trade, he stated that the Comparative Advantages Theory was insufficient to explain the direction and composition of trade. He stated that the third characteristic is contradict with factor endowment theory.

Afterward, with a different analytical and theoretical approach, Melvin (1989) asks the applicability of Comparative Advantage and Factor Endowment Theories to the service sector and points out that comparative advantage for services trade needs to be reinterpreted since tariffs and trade policies have different effects in a world where international trade in service is dealt with and trading patterns will differ. Melvin noted that countries that intensely export services will have a trade deficit in commodity trade but this is not a big problem even, it should be seen as reflection of comparative advantage in services sector.

Melvin (1989) made an evaluation on the theory of factor endowment like that a single service can be exchanged with only one of the production factors and production factors can move temporarily also. Therefore, if the service is used intensively in the production of a freely moving goods, the capital-rich country will import capital-intensive goods, despite this abundance. Since the production factor, which moves temporarily, allows the exchange of services with goods. To illustrate, where capital-intensive goods are exchanged and capital is a moving factor, the capital-rich country will export capital services in exchange for imports of capital-intensive goods. Thus, trade will not take place as predicted by the H-O theory. Hence, Melvin concludes that for trade in services, the H-O Theory and the comparative advantage theory must be reinterpreted.

Another approach belongs to Sapir and Winter (1994: cited, Linders, 2001: 86) who say that the comparative advantage theory can be applied to the services trade, if there is perfect competition market structure.

However, Balassa (1967) points out that international trade in services cannot be explained without imperfect competition theories.

Because of some economic changes that occurred in the international trade system such as development of the concept of the information society and increasing number of multinational corporations in the 1980s required the review of the international trade theory (Deraniyegala and Fine, 2001), so 'New International Trade Theory' has been

established by Ethier, 1982; Krugman, 1986; Eaton and Grossman, 1986; Grossman and Horn, 1988.

The New Trade Theory has added comparative advantage with some other determinants of the gain from trade, such as increasing returns to economies of scale, product differentiation, and imperfect competition (Deardorff, 1994). In addition to this, Krugman (1986) defines the New Trade Theory as '*the patterns of international trade under the conditions which diverge from the unrealistic assumptions on which classic comparative advantage theory is based*'.

One of the parts of the New Theories is Intra-industry Trade Theory. Intra-industry Trade Theory developed as part of the new trade theories in which monopolistic competition with product differentiation and economies of scale. According to Intra-Industry Trade Theory, a country can buy and sell differentiated goods within the same industry (Moshirian, Li and Sim, 2005). Monopolistic competition theory explains intra-industry trade via differentiation of goods and economies of scale.

Therefore, according to Wong, Wu and Zhang (2006), many service companies operate under imperfect competition conditions. To explain of international trade in services with intra-industry trade theory, some approaches are existing in the literature.

As Moshirian, Li and Sim (2005) state that due to the large variety and large-scale economies in some financial products, banking services may be explained with intra-industry trade. In addition, Hoon and Lyod (2010) indicate that Intra-Industry Trade Theory can be developed by associating it with service sub-sectors.

To summarize, the relationship between international trade in services and Comparative Advantage Theory is possible with Factor Endowment Model. Most of the approaches based on the H-O Theory but it is seen that there is not a clear consensus in the studies about the applicability of international trade theories to the international trade in services.

Thanks to technological improvements, knowledge level, the importance of physical-human capital, mobility feature of services and the intermediate goods role of services in commodities, the traditional theoretical aspect of services are still being discussed in the literature through the factor endowment model. In addition, some of the studies can explain international trade in services with Intra-industry Trade Theory.

#### **1.4. The Development of International Service Sector**

As we cited in the previous parts, when services are compared with goods, the role of services in international trade area had been ignored until the half of the 19th century. Even, services were being classified as non-tradable goods before the 1980s.

Especially, the agriculture sector continued to be important sector until the mid-eighteenth and the nineteenth century. By the beginning of the Industrial Revolution that occur in the UK, 1860s traditional agricultural economy was replaced by industrial economic structure. Developing merchandise trade with industrialization has formed the basis of the concept of service economy. The USA became the first country to shift to a service economy in the middle of the 20<sup>th</sup> century, then other developed and developing countries have turned into service economies, too (Cheng, 2013).

Essentially, after the WWII, the service sector gained importance in all economies and services have been critical and fast - growing portion of world trade. (Zimmerman, 1999). Today, services are at the center of world trade and the engine of growth (Mattoo and Stern, 2008). Service sector is very important and the fastest developing sector as a so wide such as from business services to entertainment.

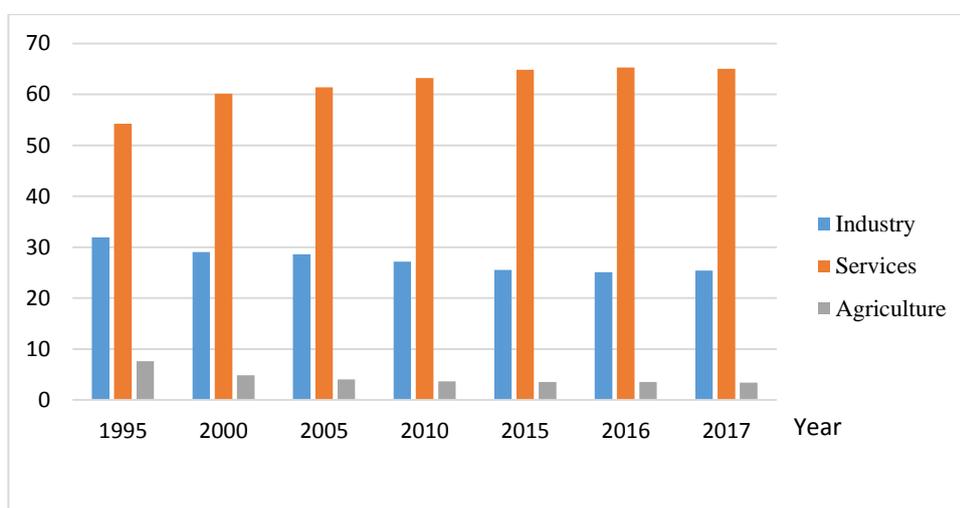
There are many reasons why trade in services gained global importance. In the literature the most significant reason is rapid development of technology that underlying the production of goods and services (Feketekuty, 1988; Van Welsum, 2003; Francois and Hoekman, 2010; Grönroos, 2016; Amador, Cabral and Ringstad, 2019). Actually, the WWII period provided the basic concepts of today's computing and electronics (Plotnikov and Volokova, 2014).

Shortly, technological developments provide the easy connection of service suppliers and consumers across borders, increasing of quality and capacity of services and decreasing the costs. Van Welsum (2003) points out that the technological developments changed the nature of services. For example, new technologies contribute small firms to become a micro-multinational firm and market / sell their products in the global markets and supply their services to foreign consumers. Also, improved technology provides dissemination of information, so most of the jobs are based on the application of specialized knowledge. The occupations began to concentrate in this category include most office workers and managers, scientists, programmers, teachers, lawyers, government officials, journalists, architects, planners and engineers to create information,

manipulate it, deliver it, manage its flow and apply it. Currently, service sector is big employer so that services provide approximately two-thirds of jobs in developing countries and four-fifths in developed countries (WTO, 2019b).

Also, via the developing technology and GATT Agreement (1947), multi-national firms have become more effective in both manufacturing and service sector. (Francois and Hoekman, 2010). Then, with the ensuring of GATS, the service sector gained a new dimension, so thanks to GATS, the connection between service offerers and consumers across borders have done easier.

Besides of GATT-GATS and technological developments, the reasons for the development of the service sector may be counted as the rising of people’s income, leisure time, participation of women in the workforce, the emergence of different types of goods and differentiation of people’s living standards (Francois and Hoekman, 2010). Generally, when we compare the service sector with industry and agriculture sectors in terms of value-added role, its gradual improvement from 1995 to 2017 is seen clearly in the Figure 3.



**Figure 3: Sector Shares, Value Added (% of GDP)**

**Source:** World Bank. Databank. <https://databank.worldbank.org/source/world-development-indicators?source=world-development-indicators#> (15/06/2020).

From 1995 to 2017, the shares of the value added of industry, agriculture and service sectors are seen in the Figure 3. Currently, the services sector in GDP is 65% on average in the world, so the role of services in the economy is today more significant than past. In the specific periods such as Asian financial crises in 1997 and 2008 subprime crisis led to decrease of service export in global trade. For example, the 2008 global financial crises

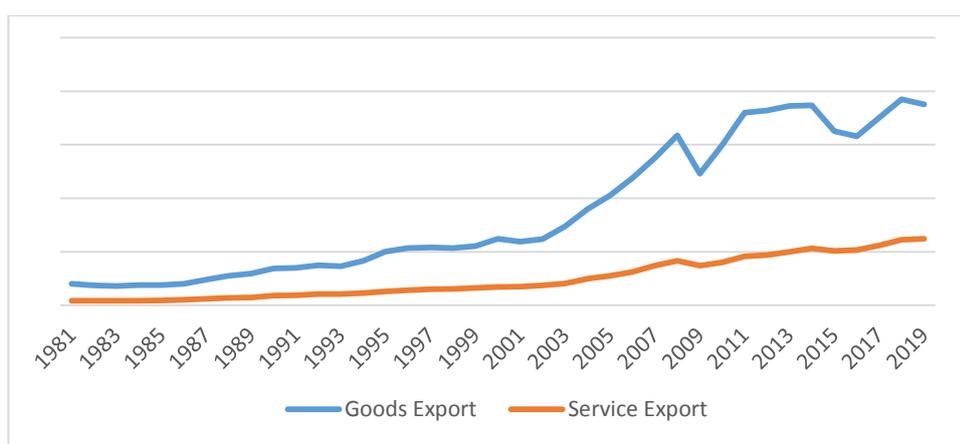
decreased 9% the world service export in 2009. Then global export of service has continued to expand steadily by adding great value to the GDP of the world.

According to the World Bank statistics, in the 2000s, the share of the value added of the services in high income economies' GDP reached 66% and in middle income economies' GDP 47%. Currently, the shares of the services in both high and middle- income countries' GDP are 70% and 54%, respectively in 2018. Middle income countries are getting more advantageous than high income countries that is why middle income countries have fast growing portion in the service sector.

#### 1.4.1. The Development of International Trade in Services

According to the Figure 4 which is created by World Development Indicators, developments in world goods and services export can be followed between 1979 and 2017. It is possible to say that there is an increasing trend on both trade in merchandise products and services. Especially, at the beginning of the 2000s, trade in services was growing more rapidly than trade in goods (Mattoo, Stern and Zanini, 2008).

Today, in the global economic structure, the international trade in services has become an important issue with heterogeneous group of economic activities ranging from, such as, banking services to transport and cleaning services (Roberts, 2018). Especially, because of services' contribution to commodity trade, today, services are the most important sector for global economy so that services account for over two-thirds of global production and employment (WTO, 2019b).



**Figure 4: World Goods and Services Export**

**Source:** World Bank. World development indicator. <https://databank.worldbank.org/source/world-development-indicators?source=world-development-indicators#> (31/12/2020).

Although the export of goods is more than export of service in the Figure 4, actually, merchandise export includes some of services due to the role of services as intermediate input in merchandise trade.

According to the statistics of World Bank, while total exports of goods in the world were realized as 2,049 trillion dollars in 1980, it reached 18,761 trillion dollars in 2019. There is a nine- fold increase in the export of goods between 1980 and 2019 years.

The total value of service exports was 0,419 trillion dollars in 1980. In 2019, this value increased to 6,217 trillion dollars. Service exports increased approximately 15- fold between 1980 and 2019. Hence, when we compare the rate of increase of goods and services, the increasing rate of service export is more than goods export between 1980 and 2019. Therefore, it is possible to say that trade in services is becoming more significant than trade in goods gradually.

Feketekuty (1988) has already stated the dependence of manufacturing of goods on service inputs, and the quality of manufacturing became a function of the quality of services inputs. Also, goods and services stimulate development of another area such as marketing, transportation, advertising etc. (Olefir and Tipanov, 2008).

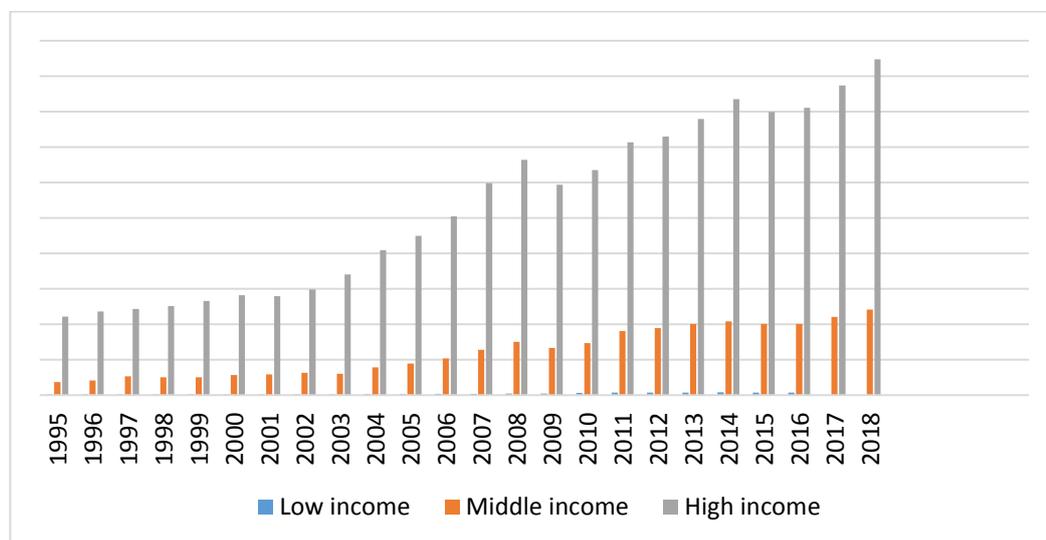
Hence, merchandise trade is more competitive and the intermediate role of service inputs is significant in that competitiveness. Since services are served as intermediate products into the production of goods, consequently, when services are assessed in value-added terms, services are about 50% of world trade. (WTO, 2019b). At this point, it is necessary to mind to the services sector plays a key role in the promotion of goods exports (Bi, Alexander and Pei, 2019).

Thus, services are becoming the most dynamic sector of the global trade and they have come to dominate both in national and global economies, so it is necessary to examine the international trade in services in more detail according to the countries, development levels of the countries and category / sub-sectors since the quantity and importance of service trade varies according to these sub-titles.

#### **1.4.2. International Trade in Services According to Development Level of Countries**

International trade in service transactions expanded to all over the world and many countries and country groups started to gain advantage from international trade in services.

To see the development of international trade in services from the earliest available date, the Figure 5 shows the services export of low, middle and high- income countries between 1995 to 2018 years.



**Figure 5: The Development of Service Export by Income Levels of Countries**

**Source:** The World Bank. (2020). World development indicator. <https://databank.worldbank.org/source/world-development-indicators?source=world-development-indicators#> (15/06/2020).

Figure 5 shows that when low, middle and high- income countries are compared with each other, high income countries have the biggest share in service export between 1995 and 2018 and it is possible to say that high income countries have comparative and competitive advantage in service sector in general.

When the international trade in services is analyzed in terms of development level of countries, it is revealed that developed countries are getting more advantageous from trade in services. Services are currently around three quarters of GDP in developed economies, up from 40 per cent in 1950, and especially developing countries are becoming services based. In some cases, this occurs more rapidly than in developed economies. According to the UNCTAD statistics, the biggest part of the international trade in services is among developed countries with 67% in 2018 but the rate of developing countries' trade in services value increases as well. In addition, both developed and developing countries have shifted many of their investments to service sector to get more benefit from service trade. Therefore, services attract more than two-thirds of FDIs in 2018 (WTO, 2019b).

**Table 8: Service Export Values and Share of Total Trade in Services of Group of Countries (Million dollars)**

Year	World	Developed Economies	The Ratio of Developed/World	Developing Economies	The Ratio of Developing/World
2005	2 657 910	1 991 370	74.9%	613 140	23%
2006	2 997 580	2 220 560	74%	711 490	23.7%
2007	3 583 430	2 631 590	73.4%	868 740	24.2%
2008	4 025 150	2 917 450	72.4%	1 002 090	24.8%
2009	3 599 470	2 607 700	72.4%	903 280	25%
2010	3 921 300	2 727 450	69.5%	1 095 970	27.9%
2011	4 411 280	3 055 990	69.2%	1 239 640	28%
2012	4 540 190	3 087 010	67.9%	1 327 751	29%
2013	4 840 800	3 309 640	68.3%	1 393 950	28.7%
2014	5 195 280	3 562 350	68.5%	1 505 800	28.9%
2015	4 962 590	3 384 750	68.2%	1 470 640	29.6%
2016	5 031 210	3 458 100	68.7%	1 465 740	29.1%
2017	5 429 290	3 716 420	68.4%	1 590 760	29.2%
2018	5 845 070	3 969 720	67.4%	1 738 140	29.7%
2019	6 144 034	4 173 893	67.9%	1 833 112	29.8%

**Source:** United Nations Conference on Trade and Development (UNCTAD). <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=135718>. (31/12/2020).

Table 8 shows services export values according to the development level of countries between 2005 and 2018 years.

The common feature of these different economies based on development level, is that services export increases from 2005 to 2019. This increasing trend in service export is exist for both developed and developing economies. Although the biggest share in service export belongs to developed countries, the export share of developing countries is rising faster than developed economies. The share of developed countries' service export was 74% in 2005, it decreases to 67.9% in 2019. However, developing economies' share in world service export is 23%, it increases to approximately 30% in 2019.

When developing countries are compared with developed, developing countries do not have strong competitiveness in service trade since they have lack of owned capital, knowledge, educated human capital and developed infrastructure and red-tape system (Nielson and Taglioni, 2004) that is why mostly Europe and Northern America have substantial surpluses in trade in services. (UNCTAD, 2019b). Hence, developing countries benefit from transportation and engineering services and they export natural resource-intensive services such as tourism and travel (Hoekman and Matoo, 2013).

Since developed countries are knowledge skill and they have capital, educated human capital and developed infrastructure technology system, they focus on insurance and financial services and they export technology / skilled intensive services such as financial, communication, and computer-related services (Surec and Katircioglu, 2019). For example, financial and insurance services and intellectual property services are dominated in Europe and the US in the world (WTO, 2019b). Therefore, 78% of insurance, financial, IT, and other business services exports were realized by developed economies in 2018 (UNCTAD, 2019b).

The countries which are leading exporters in global service trade among the developing and developed countries are shown in Table 9.

**Table 9: 5 Leading Service Exporters and Importers from Developed and Developing Countries in 2018**

Export		Import	
Developed Economies	Developing Countries	Developed Economies	Developing Countries
The USA	China	The USA	China
United Kingdom	India	Germany	Singapore
Germany	Singapore	France	India
France	Hong Kong	United Kingdom	Korea
Netherlands	Korea, Republic of	Ireland	United Arab Emirates
Japan	Thailand	Japan	Hong Kong
Ireland	United Arab Emirates	Netherland	Russia
Spain	Russia	Belgium	Brazil
Switzerland	Taiwan	Italy	Taiwan
Belgium	Israel	Canada	Saudi Arabia

**Source:** World Trade Organization (WTO). (2019b). *World Trade Report 2019 The Future of Services Trade* [https://www.wto.org/english/res\\_e/booksp\\_e/00\\_wtr19\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/00_wtr19_e.pdf) (12/05/2020).

According to WTO statistics, among the developed economy group, The U.S is the world's top service exporter and importer in 2018. The U.S exported services 805 billion dollars, representing 14% of global services export in 2018. Then, generally Europe is the leading region in the world trade in commercial services with more than 2 trillion dollars worth of service export and import in the world. The U.S, Europe, China, India, Singapore and Japan represent together more than the two-third of world commercial service export. By country, the U.K is the second exporter in the world with 405 billion dollars in 2018. Then Germany is third exporter of services with 325 billion dollars in the world, 2018. France is forth exporter with 290 billion dollars worth.

China is the first country that export the most goods and services in the world as a developing country but China is the fifth leading exporter in the world after France, with 265 billion dollars of service export in 2018.

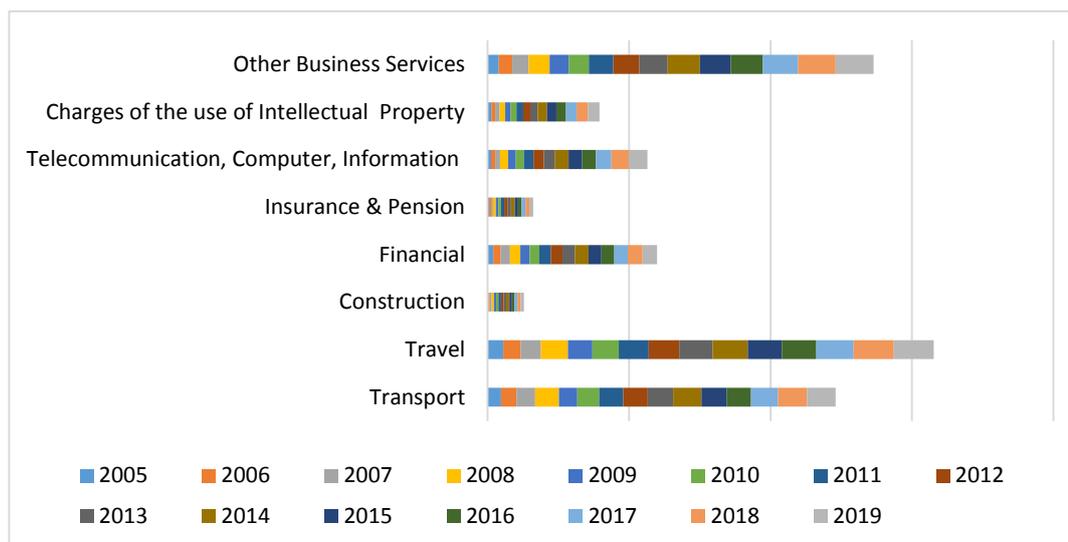
Netherlands is the sixth leading exporter in the world with 240 billion dollars.

Among developing countries, India is the second leading country with 204 billion dollars in 2018 but it is the seventh country in the world. The reasons why China and India are the top service exporters among developing countries are supporting of their high population to the service businesses and their growing in information and technology area. The share and the role of these countries in the exports of services into the world markets annually increase.

The leading exporters from developed country group focus on technology related, financial, information and business services. For developing economies, key export services consist of transport, travel and construction services. However, today, thanks to digitally enabled services, international trade in services does not require physical proximity between service supplier and consumer, so it becomes significantly easy and especially, cross-border (mode 1) trade in services grows. Both developed and developing economies have new opportunities for their economies in most of the service categories (WTO, 2019a). The international trade in services by category will be examined in the next part.

### **1.4.3. Development of International Trade in Services by Category**

According to the IMF classification method; EBOPS 2010 (see the Appendix 1), the development of service categories is shown in the Figure 6. Since the export shares of *'Manufacturing Services'*, *'Personal, Cultural and Recreational Services'*, *'Government Goods and Services'*, and *'Maintenance and Repair Services'* are low compared to other eight service categories, The Figure 6 shows the service export of the world by eight categories between 2005 and 2019.



**Figure 6: Services Exports by Category between 2005-2019, (EBOPS 2010)**  
**Source:** TRADE MAP. [https://www.trademap.org/Service\\_SelService\\_TS.aspx?nvpm](https://www.trademap.org/Service_SelService_TS.aspx?nvpm) (31/12/2020).

The Figure 6 shows the gradual growth of service sub-sectors. There is a steady increasing of services except the global crises period. 2009 and 2015 years were affected negatively from the Subprime and Eurozone crises. As seen, especially, travel, transport and other business services, have made the most progress between 2005 and 2019. Then, in parallel with the development of information and technology, the exports of Telecommunication, Computer and Information Services and Financial Services are increasing regularly since they are information base categories.

According to WTO statistics, transportation services which cover cargos, people, and related operations are approximately 17.6% and travel services accounted approximately 24.9% in the global export of commercial services in 2018. The reasons why transportation and travel export increasing gradually are rising of population, people's free time, development of transportation system and development of information technologies, and e-commerce transactions (Olefir and Tipanov, 2008).

Essentially, transportation sector is the backbone of the merchandise trade. From the early 2000s, growing merchandise trade with the integration of developing countries to the world trade especially China and India led to substantial growth of transport and travel sectors (Loungani, 2017).

WTO mentions 'commercial services' by dividing into four; goods-related services, transportation, travel and other commercial services.

Other commercial services include telecommunication, personal, cultural and recreational services, construction, insurance, finance, charges of the use of intellectual property and other business services.

In other commercial services, there is a rapid growth. They increased 8% from 2017 to 2018. They accounted for approximately 53.8% of global commercial export with 3,072 trillion dollars in 2018. When we determine the prevail services among other commercial services the biggest share belongs to other business services (legal, accountancy, advertising, computer and related services and architectural and engineering services) with the 41.17% in 2018.

Secondly, telecommunication, computer and information service export have the biggest share with 19.7% with 606,060 billion dollars in 2018. Since telecommunication services are provided via digital connection, it affects the intensification of world production turnover (Olefir and Tipanov, 2008). According to the WTO Report (2019b), in particular IT services and e-commerce exports have increased 46% since 2008 and they have grown by an average annual 3.9 % until 2018.

Thirdly, financial services have 15.9% of export among others commercial services group with 489 billion dollars in 2018. Then, goods-related services, intellectual property, insurance and pension, construction and personal, cultural and recreational services follow them, respectively. They are also growing steadily.

According to El Khoury (2006), both telecommunications and financial services are a proof about a country's development level since they enable global transactions and facilitate the exchanging of goods and services. Hence, developed technology enables countries to benefit from international trade in services and to increase and improve their level of development.

Essentially, telecommunication and information services, finance and other business services can be supplied without need physical proximity between service supplier and consumers, so mainly digital technologies affect positively international trade in services in these categories. First, traditionally needed face-to-face interaction for cross-border trade but digital technologies decrease the cost of trade in services. Second, they facilitate the outsourcing of activities, so they cause developing the importance of data flows and investment in digital infrastructure (WTO, 2019b).

As a result, technology makes easier trade in services. The role of technology and digital platforms to supply services fast and to interact with customers and service offerers are important. For instance, a bank, a law firm or management consultant can offer their services electronically. Or, insurance firms underwrite and submit claims as online. Therefore, thanks to the digitally enabled services, mobile banking, e-banking, online sales methods are existing in global business.

To sum up, today, the service sector is gaining more importance in global trade. Service exports increased approximately 15-fold between 1980 and 2019. Since services are supplied as an intermediate or input into the production of goods, they account is about 50% of world trade. Globally, it makes up about two-thirds of value-added (WTO, 2019b). It means that services affect goods production and merchandise trade.

Although the biggest share in service export belongs to developed countries. Developing countries increase their share faster than developed economies. Among the seven leading exporting countries, China and India are exist besides of the U.S, the U.K, Germany, France, and Netherland. China and India are supporting of their high population to the service businesses and their growing in information and technology area.

In the future, especially for the cross- border transactions, the service sector will be reshaped. With digitalization, demographic and rising revenues will lead to improve new markets and services such as environmental services. Therefore, with all developments in global business, technology, social life and environment issues, there will be transformation of the sectors. According to the analysis of WTO (2019b), the share of trade in services will rise 50% by 2040 year all around the world. This amount depends on the adaptation of developing countries to the global developments by rising their competitiveness both in manufacturing and service sectors.

However, the COVID-19 is particularly hitting the international trade in services which constitute two-thirds of economic output, more than half of the world's jobs and approximately a quarter of direct exports. The impact of the pandemic on the services sector has been particularly seen with the tourism, travel and transport sub-sectors being the worst hit (UNCTAD, 2020b). For example, shipping and air freight services are important component on the international trade in services and closely linked to the trade in goods. A fall in global demand for goods and the hitches to transport links have led to high effects on the volume of air and sea cargo. In terms of air cargo volumes, they recorded a

contraction of 27.7% (IATA, 2020) and global sea cargo volumes recorded a fall of 6.5% (ISL, 2020) in April, 2020, compared to the same month in 2019.

Although the services sector is affected negatively by pandemic, services can be used strategically to facilitate economic transformation, so the services sector will help turn the tide by creating opportunities for greater income, food security, employment, investment and trade. These involve ICT services that enable work from home, digital financial services and e-commerce platforms, that have kept economies running in a time of recession (<https://unctad.org/news/services-sector-vital-covid-19-economic-recovery>). Particularly, developing countries and least developed countries should support to strengthen their services. It is really very important to support key services inputs that transform the economy in developing countries.

Shortly, pandemic has showed the need to mind the structural gap between developed and developing countries. Then, the estimation of WTO (2019b) which is the share of international trade in services will rise 50% for 2040 year, may be realized by helped policy supports.

In conclusion, in this part, the conceptual framework of services, trade in services and theoretical framework of international trade in services are drawn with illustrating the developments of trade in services over the years according to the countries, country groups and categories. In the next part, we will examine the determinants of financial and insurance & pension services due to the increasing importance role of these sectors via the digitally enabled services in the global trade.

## **PART 2: INTERNATIONAL TRADE IN FINANCIAL AND INSURANCE & PENSION SERVICES**

Among the service sector, one of the key service sub-sector is financial services (WTO, 2019b) since all economic activities depend on access to financial services. In the competitive global business environment, providing an efficient financial sector is very critical (Kono et al., 1997). As shown in the first part, the share of financial service sector in global trade has grown since 1980s by encouraging both the national and global economic growth via financial intermediaries and markets. Due to the relation of financial services with other services such as transportation, travel and ICT, trade in financial services (TIFS) have gained much importance in both developed and developing countries (Gani and Clemes, 2016), so today, many countries are trying to get advantage in different service categories including financial services (Lorde, Alleyne and Francis, 2015).

In addition, insurance & pension services are included in this study since they have a big role on the economic development (Khatun, 2016). Insurance and pension services provide assurance people who withdraw from the labor market from falling into poverty and from other risks (Cuadros-Menaca, 2020). Also, development of insurance and pension services promotes the role of the financial sector (Impavido and Tower, 2009). For instance, the rising of non-bank assets of a country such as insurance companies and private pension funds are sign of a development level of the country (Levine, 1997). Moreover, the presence of insurance companies and stable pension funds in a country provide protection to national financial systems against global financial crisis (Sahay et al., 2015). Even, insurance services contribute the goodness of other parts of the financial sector such as banking and capital markets by reducing losses at default via credit guarantees (Feyen, 2011).

Hereby, precisely, financial and insurance & pension services play a big role in the economy, both by contribution to gross domestic product (GDP) and facilitating the production in trade in goods and services (Rouzet et al., 2014). When the big role of these sectors on the economic growth is considered, the main goal of the study in this part is to show the determinants of financial and insurance & pension services export by stating

detailed descriptions, liberalizations and developments of these sectors both theoretically and statistically.

## **2.1. The Definitions of Financial and Insurance & Pension Services**

Financial service sector is defined as ‘the brain of the economy’ by WTO since it meets the needs of the economies with many functions. These functions are defined by Demirgüç-Kunt and Levine (2008) as: (i). facilitating the exchange of goods and services in the economy (ii). mobilizing and pooling of savings, (iii). acquiring information about investments and allocating resources, (iv). monitoring investments and exerting corporate control and (v). reducing or transforming the risk (reducing it through aggregation).

The GATS Agreement which includes trade in financial services (TIFS), is the multilateral context of general rules and principles for liberalization of international trade in services, so it has provided transformation of the international financial system (Webster and Hardwick, 2005). GATS Agreement defines financial sector as “*any service of a financial nature offered by a financial service supplier of a member*” in the Annex on Financial Services. The Annex divides financial services into two categories; banking & other financial services and insurance & insurance related services ([https://www.wto.org/english/tratop\\_e/serv\\_e/finance\\_e/finance\\_intro\\_e.htm](https://www.wto.org/english/tratop_e/serv_e/finance_e/finance_intro_e.htm)).

**(i). Banking and Other Financial Services:** Banking and other financial services include banking and other financial services, such as the acceptance of deposits and other repayable funds from the public, lending (such as factoring, financing of commercial transaction and consumer credit), money transmission services and financial leasing, all payment (such as credit and debit cards and bankers’ drafts), guarantees and commitments, asset management (such as pension fund management), provision and transfer of financial information.

**(ii). Insurance and Insurance Related Services:** They include life and non-life insurance, reinsurance, insurance intermediation such as services auxiliary to insurance such as consultancy and actuarial services and brokerage and agency services.

Moreover, GATS defines trade in financial services (TIFS) with four modes of supply like in other services. Mode 1 (cross - border) describes like that a customer purchases of insurance coverage from a foreign financial institution in abroad. Mode 2 (consumption abroad) describes like that the purchase of financial services by customers while going

abroad. When a UK resident opens a Euro account in a French Bank, this is an example for mode 2. Mode 3 (commercial presence) describes like that when a foreign bank establishes a subsidiary in the region of a country and offers financial services. Supplying financial service through FDI is example of mode 3. Mode 4 (presence of natural persons) describes like that people provide a financial service in abroad. (Webster and Hardwick, 2005). Predominantly, mode 1 and mode 3 are the most significant and common supply types in international trade in financial services (Rouzet et. al, 2014). Especially, thanks to mode 3 (commercial presence) the benefits of international trade in financial services are seen with foreign banks and insurance companies through FDI by transferring knowledge and technology.

Although Financial Services include Insurance and Insurance Related Services in GATS classification, EBOPS 2010, as a current classification, shows Insurance & Pension Services separately from Financial Services. It means that the Financial Services category and Insurance & Pension Services category are separated. Therefore, their definitions and scopes will be given separately since today's the financial and insurance services sectors are regarded as a principal unit of modern market led economies (Gani and Clemes, 2016). Also, according to Rouzet et al. (2014), the role of financial and insurance services as a link in value chains, are seen as a contribution to cross-border trade since they provide investment and export opportunities.

Firstly, as we said in the first part, EBOPS 2010 provides statistical information to meet the needs in the framework of GATS. It shows the statistics on the transactions between an residents and non-residents for a during a specific period (IMF, 2009). Based on EBOPS 2010 classification, Financial Services and Insurance & Pension Services will be defined in the next sections.

### **2.1.1. Financial Services**

According to Asmundson (2011), a financial service is not the financial goods itself it is actually a process of acquiring the financial goods. Financial service includes the transactions required to obtain the financial goods, so EBOPS 2010 divides Financial Services into two; Explicitly Charged Financial Services & Other Financial Services and Financial Intermediation Services Indirectly Measured (FISIM).

According to EBOPS 2010 classification, the contents of financial services are shown in the Table 10 as follows.

**Table 10: The Content of Financial Services (EBOPS 2010)**

<b>FINANCIAL SERVICES</b>
<p><b>(i) Explicitly Charged and Other Financial Services:</b></p> <ul style="list-style-type: none"> <li>- Commissions and fees associated with financial transactions, such as: Letters of credit, bankers' acceptances, lines of credit and other, similar instruments, Financial leasing, Money transfer, Factoring, Commodity futures, Arrangement of financial derivative contracts, Underwriting, placement of issues, brokerage and redemption of securities, including commissions associated with the income payments related to securities and Clearing of payments</li> <li>- Financial advisory services</li> <li>- Custody services for financial assets or bullion</li> <li>- Financial asset management services</li> <li>- Merger and acquisition services</li> <li>- Corporate finance and venture capital services</li> <li>- Credit card and other credit granting services</li> <li>- Foreign exchange</li> <li>- Regulation and administration of financial markets</li> <li>- Credit rating</li> <li>- Service charges on purchases of International Monetary Fund (IMF) resources</li> </ul>
<p><b>(ii) Financial Intermediation Services Indirectly Measured (FISIM):</b></p> <p>FISIM is defined as margins between the interest rate and the reference rate on loans and deposits.</p> <p>FISIM exports include the indirectly measured financial services sold on the loan assets and deposit liabilities of resident financial corporations for which the counterparty is a nonresident unit.</p> <p>FISIM imports include indirectly measured financial services bought by resident units from all institutional sectors on their loan liabilities and deposit assets with nonresident financial corporations (IMF, 2009).</p>

**Source:** United Nations, (2010). *Manual on Statistics on International Trade in Services (MSITS) 2010*. New York.

In general, the financial service sector consists of users, providers of financial services and the government agencies which regulate them. Households and firms can be given as an example for the financial service users. Household savings finance purchases by consumer loans from banks and other financial services providers (FSPs). FSPs are two types. First is Financial Intermediaries such as commercial banks, saving institutions which provide financial assets and obtain the funding for those assets by issuing liabilities. Second is Direct Finance Institutions in capital markets, such as securities companies that make easy the transactions between providers and users of funds (Khatun, 2016).

Essentially, the role of financial intermediaries is significant to supply financial services because financial intermediaries gather funds from lenders and transform them to meet the needs of borrowers according to maturity, scale and risk. Also, they decrease information costs by getting information about companies and new technology. Further,

they manage risk, encourage investments, mobilize savings and improve liquidity so that financial intermediaries encourage economic growth since they provide resource allocation, facilitate capital accumulation, foster innovation and enhance investments (King and Levine, 1993).

### 2.1.2. Insurance & Pension Services

Insurance & Pension Services cover lots of insurance and pension transactions for residents abroad. They provide households, firms and governments exposed to certain risks via financial protection against the possible risks. (United Nations, 2010).

According to EBOPS 2010 classification, the contents of Insurance & Pension Services are shown in Table 11.

**Table 11: The Content of Insurance & Pension Services (EBOPS 2010)**

<b>INSURANCE &amp; PENSION SERVICES</b>
<b>(i) Direct Insurance</b> (life insurance, freight insurance and other direct insurance)
<b>(ii) Reinsurance</b>
<b>(iii) Auxiliary Insurance Services</b>
<b>(iv) Pension and Standardized Guarantee Services</b> (pension services, and standardized guarantee services)

**Source:** United Nations, (2010). *Manual on Statistics on International Trade in Services (MSITS) 2010*. New York.

**(i). Direct Insurance:** It realizes between an insurance company and the public (United Nations, 2010). Direct insurers pool payments to cover risk to those who experience a covered personal or another related event, such as an automobile accident or the sinking of a ship (Asmundson, 2011).

**(ii). Reinsurance:** Both parties to the policy are supplier of insurance services. It means that reinsurance leads insurance risk to be transferred from one insurer to another (United Nations, 2010). Reinsurers such as rich consumers, make a deal to cover the risks undertaken by a direct insurer (Asmundson, 2011). Commonly, the transactions of cross-border insurance services in specialized areas including reinsurance and high-value items such as aircraft (United Nations, 2010).

**(iii). Auxiliary Insurance Service:** It includes the transactions which are related with insurance and pension fund operations. It involves insurance brokering and agency services, agents' commissions, insurance and pension consultancy services, evaluation

and adjustment services, and monitoring services on indemnities and actuarial services. (United Nations, 2010).

**(iv). Pension and Standardized Guarantee Services:** Pension Services are enhanced by funds established to provide income on retirement and benefits for death or disability. These funds are organized by the employers and the government or insurance corporations for the respect of the employees. Thanks to the mobility of people over all the world, cross-border transactions in pension services may be on a significant scale.

Further, standardized guarantee services are services related with standardized guarantee schemes that seen as a class of identical financial guarantees which are issued in large numbers, usually for small amounts such as export credit guarantees and student loan guarantees. They make an agreement whereby the guarantor undertakes to cover the losses of the lender in if borrower defaults. If debtor defaults, the borrower or the lender contract with the guarantor to repay the creditor. In general, financial corporations, insurance companies and government units become guarantor (United Nations, 2010).

As a result, given the fundamental importance of both financial and insurance & pension services, it is possible to say that they are the backbone of modern economies. Financial intermediation and insurance services have a big role on the development of an economy, as facilitators of production in trade in goods and services (Rouzet et al., 2014).

According to Kono et al. (1997), the effect that initiated improvement of financial and insurance & pension services is liberalization of international trade in services, so the liberalization of international trade in financial and insurance & pension services will be examined in the next section.

## **2.2. Liberalization of Trade in Financial Services (TIFS)**

When financial liberalization is expressed as ‘removing controls or barriers’, it is possible to say that financial liberalization leads to increase in savings, encourage investments and induce economic growth. As earlier studies, Shaw (1973) and McKinnon (1973) proposed that government limitations on the operation of the financial system like interest rate ceiling, high reserve necessities and direct credit programs may cause decreasing of financial development, so they refer that a underdeveloped functioning financial system affects negatively the economic growth (Ang and McKibbin, 2007: 218). After the financial liberalization is provided, its effect on economic growth is seen positively.

McKinnon-Shaw (1973) viewed financial liberalization from five different perspectives. First is the market determined interest rates. Second, ease of entering to the banking sector for competition. Third, the elimination of directed credit programmes. Forth, allowing for expansion of credit to the private sector. Fifth, the integration of formal and informal markets. Last, movement towards equilibrium exchange rates (Serieux, 2008: 4).

In terms of international trade in financial services (including insurance & pension), the purpose of the GATS rules is liberalization of TIFS facilitate the market access conditions conditions and non-discriminatory treatment for financial service suppliers (Harms et. al, 2003).

With respect to financial services, before Uruguay Round, many countries had already eliminated the barriers to open the branches by foreign institutions in the mid-1980s. One of the main non-tariff barriers is different regulations that cause restrict the companies' ability to export abroad. Differences in regulations and supervision arrangements can be given as an example. Another non-tariff barrier is country-specific idiosyncrasies that make TIFS difficult for foreign companies for getting knowledge. In order to decrease or remove the negative effects of these non-tariff barriers, GATS Agreement contributes gradual liberalization for more efficient, stable and diversified financial sector (Webster and Hardwick, 2005).

The negotiations on financial services under the GATS framework were concluded in December 1997, so financial service sector (including insurance & pension services) became the subject to multilateral trade rules. Mattoo (1999) explains the main goal of the negotiations as dividing countries into two; first is seeking the export gains and second is competing in the domestic market under good competitive conditions.

Thanks to Financial Services Agreement (1997), many financial service suppliers (banks, insurance companies, securities firms and etc.) have gained opportunities to expand their commercial presence in foreign markets, especially, through FDIs (ICC, 2005). Already, King and Levine (1993), have reported that the quantity of investments is interacted with development of financial sector. In terms of insurance service, the existence of foreign insurers expected to contribute to market development via product innovation and marketing techniques (Feyen, Lester and Rocha, 2011).

In the context of the agreement, GATS has contributed to more commitments by member of WTO in order to decrease or remove the restrictions on foreign ownership of local

financial institutions (Webster and Hardwick, 2005), so GATS commitments have appeared as a guarantee for TIFS since GATS commitments create security, facilitate the pursuit of welfare-enhancing policies, and earnings from more open markets in other countries.

Thus, many WTO members have done new commitments. In addition, most of the commitments includes mostly insurances, banking and securities (Ang and McKibben, 2007).

As soon as the liberalization of the financial sector is achieved, especially, African and Eastern European countries did more liberal commitments than Asia and Latin American mostly. For example, Bulgaria allowed commercial presence (mode 3) via new subsidiaries in insurance service. Poland liberalized mode 1 and mode 2 in insurance of goods. The Czech Republic in air transport insurance, removed monopolies in insurance service. Brazil replaced prohibitions on foreign establishment with free cross-border trade. Malaysia has agreed to raise foreign equity limits in insurance from 49% to 51% in terms of foreign equity.

These countries' commitments may be proof that liberalization of financial services will be beneficial since open financial markets have a positive effect on savings, investment and allocation of resources. Therefore, the emergence of new saving instruments cause increasing the returns to investments. Eventually, aggregate savings and higher investments provide economic growth. Thus, commitments in the multilateral area benefits from liberal trade / open markets at the domestic and international level (Webster and Hardwick, 2011).

Shortly, as Kono et al. (1997) explain that the contributions of liberalization to TIFS (including insurance & pension services) under the GATS can be explained such as like that it provides competition that will improve service quality, reduce costs, increase the quality of financial services. Further, investments opportunities provide better resource allocation across sectors, managing risks and absorbing shocks. Also, open economy leads governments develop domestic policies in credit markets and regulations so that an open financial sector contributes to the macroeconomic policies and regulation.

Although GATS is the only multilaterally agreed legal framework related to the financial sector, the joining of IMF-World Bank Financial Services Assessment Program (FSAP\*) promote the financial sector practices in many countries (Kireyev, 2002). After Asian

financial crisis in 1997, FSAP launched for gathering Bank and Fund expertizes in order to help countries decrease the financial sector crises. It provides participating countries can define financial system vulnerabilities. It provides information to domestic policy makers of the need actions and offers countries a comprehensive framework for financial sector reforms. In addition, countries get an opportunity to measure or compare their financial sector standards to benchmark their regulatory systems with internationally accepted systems (<https://www.worldbank.org/en/programs/financial-sector-assessment-program>). The FSAP considers the characteristic features of countries financial systems and analyze them according to the needs in the program (IMFBlog, 2020).

Shortly, the goal of FSAP assessments can explained into two: (i). Financial Stability Assessment (IMF). It includes examining the quality of bank and nonbank supervision and financial market infrastructure oversight and evaluating the ability of central banks, and policymakers to respond effectively in case of economic crises. (ii). Financial Development Assessment (World Bank). It includes examining markets, the quality of the legal framework, institutions, obstacles to competitiveness and efficiency, the access to retail payment digital technology and financial sector's influence on the economic growth (<https://www.imf.org/en/About/Factsheets/Sheets/2016/08/01/16/14/Financial-Sector-Assessment-Program>).

Currently, FSAP entered its 20<sup>th</sup> year and it relates the topics coverage of emerging risks in 2020. For example, one of the countries which FSAP assessment expects to conclude in 2020 is South Africa. The FSAP assessment will examine the strength of the financial sector with slow growth of South Africa. It will examine financial inclusion, banking, insurance, pension supervision, securities markets, fintech, and capital markets development of South Africa. Like South Africa, there are some other countries which FSAP assessments expected to conclude, such as Denmark, Norway, Latvia, Korea, Hong Kong SAR, Trinidad and Tobago, United States and Phillipines (IMFBlog, 2020).

Besides the great role of GATS and FSAP in ensuring the liberalization of the financial service sector, economic integrations also have a positive effect for the financial service liberalization since they aim free trade among members by eliminating barriers for free movement of goods, people services and currency. According to Grossman and Helpman (1997), '*the global interactions under the economic integration generate forces that accelerate growth in every country*' (Badinger, 2005: 51). Hereby, as an economic

integration type, Full Economic Integration aims to achieve integration towards monetary, political, social, cultural and security (Balassa, 1961). Complete unification of the monetary and fiscal policies by a central authority are exist in this type. Above the national level, monetary, social policies and decisions on the harmonization of finance by integrating the financial market are taken by institutions. At this stage, due to the presence of common central bank and common currency, member countries cannot adjust their interest rates, monetary and fiscal policies independently. The existence of European Central Bank (ECB) is an example of within European Union indicates that Full Economic Integration has been reached (Dura and Atik, 2007). Hereby, European Union as a type of economic integration may be characterized with free mobility of products, services, labor, and capital, a common currency, common fiscal and monetary policies (Basnet and Pradhan, 2017).

As Wen and Zhou (2019) state that with economic integrations, the countries have financial integration automatically due to the fact that member countries have the same interest rate paid to depositors and the same interest rate charged by banks. Already, the presence of European Central Bank reflects the financial integrations among members. Financial integration provides international investors to benefit from risk-sharing opportunities and it decreases the equity cost of capital. Thus, financial integrations have welfare increasing effect (Colacito and Croce, 2010).

As an aspect of EU financial integration, the Single Financial Market began to be established from the 1970s (Randzio-Plath, 2000). Specifically, EU regulated the Financial Services Action Plan (FSAP\*\*) which was applied between 1999 and 2004 in order to remove barriers, establish common rules for integrated securities and for ensuring legal certainty in the cross- border use. Essentially, the main goal was to create EU Single Financial Market with FSAP because FSAP required creation of a single wholesale market of financial services and appropriate policies concerning supervision of the EU Single Financial Market (Mikita, 2012). Anyway, this plan was including insurance and pension services under the context of financial services (Randzio-Plath, 2000).

Specifically, the main three goals of FSAP was setting up a single market in wholesale financial services, secure and strengthening the rules and making retail markets open (eur-lex.europa, 2006). Also, thanks to FSAP, consumers in the EU could access easily to the information on the provision of financial services, facilitate e-business in financial

services and established a common regulatory framework and the cross-border provision of insurance services (Webster and Hardwick, 2005). In this process, especially, the UK had a central role in the development of the single market in financial services among EU members.

Currently, EU has 27 members country after UK left with Brexit in 31 January 2020 ([https://europa.eu/european-union/about-eu/countries\\_en](https://europa.eu/european-union/about-eu/countries_en)). Since UK left EU, although UK and EU are interlinked in many ways after more than 40 years of harmonization, UK will be deprived of common policies in the financial sector field such as banking union, insurance and pension, capital markets union, financial supervision and risk management and digital finance policies and thus, UK will not have more liberal trade relations with EU ([https://ec.europa.eu/info/policies/banking-and-financial-services\\_en](https://ec.europa.eu/info/policies/banking-and-financial-services_en)). Even, the Single Financial Market is likely to be less open to third countries, after the UK's departure (Howarth and Quaglia, 2017). Therefore, since EU has a great role in Europe's financial services with the banks, insurers, fintech firms, asset managers and etc., the future of financial services of the UK is uncertain.

According to trade map statistics (2019), the financial service sector is big contributor to the UK economy. Actually, UK's TIFS (excluding insurance & pension services) volume was so high with EU. In bilateral trade relations, EU is the biggest importer of the UK in the financial services via 80.306,839 thousand dollars in 2019.

According to IMF Report (2018), after Brexit, trade in financial services (including insurance & pension services) relation of UK with EU will be affected negatively. Since EU is the biggest partner of UK in financial service export, the UK's financial service export to EU will decrease 40%. It amounts almost 10 billion pounds annually. The report showed that EU Integration or EU Single Financial Market benefits to TIFS between members.

Separately, the UK's insurance sector is managing investments of 1.8 trillion pounds, employing more than 300.000 individuals and generating more premiums than any other market in Europe. The insurance & pension service export of UK to the EU was 8.982,123 thousand dollars in 2019 (trade map, 2019), so the insurance sector could be one of the most affected negatively sector because of the level of regulation and interconnection between the UK and EU financial systems (Deloitte, 2019). According to Centre for

European Reform (CER) brief prepared by Lowe (2018), insurance & pension services export of the UK to EU will decrease 19% after Brexit.

As seen, as high developed countries; EU and UK, the presence of an economic integration is so significant for the liberalization of TIFS (including insurance and pension services).

To sum up, liberalization of TIFS (including insurance & pension services), that start under the GATS framework, is positively associated with national and global growth. Even, both developed and developing countries have grown faster than those with closed one with open financial sectors and trade liberalization makes the financial service sector more efficient and stable (Levine, 1996 and 1997; Gani and Clemes, 2016). Also, economic integrations have a positive effect in the liberalization of TIFS and economic growth such as EU Full Economic Integration.

After we study the liberalization of TIFS (including insurance & pension services) under the GATS framework, we will show the effect of development of financial and insurance & pension services on the economic growth.

Since financial services are core sector for economic growth and employment in developed and developing countries (ICC, 2005), since the insurance sector has a critical role in financial and economic growth with effective risk management (Feyen, Lester and Rocha, 2011) and since insurance services are the core of the financial services (Mattoo, 1999), the relationship between financial services, insurance & pension services and economic growth will be examined in detail in the next section.

### **2.3. Financial Development and Economic Growth**

Economic growth after financial liberalization leads to increasing of demand for more financial services, so financial system develops in response to economic expansion. When economic activities increase, the requirement to the physical and liquid capital will occur (Ang and McKibbin, 2007), so developed financial sector encourage economic growth, mutually.

The main task of financial system is to provide funds to the sectors that have scarcity of funds. By doing this, the financial sector performs two different functions. The first is reducing information and transaction costs. The second is facilitating the trading,

diversification, and management of the risk (De Haan, Oosterloo and Schoenmaker, 2012).

The presence of financial system is with institutional units and markets for mobilizing funds for investment and for providing facilities (such as payment systems). The institutional units involve corporation, government agencies and households.

At this point, when financial instruments and institutions or intermediaries reduce the risks and the information and transaction costs, financial development emerges (Čihák, Demirgüç-Kunt and Levine, 2012). Also, since developed financial systems contribute better corporate governance and efficient allocation of resources, there may be a big influence on the relationship between financial development and economic growth (Ang and McKibbin, 2007). Sahay et al. (2015: 5) define financial development as “*a depth of size markets, access financial services, and efficiency for the ability of institutions to provide financial services at with sustainable revenues, and activeness of capital markets*”.

Whether financial system affects economic growth is being asked in the literature (Ang and McKibbin, 2007). Porta et al. (1998) and Gani and Clemes (2016) expressed that financial sector is better in developed countries with strong legal frameworks.

Developed financial systems affect positively economic growth. Essentially, the financial system is the core component of the economy and it related with economic and socio-political institutions (Dowell-Jones and Buckley, 2016). As De Haan, Oosterloo and Schoenmaker, (2012) state that developed financial system directs funds to their most productive uses is a big necessity for economic development, so countries which have a well- developed financial system develop fast since the external financing constraints that restrain firms’ and industries’ expansion are diminished (Demirgüç-Kunt and Levine, 2008).

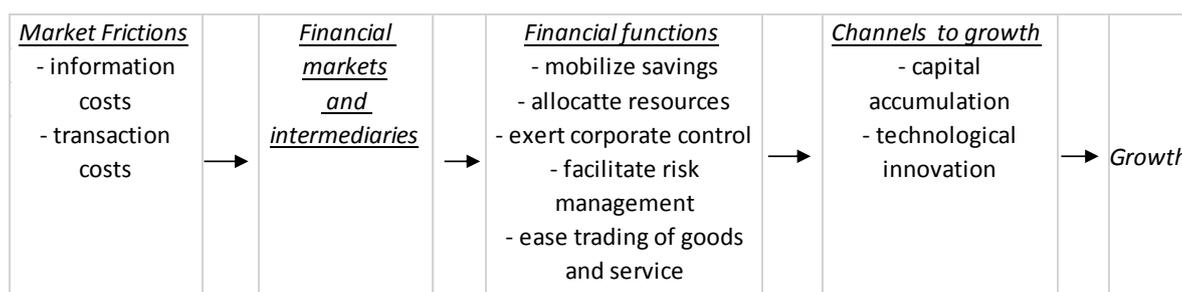
Essentially, financial development is realized by the dynamism of financial systems by affecting the capital accumulation channel and economic efficiency (Levine, 1996). The dynamics of financial systems are divided into five categories by Demirgüç-Kunt and Levine (2008) as: (i). facilitating the trading, diversification and management of risk, (ii). acquiring information about investments and allocating resources, (iii). mobilization and pooling of savings, (iv). monitoring investments and exerting corporate control and (v). facilitating the exchange of goods and services.

As a result of these five functions of financial system, financial sector development occurs since financial markets and intermediaries facilitate the trading, reaching information, enforcements and reduce the transaction costs (<https://www.worldbank.org/en/topic/financialsector/overview>).

Recently, besides of liberalization of financial services and financial sector reforms, technological developments, internationalization of financial services, competition and outsourcing have an effect on the development of financial services (WTO, 2019b).

Eventually, financial development / financial sector development / financial system development affects the economic growth by rising economy's savings and influencing the efficiency of resource allocation. This relationship with economic growth is handled in a very wide range both theoretically and empirically in the literature. The common conclusions of the studies are that financial development plays an active role in economic growth since developed financial system provides capital accumulation, technological innovations, legal, regulatory and reforms. Then, it promotes economic growth as discussed in the literature widely by Schumpeter, 1934; Goldsmith, 1969; King and Levine, 1993; McKinnon, 1973; Levine, 1997; Levine, Loayza and Beck, 2000; Ang and Kibbin, 2007; Gani and Clemes, 2016; Khatun, 2016; Kawa et al., 2020.

The study of Levine (1997) shows the general relationship between finance and growth in the Figure 7.



**Figure 7: A Theoretical Approach to Finance and Growth**

**Source:** Levine, R. (1997). *Financial development and economic growth: views and agenda*. Journal of Economic Literature 35, 688-726.

In fact, the Figure 7 expresses visually all the studies have done about the finance and economic growth.

Theoretically, the relationship between financial development and economic growth are handled by many authors but also, the development of capital markets and banking system are crucial for economic growth under the financial development. For example,

international assets of the banks, as a financial intermediary, are the sources of trade in financial services growth (Khatun, 2016).

The development of the financial system through the banking system and capital markets provides additional resources for companies (Demirgüç-Kunt and Levine, 2001). Because of the causal links banking systems' and capital markets' (as components of financial sector) with economic growth, Carauşu (2018) examines their impact on the economic growth separately.

Banking system, as a part of financial sector, is an important channel which affects both financial development and economic growth. Conceptually, many studies which show importance of banks in economic development are exist in the literature. As an earlier study, Bagehot (1873) expresses that economists have discussed that better banks accelerate economic growth (Levine, 1998: 596). The meaning of better banks is good at identifying creditworthy firms, pooling risks, mobilizing savings, and facilitating transactions.

Banking sector promotes economic activities and economic growth under the strong legal order since bank loans finance to advance businesses and investments, via easy access to financing for productive uses. For instance, Love (2003) states that financial development reduce firms' financial constraints, so developed financial system encourage firms can finance their investment at the appropriate cost of capital. Then, with the banking sector development, promoting economic growth is expected (Tongurai and Vithessonthi, 2018).

In terms of capital markets, essentially, the presence of direct finance institutions in capital markets, some of the studies engage the development of capital markets with economic growth (Khatun, 2016). Capital market in a country is a significant determinant about the development of a country since capital markets are the center of financing for businesses and governments. Levine and Zervos (1998) show that the development of capital markets determines economic growth. Currently, OECD (2011) argues that institutional investors, namely pension funds, insurance companies and sovereign wealth funds have a shock absorber role during the financial crises and provide both capital market development and economic growth (Coşkun et al., 2017). Also, Enciu and Cioaca (2017) shows the positive relationship between economic growth and the ones that

characterize the capital markets such as market capitalization, the stocks traded volume and market return.

Besides of banking system and capital market effects on economic growth, since insurance & pension services constitutes the core of financial services (Khatun, 2016), since insurance & pension services play a major role in the functioning of an economy as facilitators of production in trade in goods and services (Rouzet et al., 2014), since insurance & pension systems promote the role of the capital market in supporting growth (Finger and Gressani, 2014) and since the role of insurance and pension services are ignored in the financial development-economic growth literature (Chang, Lee and Chang, 2014), we will state the effect of insurance & pension services on the economic growth shortly.

#### **2.4. Insurance & Pension Services and Economic Growth**

Development of insurance and pension systems promotes the role of the capital market in supporting growth (Impavido and Tower, 2009). Insurance and pension services protect people who withdraw from the labor market from falling into poverty (Cuadros-Menaca, 2020). Also, the increasing of non-bank assets of a country such as insurance companies and private pension funds are sign of a development level of the country (Levine, 1997). Hereby, insurance and pension services, as a component of financial service sector, play a big role in the functioning of an economy as facilitators of production in trade in all goods and services (Rouzet et al., 2014). Therefore, the big role of these sectors on the process of regional as well as global integration of the financial services markets and on the economic growth should not be ignored (Gani and Clemes, 2016).

Insurance sector, as a part of financial system has a critical role in financial and economic development (Khatun, 2016). According to Haiss and Sümegi (2008), the rationale behind how insurance influences economic growth is two. First, the significance of insurance sector among the total financial intermediation has increased over time, second, the engagement and intensity of links between insurance, capital markets and banking have improved.

According to Ward and Zurbruegg (2000), beyond the facilitating of economic activities with risk transfer and indemnification, insurance is seen to encourage financial intermediation that is why as a financial intermediary, when insurance market developed,

accumulation of capital within the economy increases. Hais and Sümegi (2008) explains financial intermediation role of insurance companies like that insurance companies provide services or carry out the functions of financial sector (mobilizing savings, monitoring managers, transforming risk and etc.).

Also, insurance services contribute the efficiency of other segments of the financial sector, such as banking and bond markets by reducing losses at default through credit guarantees (Feyen, 2011). Also, although insurance companies are seen as institutional investors in corporations, essentially, they help capital allocation and foster their investments via increased level of monitoring (Ward and Zurbruegg, 2000).

In terms of pension services, as a component of financial services, they comprise the services provided by funds established in order to give income on retirement and benefits for death. These funds are regulated by the employers, the government and insurance corporations for the goodness of the employees. (United Nations, 2010). Fashagba (2018) defines pension as post retirement payment for old employees in order to sustain their livelihood. Pension service does not benefit only to the pensioners, but they also exert strong externalities that may be good for all economy by promoting corporate governance, financial regulations and information sharing, promoting financial innovations, increasing economic savings, providing liquidity, and increasing long-term capital supply.

The study of Holzmann (1997) takes a large place in the literature. The study investigated the positive effect of pension funds on economic growth in Chile between 1980-1994 period. Pension funds can also have a stabilizing effect on the financial markets with their long-term investment horizon.

Essentially, pension funds can affect economic growth directly by increasing savings in a country or by increasing long-term capital supply. It leads to develop of capital markets by providing long-term capital to capital markets, increasing liquidity and capital market depth, increasing the effectiveness of financial markets, reducing problems arising from asymmetric information through promoting corporate governance, financial regulations and information sharing, and promoting financial innovations. Thus, it can indirectly feed economic growth through the development of the financial sector. Moreover, pension funds have the opportunity to positively affect economic growth indirectly through the financial system by increasing economic savings, direct or long-term investment

perspective, providing liquidity, depth and efficiency to financial markets and contributing to the solution of problems arising from asymmetric information. (Bayar, 2017).

In conclusion, after we examined financial development and economic growth and below this, development of banking sector, capital market and insurance & pension services with economic growth is examined, and after addressing the evolving importance of these sectors, international trade in financial services (TIFS) (including insurance & pension) will be examined in the next section. We will try to draw attention the significant importance of TIFS in global business environment as current by stressing the determinants of financial, insurance & pension services export.

## **2.5. Financial and Insurance & Pension Services Export**

The role of services export in the balance of payments and trade balance of countries are very important because service export provides inflows of money into the domestic economy (Briggs, 2017). Countries wish having a voice in international business area by increasing their exporting activities to support their national economies (Lindemane, 2011a). The regular increasing of export of services shows a strong and continuing growth in global demand for services, provide new opportunities for exporters (Lu et al., 2012). Among service sector, two of the service categories in service sector are financial and insurance & pension services.

As we discussed above parts, many studies recognize the importance of financial and insurance & pension services since these sectors are fundamental component of modern market led economies, so we stated their contribution to the economic growth and development (Levine, 1997; Harms, Mattoo and Schuknecht, 2003; Gani and Clemes, 2016). By developing exports of financial services, countries can deepen their international market base. International trade in services can increase competition and encourage innovation and economic growth since the financial resources are secured and distributed efficiently (Gonzalez, 2019). Especially, after the 2007-2008 global financial crises, financial and insurance markets grow.

Recently, total export of financial and insurance & pension services has substantially increased and attracted attention of many mostly developed countries. Clearly, it is possible to say that technology makes easier trade in services. The possibility of exporting services via digital platform, there is no need face to face interaction including some

specific sectors such as financial and insurance & pension services. For instance, a bank can offer their services electronically. Or, insurance firms underwrite and submit claims as online. Therefore, thanks to the digitally enabled services, mobile banking, e-banking, online sales methods were born and improved fast in global business. It is possible to say exactly that financial services and insurance & pension services have made a great progress between 2005 and 2018 since they are information-based categories. These sub-sectors can be supplied without need physical proximity between service supplier and consumers via digital technologies. In addition, digital technologies decrease the cost of trade in services and provide larger numbers of digitally connected customers all around the world (WTO, 2019a).

Currently, the share of the exports of financial and insurance & pension services among the total service exports is very significant. While the export of service sector is increasing steadily, exports of financial, insurance & pension services are growing among it. According to Trade Map statistics, in 2019, all services exported value is around six trillion dollars in the whole world. Among this value, the share of financial services export is 510 billion dollars. The export value of insurance & pension services is 128 billion dollars overall the world. The share of insurance & pension services exports, which are closely related to the financial sector, in exports of financial services is approximately 25% in 2019.

After the growing portion of these sub-sectors are highlighted, we must define their exports as a big component part of international trade. They can be defined as the process of providing financial services by financial institutions (such as banks, insurance and broker companies etc.), that are supplied in one country, to the clients of another country (Lindemane, 2011a).

According to Lindemane (2012) the core point of the export of financial services is 'export capability' of a country. As an indicator of export capability of a country, 'market capacity' states what volume of financial services calculated in currency may be realized at a certain price level.

To ensure or start financial and insurance & pension services export, a country should assess its export potential in these services. For this, the key factors of financial services export should be evaluated with such datas; proportion of financial services export in total value exports of the country. Then, the country can identify financial services export

strategy. Lindemane (2011a) created a scheme which shows the key factors a country's financial service export strategy. Shortly, the three main steps for this strategy are exist: (i). Determining of level of internal&external financial services market saturation, (ii). Determining key factors and measuring country's potential in financial services export growth, (iii). Determining of legislation in importing countries and choosing of channels for export of financial services.

Essentially, when a country decides to export of financial services, the main question is who (target market) can buy or demand services produced or supplied by it and what can be exported. Therefore, Lindemane (2011c) suggest to pay attention the indicators of financial market saturation since the level of financial market saturation define countries' possibility and necessities to enter the global markets (suitable region) with their financial services (eligible services). Then, the country that wish to export financial services may determine potentially favorable or unfavorable target market for export of financial services.

Initially, the country can evaluate financial services market by using following determinants:

- number of kinds of used banking services (on average per one client)
- volume of banks' assets in a country
- securities market capitalization

Then, the country may benefit from the following indicators to cognize the target market:

- Average credit rates and deposit in a country
- Number of accounts
- Difference between deposit and credit rates in a country
- Number of banks in a country
- Number of local enterprises quoted at a stock exchange
- Securities trade turnover
- Volume of e- made transactions and deals

According to these determinants, the country can define the favorable market to export financial services, then start to export. After defined target exporting market, in order to

start export activities, the determinants of financial and insurance & pension services exports should be considered.

### **2.5.1. Determinants of Financial Service Export**

Countries' financial systems are regarded as a source of comparative advantage and trade (Do and Levchenko, 2004). Since they are wide concept some of the studies which examine the export of financial services focus on some core points. For example, Lindemane (2011b) examines financial service export in terms of individual banking services export while Gani and Clemes (2016) consider the legal framework for financial service export.

To draw general portrait about the export of financial services, identifying the main determinants are significant. In the literature, lots of studies determine the key elements of financial services export.

First of all, whether financial or another service, Francois and Manchin (2013) state the importance of transport and communication infrastructure systems for export of their services.

Lu et al. (2012) draw attention the drivers of export performance of service firms particularly those operating in professional services (including financial services). Some of the factors that affect export performance of firms are service quality, the uniqueness of service offering and management attitudes. In that study, one of the interviewees is an executive director from the financial sector. The interviewee states the *management's export commitments* for export performance of firms by stressing the importance of taking risks, regulatory environment and being persistent and proactive.

Lindemane (2011a) pays attention that financial services exports are the result of human intellectual work but also points out the main exporters are banks.

To realize financial service export, if banks or other financial intermediaries supply their service products in the fully liberalized financial sector, international trade in financial services affects the long run growth performance of the country. Mattoo, Rathindran and Subramanian (2006) measure the effect of trade in financial services liberalization effect on the economic growth of per-capita GNP with cross-border regression analysis by including these independent variables to the study; financial trade liberalization index by country, tariff and non-tariff barriers index, investment rate, inflation rate, primary

education enrollment rate. Their result shows that countries with open financial service sector grow up 1.5% points faster than other countries.

Like the study of Mattoo, Rathindran and Subramanian (2006) and El Khoury and Savvides (2006) give evidence about the effect of financial openness on the economic growth via Threshold Regression Model. By using initial per capita income, openness of financial services and other variables such as government size, investment ratio, inflation rate, human capital and ratio of export and import to GDP. The finding is that there is a positive relationship between financial openness and growth. According to the result, financial openness can be a determinant on the export of financial services, too.

As an earlier study, Harms, Mattoo and Schuknecht (2003) examine the determinants of market access commitments in international financial services trade in the GATS. Since the commitments are sign of the financial liberalization, we see the findings significant. According to their regression analysis result, financial development, macroeconomic volatility and the presence of foreign service providers were largely significant in explaining liberalization commitments in trade in financial service.

Gonzalez et al. (2019) state clearly the main drivers of financial services export. They are taxation, financial markets sophistication (developed financial system), financial access, regulatory environment, ease of doing business, transparency and absence of corruption, human talent, education and ICT infrastructure.

With another study, Lindemane, Purins and Rutitis (2012) explain the main determinants of financial services export as following:

- *Existence of free competition and minimal intervention by the government in financial sector*: It affects growing of financial service export. In the competitive market, the participants develop their financial services quality and facilitate achievement of equilibrium pricing. When domestic market is saturated, financial service suppliers focus on gaining new customers from the foreign markets, thus financial service export increases.

In addition, Services Trade Restriction Database of World Bank provides a detailed description for financial services barriers (Hoekman and Mattoo, 2013).

Meanwhile, the barriers in financial sector are two: (i). whether market entry to provide bank lending, automobile insurance, bank deposits, life insurance is allowed with the

international modes of supply, (ii). domestic requirements for foreign financial (Briggs,2017).

If the barriers are eliminated which means financial openness is provided in these sectors, even undeveloped countries get a chance to achieve high living standard so that more countries aspire to realizing ‘the power of finance’. (Lindemane, 2012).

- *Transparent and protected property rights from the government side*: It’s another factor that facilitate the increasing of the financial services exports and prevent corruption and bribery when performing transactions offshore (Gonzalez et al., 2019).

- *Low corruption within government institutions*: Decreasing, even absence, of corruption level has a positive effect on the business environment in the country, which aims to attract foreign capital flows, so the volume of financial activities grows and the financial services exports increase.

Also, in terms of legal systems; the regulatory quality, rule of law and the enforcements of business contracts have an important role on financial services.

With regards to TIFS, weaknesses in legal systems like ineffective law enforcement cause rising trade conflicts (Gani and Clemes, 2016).

-*Availability to the latest technologic infrastructure*: Technology is the backbone of financial services exports since it enables exporters, intermediaries and importers to access financial information at minimal cost. Improvements in communication technologies provide to importers to follow developments affecting foreign markets and companies more efficiently (Gonzalez et al., 2019).

Besides the determined factors by Lindemane (2011a) and Lindemane, Purins and Rutitis (2012), other factors about the export of financial services are exist in the literature such as innovation and development level of countries.

According to Zahler, Iacovone and Mattoo (2014), if a service firm exports, the feature of this firms is skill-intensive and innovative. The empirical analysis of Briggs (2017) suggests that innovation in financial services plays a critical role in export activity.

Essentially, the meaning of innovation in service sector is non-technical. Briggs (2017: 2) shows non-technical innovation in service in two types by depending on OECD (2005) study; organizational innovations and marketing innovations.

Organizational innovation is defined as the implementation of new organizational methods and marketing innovations are defined as changes in marketing approaches.

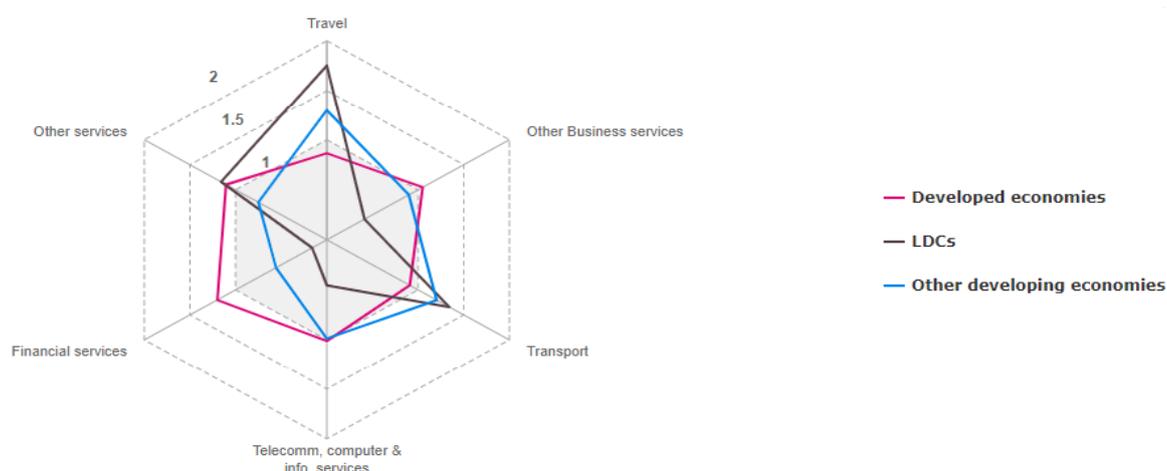
In the literature, trademarks are accepted as a determinant of innovation in service sector. Block et al. (2015) and Briggs (2017) used trademarks to capture innovation in the service sector.

Briggs (2017) uses the registration of new trademarks in financial and insurance & pension sectors as the measure of innovation by firms in his study. As a result, Briggs (2017) finds evidence that when financial services firms innovate, they are more export. According to benchmark equation, when innovation increases 1%, the export of finance and insurance & pension services will increase 4%. In addition, besides trademarks in financial services per capita GDP and population are included as control variables in the benchmark equation. Hence, Briggs (2017) gives evidence that countries with large population will export less in financial services.

Especially, when countries which have comparative advantage in financial services encourage innovation by supporting policies, then they get benefit and access to foreign clients. Besides of protecting the market value, marketing or developing their brand by engaging in exchange relationships with partners are example of supporting policies of innovation (Block et al., 2015).

Besides all, the development level of countries can become a main determinant for the export of financial services. According to UNCTAD Handbook of Statistics Report (2019a), while financial, insurance, intellectual property and other business services are exported by developed economies mostly, travel and transport services are exported by developing economies. Therefore, it is possible to say that development level of countries is a significant determinant on the export of financial services so that developed economies have comparative advantage in financial services.

The Figure 8 shows this relation:



**Figure 8: Revealed Comparative Advantage in Service Export, 2019**

**Source:** UNCTAD (2020a). *SDG Pulse UNCTAD Takes the Pulse of the SDGS 2020*. [https://sdgpulse.unctad.org/wp-content/uploads/Unctad\\_SdgPulse\\_2020.pdf](https://sdgpulse.unctad.org/wp-content/uploads/Unctad_SdgPulse_2020.pdf). (15/04/ 2020).

As a result, developed countries have major role in the export of financial services so that we accept the development level of countries are a determinant of financial services export.

According to Trade Map (2020) statistics, individually, in 2019, the U.S (135 billion dollars), the U.K (80 billion dollars), Luxembourg (63 billion dollars), Singapore (29 billion dollars), Germany (25 billion dollars) are the leading economies in financial services export.

The common feature of developed economies is being more open on average than developing economies. As a result of trade liberalization, economies allow entry into their markets through the acquisition and control of domestic entities, through the establishment of fully-owned subsidiaries and through direct branching (Borchert et al., 2020).

In conclusion, before starting to export of financial services, defining export capability, market capacity and export strategy are necessary. For this, examining number of kinds of used banking services, volume of banks' assets in a country, securities market capitalization and other criterias are shown above. Then, for export of these sectors, the main determinants should be considered. Table 12 summarizes these determinants.

**Table 12: Determinants of Financial Services Export**

<b>Author(s)</b>	<b>Determinants</b>
Harms, Mattoo and Schuknecht (2003)	Financial Development Macroeconomic volatility Presence of foreign service providers
Mattoo, Rathindran and Subramanian (2006)	Financial Liberalization Tariff and non-tariff barriers Investment rate Inflation rate
Koen (2010)	Risky Environment Financial Openness Per capita income Government size Investment ratio Inflation rate Human capital
Lindemane (2011a)	Human Intellectual Work
Lindemane (2011c)	Number of kinds of used banking services Volume of banks' assets in a country Securities market capitalization Average credit rates and deposit in a country Number of banks in a country Number of accounts (on average per client)
Lindemane (2012)	Trade Barriers
Francois and Manchin (2013)	Developed communication and transport infrastructure
Lu et al. (2012)	Management's export commitments Regulatory environment
Lindemane et al. (2012)	Sophistication of the financial market Explicit limitations on capital flows by the financial Existence of free competition Existence of stable and trustworthy banks Transparent and protected property rights Low corruption within government institutions Technological Infrastructure System
Gani and Clemes (2016)	Legal Framework
Briggs (2017)	Innovation Population Per capita GDP
Gonzalez et al. (2019)	Financial access Education Ease of doing business
UNCTAD (2020a)	Development level of countries

### 2.5.2. Determinants of Insurance & Pension Services Export

Two of the main financial institutions are insurance and pension companies. Besides of banking and stock market activities, insurance activities are vital part of financial market. Since insurance activities affect economies in many aspects such as financial depth, risk FDIs, life expectancy, liberalization, inflation, poverty and interest rate (Skipper, 1996;

Levine, 1997; Ward and Zubruegg, 2000; Haiss and Sumegi, 2008; Khatun, 2016; Pradhan et al., 2017), insurance services enhance economic growth in two ways:

As we state in the previous part the study of Haiss and Sumegi (2008), their study shows empirically the contribution of insurance services to the economic growth. Shortly, this contribution is seen with these following means:

(i). promoting financial stability, (ii). facilitating (international) trade, (iii). helping reduce losses and (iv). encouraging the accumulation of new capital.

Some of the economic variables such as GNP per capita, national income, financial depth and host government policy decisions are the criterias of the affordability of insurance. Since insurance services are supplied mostly via Mode 3 (commercial presence), the role of host country is so significant. Actually, the insurance service activities help host country's economic development by enhancing the social welfare of the national market, increasing competition and fostering capital allocation by gathering information (Skipper, 1996).

Two common ways are existing for insurance services export: Mode 1 (cross border trade) and Mode 3 (commercial presence). Because of different cultures and regulations, it is very crucial for foreign insurers to be established locally in host markets in order to compete well.

Since the way of commercial presence is establishing a branch or agency in abroad, so the common method is FDI. Li and Moshirian (2004) focus on FDI in insurance services and found that national income, home countries' insurance market size and host countries' financial development facilitate FDI in insurance services, while the relatively higher wages and higher costs of capital in the host countries decrease FDIs in insurance services. Also, Moshirian (1999) investigated the determinants of UK and Germany FDI abroad in the insurance services. As a result, insurance premiums and the national income of the host countries contribute to the expansion of multinational insurance companies.

Similarly, with unbalanced panel data analysis, Cole et al. (2012) find that for developing countries, larger amounts of foreign direct investment are associated with higher net financial positions.

In the literature, there are empirical studies that focus on the activities of international insurers and they show the factors which motive foreign insurers to operate

internationally (Outreville, 1990; Moshirian, 1999; Ma and Pope, 2003, 2008; Elango, 2003; Cole et al., 2012; Njegomir and Stojic, 2010, 2012; Pradhan et al., 2017). The factors these studies involve high level of GDP, reduced trade barriers, FDI, market structure and competition, human capital, exchange rates and insurance demand.

However, whether financial or insurance & pension services, Francois and Manchin (2013) state the importance of transport and communication infrastructure systems for export of their services.

Ma and Pope (2003) examine the foreign market characteristics. Firstly, they state that the preference of international insurers are competitive markets, in contrast oligopolistic markets where dominant providers may restrain open competition. To show the host market characteristics affecting international insurers' participation in foreign markets, they focused on the premium volumes generated in those foreign markets as measurement of international insurers' participation via panel data analysis. Anyway, to measure 'Insurance Demand' in host country, they use GDP variable, so their results suggest that the state of development of economy in general is positively correlated with the participation of foreign insurers.

Today, to compete well in international trade in services, firms consider innovativeness. Briggs (2017) gives evidence that when financial and insurance & pension service firms innovate, they export more. According to benchmark equation, when innovation increases 1%, the export of finance and insurance & pension services will increase 4%. Also, Briggs (2017) finds that high population cause decreasing export in finance and insurance & pension services.

According to Ma and Pope (2008), international life/ nonlife insurers consider the prospective target markets / host markets. However, before the explaining the characteristics features of host countries, we must make clear the life and non-life insurances.

Ma and Pope (2008) investigated the relationship between foreign market characteristics and the participation of international life insurers in those markets with panel data. These characteristics involve high trade liberalization, low insurer market share concentration, national wealth, and high levels of government expenditure on social security retirement benefits.

Pradhan et al. (2017) used insurance market activities, economic growth, financial depth and government expenditures. As a result of panel data analysis among 18 middle income economies between 1980 and 2012, insurance market activities, economic growth, financial depth and government consumption expenditure are cointegrated. They find that there is bidirectional causality between insurance market activities and government consumption expenditure in the short run.

The study of Elango (2003) shows that U.S. reinsurers export their services to countries with large markets, higher income per capita and insurance prices, where there are bilateral trade and firms operate internationally.

Also, the factor that affect firms' export performance is private credit insurances. For maximizing the trade volumes and minimizing the risks the exporters use trade credit insurance which is important tool to manage the risk of delaying payments (Sokolovska, 2017). Most of the international trade transactions depend on guarantees issued by insurance companies. International trade credit insurance is useful for firms in order to insure against the non-payment risk. It also promotes exports via a reduction in export risk and information costs (Koen, 2010) that is why the year in which the highest rate of increase of insurance & pension services export was in 2009 during the global financial crises period (Trade map, 2020). Therefore, trade insurance policies would be a useful measure which can repair the negative effects on export during recession, so it is possible to say that in times of high economic uncertainty, insurance & pension services export increase and uncertainties can be a significant determinant for insurance & pension services export.

According to panel regression result of Kim and Choi (2019), the main determinant of the positive effect of export insurance and export credit guarantee on exports is mitigating the financial constraints of exporting firms.

Njegomir and Stojic (2010) aim to investigate factors that influence the attractiveness of insurance markets in regard of non-life insurance market in the ex-Yugoslavia for the period 2004-2008 with panel data analysis. Among market concentration, entry barriers and human capital, the main force affecting market attractiveness is human capital while others are significant, too.

With another study, Njegomir and Stojic (2012) focus on the factors that determine the attractiveness of a non-life insurance market for foreign insurers. As a result, the main

determinant affecting positively market attractiveness are insurance demand, entry barriers, market concentration and the return on investment except market concentration has negative impact.

Until here, these results show that a strong presence of foreign insurers may enhance the importance of the international insurance service.

Statistically, developed economies have high insurance export values. According to Cole et al. (2012), although there are some advantageous to being active in developing markets, there are some potential costs related with entering into and doing business in these markets. Some of the markets in developing countries are quite small compared to the markets in developed countries and this may lead to occur higher entry costs and as Ma and Pope (2003) state that the insurance markets in developing countries may be highly protective and immature. The common feature of developed economies is being more liberal than developing economies. Thanks to trade liberalization, countries allow entry into their markets through the acquisition and control of domestic entities, through the establishment subsidiaries and direct branching (Borchert et al., 2020).

In particular, when we examine the export of insurance and pension services with UNCTAD statistics, it is possible to say that like in financial services export, developed countries are the leading economies in insurance & pension services export.

In 2019, developed economies such as the U.K (25 billion dollars), the U.S (16 billion dollars), Germany (13 billion dollars), Ireland (11 billion dollars), Switzerland (7 billion dollars) are leading exporters in insurance & pension services. Particularly, with 6 billion dollars export value, Singapore is the first leading developing economy after Switzerland.

Obstacles in establishing an insurance branch or subsidiary in both developing and developed countries are still existing. As a big determinant, specifically, trade barriers or liberalization variables are common in the studies. One of the finding of Ma and Pope (2003) is that removing of trade barriers improve the attractiveness of host countries. As Cole et al. (2012) state that the impact of the reducing trade barriers extent firm's international involvement.

Mattoo, Rathindran and Subramanian (2006) measure the effect of trade in financial service (including insurance and pension services) liberalization effect on the economic growth of per-capita GNP with Cross-border Regression Analysis by including these independent variables to the study; financial trade liberalization index by country, tariff

and non-tariff barriers index, investment rate, inflation rate, primary education enrollment rate. Their result shows that countries with open financial service sector grow up 1.5% points faster than other countries.

Most of studies point out the importance of trade barriers for insurance service export. Skipper (1987) classified international insurance trade barriers in three categories: (i). those related with establishment within the host countries, (ii). those related with access to the domestic market and (iii). those related with insurer operations in host countries.

Especially non-tariff barriers are one of the factors that influence managerial decision on entering foreign markets in insurance services (Zimmerman, 1999).

Moshirian (1999) also draws attention the government restrictions. Governments impose restrictions on foreign insurance companies for lots of reasons such as protection of the domestic industry, maintenance of the current account balance and consumer protection of infant industries.

Furthermore, the regulatory quality, establishment of clear property rights and the rule of law are very important on the growth and international trade in insurance & pension services (Gani and Clemes, 2016). Weaknesses in legal systems such as weak judicial systems lead to trade conflicts. When economic agents are more informed about their risks, such as about loss or profitability, information asymmetric problem occurs. In order to eliminate this problem one of determinant is developed legal system to protect the counterparties (Sokolovska, 2017).

According to the cross-border and time series analysis of Gani and Clemes (2016), the strength of the legal systems has vital role for insurance services trade in the OECD and developing economies. There is positive correlation of rule of law with the exports of insurance and financial services in the OECD. Another positive significant finding is between regulatory quality and exports and imports of insurance services in the OECD and the developing economies.

According to Dragos, Dragos and Muresan (2020), the intention to buy private / life insurance and pension services, perception of the role of life insurance, trust in insurance companies, effective legislation of the financial system may be factors of insurance and pension services exports.

In conclusion, there are many determinants of insurance services export. Since common type of supplying insurance services is Mode 3 (commercial presence), FDI in insurance and the characteristics of host countries are significant determinants. Besides them, other determinants are shown in table nine.

**Table 13: Determinants of Insurance & Pension Services Export**

Author(s)	Determinants
Moshirian (1999)	National income Home country's insurance market size Host country' financial development Cost of Capital FDI in insurance services
Moshirian (2004)	FDI in insurance services Insurance premiums National income in host country
Ma and Pope (2003)	Market structure Insurance demand GDP Trade barriers
Ma and Pope (2008)	Liberalization Market structure (competitive) Profitability Demographic distribution Insurance demand National market's security system
Cole, Lee and McCullough (2007)	Host market's size Loss experience Competitiveness
Cole et al. (2012)	Per capita income Trade imbalance in goods and services Market concentration Differences in financial market size FDI in insurance services Market openness
Pradhan et al. (2017)	Insurance market activities Financial depth Government expenditure Per capita economic growth
Briggs (2017)	Innovation Population GDP
Elango (2003)	Market structure (market breadth) Income per capita Insurance prices
Outreville (2008)	Location factors (market size, human capital, good governance)

*Table 13 Continue*

Mattoo, Rathindran and Subramanian (2006)	Financial trade liberalization Trade barriers Investment rate Inflation rate Primary education enrollment rate
Francois and Manchin (2013)	Transport and communication infrastructure
Njegomir and Stojic (2010; 2012)	Market concentration Entry barriers Human capital Insurance demand Return on Investment
Gani and Clemes (2016) Sokolovska (2017) Dragos, Dragos and Muresan (2020)	Effective legislation o financial system

After we have discussed the determinants of financial and insurance & pension services export, the empirical analysis will be applied in the next section.

## **PART 3: ECONOMETRIC ANALYSIS OF DETERMINANTS OF FINANCIAL AND INSURANCE & PENSION SERVICES EXPORT**

Services are at the center of global trade and financial and insurance & pension services are developing in parallel with the increasing of international trade in services. Since financial and insurance & pension services are information-based categories, they have made a great progress especially after 2008 global financial crises. Thanks to development of digital technologies, they can be supplied without need physical proximity between service supplier and consumers (mode 1).

In the literature, many studies pay attention the importance of financial and insurance & pension services since these sectors are fundamental component of modern market led economies and they contribute to the economic growth and development (Levine, 1997; Harms, Mattoo and Schuknecht, 2003; Demirgüç-Kunt and Levine, 2008; Gani and Clemes, 2016). In particular, insurance & pension services promotes the role of the financial sector (Impavido and Tower, 2009).

When the close relation of financial and insurance & pension services with each other is considered and the increasing importance of them is considered in global trade, this study aims to show a holistic approach by considering these two service categories together based on the most recent classification EBOPS 2010.

Also, in order to eliminate the gap caused by the fact that no academic study handles these two services sectors' export together via empirical analysis, we meticulously focused on the main determinants of the exports of these two different service categories by applying panel data analysis. Besides academical or scientific contribution, enlighten the global business world in a sectoral sense is one of the common effects expected from this study.

Hence, in this part, the study is intended to demonstrate the main determinants of financial and insurance & pension services exports for high and middle-income economies.

### **3.1. Dataset and Variables**

The data covers 14 years period that starts from 2005 to 2018, annually. Between 2005 and 2018 years, we will get the export values of financial and insurance & pension services from Trade Map database. Since the correlation between financial service export value and insurance & pension services export value are high (approximately 0.8504), we

will use their total values as a dependent variable: *Export of Financial and Insurance & Pension Services Export*. This high correlation means that financial services exporters are also insurance & pension services exporters.

Besides dependent variable, the six independent variables will be gotten from the secondary data sources. They are *FDI Inflow*, *FDI Outflow*, *Gross Domestic Product (GDP)*, *Financial Institutions Depth*, *Corruption Perception Index (CPI)* and *FED Funds Rate* as will be explained in the next section. In addition to this, applied economists estimate interaction terms to infer how the effect of one independent variable on the dependent variable depends on the magnitude of another independent variable (Ai and Norton, 2003). Therefore, the panel regression model(s) will be run with an interaction between *FDI Outflow* and *FED Interest Rates* (via this notation: *FDI Outflow\*(ln)FEDInterest*).

We will apply panel data analysis for 82 countries. Although the leading financial and insurance & pension services exporters are mostly developed economies, some developing economies such as Singapore and Hong Kong are ahead of many developed economies in the ranking like Canada and Japan so that this study tries to interrelate between main determinants and exporters of financial and insurance & pension services by dividing countries into two groups as high and middle income groups according to the World Bank country classification (see the Appendix 2. for the list of countries). Dividing countries according to income levels is more inclusive.

### **3.1.1. Definitions of the Variables**

After obtaining financial and insurance & pension services export values for high and middle- income groups, the relevant independent variables (determinants) are explained as follows:

#### **3.1.1.1. FDI Inflows and Outflows**

For export of financial and insurance services, the financial development of the domestic market is core determinant which depends on financial openness (Mattoo, Rathindran and Subramanian, 2006; Koen, 2010; Cole et al., 2012; Borchert et al., 2020). Financial system advances after trade opening (Do and Levchenko, 2004). According to Ozkok (2015), financial openness expresses a large part of the variation in financial improvement across countries and over time, so in this field, FDI movements ensure financial openness.

Lindemane (2011a) uses ‘Financial Freedom’ indicator which means *existence of free competition and lowest intervention by the government in financial sector (through direct regulation, property rights, etc.)*. However, when we consider Mode 3 (commercial presence) service supply which is the most common mode, the sub-sectors that highlights Mode 3 in world trade are financial and distribution services. Thanks to mode 3, the benefits of international trade in financial services are seen with foreign banks and insurance companies through FDIs by transferring knowledge and technology that is why we prefer to use FDI Inflow and Outflow.

For instance, in 2017, around 77% of financial services was traded worldwide through foreign affiliates (WTO, 2019b) so that we will estimate separately the effect of FDI Inflow and FDI Outflow on financial and insurance & pension services export.

Specifically, in terms of insurance service export, considering insurance FDI movements is a big requirement because FDI movements in insurance are significant determinant for the development of home and host countries’ insurance market (Moshirian, 1999, 2004; Cole et al., 2012). Therefore, we will estimate the effect of FDI Inflow and Outflow on Financial and Insurance & Pension Services Export.

### **3.1.1.2. Financial Institutions Depth**

The main stimuli which initiatives export of financial services is saturation of domestic market with financial services (Lindemane, 2011c). This depends on financial development of domestic market (Harms, Mattoo and Schuknecht, 2003), so the core determinant of financial and insurance & pension services export is ‘financial development’ of domestic market. Sahay et al. (2015:5) define financial development as *‘a depth of size markets, access financial services, and efficiency for the ability of institutions to provide financial services at with sustainable revenues, and activeness of financial market’*. Financial markets and institutions *access, depth, and efficiency* characterize financial development (Čihák et al., 2012).

Essentially, Lindemane (2011c) has already specified the indicators of ‘domestic financial development’ such as volume of banks assets in a country and securities market capitalization. Yet, since we are looking for a specific indicator which explain both finance and insurance & pension services exports, we will use the Financial Institutions Depth Index which is a part of the Financial Development Index defined by IMF, as a determinant of the exports of these sectors.

According to IMF Financial Development database, ‘Financial Institutions Depth Index’ compiles data on bank credit to the private sector in percent of GDP, pension fund assets to GDP, mutual fund assets to GDP and insurance premiums, life and non-life to GDP.

As this index is specific and inclusive variable for financial and insurance & pension services export, we will use it as a variable (determinant) of financial and insurance & pension services exports.

#### **3.1.1.3. Corruption Perception Index (CPI)**

Besides other factors, transparency affects financial and insurance & pension services export (Lindemane, 2011a). Transparency is an indicator regarding the dysfunction and corruption levels and affects the trade dynamics of countries (Lindemane, 2011a; Anarfo et al., 2017). Since financial and insurance & pension services can export via mode 3 (commercial presence), besides other types of modes, these services prone to corruption and bribery in abroad. Gelos and Wei (2005) found that international funds prefer to hold more assets in more transparent markets.

Also, there is evidence that poor public governance discourages FDI and portfolio equity inflows (Kose et al., 2009). Because of the presence of transparency in financial and insurance & pension institutions and markets, information asymmetries which cause inefficient allocation of financial flows and generate maturity mismatches is prevented. Due to the importance of transparency in the literature for financial (including insurance & pension) services (Lindemane, Purins and Reinhart, 2012; Gonzalez et al., 2019), we will use *Corruption perception index* data from the Transparency International.

#### **3.1.1.4. GDP (Constant 2010 US\$)**

Financial sector has a significant role in the economic development. A deep financial system affects the structure of the economy in indirect ways that are relevant for the inclusiveness of economic development (Honohan, 2008). According to Rouzet et al., (2014), financial and insurance & pension services have a big role in the economy for their contribution to GDP and facilitation of the production of trade in goods and services.

Specifically, both financial intermediaries and markets matter for growth. The size of the banking system and the liquidity of stock markets are positively related with economic growth (Demirgüç-Kunt and Levine, 2008). Beck, Levine and Loayza (2000) found with panel technique that financial intermediaries exert a positive impact on total factor

productivity growth that contribute to overall GDP growth. As UNCTAD (2020a) states that the leading financial services exporters are developed economies with high GDP rates and they have comparative advantage on the financial services export in the world.

Also, Ma and Pope (2003) measure ‘insurance demand’ in host country and they use GDP variable and their results suggest that the development of economy is positively correlated with the participation of foreign insurers.

Therefore, using of GDP (constant 2010 US\$) variable as a determinant of financial and insurance & pension services export is meaningful. We will estimate GDP (constant US\$) effect on the export of financial and insurance & pension services export by gathering data from World Bank for middle and high- income countries.

#### **3.1.1.5. FED Funds Rates**

Another global determinant which affects both capital flows and insurance market is global interest rates. Firstly, real interest rates play a big role in determining the direction of capital movements. Especially high interest rates in the short term are perceived as an opportunity for speculative movements, so increasing of profitable arbitrage and speculation opportunities generate large amount of capital flows by stimulating portfolio investments across financial markets (Eratas and Oztekin, 2010). According to Ahmed and Zlate (2014), capital movements lead to an efficient allocation of resources that increases economic growth and large capital inflows may cause appreciation of currencies, which affect export and growth performance.

The literature has many studies that show the effect of U.S. interest rates on capital flows. For example, Calvo, Leiderman and Reinhart (1993) state the importance of low U.S. interest rates for the capital inflows. Also, Byrne and Fiess (2011) showed U.S. interest rates to be a significant determinant of global capital flows to Emerging Market Economies (EMEs). Kim (2000) pointed out that due to the decreases in the world interest rates, capital movements increased in 2000s. Therefore, when we consider that the capital flows are a determinant of

In our analysis, we estimate the effect of U.S Interest Rates on financial and insurance & pension services export by using *FED Funds Rates* variable. We will get FED Interest Rates from 2005 to 2018 from FRED Economic Data.

Additionally, FED politics have an impact on financial markets such as the effect on international monetary flows and movement of mutual funds. Also, FED interest rate decisions affect exchange rates, so the competitive power of countries are affected negatively or positively (bbc.com, 2019). Moreover, the U.S. is the first importer of financial and insurance & pension services in the world. High level of dollar currency encourages other countries which export to the US. This height depends on the FED interest rate decision that is why we use FED Funds Rates.

Shortly, Table 14 summarizes the variables for Panel Data Analysis.

**Table 14: Dataset: Variables, Time Intervals and Sources**

No	Variable	Definition	Time	Source
1	(ln)Export	Total Export of Financial and Insurance & Pension Services	2005 - 2018	Trade Map
2	FDI Inflow (% of GDP)	Foreign Direct Investment Inflow	2005 - 2018	World Bank
3	FDI Outflow (% of GDP)	Foreign Direct Investment Outflow	2005 - 2018	World Bank
4	(ln)Financial Institutions Depth	Financial Institutions Depth Index	2005 - 2018	IMF
6	(ln)CPI	Corruption Perception Index	2005 - 2018	Transparency International
7	(ln)GDP	Gross Domestic Product (constant 2010 US\$)	2005 - 2018	World Bank
8	(ln)FEDInterest	FED Funds Rate	2005 - 2018	FRED Economic Data

### 3.2. Methodology and The Model

Our dataset includes more than one country and time, so this feature of dataset necessitates the application of Panel Data Analysis method. Essentially, the panel data provides more information due to the fact that it has two dimensions in the data. According to Baltagi (2001), the term ‘panel data’ is the pooling of observations on a cross-section of countries, firms and etc. upon several time periods.

In general, panel data model can be written as (Yerdelen Tatoglu, 2018):

$$Y_{it} = \alpha_{it} + \beta_{it}X_{it} + \mu_{it} \quad (1)$$

$$i = 1, \dots, N ; t = 1, \dots, T$$

where; Y: dependent variable,

X: independent variable,

$\alpha$ : constant parameter,

$\mu$ : error term.

One of the panel data analysis method is Fixed Effect (FE) Model which is used while analyzing the impact of variables that vary over time.

FE Model searches the relationship between estimator and outcome variables within a country. Each country has its own individual characteristics that may or may not influence the predictor variables such as political system of a country could have some effect on export activities. FE Model provides assessing the net effect of the predictors on the outcome variable by removing country specific effects (Torres-Reyna, 2007).

For this study, according to the formula (1) (after we have turned the variables into logarithmic form to get consistent results) the FE Model is determined and the general equation to be evaluated for two different country groups is:

$$\begin{aligned} \text{Model: } (\ln)\text{Export}_{it} = & \beta_0 + \beta_1 \text{FDIInflow}_{it} + \beta_2 \text{FDIOutflow}_{it} + \beta_3 (\ln)\text{FinancialInstitutionsDepth}_{it} \\ & + \beta_4 (\ln)\text{CPI}_{it} + \beta_5 (\ln)\text{GDP}_{it} + \beta_6 (\ln)\text{FEDInterest}_{it} + \beta_7 \text{FDIOutflow} * (\ln)\text{FEDInterest}_{it} + \mu_{it} \end{aligned} \quad (2)$$

where the subscript  $i$  represents the country ( $i = 1, 2, \dots, 82$ ) and  $t$  represents time ( $t = 2005, 2006, \dots, 2018$ ).

### 3.2.1. An Analysis of the Variables with the Fixed Effect Model

Initially, the descriptive statistics and a correlation matrix of the variables (at level) used in the econometric analysis are presented in Table 15 and 16 for high and middle- income groups.

**Table 15: Descriptive Statistics of Variables**

	Variable	Obs.	Mean	St. Dev.	Min.	Max.	Skewness	Kurtosis
High Income Countries	Export	588	1.03e+07	2.33e+07	8772	1.50e+08	3.564833	16.49235
	FDIInflow	588	11.00454	36.88822	-58.32288	451.6393	7.59501	72.27382
	FDIOutflow	588	8.127015	31.64726	-89.65926	301.2497	5.385766	41.90904
	FinancialInstitutions Depth	588	.5612231	.2621645	.0958448	1	.0222114	1.773313
	CPI	588	67.87245	16.67627	31	97	-.2142998	1.990825
	GDP	588	1.06e+12	2.57e+12	7.92e+09	1.79e+13	4.670171	26.52591
	FEDInterest	588	1.375714	1.732872	.09	5.02	1.188278	2.946726
	(Interaction term) FDIOutflow*(ln)FEDInterest)	588	-3.735344	60.51794	-687.7028	352.1839	-5.167037	61.23889
	Middle Income Countries	Export	560	759969.6	1583252	3246	9105070	3.180956
FDIInflow		560	4.007724	3.821559	-1.391844	33.79505	2.797135	15.95471
FDIOutflow		560	.9890296	2.437532	-2.589397	30.32864	8.501907	95.42989
FinancialInstitutions Depth		560	.2066911	.1811478	.0159657	.8834828	2.007333	6.923486
CPI		560	33.001607	8.871257	17	65	.885974	3.896292
GDP		560	4.72e+11	1.23e+12	3.86e+09	1.09e+13	5.282802	35.76183
FEDInterest		560	1.375714	1.732946	.09	5.02	1.188278	2.946726
(Interaction term) FDIOutflow*(ln)FEDInterest)		560	-.4416021	3.979285	-13.99425	47.00502	6.395031	77.66171

**Table 16: Correlation Matrix of Variables**

	Variable	Export	FDI Inflow	FDIOut flow	Financial Inst. Depth	CPI	GDP	FED Interest	Interaction Term FDIOutflow * (ln)FEDInterest
High Income Countries	Export	1.0000							
	FDIInflow	-0.0271	1.0000						
	FDIOutflow	0.0272	0.8036	1.0000					
	FinancialInstitutions Depth	0.4232	0.0452	0.0499	1.0000				
	CPI	0.2498	-0.0101	0.0655	0.7210	1.0000			
	GDP	0.7128	-0.0929	-0.0657	0.3012	0.1208	1.0000		
	FEDInterest	-0.0599	0.0678	0.0686	-0.0225	0.0232	-0.0083	1.0000	
	(Interaction term) FDIOutflow*(ln)FEDInterest)	-0.0164	-0.5144	-0.2050	0.0288	-0.0116	0.0149	0.2280	1.0000
	Middle Income Countries	Export	1.0000						
FDIInflow		-0.0585	1.0000						
FDIOutflow		0.2226	0.4283	1.0000					
FinancialInstitutions Depth		0.2046	-0.1294	0.0998	1.0000				
CPI		0.0579	-0.0722	-0.0335	0.5589	1.0000			
GDP		0.6566	-0.1351	0.0153	0.2657	0.0931	1.0000		
FEDInterest		0.1111	0.2118	0.0909	-0.0707	-0.1010	-0.0464	1.0000	
(Interaction term) FDIOutflow*(ln)FEDInterest)		-0.0709	0.2760	0.5366	-0.1356	-0.0881	-0.0399	0.3934	1.0000

First of all, the series must be stationary for econometric analysis. The stationarity of series is provided via unit root We carry out the Levin-Lin-Chu (LLC) unit root test to determine whether the variables are stationary.

The unit root test helps in identifying whether the trend is stochastic, through the presence of a unit root, or deterministic through the presence of a polynomial-time trend (Phillips and Perron, 1988). Therefore, we apply unit root tests to the series of high and middle-income countries. After the unit root test, the Fixed Effect (FE) Model of the regression is estimated. The diagnostic tests – heteroskedasticity, autocorrelation, and cross-sectional independence – will be applied to model whether it is valid and appropriate. The existence of even one of these problems affects negatively the validity of the model so that robustness estimators should be applied according to the problems involved.

### 3.2.1.1. Panel Unit Root Test

For determining whether the variables used in the study are stationary, the unit root test is carried out. A stationary process has the feature that variance and mean do not change over time. In other words, in able to say that a process is stationary, its variance and mean are constant over time and the value of the covariance between two time periods depends on the distance or lag between the two time periods and not on the actual time at which the covariance is computed (Gujarati and Porter, 1999: 382). After the series become stationary, the possibility of spurious regression is eliminated. In this case it is possible to perform FE Model.

To test the stationarity of variables, Levin-Lin-Chu (LLC) test will be applied to the each of variables which belong to high and middle-income countries.

According to Levin, Lin & Chu (2002) hypotheses;

- $H_0$ : Panels contain unit roots.
- $H_a$ : Panels are stationary.

**Table 17: Unit Root Test of High and Middle-Income Countries**

	High-Income Countries		Middle-Income Countries	
	<i>Adjusted t</i>	<i>p-value</i>	<i>Adjusted t</i>	<i>p-value</i>
(ln)Export	-8.1221	0.0000	-6.9689	0.0000
FDIInflow (% of GDP)	-7.8407	0.0000	-7.0699	0.0000
FDIOutflow (% of GDP)	-6.0555	0.0000	-6.1030	0.0000
(ln)FinancialInstitutionsDepth	-2.8034	0.0025	-7.8567	0.0000
(ln)CPI	-6.3292	0.0000	-5.3632	0.0000
(ln)GDP	-3.2471	0.0006	0.3423	0.6339
(ln)FEDInterest	-6.2224	0.0000	-6.0725	0.0000
(Interaction term) FDIOutflow*(ln)FEDInterest	-7.6054	0.0000	-6.8012	0.0000

Except lnGDP variable of middle- income group, all p-values are less than 5% in both economic groups. Therefore, Null Hypothesis is rejected and these variables are stationary.

In order to make lnGDP variable of middle- income group is stationary, we will estimate its one lagged form.

**Table 18: First Difference Version of GDP Variable**

Middle Income Countries		
	Levin-Lin-Chun	
	<i>Adjusted t</i>	<i>p-value</i>
D.lnGDP	-12.1658	0.0000

As can be seen from the Table 18, the null hypothesis of unit root is rejected at the 5% level since D.lnGDP is stationary.

In the rest of the analysis, only lnGDP variable will be included to the panel regression model with its first difference form (via D.lnGDP notation) while others are being included at level form for middle income countries.

### 3.2.1.2. Heteroskedasticity, Autocorrelation and Cross-Sectional Independence Tests

To have an unbiased and consistent regression model, we check the heteroskedasticity, autocorrelation, and cross-section dependency that may be encountered in the model.

**Table 19: Heteroskedasticity Test**

Modified Wald Test for Groupwise Heteroskedasticity		
	High-Income Countries	Middle-Income Countries
<i>chi2</i>	3338.03	8108.69
<i>Prob&gt;chi2</i>	0.0000	0.0000

Since Prob>chi2 is less than 5%, H<sub>0</sub> hypothesis is rejected. This indicates that there is a problem of heteroskedasticity in the respective model. That is, it shows that the error term is not homogeneously distributed to the variables in the series.

**Table 20: Autocorrelation Test**

Autocorrelation		
	High-Income Countries	Middle-Income Countries
<i>Durbin Watson</i>	.55487883	.88550618
<i>Baltagi-Wu LBI</i>	.77201828	1.0879407

The fact that Durbin-Watson and Baltagi-Wu LBI test result values are less than 2 indicates that there is an autocorrelation problem in the Fixed Effects Model(s) for both high and middle- income groups.

**Table 21: Cross Sectional Dependency Test**

	High-Income Countries	Middle-Income Countries
<i>Pesaran's test of cross-sectional independence</i>	14.271	3.494
<i>Prob.</i>	0.0000	0.0005
<i>Frees' test of cross-sectional independence</i>	6.162	3.861
<i>Alpha 0.05</i>	0.2431	0.2620

It is seen that there is cross-section dependence in the fixed model established according to Pesaran and Frees tests in high and middle- income categories.

Before applying the robustness estimator for the models, we have proved the ‘Robust Hausman’ tests for FE Models for high and middle-income groups. Since heteroskedasticity and other forms of temporal and cross-sectional dependency problems are encountered in our panel dataset, we perform a Hausman test that is robust to general forms of spatial and temporal dependence and suitable for most econometric applications (Hoechle, 2007). Table 22 and Table 23 demonstrate the Robust Hausman test results for country groups.

**Table 22: Robust Hausman Test for High Income Group**

	Variable	-Coefficients-			sqrt (diag(V_b-V_B)) S.E.
		(b) FE	(B) REgls	(b-B) Difference	
High-Income Countries	FDIInflow	-.0025444	-.0025265	-.000018	.0001628
	FDIOutflow	-.000766	-.0017396	.0009736	.0001875
	(ln)FinancialInstitutions Depth	.2060791	.5182848	-.3122057	.0874489
	(ln)CPI	-.3043364	.1392581	-.4435945	.1102346
	(ln)GDP	2.580679	1.1306	1.45008	.1590634
	(ln)FEDInterest	-.0740257	-.0819234	.0078977	.0014856
	(Interaction term) FDIOutflow*(ln)FEDInterest	-.000935	-.0014222	.0004871	.0000613
	b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic  $\text{chi2}(6) = (b-B)'[(V_b-V_B)^{-1}](b-B)$ $= 121.11$ Prob>chi2 = 0.0000				

**Table 23: Robust Hausman Test for Middle Income Group**

	Variable	-Coefficients-			sqrt (diag(V_b-V_B)) S.E.
		(b) FE	(B) REgls	(b-B) Difference	
Middle-Income Countries	FDIInflow	-.0228569	-.0270054	.0041486	.002401
	FDIOutflow	.0618702	.0762116	-.0143414	.0061271
	(ln)FinancialInstitutions Depth	-.0711609	.220744	-.2919049	.0892355
	(ln)CPI	-.6531589	-.2169478	-.4362111	.103575
	D.(ln)GDP	1.849428	.9724657	.8769618	.1874859
	(ln)FEDInterest	.0337871	.025822	.0079651	.0039202
	(Interaction term) FDIOutflow*(ln)FEDInterest	-.01638	-.025259	.0088791	.0018738
	b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic  $\text{chi2}(6) = (b-B)'[(V_b-V_B)^{-1}](b-B)$ $= 52.60$ Prob>chi2 = 0.0000				

According to the Robust Hausman tests, the null hypothesis is rejected at the 5% level of significance. Therefore, the Robust Hausman test gives evidence that the applied Regression FE Model for high and middle-income groups is acceptable.

### 3.2.1.3. Robustness Check

Robustness is necessary for valid causal inference, in that the coefficients of the critical core variables should be insensitive to adding or dropping variables, under appropriate conditions (Lu and White, 2014). In the FE Models which we have established for high and middle-income countries, there are problems of heteroskedasticity, autocorrelation,

and cross-section dependency. Due to the existence of problems in our Fixed Model and Prais-Winsten Standard Errors Estimator for robustness has been applied to high and middle-income groups. Differently, instead of the FED funds rate, LIBOR (London Interbank Offered Rate) that is the reference rate at which large banks indicate that they can borrow short-term wholesale funds is added to check the validity of interest rates in the robustness. Table 24 and 25 report the robust regression results for high and middle-income countries, respectively.

**Table 24: Fixed Effect Robustness Test for High Income Countries**

<b>Prais-Winsten Standard Errors Estimator Model (High Incomes)</b>		
<b>(ln)Export</b>	<b>Coef.</b>	<b>P &gt;  zI</b>
<i>FDI Inflow (% of GDP)</i>	-.000174	0.908
<i>FDI Outflow (% of GDP)</i>	.0004427	0.775
<i>(ln)FinancialInstitutionsDepth</i>	1.042852	0.000
<i>(ln)CPI</i>	.0367999	0.892
<i>(ln)GDP</i>	.7192666	0.000
<i>(ln)LIBOR</i>	-.1003557	0.344
<i>cons.</i>	-4.118893	0.056
<b>R-squared</b>		0.9178
<b>Wald chi 2</b>		657.27
<b>Prob&gt;chi 2</b>		0.0000
<b>Rho</b>		.8581823

According to the result of the Prais-Winsten Standard Errors Estimator, Financial Institutions Depth and GDP variables have a significant effect on the Export variable in the high-income group.

Table 24 presents that Financial Institutions Depth and GDP (constant 2010 US\$) affect Financial and Insurance & Pension Services Export positively at 1% significance level. In addition to this, the coefficient of Financial Institutions Depth reveals the relationship with the dependent variable as elastic.

**Table 25: Fixed Effect Robustness Test for Middle Income Countries**

<b>Prais-Winsten Standard Errors Estimator Model (Middle Incomes)</b>		
<b>(ln)Export</b>	<b>Coef.</b>	<b>P &gt;  zI</b>
<i>FDI Inflow (% of GDP)</i>	.0082298	0.515
<i>FDI Outflow (% of GDP)</i>	.0890655	0.002
<i>(ln)FinancialInstitutionsDepth</i>	.2259247	0.043
<i>(ln)CPI</i>	-.1119167	0.662
<i>D.(ln)GDP</i>	.8616678	0.000
<i>(ln)LIBOR</i>	-.0067347	0.944
<i>cons.</i>	-9.20772	0.000
<b>R-squared</b>		0.8612
<b>Wald chi 2</b>		681.72
<b>Prob&gt;chi 2</b>		0.0000
<b>Rho</b>		.7737643

According to the result of the Prais-Winsten Standard Errors Estimator, FDI Outflow, Financial Institutions Depth, and GDP variables have a significant and positive effect over the Financial and Insurance & Pension Services Export for the middle-income group. However, the impact of GDP is higher (0.861) than the other variables in the model.

The fact that the financial institutions depth index is meaningful on the export of financial and insurance & pension services export for both country groups indicates that the model was constructed correctly. According to the studies of Harms, Mattoo, and Schuknecht (2003); Lindamane (2011c); Čihák *et al.* (2012); Sahay *et al.* (2015), the export of financial and insurance & pension services depends on the financial development of economies. Since financial institutions depth index compiles data on bank credit to the private sector in percent of GDP, pension fund assets to GDP, mutual fund assets to GDP and insurance premiums, life, and non-life to GDP, we can say that we have reached a coherent finding with the literature for financial and insurance & pension services export.

Another significant and positive result of GDP on the financial and insurance & pension services export for both high and middle-income countries is so critical because the leading exporters of financial and insurance & pension services are developed countries which have a high level of GDP. Besides, some emerging economies' role is increasing in these services' export. Even, the report of UNCTAD (2020b) attracts attention to the economic growth of leading financial services exporters. Therefore, increasing of GDP value of both country groups has a positive effect on financial and insurance & pension services exports. This result is closely related to literature, too.

Lastly, the positive significant effect of FDI Outflow on the export of financial and insurance & pension services for middle-income countries indicates that when middle-income economies are more open, they will gain more from financial and insurance & pension services export. As Ozkok (2015) states that FDI outflows ensure financial openness that encourages financial and insurance & pension services export.

Contrary to our expectations, we cannot comment about FDI Inflow, CPI, and LIBOR variables because the coefficients of variables are insignificant. Although the FED Interest rates and LIBOR are not statistically significant for both country groups, the same signs of their coefficients in the robustness estimation in the high-income country group that are leading exporters in the financial and insurance & pension services indicate that we have reached more consistent results.

## CONCLUSION

Today, the service sector gains more importance in global trade. There are many reasons why international trade in services gained global importance. In the literature the most significant reason is rapid development of technology that underlying the production of both goods and services (Feketekuty, 1988; Van Welsum, 2003; Francois and Hoekman, 2010; Grönroos, 2016; Amador, Cabral and Ringstad, 2019). Since services are supplied as an input into the production of goods, they account is about 50% of world trade. It means that services account for over two-thirds of global economic output and employment in developing countries and four-fifths in developed ones (WTO, 2019b). In addition, according to World Bank statistics (2021), service export increased approximately 15 times between 1980 and 2019.

The role of services export in the trade balance and balance of payments of countries are very important (Briggs, 2017). The regular increasing of export of services shows a strong and continuing growth in global demand for services and provide some opportunities for exporters (Lu et al., 2012). Therefore, WTO (2019b) has an estimation about the share of trade in services which they will rise 50% by 2040 year all around the world. Though negative impacts of COVID-19, service industry facilitates economic transformation so that it seen as vital for economic recovery from COVID-19 pandemic. (UNCTAD, 2020a). Among service sector, two of the service categories are financial and insurance & pension services. Financial and insurance & pension services are regarded as a source of comparative advantage and trade (Do and Levchenko, 2004; Briggs, 2017). As we consider the close association of these two service categories with each other and increasing importance and volume in global trade, we show a holistic approach by handling with these two service categories together based on the most recent classification EBOPS 2010, since insurance services constitute the core of financial services and promote the financial sector (Impavido and Tower, 2009; Khatun, 2016).

The literature suggests that trade in financial and insurance & pension services facilitate the process of regional and global integration of the financial services markets and they are a proof of a country's development level since they enable global transactions and facilitate the exchanging of goods and services.

In particular, since all economic activities depend on access to financial services, the share of financial service sector in global trade has grown since 1980s by encouraging both the

national and global economic growth via financial intermediaries (such as banks and insurance companies), markets (such as stock and bond markets). Like financial services, insurance & pension services have a big role on the economic development (Khatun, 2016). Specifically, insurance & pension services provide assurance people who withdraw from the labor market from falling into poverty and from other risks (Cuadros-Meñaca, 2020).

Among the factors that keep economies running during the COVID-19 pandemic process, there are ‘digital financial and insurance & pension services’ besides online working and e-commerce platforms. Thanks to the specific services which enabled digitization such as ICT, Financial and Insurance & Pension Services, global supply and export capacity of economies increase and economic recovery is enhanced during pandemic period (<https://unctad.org/news/services-sector-vital-covid-19-economic-recovery>).

Thanks to the possibility of exporting services via digital platform, there is no need face to face interaction including financial and insurance & pension services so that while the export of service sector is increasing steadily, exports of financial and insurance & pension services are growing among it. According to Trade map statistics (2020), all services exported value is around six trillion dollars in the whole world in 2019. Among this value, the rate of financial services export is 8.5% with 510 billion dollars. The rate of insurance & pension services is approximately 2.2% with 128 billion dollars overall the world. In parallel with the development of international trade in services, the exports of the two sectors have an increasing trend.

This study examines the main determinants of financial and insurance & pension services export for high-income and middle-income countries. Specifically, the study analyzes the impacts of changes in FDI inflows and outflows, financial institutions depth, corruption perception index, GDP (constant 2010 US\$) and FED funds rate on financial and insurance & pension services export. In addition to them, we have added an interaction term ( $FDI\ Outflow * (\ln)FEDInterest$ ) to infer how the effect of one independent variable on the dependent variable depends on the magnitude of another independent variable. Via annual panel data from 2005 through 2018 for 82 high and middle-income countries, Panel Fixed Effect (FE) model is applied to identify the impact of determinants of financial and insurance & pension services export. After we have controlled the validity of the FE Model(s) with Robust Hausman Tests for two country groups, we have tested

the models by using Prais-Winsten Standard Errors Estimator due to the presence of heteroscedasticity, autocorrelation, and cross-section dependence problems in the series. Differently, we have checked the FE models with Prais-Winsten Standard Errors Estimator by adding LIBOR rates instead of FED funds rates.

As a result, this study gives evidence that financial institutions depth and GDP in high-income countries have positive impacts on the financial and insurance & pension export. In addition to this, for middle-income countries, financial institutions depth, GDP, and FDI outflow variables promote export of financial and insurance & pension services.

The positive and significant effects of Financial Institutions Depth and GDP variables on the export of financial and insurance & pension services export for both country groups indicates that the model was constructed correctly. Surely, we can say that we have reached a coherent finding with the literature for financial and insurance & pension services export since both determinants are closely linked with 'Financial Development' which initiative Financial and Insurance & Pension Services Export (Beck *et al.*, 2000; Harms *et al.*, 2003; Ma and Pope, 2003; Demirgüç-Kunt and Levine, 2008; Honohan, 2008; Lindemane, 2011b; Rouzet *et al.*, 2014).

Also, the finding that FDI outflow activities promote the export of financial and insurance & pension services in middle-income economies supports that FDI movements in insurance are significant determinants for the development of home and host countries' insurance markets (Moshirian, 1999; Cole *et al.*, 2012). Besides, around 77% of financial services were traded worldwide through foreign affiliates (WTO, 2019a). Hence, our finding of the positive effect of FDI outflow for middle-income economies shows the opportunities of trade in services (including financial and insurance & pension services export) for middle-income countries across the globe.

Finally, this study gives evidence that there is a great opportunity for middle-income countries if they pay attention to the financial and insurance & pension services by eliminating structural gaps in their services sector with their economic policies. Besides leading exporters, when middle-income countries expand the depth of financial institutions and develop foreign capital flows for this expansion, they will they will make a great contribution to their balance of payments. Then, the estimation of WTO (2019b) about the share of trade in services for 2040 year can become real since middle-income countries can be integrated to the global trade more by developing their economic

policies. Hence, for both country groups, sectoral developments will directly contribute to their economic growth. They will provide economic, legal, human, and technological development on the way to financial and insurance & pension services exports.

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## APPENDICES

### Appendix 1: Extended Balance of Payments Services Classifications (EBOPS 2010)

#### **1 Manufacturing services on physical inputs owned by others**

1.1 Goods for processing in reporting economy — Goods returned (credits), Goods received (debits)

1.2 Goods for processing abroad — Goods sent (credits), Goods returned (debits)

#### **2 Maintenance and repair services n.i.e.**

#### **3 Transport**

##### **Alternative 1: Mode of transport**

3.1 Sea transport

3.1.1 Passenger

Of which: 3.1.1.a Payable by border, seasonal, and other short-term workers

3.1.2 Freight

3.1.3 Other

3.2 Air transport

3.2.1 Passenger

Of which: 3.2.1.a Payable by border, seasonal, and other short-term workers

3.2.2 Freight

3.2.3 Other

3.3 Other modes of transport

3.3.1 Passenger

Of which: 3.3.1.a Payable by border, seasonal, and other short-term workers

3.3.2 Freight

3.3.3 Other

3.4 Postal and courier services

##### **Extended classification of other modes of transport**

3.5 Space transport

3.6 Rail transport

3.6.1 Passenger

3.6.2 Freight

3.6.3 Other

3.7 Road transport

3.7.1 Passenger

3.7.2 Freight

3.7.3 Other

3.8 Inland waterway transport

3.8.1 Passenger

3.8.2 Freight

3.8.3 Other

3.9 Pipeline transport

3.10 Electricity transmission

3.11 Other supporting and auxiliary transport services

##### **For all modes of transport**

##### **Alternative 2: What is carried**

3a.1 Passenger

Of which: 3a.1.1 Payable by border, seasonal, and other short-term workers

3a.2 Freight

3a.3 Other

3a.31 Postal and courier services

3a.32 Other

**4 Travel**

4.1 Business

4.1.1 Acquisition of goods and services by border, seasonal, and other shortterm workers

4.1.2 Other

4.2 Personal

4.2.1 Health-related

4.2.2 Education-related

4.2.3 Other

**Alternative presentation for travel (for both business and personal travel)**

4a.1 Goods

4a.2 Local transport services

4a.3 Accommodation services

4a.4 Food-serving services

4a.5 Other services

Of which:

4a.5.1 Health services

4a.5.2 Education services

**5 Construction**

5.1 Construction abroad

5.2 Construction in the reporting economy

**6 Insurance and pension services**

6.1 Direct insurance

6.1.1 Life insurance

6.1.1 a Gross life insurance premiums receivable (credits) and payable (debits)

6.1.1 b Gross life insurance claims receivable (credits) and payable (debits)

6.1.2 Freight insurance

6.1.2 a Gross freight insurance premiums receivable (credits) and payable (debits)

6.1.2 b Gross freight insurance claims receivable (credits) and payable (debits)

6.1.3 Other direct insurance

6.1.3 a Gross other direct insurance premiums receivable (credits) and payable (debits)

6.1.3 b Gross other direct insurance claims receivable (credits) and payable (debits)

6.2 Reinsurance

6.3 Auxiliary insurance services

6.4 Pension and standardized guarantee services

6.4.1 Pension services

6.4.2 Standardized guarantee services

**7 Financial services**

7.1 Explicitly charged and other financial services

7.2 Financial intermediation services indirectly measured (FISIM)

**8 Charges for the use of intellectual property n.i.e.**

8.1 Franchises and trademarks licensing fees

8.2 Licences for the use of outcomes of research and development

8.3 Licences to reproduce and/or distribute computer software

8.4 Licences to reproduce and/or distribute audio-visual and related products

8.4.1 Licences to reproduce and/or distribute audio-visual products

8.4.2 Licences to reproduce and/or distribute other products

**9 Telecommunications, computer, and information services**

9.1 Telecommunications services

9.2 Computer services

9.2.1 Computer software

Of which: 9.2.1.a Software originals

9.2.2 Other computer services

9.3 Information services

9.3.1 News agency services

9.3.2 Other information services

**10 Other business services**

10.1 Research and development services

10.1.1 Work undertaken on a systematic basis to increase the stock of knowledge

10.1.1.1 Provision of customized and non-customized research and development services

10.1.1.2 Sale of proprietary rights arising from research and development

10.1.1.2.1 Patents

10.1.1.2.2 Copyrights arising from research and development

10.1.1.2.3 Industrial processes and designs

10.1.1.2.4 Other

10.1.2 Other

10.2 Professional and management consulting services

10.2.1 Legal, accounting, management consulting, and public relations services

10.2.1.1 Legal services

10.2.1.2 Accounting, auditing, bookkeeping, and tax consulting services

10.2.1.3 Business and management consulting and public relations services

10.2.2 Advertising, market research, and public opinion polling services

Of which: 10.2.2.1 Convention, trade-fair and exhibition organization services

10.3 Technical, trade-related and other business services

10.3.1 Architectural, engineering, scientific, and other technical services

10.3.1.1 Architectural services

10.3.1.2 Engineering services

10.3.1.3 Scientific and other technical services

10.3.2 Waste treatment and de-pollution, agricultural and mining services

10.3.2.1 Waste treatment and de-pollution

10.3.2.2 Services incidental to agriculture, forestry and fishing

10.3.3 Operating leasing services

10.3.4 Trade-related services

10.3.5 Other business services n.i.e.

Of which: 10.3.5.1 Employment services, i.e., search, placement and supply services of personnel

**11 Personal, cultural, and recreational services**

11.1 Audio-visual and related services

11.1.1 Audio-visual services

Of which: 11.1.1.a Audio-visual originals

11.1.2 Artistic related services

11.2 Other personal, cultural, and recreational services

11.2.1 Health services

11.2.2 Education services

11.2.3 Heritage and recreational services

11.2.4 Other personal services

**12 Government goods and services n.i.e.**

12.1 Embassies and consulates

12.2 Military units and agencies

12.3 Other government goods and services n.i.e.

***4.0 Tourism-related services in travel and passenger transport***

**EBOPS 2010 complementary groupings**

C.1 Audio-visual transactions

Of which: C.1.1 Licences to use audio-visual products

C.2 Cultural transactions

C.3 Computer software transactions

Of which: C.3.1 Licences to use computer software products

C.4 Call-centre services

C.5 Total services transactions between related enterprises

C.6 Total trade-related transactions

C.7 Environmental transactions

C.8 Total health services

C.9 Total education services

**Source:** United Nations (2020). *Extended Balance of Payments Services Classification 2010 (EBOPS 2010)*. <https://unstats.un.org/unsd/classifications/Family/Detail/101>

## Appendix 2: List of Countries

High Income Countries		Middle Income Countries	
Australia	Latvia	Albania	Kazakhstan
Austria	Lithuania	Armenia	Kyrgyzstan
Belgium	Luxembourg	Azerbaijan	Lebanon
Canada	Malta	Bangladesh	Malaysia
Chile	Mauritius	Belarus	Mexico
Croatia	New Zealand	Bosnia and Herzegovina	Moldova
Cyprus	Norway	Botswana	Nigeria
Czechia	Panama	Brazil	Pakistan
Denmark	Poland	Bulgaria	Papua New Guinea
Estonia	Portugal	Cambodia	Paraguay
Finland	Romania	Cameroon	Peru
France	Singapore	China	Philippines
Germany	Slovakia	Dominican Republic	Russian Federation
Greece	Slovenia	Egypt	Senegal
HongKong,China	Spain	El Salvador	South Africa
Hungary	Sweden	Georgia	Thailand
Iceland	Switzerland	Guatemala	Tunisia
Ireland	United Kingdom	Jamaica	Turkey
Italy	United States	India	Ukraine
Japan	Uruguay	Indonesia	Vietnam
Korea, Rep.			
Kuwait			

**Source:** World Bank, (2020). *World Bank Country and Lending Groups*.

<https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

## **CURRICULUM VITAE**

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