



STUDIES ON SOCIAL SCIENCES

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FOREWORD

In today's world, social sciences have gained a more important field of application than nuclear physics.

Efforts to solve social and individual problems that started from the first periods of human history gave rise to the social sciences. When the need to live in a particular society brings problems with it, the social sciences have a problem-solving mission. For this reason, considering the social sciences, the science of problem-solving science comes to mind first. This problem-solving science has come to the present day with increasing importance and development in the historical process due to its mission.

This study, designed under the name of “Studies on Social Science”, consists of studies that fill a significant dearth involving different subjects and fields published in the field of social sciences.

This study contains very valuable studies by Prof. Dr. Rui Alexandre CASTANHO, Assoc. Prof. Dr. Sema YILMAZ GENÇ, Dr. Hassan SYED (Collaborative Spatial Planning for Sustainable Growth in The European Union), Prof. Dr. Şafak KAYPAK, Researcher Ahmet GÜNDÜZ (Security in The City and The Environment), Assoc. Prof. Dr. Emre KAPLANOĞLU (A Bibliometric Study of Crowdfunding in Web of Science), Assoc. Prof. Mihalis (Michael) KUYUCU (Satellite Technology and Its Use in Turkish Tv Broadcasting), Assist. Prof. Özgür Bayram SOYLU (A Brief of Post Keynesan Economics), Dr. Beyza ONUR İŞİKOĞLU (Self-Social Class Perception of The Architects in Turkey: Case of Ankara), Dr. Res. Asst. Fetullah BATTAL (The Effect of University Students 'Demographic Conditions

on Entrepreneurship and Intention (IIBF Example)), Dr. M. Būşra ENGİN ÖZTÜRK (International Trade and Finance Concepts in Islamic Economics), Res. Asst. Abdullah AÇIK, Res. Asst. M. Rıdvan İNCE (Do Commodity Price Shocks Matter For Dry Bulk Freight Markets?), Dr. İnan ERYILMAZ (The Role Of Social Support in The Relationship Between The Perception of Career Future and Entrepreneurship Tendency), Ph.D., Asst. Prof. Yavuz Selim DÜGER (A Conceptual Overview on The Relationship Between Management Development and Change Management), Asst. Prof. Cansu ŞARKAYA İÇELLİOĞLU (The Supply Side Approach To Real Exchange Rate: The Balassa-Samuelson Effect), and Zahide ACAR (Precipitation Characteristics of The Mediterranean Region).

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CHAPTER 1:
**A BIBLIOMETRIC STUDY OF CROWDFUNDING IN WEB
OF SCIENCE**

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1. INTRODUCTION

Due to the bottlenecks and crises in the economy, liquidity shortages exist in the markets and access to capital is restricted. It is often seen that new investments or projects cannot find the funds they need and those who have excess funds cannot reach the appropriate investment or project. The need for funds should not be considered as necessary only for people who wish to provide an additional financial return. Social enterprises also need social financing. Rapid developments in technology, software and the internet are changing the traditional methods of financing. It can be said that the concept of crowdfunding has emerged as an alternative financing method in the form of funding via the Internet due to the spread of the Internet to the crowds. Crowdfunding is the lack of funding needed for the realization of a project or initiative idea from various credit institutions for various reasons and the provision of funds needed through internet platforms that bring the party in need and the party willing to fund it.

As a direct financing method, it enables large capital to be obtained through small participation through internet platforms and realization of new enterprises or projects. In crowdfunding, entrepreneurs communicate with a large number of individuals over the Internet for the funds they need to implement an idea/project. Crowd funding is basically the funding of a product or project. There are four models for crowd funding, whether funding a product or capital funding for a project. These are donation based crowdfunding, reward based crowdfunding, debt based crowdfunding and

equity/partnership based crowdfunding. In addition, these models can be classified as financial models (debt/credit or partnership/shares) and non-financial models (donations or awards).

The donation-based crowdfunding model can be divided into two as donations or reward-based donations. There is no risk for the donor only in donation based crowdfunding. Donors do not receive any return on securities. Entrepreneurs cannot raise a significant amount of capital. In the award-based donation model, there are risks to donors due to incidents such as fraud. There is no real financial return. The potential return is small. No securities are acquired. It is difficult for many entrepreneurs to increase capital without a product (Paschen, 2017; 180).

The investment-based crowdfunding model is divided into debt-based and equity-based models. In equity funding based on equity, profit is shared when the enterprise makes a profit. There is no limit for financial gain. It can attract a large number of investors. Of course there is a risk of losing the investor. Owners of capital are liable to creditors in case of bankruptcy. Securities laws regarding crowdfunding investment can be complex. Debt-based crowdfunding is understood as a predetermined rate of return between the lender and the borrower. Lenders take precedence over capital owners in case of bankruptcy of the borrower (The World Bank, 2013; 20).

The purpose of this study is to give the current state of scientific research by scientific figures of Web of Science on the crowdfunding topic. A bibliometric investigation of the publications classified in Web of Science was carried out with a topic “crowdfunding” as search

results between 2000 and 22 September 2019. This study is thought to be beneficial for the researchers who will study crowdfunding. The structure of this study is constructed as follows. Section 2 gives the history of crowdfunding and the concept of crowdfunding. Section 3 explains the scope and methodology of study. Section 4 gives the research findings. Section 5 concludes.

2. THE BRIEF HISTORY OF CROWDFUNDING AND THE CONCEPT OF CROWDFUNDING

Due to the decrease in the confidence in the banks with the 2008 global economic crisis, crowdfunding platforms and parties wishing to benefit from crowdfunding via the Internet have emerged. But the method of crowdfunding is to do something old in a new way. It is likened to the method of financing the work of societies in 3000 BC. Unlike in the past, crowdfunding practices the internet for capital creation. Before the emergence of banks and financial organizations, rich families provided loans to persons to finance everything from trade to infrastructure in societies. A debt instrument has been created as a financial instrument and the interest rate has changed according to how well they know each other and how much capital is needed. The penalty for not repaying the debt was very severe. One of the first examples of crowdfunding was the use of Alexander Pope's Homer in 1713 to translate the ancient Greek poem Iliad, consisting of 15,693 lines. In 1783, Mozart used a similar model to present his newly composed piano concerto in the Vienna concert hall. Mozart requested donations to present his concerto and wrote the names of the donors to

the manuscript invitation of his concerto (Kickstarter, 2019). In 1876, crowdfunding was also used to finance the Statue of Liberty, the most recognized monument in the world. French citizens paid for the statue and American people paid for the base of the statue. Meetings, theater performances, art auctions and campaigns were organized in both countries to raise the required funds.

Frédéric Auguste Bartholdi, the architect of the Statue of Liberty, offered to give all the donors a miniature of the statue with the name of the donor on it. This proposal is similar to the reward system used to raise funds in today's crowdfunding (Dresner, 2014; 4). In 1885, Pulitzer published his donation project in his newspaper and announced that he would give a 6-inch statue of liberty to anyone who donated \$ 1. A total of \$ 102,006 was collected from 120,000 people (Kickstarter, 2019). Although it is difficult to relate the events of that time to the present, there are examples of organizations and icons that occurred in America in the late nineteenth and early twentieth centuries thanks to the crowds. Before the Great Depression in the US, banks were established to finance infrastructure investments and government activities. In order to adapt to the change in agriculture with the industrial revolution, farmers were forced to take out loans for machine purchases. Businesses in different sectors have also faced difficulty in accessing capital due to this shift in technology. Construction and credit cooperatives provided capital to individuals and companies. People invested their savings in cooperatives, and when the union had sufficient money, it financed the events of its members. However, these cooperatives were able to serve

small groups or societies and did not have as many different types of services as banks.

The historical development of crowdfunding can be illustrated in a timeline from the Great Depression in 1929 to the Jumpstart Our Business Startups (JOBS) law in 2012. The major events in this chart were the Great Depression in 1929, the establishment of the American Capital Market in 1933, the law in 1934, the Regulation D / Accredited Investor in 1982, the Worldcom and Enron company scandals in 2001, the Sarbanes-Oxley (SOX) Act in 2002, the establishment of Kiva, the establishment of Kiva in 2008, the launch of the Kickstarter platform in 2009 and the JOBS law in 2012, known as the crowdfunding law (Dresner, 2014; 12).

Law on crowdfunding investments in the United States under the name of JOBS in 2012 US. It was enacted by President Barack Obama and in 2013 the regulations on crowdfunding were approved by the US Capital Markets Board (SEC) (Dresner, 2014; 11). The crowdfunding arrangement in the UK was made in 2011 and approved by the Capital Markets Board of England (FCA). In Japan, crowdfunding arrangements were made in 2014, enabling new companies to make crowdfunding investments.

The definitions of crowdfunding in the literature are given in Table 1.

Table 1. Definitions of Crowdfunding in the Literature

Author(s)	Year	Definition
Kleeman, Voß and Rieder	2008	It occurs when a profit-making firm obtains certain work required for the production or sale of its product by making use of external sources through an open call to the public (the crowds) via the internet. Goal; It is the voluntary contribution of the people with a unobtrusive response to the production process of the firm or with a very modest response to the value provided to the firm.
Lambert and Schwienbacher; Schwienbacher and Larralde; Bellaflamme, Lambert and Schwienbacher	March 2010 September 2010 2014	Crowdfunding is an open call for funding the initiatives via the Internet for specific purposes as a donor, reward, lender or shareholder.
Ordanini et al.	2011	Crowdfunding is an attempt to raise funds for new projects offered by individuals by collecting small-medium sized investment amounts from many people.
Giudici, Nava, Lamastra and Verecondo	2012	A large group of people invests capital in a project using a website or other online tools.
Ahlers, Cumming, Günther and Schweizer	2012	Crowdfunding is a way of creating a fund in which a group of people usually make very small individual contributions to support a particular purpose.
Wash	2013	Crowdfunding is the activity of requesting resources through open calls from a large number of supporters to realize a new idea.
Valanciene and Jegeleviciute	2013	Crowdfunding is a method of establishing a connection between entrepreneurs who want to acquire capital and those who are willing to invest in small amounts, creating a capital resource that develops through internet-based intermediaries.
Lehner	2013	Crowdfunding is the provision of small amounts of money to support a project or initiative by a broad spectrum of audience called “crowds”.
Joenssen, Michaelis and Müllerleile	2014	Crowdfunding is the initiation of commercial or non-commercial projects by individuals or organizations with a public call to raise funds, evaluate market potential and build relationships with customers.

Within the framework of these definitions, crowdfunding can be defined as a new financial resource creation system that brings together interested parties on the online platform to find the amount of funding needed for the realization of ideas/projects. Crowdfunding, which is expressed as a new method for financing business ideas, can be confused with angel investment and venture capital. The affluent individuals' shareholding or convertible lending through shares brings together angel investment and surplus individuals and investors express venture capital.

3. THE SCOPE AND METHODOLOGY

3.1. The Scope

Web of Science (WoS) is a web based technology platform produced in 1960 and maintained by Thomson Reuters. WoS has gathered scientific information from a comprehensive bibliographic database, citations and references. WoS contains of thousands of journals and congress proceedings, millions of patents and sources of cited references. Crowdfunding studies which are in the database of the WoS Core Collection are in the scope of this study.

3.2. The Methodology

Bibliometrics covered a ground of knowledge which is beneficial to considerate its changing aspects and create in your mind the developments in scientific frame. It is based on a set of papers and is interested in measurable info and their interactions. Bibliometrics classifies the current literature, exposes the path of publications, development of the traditional and evolving investigation fields. This

method can be assumed as the first stage for accompanying original research, because it permits the determination of gaps and visions for new theoretical or experimental researches. (Liu et al., 2014; Do Prado et al., 2016). The key indicators handle with quantifying information flows are the frequency, existences of citations or publications as the number and the centrality index (Chen, 2006; Wei et al., 2015).

4. FINDINGS

Bibliometric results of crowdfunding in the WoS Core Collection are presented with a visualization of treemap under this heading. Crowdfunding related studies according to WoS categories are given in Figure 1.

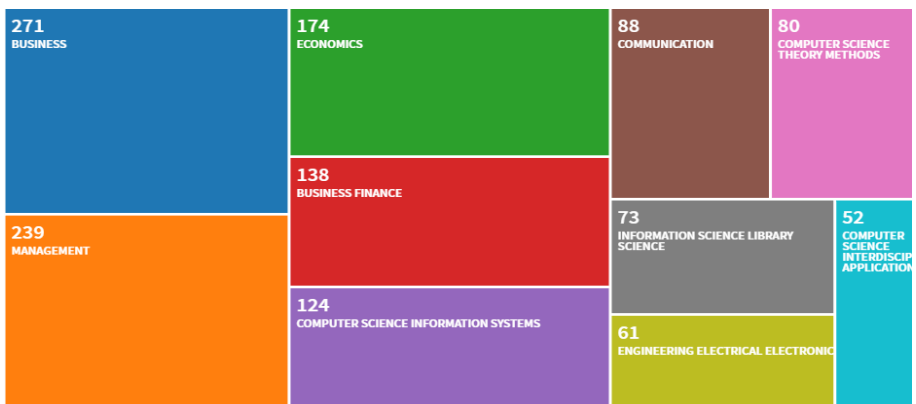


Fig. 1. Crowdfunding Studies According to WoS Categories

According to WoS categories, there are 271 business, 239 management, 174 economics, 138 business-finance, 124 computer science information systems, 88 communication, 80 computer science theory methods, 73 information science-library, 61 engineering-electrical electronic, 52 computer science interdisciplinary

applications related studies. Publication years and record counts of crowdfunding studies are given in Figure 2.

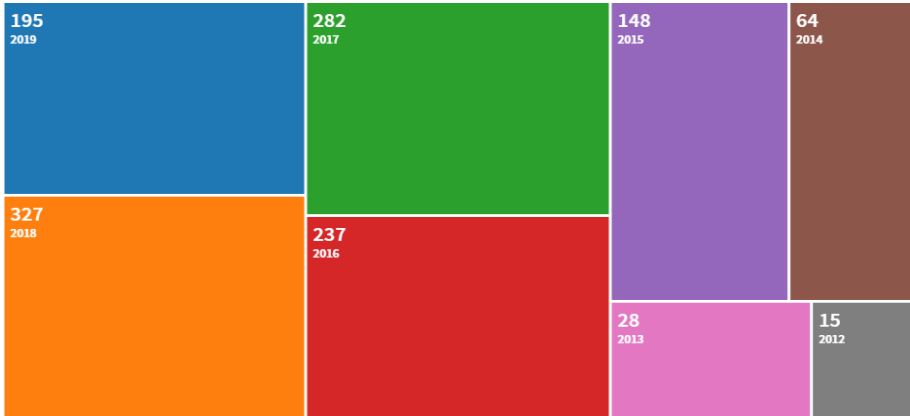


Fig. 2. Publication Years and Record Counts of Crowdfunding Studies

Record counts of crowdfunding studies from 2012 to 2019 are 15, 28, 64, 148, 237, 282, 327, and 195, respectively. Document types of studies are given in Figure 3.



Fig. 3. Document Types of Publications

The most of studies about crowdfunding are articles and proceedings paper. There are several organizations-enhanced related to publications. These are given in Figure 4.



Fig. 4. Organizations-Enhanced Related with Publications

Funding agencies of publications linked to crowdfunding, according to WoS core collection are given in Figure 5.



Fig. 5. Funding Agencies of Publications

In publications, there are many authors contributed to studies and these authors are given with record counts in Figure 6.



Fig. 6. The Authors of Publications with Record Counts

The publications' language differs, 1,214 English, 37 Spanish, 16 Russian, 7 Portuguese and 6 German. The source titles of crowdfunding publications are given in Figure 7.



Fig. 7. Source Titles of Publications

The research areas of publications are divided into five main groups and shown in Figure 8.

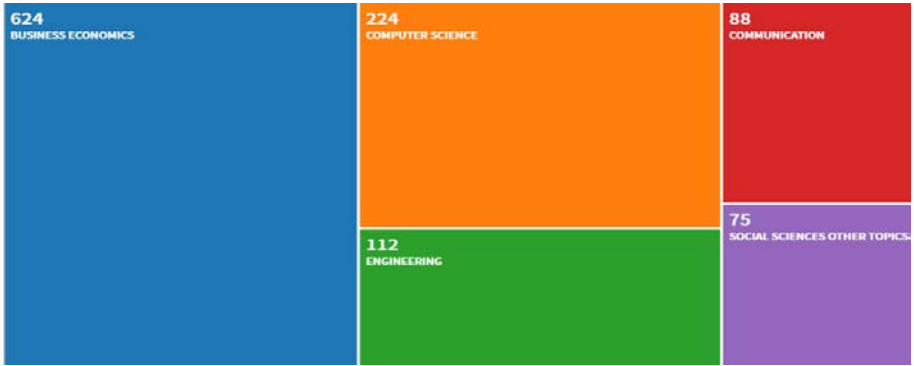


Fig. 8. Research Areas of Publications

The organizations of publications' authors are given Figure 9.

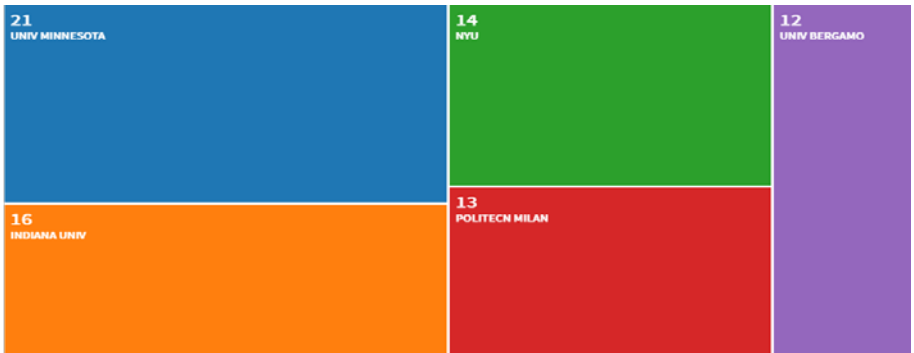


Fig. 9. The Organizations of Authors

Sum of times cited are 7,799 and without self-citations are 2,292 from 1,296 publications related to crowdfunding. There are 2,640 citing articles and 1,798 citing without self-citations. And also h-index is 36 and average citations are 6.02 per item. The most cited sixteen citation results of publications from 2000 to 22 September 2019 are given in Table 1.

Table 1. The Citation Results by Publication

Title	Authors	Source Title	Year	Total Citation	Average Per Year
The dynamics of crowdfunding: An exploratory study	Mollick, Ethan	JOURNAL OF BUSINESS VENTURING	2014	692	115.33
Crowdfunding: Tapping the right crowd	Belleflamme, Paul; Lambert, Thomas; Schwienbacher, Armin Ahlers, Gerrit K. C.;	JOURNAL OF BUSINESS VENTURING	2014	433	72.17
Signaling in Equity Crowdfunding	Cumming, Douglas; Guenther, Christina; Schweizer, Denis Colombo, Massimo G.;	ENTREPRENEURSHIP THEORY AND PRACTICE	2015	229	45.80
Internal Social Capital and the Attraction of Early Contributions in Crowdfunding	Franzoni, Chiara; Rossi-Lamastra, Cristina	ENTREPRENEURSHIP THEORY AND PRACTICE	2015	178	35.60
An Empirical Examination of the Antecedents and Consequences of Contribution Patterns in Crowd-Funded Markets	Burtch, Gordon; Ghose, Anindya; Watal, Sunil	INFORMATION SYSTEMS RESEARCH	2013	166	23.71
Crowdfunding: Geography, Social Networks, and The Timing of Investment Decisions	Agrawal, Ajay; Catalini, Christian; Goldfarb, Avi	JOURNAL OF ECONOMICS & MANAGEMENT STRATEGY	2015	145	29
New Financial Alternatives in Seeding Entrepreneurship: Microfinance, Crowdfunding, and Peer-to-Peer Innovations	Bruton, Garry; Khavul, Susanna; Siegel, Donald; Wright, Mike	ENTREPRENEURSHIP THEORY AND PRACTICE	2015	140	28
Crowdfunding: Motivations and Deterrents for Participation	Gerber, Elizabeth M.; Hui, Julie	ACM TRANSACTIONS ON COMPUTER-HUMAN INTERACTION	2013	113	16.14
Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic Versus Extrinsic Cues	Allison, Thomas H.; Davis, Blakley C.; Short, Jeremy C.; Webb, Justin W.	ENTREPRENEURSHIP THEORY AND PRACTICE	2015	111	22.20
The role of multidimensional social capital in crowdfunding: A comparative study in China and US	Zheng, Haichao; Li, Dahui; Wu, Jing; Xu, Yun	INFORMATION & MANAGEMENT	2014	111	18.50
Does the Possibility to Make Equity Investments in Crowdfunding Projects Crowd Out Reward-Based Investments?	Cholakova, Magdalena; Clarysse, Bart	ENTREPRENEURSHIP THEORY AND PRACTICE	2015	92	18.40
Equity retention and social network theory in equity crowdfunding	Vismara, Silvio	SMALL BUSINESS ECONOMICS	2016	80	20
Home Bias in Online Investments: An Empirical Study of an Online Crowdfunding Market	Lin, Mingfeng; Viswanathan, Siva	MANAGEMENT SCIENCE	2016	79	19.75
Cultural Differences and Geography As Determinants of Online Prosocial Lending	Burtch, Gordon; Ghose, Anindya; Watal, Sunil	MIS QUARTERLY	2014	71	11.83
Wisdom or Madness? Comparing Crowds with Expert Evaluation in Funding the Arts	Mollick, Ethan; Nanda, Ramana	MANAGEMENT SCIENCE	2016	69	17.25
The Social Network Effect: The Determinants of Giving Through Social Media	Saxton, Gregory D.; Wang, Lili	NONPROFIT AND VOLUNTARY SECTOR QUARTERLY	2014	67	11.17
*As 22 September 2019				2,776	31.55

The most cited sixteen citation results of publications from 2000 to 22 September 2019, the publications are clustered between 2013 and 2016.

5. CONCLUSION

In this study, the brief history of crowdfunding, the concept of crowdfunding and bibliometric study of crowdfunding in the database of Web of Science Core Collection are given. The most studies about crowdfunding, 822 studies, are related with business, management, economics and finance categories. This paper's research period is from 2000 to 22 September 2019, but the studies start from 2012 in WoS database. The document types of studies are mainly articles and proceedings papers which are increased in last five years. The citations of publications show that there is more attention about crowdfunding in general. The underlying forces of crowdfunding, the choice of crowd, especially equity crowdfunding from crowdfunding types and examination of contributions and contributors are in the scope of citations. Cultural, social and also demographic perspectives are studied in other publications. However, more of the studies related with America oriented which are given in findings section as organizations-enhanced related with publications, the authors of the publications and the organizations of the authors, there is an interest in China as understood from funding agencies of publications.

It is seen from findings there is a huge interest with crowdfunding in academic literature and crowdfunding is spreading to the other countries. As an alternative financing method, it will get more concern in literature in developing countries.

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CHAPTER 2:
A BRIEF OF POST KEYNESAN ECONOMICS¹

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1. INTRODUCTION

The two basic structures interpreted Keynes differently after Keynes' death. The first is the mainstream or Neoclassical paradigm. The second is the Post Keynesian or “structuralist” approach represented by economists such as Joan Robinson, Richard Kahn, Nicholas Kaldor, James Meade and Michal Kalecki (Godley and Lavoie, 2007:1).

It is important to consider the key features that differentiate heterodox thought from Neoclassical thought before addressing the main features of the Post Keynesian economy.

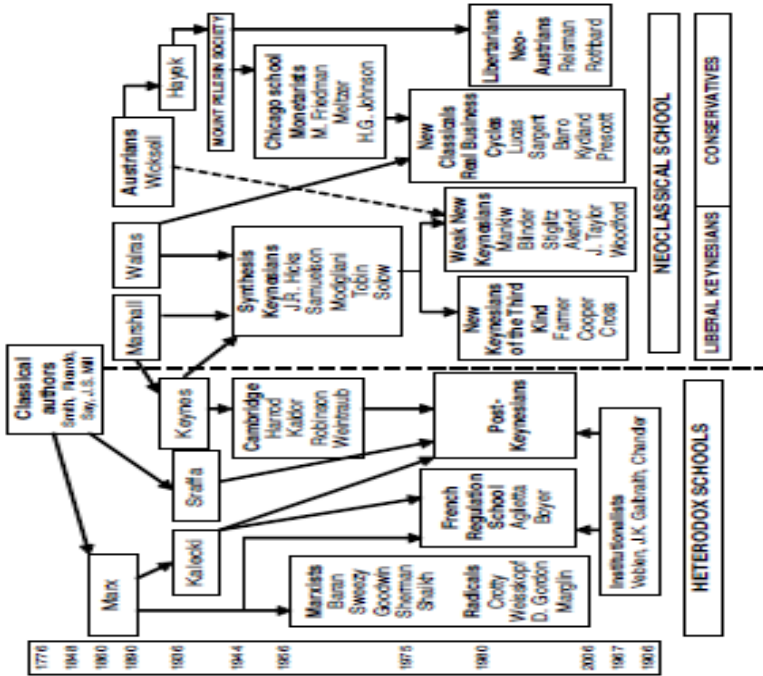
The assumptions of the neoclassical theory include instrumentalist epistemology, methodological individualism, substantial rationality, a changing economy based on the shortage of goods, and the free market assumption as policy analysis. The heterodox economy focuses on realism, integrity, process-related rationality and a production economy. The state intervention is at the heart of the policy analysis of heterodox thought.

2. THE KEY FEATURES OF POST KEYNESIAN ECONOMICS

Post-Keynesian economics, which opposed neoclassical thinking, is only one of many heterodox schools of thought. The historical development and place of Post Keynesian economy among schools of thought are shown in Figure 1.

The aim of Post Keynesian economics is to provide a clear understanding of how the economy works by associating economic analysis with real economic problems (Arestis, 1996: 112).

Figure 1: Macroeconomics Schools of Thought



Source: Lavoie (2009: 3)

The principle of effective demand and the concept of historical and dynamic time are the basis of Post Keynesian analysis. According to the principle of effective demand, which is considered the heart of the Post Keynesian economy, the production of goods customizes itself to the demand for goods. Therefore, the economy is demand biased and not limited by supply. In other words, this situation contradicts the principle of "supply creates its own demand which is the formulation of

Say's law. The fact that the level of economic activity is not limited by the supply means that investments are not limited to savings. On the other hand, Post Keynesians reject supply-side economics in the long run. Therefore, the economy is demand biased in both short and long term according to the principle of effective demand. Post-Keynesian economy emphasizes that the main determinant of real output and employment is the level of effective demand. The fluctuations in these variables are largely driven by investment spending in a situation where expectations or “animal spirits” are dominant (Hart and Kriesler, 2015: 325). The importance of effective demand was strengthened by reversing the causality from savings increases to investment increases. In other words, while investments determine savings, the proposition that savings determine investment is not accepted.

Another important feature of Post Keynesian thought is the concept of historical time. Post-Keynesian economists emphasize the difference between historical and logical time, whereas, in the case of logical time, economists are unwilling to question how the economy shifts from one equilibrium position to another equilibrium position. The concept of historical time is quite different from the concept of logical time. It is emphasized that the transition from one dynamic time position to another must always be taken into account the underlying conditions which may affect the final equilibrium state. Historical time is considered irreversible, and if a decision is made and enforced, it cannot be recovered except at a large cost. According to Post Keynesian economists, if there is a scarce source, it is certainly time (Godley and Lavoie, 2007).

The Post Keynesian approach rejects the flexible pricing which is one of the basic ideas of Neoclassical theory. According to Post Keynesian economics, flexible prices have a destabilizing effect. For example, while a decline in nominal and real wages brought the economy into full employment according to the Neoclassical thinking, Post Keynesian economics argues that this development would make the economic situation worse. The reason for this is that the reduction of nominal or real wages negatively affects the effective demand by decreasing the purchasing power of workers and increases the debt burden of firms (Lavoie, 2009).

Another feature of the Post Keynesian approach is the concept of uncertainty. In the case of fundamental uncertainty, the future is unknown or unknown, because the expectations of economic agents can easily be disappointed. In this case, the reliability of economic agents is important, Keynes described this as animal spirits. The concept of uncertainty is linked to the concepts of historical time and limited rationality and implies only limited information. To summarize; The Post Keynesian economy emphasized the negative impact of flexible prices and the concept of uncertainty.

Thirlwall (1993) summarized the Post Keynesian economics with six basic propositions.

- Employment and unemployment levels are determined in the production market, not in the labour market.
- Involuntary unemployment is not the result of deficiencies in the labour market, and even if overcome these deficiencies, involuntary unemployment remains.
- The relationship between total investment and total savings is the basis for macroeconomic theory, and causality is from investments to savings.
- The money economy is quite different from the barter economy; nonneutrality of money is valid, finance and debt issues are important macroeconomic theory, and causality is from investments to savings.
- Money is endogenous. the velocity of money is not constant; investments are carried out by animal spirits.

3. POST KEYNESIAN ECONOMICS OF MONEY

In the classical economy, where the money is demanded only for trading purposes, the interest rate elasticity of money is zero. According to the principle of classical dichotomy in the literature, money and real sector markets are separated from each other. According to this principle, ‘money is neutral’, that is, any change in the money market has no effect on the goods market.

Post-Keynesian economics takes its money approach from Keynes. In Keynes's (1936) Liquidity Preference Theory, money has three important functions. These are the medium of exchange, the store

of value and the unit of account. These three important functions bring along three money demands.

- transaction motive
- precautionary motive
- speculative demand for money

Money is not neutral and money matters in both the short run (Cottrel,1994). Post Keynesian monetary analysis is based on endogenous monetary theory. In other words, the endogenous money is a central component of the Post Keynesian economy. Endogenous money theory provides an alternative to the Neoclassical approach, which is determined externally through the provision of reserves by the central bank and based on the central bank's control of the money supply. In Post Keynesian economy, where the money supply is not independent of the needs of the economy, loans create deposits. Firms need to apply to several financing instruments to finance their expenses. Therefore, money or credit comes before production. This is because while the consumption, investment goods or intermediate goods produced by the firms are sold in the future periods, the money that comes before production is used to pay the production factors in the current period. The demand for loans from the banking sector to finance the needs of the non-financial private sector is the essential element that enlarges the money supply in an economy (Özgür, 2008: 52). As the loan demands of the firms are met by the banking sector, the banking sector creates new deposits.

Lavoie (2009) states that the relationship between loans and deposits is reversed and that the situation is reversed as causality. Changes in credit and money supply arise as a result of the private sector borrowing from the banking sector as a result of spending decisions (Işık, 2010). This causes the money creation process to be determined by the credit demand of the banking sector. When the banking sector gives loans to its customers in the portfolio, whether it is the household or the corporate sector, the process of creating deposits, in other words, starts the process of creating credit money. This is the case of reverse causality, as Lavoie (2009) states. That is, the banking sector primarily gives loans and creates deposits. These deposits create reserves. Even if central banks are involved in the process, they cannot control the whole process (Özgür, 2008: 51).

Lavoie (1984) states that deposits are based on three main points about creating reserves:

- banks accept legally binding credit limits that indicate future reserves
- provision of delayed reserve requirement accounting contracts by banks, especially North American banks
- the obligation of central banks to ensure the lending of the financial system

Neoclassical economists state that bank money is the multiplier of the monetary base, while Post Keynesian economists state that the monetary base (high powered money) is a ratio of bank money.

Lavoie (2009) states that the above-mentioned reverse causality constitutes the origin of two important reverse causalities in the Post Keynesian theory. The first is the investments undertaken by the companies that create savings, and the second is the claim that inflation is not caused by excessive growth in the money supply. The growth rate of prices and output causes money stock to increase.

Table 2: Main features of Money in Post Keynesian and Neoclassical Economics

Features	Post Keynesian	Neoclassical
Money...	must have a counterpart	falls from a helicopter
Money is ...	a flow and a stock	a stock
Money enters the economy...	through production	with exchange
The supply of money is...	endogenous	exogenous
Causality	credits create deposits	Reserves create deposits
Interest rates ...	are distributive variables	are the result of market forces
The base rate of interest...	is set by the central bank	is influenced by markets
A restrictive monetary policy	has negative effects in the short and long run	only has negative effects in short run
The natural rate of interest...	has multiple values or does not exist	is unique
Credit rationing is due to...	a lack of confidence	asymmetric information

Source: Lavoie (2009: 56)

The difference in monetary analysis between the Post Keynesian approach and the Neoclassical approach is shown in Table 2.

Post-Keynesian economics is analyzed in a production economy where money, money and production are not independent of each other. According to Keynes, the main reason behind the inadequacy of Traditional Theory is that it does not have a monetary production economy (Işık, 2010). It is stated that the concept of historical time, which is one of the main features of Post Keynesian economy, is clearly defined for the monetarized production economy.

4. CONCLUSION

A direct extension of Post Keynesian economics' understanding of money and uncertainty is Minsky's Financial Instability Hypothesis. Minsky built this hypothesis based on the state of long term expectations, marginal efficiency of capital and trade cycle. According to Keynes, decisions made under uncertainty destabilize investment expenditures, which leads to fluctuations in national income.

Minsky's Financial Instability Hypothesis is designed to explain instability as an outcome of the normal functioning of a capitalist economy as an alternative to neoclassical synthesis and standard macroeconomic theories (Minsky, 1985). The Financial Instability Hypothesis is expressed as an advanced interpretation of Keynes's General Theory by Minsky (1992) because it is based on the analysis of two price groups, such as current output reflecting short-term or current-term conditions or capital assets reflecting long-term expectations.

Minsky (1982) tried to formulate the financial theory of investment based on investment finance and financing risk. Wray (2011: 3) summarizes the general characteristics of Minsky's approach as follows: "Several investments are financed by domestic and foreign debt. Achievements during the enlargement period create more borrowing desire; these debts lead to a larger portion of the expected profits for debt service. This makes firms vulnerable to great risk; firms may be unable to meet their debt obligations if revenue flows fall below expectations or if financing costs rise". When borrowers find it difficult to make their payments, lenders are also adversely affected. The debt

crisis arises with the emergence of disregarded risks during the enlargement period.

Minsky (1978) states that the highly developed financial institutions owned by capitalist economies behave in a way to prevent fragile financial relations from suffering debt deflation and severe depression. Minsky's Financial Instability Hypothesis argues that capitalist financial systems have an endogenous tendency for financial instability (Palley, 2010). The factors that cause instability are the relationship between profit level, investment level, investment financing and debt payments (Minsky and Kaufman, 1986).

The instability arises from the deterioration of the debt-income relationship. Minsky (1978) stated that the relationship between debt and income can be determined in three different ways. The ability of firms and households to fulfil their obligations arising from the financial instruments they apply to finance their consumption and investments depends on the income flow of these economic decision-making units. The borrowing mechanism comes into play if the income of firms and households is insufficient to meet their obligations. Minsky (1992), who defines investments as the main factor reflecting the course of an economy, reveals the debt - income relationship in three different ways. These are Hedge, Speculative and Ponzi financial positions. These financial positions, which represent the relative difficulties of repayment of debts of economic units, are based on the relationship between the cash payments of economic units arising from normal operations and the cash payment obligations arising from debt (Wolfson, 2002). Hedge financing units, which can be expressed as

hedging, can fulfil their contractual payment obligations with cash flows. Since speculative financing units are expected to meet interest costs, income streams will have to deactivate their debts. Minsky (1992) describes the speculative financing structure as the inability of the income stream to meet the payment flow and states that the current debts can cover interest payments. In Ponzi financing units, income flows are not sufficient to cover interest costs, so the financing unit will need to issue new liabilities at the end of each current period.

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CHAPTER 3:
INTERNATIONAL TRADE AND FINANCE CONCEPTS IN
ISLAMIC ECONOMICS

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1. INTRODUCTION

Islamic economics, which means the conduct of economic activities according to the religious law, has caused Islamic states to compete with the western countries, especially with the innovative developments in the Islamic economics in recent years. Islamic economics explains how individuals, firms and governments should take financial decisions based on the obligations, commands and prohibition imposed by the religion of Islam.

Although the main sources of Judaism, Christianity and Islamic religions state that interest is prohibited, as a result of the distortion in non-Islamic religions over time, Christians and Jews, also with the influence of the era, concluded that they can finance by using interest and took significant steps towards prosperity. In Islam, the fact that interest was clearly banned in the Holy Quran, which has not been distorted, has led Muslims to avoid interest for years. Accumulated savings were either used for real estate, or for the purchase of precious assets such as gold or foreign currency or stayed under the mattress without taking part in the economy. Participation banks emerging as a result of the developments in Islamic economics has started to invest Muslim account holders' savings with the condition of that they are interest-free and thus, financing of the international economic activities has started.

The aim of this study is to theoretically investigate the answers to the questions of which states will follow the religious rules when doing international trade, whether the commercial activities constituting the traditional international trade are suitable for the

Islamic economics and what kind of financing techniques can be applied by Islamic governments during the stage of conducting these trade activities. For this purpose, the study will first discuss how the concepts of economy and trade are addressed in Islam and other Abrahamic religions, and then Islamic economics will be discussed in detail. Information on how international trade and its financing are being carried out or should be carried out in the Islamic Economics will be presented by combining various religious sources such as verses, hadiths, fiqh, and scientific resources on economics and Islamic economics.

2. RELIGION, ECONOMY AND TRADE

Abrahamic religions not only advise on what virtues individuals should live in, but also preach rules regarding the society, social order, law and economy in which they live. In chronological order, the Abrahamic religions were Judaism, Christianity and Islam.

The Torah, the sacred book of Judaism, which emerged in one of the richest countries of its time's world order Egypt, despite forbidding charging interest from the poor and the Jewish borrowers, praised wealth by saying that people would get closer to God as they got richer. (Karahöyük, 2013: 202). The Jews, who sought to earn more money, could not continuously live in same places as a result of exclusion for years, and invested their financial assets in movables, not in real estate. They did not earn their living from land, but from trade and craft, as they were not settled. They lent their accumulated stock of cash to those in need and began to prosper through interest. The decline in agriculture's significance with following the collapse of

the feudal system at the end of the Middle Ages and the valuation of securities, especially currency, led to the rapid enrichment of the Jews who made profit through them (ibid 201).

In Christianity, views on economy vary among denominations. According to the Catholic denomination, suffering and misery in this world exalts people. Unlike in Judaism, making money does not bring one closer to God. As with the sins of worldly pleasures and ambition to make money, interest is also considered haram. The renunciation of all the worldly goods in the Gospel of Matthew (ibid 204) led Christians to donate their assets to the church. The fact that the Catholic people were not rich and donated their financial assets to the church made the church the most significant financial power of the era. The amount of wealth possessed by the church which denigrated being rich, led to the emergence of the Protestantism with a protest led by Martin Luther. Protestantism argued that hard work is a virtue and that wanting to make more money means getting closer to God. Calvin, one of the pioneers of Protestantism, paved the way for the legitimization of interest by stressing its use in the production part and not the consumption. With the Protestant priests issuing the fatwa stating that interest was not forbidden, Christians started to make money alongside Jews and took an important step to building wealth. Because, the new geographical locations which were discovered following the liberation from the church's oppression as a result of the Renaissance and Reform; and great servitors such as the financing of the armies, brought the use of the government bonds and stocks, and

the Jews purchasing the stocks made them partners in the era's giant companies and in the new world order.

According to Islamic belief, one should live for both this world and the Hereafter. It is not right to be completely isolated from this world as in Catholicism, and learning wisdom for this world and laboring are praised. The concepts of economy and trade in the religion of Islam are discussed in detail below as it is the subject of our study.

3. ISLAMIC ECONOMICS

Both Quran and hadith have various orders, advice and prohibitions regarding how people should make their economic decisions. As a matter of fact, there are many economic concepts such as wages, services, rent, shopping, trade, interest, money, economic value of goods and money, tax (zakat) in Quran (Eskicioğlu, 1999: 10). Economy is scarce resources' capacity to meet unlimited needs. What is meant by scarce resources is natural resources, capital, entrepreneurs and labor. According to Islam, the source of all these resources is Allah. Man, and the nature, animals and plants that exist to meet the needs of man, were created by Allah and while the ones that are beneficial to men are permissible, men are also ordered to make use of them economically, (produce them), not to waste them and to give them to those in need.

3.1. Definition and Scope of Islamic Economics

Islamic economics refers to the economic activities that are carried out according to Islamic rules and teachings. While according to the classical economic theory, everything that fulfills the needs is beneficial, the concept of nafs has been emphasized in Islam, and some goods or goods considered harmful to men have been forbidden. As a matter of fact, the consumption of alcohol, drugs and pork is prohibited, and their trade is considered to be a sin. In Islam, there is no restriction regarding private property, the fundamental difference between capitalism and socialism. As a matter of fact, scholars interpret the verse “the earth and the sky belong to Allah” in the Qur'an as not only land does not belong to men, but it also does not belong to the state (Eskicioğlu, 1999: 16).”

The Islamic economics is based on Sharia provisions. According to Islam, Allah provided human beings with opportunities to meet their needs. People have various economic rights (Presidency of Religious Affairs, 2015: 260): Accordingly, people have the rights to

- Earn a fee by renting their labor
- Invest and profit on their capital
- Obtain new goods with wages and profits
- Reserve, give away and legate these

3.2. Fundamental Principles of Islamic Economics

The Islamic economics is mainly based on the religious law, in other words, it abides by the commands of Quran. In addition, the Islamic prophet Muhammad (SAV)'s hadiths are also influential regarding economic decisions. Below are the indispensable rules for the Islamic economics.

3.2.1. Prohibition of Interest

"Riba", which is a type of interest from the Pre-Islamic era, would lead to unjust treatment by letting the monopolistic creditor to charge the borrower heavily. For a long time, whether riba is equivalent to present-day interest is discussed in the Islamic literature. Riba, according to some Islamic economists, refers to a person in the Jahiliyyah era who has no choice but to borrow being taken advantaged of and left in the lurch. Therefore, the interest that is forbidden is the interest rate applied by usurers today. As a matter of fact, the borrowing rate applied by present-day commercial banks is based on voluntariness. Furthermore, if this interest is charged for production, it becomes different than the forbidden interest because it is for the sake of trade and the economy (Dalgın, 2010: 92).

However, most Islamic economists, along with the views of most theologians, agree that any form of interest is forbidden. In the work of Qureshi, which was accepted as one of the main sources for the Islamic economics since 1940s, it was underlined that Islamic religion strictly forbids all kinds of interest, and only allows profit and partnership (Shinsuke, 2012: 118). Therefore, there is consensus that all kinds of interest are prohibited today (Ibrahim, Alam, 2018: 668).

Interest is the price of money, and since money is accepted only as an instrument of exchange in the Islamic economics, it is not a commodity and interest cannot be considered profit since it is not commodity. If banks share the profit and loss as a partner, rather than lending to the private sector, the Islamic system has no objection to it (Qureshi, 1945: 158,159). Thus, the concept of partnership comes into prominence in Islam, and the necessity of sharing appears as one side should not carry all the risks or the gain. This view is based on the partnership system, which is different from interest in financing, and brought about the implementation of various systems discussed in detail in this study.

With the advent of Islam, the interest-free debt system was introduced, in cases where the debt could not be paid, the maturity was extended with no interest, and providing convenience to the payer paved the way for spreading this system (Adıgüzel, 2014: 78).

3.2.2. The Concept of Zakat

"And whatever you give for interest to increase within the wealth of people will not increase with Allah. But what you give in zakat, desiring the countenance of Allah - those are the multipliers."- Rûm 30/39

Zakat is the alms-giving to the groups who are stated in the verse, in amounts stated in the hadith by those who have the wealth and the means once a year, for Allah's sake. (Yüce, 2016: 118). Zakat, which is one of the five conditions of Islam, is a financial worship. Since the main objective is to take from the rich and give to the poor, it provides a more just order regarding income distribution. In fact,

zakat is the most important instrument for the redistribution of wealth in the Islamic economics. The tax of the Islamic economics is zakat. The difference of zakat from taxation is that zakat is not taken from basic and compulsory needs, and the rates cannot be changed. However, governments can increase or decrease tax rates according to the economic situation. The amount of zakat in Islam is 1/10 to 1/20 in agricultural products, 1/40 in money, 1/5 in oil and mines and treasures, and 1/40 in ovine and bovine animals according to money zakat (ibid).

Besides the injustice in income distribution, zakat has other economic benefits. One of them is making use of the savings rather than savings staying idle and returning them to the economy. The purchasing power of people who receive zakat increases. Since this can be used in consumption, trade and production, it is beneficial for the economy. Since idleness of capital is prevented, investment increases, thus with the increase in production, unemployment decreases and employment grows (Karaman, 2003). Sadaqah-al-Fitr is another obligatory financial worship similar to zakat. Sadaqah-al-Fitr is defined as "a financial worship which Muslims who reach Ramadan and who have significant possession besides basic needs for themselves and those who are under their guardianship are obliged to meet." Sadaqah-al-Fitr is a less comprehensive worship which has the same purpose as zakat.

3.2.3. Prohibitions, Ethics in Islam and Homoislamicus

While prohibiting interest, Islam also prohibited gambling, alcohol, pork and the consumption and trade of the goods produced therefrom. In Islam, superstition, speculation, games of chance are also forbidden.

When the ethical rules are examined, it can be seen that the virtues emphasized in the Islamic religion, such as generosity, not being wasteful, not to splurge, and avoiding pretension, actually explain how people should behave according to Islamic rules in their economic lives.

The rational person described in classical economic theory is the economic man (*homoeconomicus*) who seeks benefit, escapes from pain and pursues his own interests. This rational person is actualized by spending the marginal unit of money in a maximizing manner for every commodity, like a calculator (Kazgan, 2004: 122) Since psychological factors such as interaction with other people, choices, jealousy, goodwill are excluded from the theory, decisions of other people do not affect their decisions, do not benefit them or harm them. In Islamic religion, one acts according to Islamic rules, which we can call *homoislamicus* instead of *homoeconomicus*. Individuals making profit to the detriment of the society is not welcomed. In Islam, human beings act rationally by taking into account Islamic limitations regarding the individual, the social environment and the afterlife while maximizing their economic benefits (Mollavelioğlu and Kanberoğlu, 2016: 51). As a matter of fact, Islamic economy puts the prosperity of the society before individual gains (Mansor, Azam, 2018: 668). One

of the most well-known hadiths, "Whoever goes to bed while his neighbor is hungry is not a true believer.", informs us that one should take care of those around them and the society. Indeed, worship, such as zakat, sacrifice, alms, and Sadaqah-al-Fitr as well as sunna such as giving gifts, helping, and bequeath, emphasize that one should care about others' well-being more than their own.

4. INTERNATIONAL TRADE IN ISLAMIC ECONOMICS

Trade, which is defined as buying and selling goods in order to gain profit in the economy, has existed since the ancient times. While the trade within the states is domestic trade, the trade among the states is called foreign trade or international trade. The freer international trade is, the more it will benefit the world trade and the economy. In order to liberalize trade, countries create integration with each other for economic, political, geographical, religious reasons and eliminate trade restrictions they impose on each other.

4.1. Free Trade and Economic Integration in Islamic Economics

International trade contributes to the growth of the country by developing its economies, causes the world trade volume to grow and indirectly increases the welfare levels of the countries.

Free trade means that countries remove all the restrictions they imposed to protect the goods in their markets. The followings are among these restrictions;

- Customs duties
- Quantity quotas

- Subsidies
- Damping

Customs duties are the taxes that are collected from the goods that are crossing the borders, and this tax list is called tariff. Quantity quotas are the restrictions imposed to make sure specific goods are not imported to the country more than certain amounts. Subsidies are a form of financial aid provided by the government as export incentives. Dumping is selling goods abroad at a higher price than its domestic price.

The trade system advocated by the classical economic theory is free trade and it can be said that free trade is suitable to Islamic economics. However, this does not mean that weak economies imposing restrictions in order to maintain the balance of foreign trade is not suitable to Islam. As a matter of fact, the practice of tariff coincides with the era of Hazrat Omer, the caliph of the Islamic world. However, at this point a matter should be discussed regarding the dumping practice. That is the fact that destroying goods to prevent lower prices in order to make large profits is not suitable for Islam.

Important steps have been taken towards liberalization in the 1980s, commodity and factor markets have become increasingly integrated and as a result, foreign trade policies, fiscal policies and economic policies of the countries have become interdependent. This has made it necessary for the countries to take measures that would prepare them to compete nationally. The most significant of these measures is turning to economic integration. In line with this

objective, Islamic countries as in many other countries have arranged economic integration among themselves.

The Organization of Islamic Cooperation, founded in 1969, is an integration movement that aims to protect the Islamic world in order to achieve international peace and harmony. (Oh, Yoon: 2016: 799) As a regional integration movement, the Organization for Islamic Cooperation is based on religion, not geography (Engin Öztürk, 2016: 107). It aims to ensure cooperation between Islamic countries in economic, scientific, social and cultural terms and to help Islamic countries to act in unity in international talks. There is also the opinion that the Organization of Islamic Cooperation was established in accordance with an Islamic order. (Raimi, Mobolaji, 2008, 131). In conclusion, this integration movement's purpose is the growth of trade through liberalization and thus the growth of the Islamic economics.

With 57 members and a population of 1.7 billion, very populous countries and countries with low population density can be found in the Organization. Most members of the Organization have a young population, which is of great importance for the Organization as its economic growth is labor-based. The Organization of Islamic Cooperation constitutes 15% of the world's total production and 8.6% of the total national income. Indonesia, Turkey and Saudi Arabia are the largest three economies of the Organization (Engin Ozturk: 2018, 42)

4.2. International Trade Items

In international trade, goods, services and factors are traded and a monetary payment is made as a result of these transactions. Just like

the accounting balance sheet in which firms record their income and expense accounts, states record the monetary income and expenses resulting from their trade in their balance of payments. The balance of payments is a record of all economic transactions that occurred between residents of a country with residents of another country within a year (Seyidođlu, 1993: 139).

As can be seen in Figure 1, transfers of goods, services and donations to the country under the name of special current accounts are recorded in the balance of payments. The capital account includes long-term foreign direct investment and portfolio investments and short-term official capital transactions. If the total outflow of foreign currency as a result of current accounts, capital and financial transactions within a year is more than the total inflow of foreign currency the difference is met one way or another. The result is a decrease in official reserves. Because foreign currency will be bought from the central bank in order to make the payments.

Figure 1: Balance of International Payments

1. Current Account
Trade in goods
Trade in Services
Transfers
2. Capital and Financial Transactions Account
Capital Account
Finance Account
Foreign Direct Investments
International Portfolio Investments
Financial Derivatives
Other Investments
3. Statistical Discrepancies
4. Official Reserves Account
Short term official capital
Foreign Currency
Monetary Gold
SDR (special drawing rights)

Source: Created by the author.

In addition, if monetary gold is used in payments, there is a decrease in gold reserves; and there is a decrease in SDR if SDR is used. In addition, external loans may be taken for adjustment. Conversely, if foreign exchange inflows within a year are higher than foreign exchange outflows, there will be an increase in official reserves. Statistical discrepancies refer to net errors and omissions.

4.2.1. Current Account in Islamic Economics: Trade in Goods and Services and Transfers

The concept of trade in Islam is halal and recommended. Because labor is considered a form of worship, there is no religious objection to adding profit margin to the commodities. As a matter of fact, people need money to maintain their lives. However, according to Islam, the purpose of trade is not accumulation of goods, but making a living (Aslan, Koçal: 2016: 30). Therefore, the rate of this profit has been limited.

There are various verses related to trade in the Holy Quran. Some of these are as follows (The meaning of the Holy Quran: 2013): “Allah has permitted trade and has forbidden interest (Baqara: 278). "do not deprive people of their due" (Shu'ara: 183). “Woe to those who give less [than due]” (Al-Mutaffifin: 1) "O you who have believed, do not consume one another's wealth unjustly but only [in lawful] business by mutual consent. (An-Nisa': 29)

After the commercial goods are produced through production channels, these goods are either consumed, made use as semi-finished goods through other production channels or commercial activities

continue through the ways of trade or leasing (Gedikli, Erdoğan, 2016: 198).

In international trade theory, trade in services consists of tourism, labor, construction services, insurance services income and expenses, and foreign investment profit transfers. Concepts such as pilgrimage tourism and takaful (insurance) have an important place in Islamic economics. As in the trade of goods, as long as it complies with Islamic rules, there is no objection to trade in services. Private donations and gifts in transfer expenditures, and transfer expenditures made by the government have a place in Islamic economics.

4.2.2. Official Reserves in Islamic Economics: Gold and Foreign Exchange

The official reserves account, which is used to offset the balance of payments, consists of foreign exchange, gold, and special withdrawal rights, if any. Income or profit obtained from an uncertain business activity is not included in the definition of interest. Therefore, since buying and selling gold, buying and selling foreign exchange are considered as a kind of merchandise as they do not have a definite return and carry the risk of losing as much as earnings; they are considered permissible. The most important point here is that gold and foreign currency are purchased with cash.

In addition, interest, which is the predetermined fixed monetary return arising from the realization of financial transactions, can be used in gold and foreign exchange market. It is forbidden to trade foreign currency in Islamic economics since interest will be used in case of forward exchange transactions. Indeed, Hazrat Mohammed

(SAW) said in a hadith; "Gold is to be paid for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, and salt for salt - like for like, and paid on the spot. If these species differ, then sell as you wish provided payment is made on the spot." Therefore, forward sale is not permissible in Islam. In purchases by credit card, the cost is paid along a fixed term. In other words, when gold is sold with credit card, there is no payment with cash which is the basic condition of money and gold exchange. For this reason, it is not permissible to buy and sell gold with a credit card (Özsoy, 2012: 49).

There are two conditions that make a forward sale an interest (Özsoy, 2011: 73): First, increasing the price in return of deferring the payment after both parties agreeing that the sale would be in cash and the finalization of the purchase, regardless of the reason or the party making the demand, is considered as interest. Secondly, any increase on the price that occur despite the agreement of the buyer and the seller on a definite fixed term and price for any reason is also considered to be interest. Because the increase here corresponds to fixed term, instead of the goods.

4.2.3. Capital Accounts and Financial Transactions in Islamic Economics

In addition to trading in goods, countries also trade in capital with each other. This trade consists of physical investments such as buildings, land, and securities such as foreign bonds, stocks and bank accounts of a person in a foreign country.

4.2.3.1. Foreign Direct Investment in Islamic Economics

Along with the process of globalization, the most important and substantial outsource for development financing is foreign direct investment. Although most Islamic countries contain elements that can positively affect the investment decisions of multinational enterprises thanks to the abundance of natural resources, their large-scale active labor force due to high population growth rate and the advantages of their geographical position; due to risk factors such as the lack of participation by the political systems, inability to establish an effective management mechanism and the prevalence of corruption, foreign direct investment cannot increase (Saygın, 2017: 300). For foreign direct investments to be implemented in Islamic economies, the requirement of no interest use must be fulfilled.

4.2.3.2. Direct Portfolio Investment in Islamic Economics

In international trade, securities can be sold on a spot (cash) basis, or even if they are traded today, they can be delivered or paid for at a later date. Contracts are made through basic investment instruments such as bonds and stocks. Since the prices are derived from the prices of these investment instruments in the cash market, it is called derivative market. In portfolio investments, income generated from stocks (profit) include income and expenses (interest) of bonds and similar debt instruments. Portfolio investments consist of equity securities, money market instruments and financial derivatives. These are based on the interest system and have different equivalents in

Islamic financing. Here, it is useful to look at how the transactions in the derivative markets are implemented in the Islamic economics.

4.2.3.2.1. Derivative Transactions

The fluctuations in exchange rates and interest rates and the increasing uncertainty in financial markets have created the need for protection from these risks. Both the introduction of futures and option contracts on foreign exchange to meet these needs along foreign exchange, interest and stock; as well as the speculators' higher transactions in these markets in order to take advantage of the high leverage and emerging opportunities, increased the transaction volume of derivatives markets to a very high level. In addition, liberalization of international trade, rapid development of communication technology and integration of financial markets have increased both the number and type of contracts traded in derivatives markets and the transaction volume. (Özsoy, 2011: 64) Hence, derivative markets have three main purposes: hedging, arbitrage and speculation. As mentioned before, in the Islamic economics, according to the Sharia Law interest, speculation is prohibited while arbitrage is permissible (Presidency of Religious Affairs, (Online), “sorularlailamiyet.com)

4.2.3.2.2. Option Markets in Islamic Economics

The option refers to a contract that entitles the buyer to sell or sell the option in a future term provided that he or she buys the option for a certain premium, but does not require it, but obliges the seller to sell the option if requested by the buyer.

According to the International Islamic Fiqh Academy, option trading is prohibited in the Islamic economics (Ahmed and Khan, 2007: 154). As a substitute for option markets, salam can be used in the Islamic economics.

4.2.3.2.3. Forward / Future Markets in Islamic Economics

These markets are the market in which a commodity or financial instrument is traded for a future date with today's price. These two markets, which reduce the exchange rate risk considerably, are quite similar, but the forward market carries more risk. In the Islamic economics, the trade of products whose quality, character and price are not known is prohibited as it is considered to be gambling, called "gharar". Forward and future contracts are banned due to interest and gharar, and in the Islamic economics they are transformed into salam and foreign exchange future / forward contracts. (ibid 153). In practice, many Islamic banks apply foreign exchange forward or future contracts to avoid exchange rate risk, but Islamic jurisprudence does not find them suitable for Sharia (ibid).

4.2.3.2.4. Swap Market in Islam Economy

In the swap agreement, parties assume to swap their assets, interest payments or currencies in a future period. The equivalent of swap markets in the Islamic economics is sukuk which will be explained below.

5. INTERNATIONAL TRADE FINANCE: ISLAMIC FINANCE

Interest which is, the price of capital, forms the basis of the traditional banking system. The prohibition of interest in Islam paved the way for Islamic countries to develop alternative banking systems. The main difference of Islamic banking from traditional banking is that, traditional banking has a fixed interest rate, whereas in Islamic banking, savers can make profit as well as loss. According to Islamic finance, the price of the capital, in other words the prize is not the interest, but it is the profit that the entrepreneur and the capitalist earn together (Gedikli, Erdoğan, 2016: 201).

Looking at the history of Islamic finance, it can be seen that interest-free banking was mentioned regarding the borrowing transactions that will occur in trade, in the laws of Babylon king Hammurabi in 2000 BC (Yüksel, 2016: 154). The first example in practice is the Savings Bank, which was established in Egypt in 1963, and closed in 1977 due to a regime change. However, there are Islamic banks in Islamic countries such as Saudi Arabia, United Arab Emirates, Qatar, Kuwait; as well as in non-Muslim countries such as the United States, Switzerland and Denmark (ibid).

Islamic finance must comply with a number of rules. These are as follows (Lewis, Algoud, 2001):

- I. Interest is prohibited in all transactions
- ii. Businesses and investments must have a halal basis.
- iii. Gambling is prohibited, and transactions should not result from speculation and unreasonable uncertainty.

- iv. Banks should provide zakat for the benefit of society.
- vi. All operations of the banks must comply with Islamic principles and Sharia.

5.1. Participation Banking

The Islamic banking system appears as participation banking. Participation banking is based primarily on the partnership in which customers borrowing from the bank act as stakeholders of this bank (Khan, Mirakhor, 1989: 40). Borrowers are not guaranteed a certain rate of return or monetary value. If the bank makes a profit, they gain a certain percentage of that profit. Since it is not clear how much the profit will be, this share of profit differs from the interest. In addition, if the bank loses money, they also experience loss of income at a certain rate.

Profit and interest are different concepts; as mentioned before, while profit is halal in Islam, interest is forbidden. Despite this clear line between profit and interest, it is controversial that the profit rates distributed by deposit banks to depositors remain around bank interest rates and making profit in terms of risk, but the participation finance system is different than traditional banking. There is a profit-sharing system instead of interest in the participation banks where Sharia law apply. Money should be made from goods, and not from money. Since it provides a certain output, it contributes to the economy in real terms and is less affected by the crises.

Participation banks do not give credit to their customers like banks. Because there is a possibility that this loan will not be used in

the economy. Credit that is not used in the economy is of no use except to a few people who trade it. For this reason, Participation banks channel the money directly to the industrial or commercial activity to be carried out with this loan. If the customer is going to buy a machine or raw material to his factory with the loan requested, the participation banks buy this machine or raw material in advance and sell it to his customers in term. As can be seen, this transaction made by participation banks is no different than that of a trader. (ibid: 69)

As participation banks normally share the profits with their customers more or less; they also share the risk in times of crisis. For this reason, they do not experience shocks like banks in times of crisis. (ibid: 74)

5.2. Islamic Financing Methods

These contractual practices, also known as the profit partnership, isolate themselves from uncertainty, gambling and speculation (Mansor, Alam, 2018: 668).

5.2.1. Murabaha

Murabaha, which lexically means increase and proliferation, is the sale of a goods demanded by the customer in advance by a non-interest bank to this customer with an additional profit at an agreed rate (Bulut, Er, 2012). The goods to be sold through murabaha must comply with Islamic rules, must not contain interest and must be actually used (consumed). In order to obtain murabaha, in other words, to obtain loans from the bank, it is not Islamically appropriate that the firm appear to be in need of a goods that will never be used,

and murabaha loans should not be used in this way. As a matter of fact, the Ottoman State forbids the murabaha as a fraudulent form of interest for this reason and forbade it (Terzi, 2013: 7).

5.2.2. Musharakah

Musharakah, similar to the stock certificate, means the equity participation and partnership of an enterprise. In this financing method, Islamic banks become partners in the investment of customers wishing to invest to a certain extent. Although the customer's capital contribution is less than the bank's contribution, it is possible for the customer to make a profit above the capital ratio as a result of the contract. The partners put a certain amount of capital and thus become also partners in the management; besides, the share of the profit among the partners is determined in the written agreement. However, a predetermined agreement on a net amount of profit invalidates the musharakah. Even in the absence of profit, all the partners make a financial gain because of the appreciation of the assets.

5.2.3. Mudaraba

In this contract, the entrepreneur is provided with a fund for the investment of an efficient economic activity in which he earns a predetermined percentage of the profit from that investment. Profit is divided between the lender and borrower (Firestone, 2018: 191). The customer offers her/his labor while the participation bank provides capital. While the distribution of profit is regulated in accordance with

the ratio that is determined by the shareholders, the total loss is borne by the participation banks which are the capital owners. In case of loss, the time and labor of the customer is wasted (Khan, Mirakhor, 1989:43). As practicing the mudaraba contracts, banks lend for business ventures, but instead of receiving a certain rate of return, they receive a share of the profit earned by the borrower. Banks can lend directly, or they can lend through mudaraba financing companies.

5.2.4. Ijara

Ijara, which means renting, is a financial leasing method that is called as “leasing”. This type of leasing is especially for a real estate or a machinery. The movable or real estate needed by the customer is purchased by the bank and leased to the customer. At the end of the lease term, the customer becomes the owner of the property. It is religiously permissible since it is an installment sale and is widely used in Islamic financing. The following details should be included in the contract to be concluded between the Islamic bank and the customer in the Ijara process (Yüksel, 2016: 181):

- The type of property/goods subject to leasing
- Leasing term
- Rental value
- Declaration of on which side the property will be owned at the end of the contract term

5.2.5. Factoring

Factoring is the purchase of customer receivables by the factor in cash. The customer collectively transfers its current and future

receivables resulting from his/her transaction relationship with the debtors to the factor. The factor pays the price of these receivables (80% -90% of the invoice value) in advance before maturity (Tiryaki, 2006: 189). In factoring, the factor is a brokerage institution as well as a credit institution, an assurance institution, and a service sector. The factoring commission fee, which is one of the means of application of funds used by the participation banks, must be comply with the sharia law regarding the matters such as predetermination of the works that is planned to be done and the conditions of the guarantor.

5.2.6. Salam

This financing method covers the payment of the bargained price of the product that is agreed to be delivered at a certain date in the future by the buyer to the seller (Khan, Mirakhor, 1989: 45). The point that should be emphasized here is that the quantity and quality of the goods must be known at the time of the contract. Therefore, salam is a method that is generally used for financing agricultural products. In this method, which essentially means buying the goods in cash, in case of any financial loss, all of this loss must be borne by the lending bank.

5.2.7. Istisna

It is a method, which is a business contract between two parties for the projects in the construction sector in general, used by Islamic banks to finance large infrastructure projects especially recently (Terzi, 2013: 10). In this model, while one of the parties is responsible for the production, the other paying party bears the expenses and costs

of the project. The bank usually buys the products in cash and sells them to the paying party by installments. Istisna is the sale of the asset that does not yet exist. This means that the paying party places an order with the producer party for the production of a particular good. If the producer party undertakes to manufacture by its own resources, the Istisna process has already started. For Istisna to be valid, the price of the goods intended to be produced is determined with the consent of both parties for a fixed amount and the properties of the goods are adjusted completely. Istisna contract provides the producer with a commitment for the production of the goods and any party may terminate the contract before it commences (Usmani, 1998: 136).

5.2.8. Venture Capital Partnership

In this partnership model, there are entrepreneurs who follow scientific developments and believe that they can produce salable goods by converting these developments into viable technologies, while on the other side are venture capitalists who examine the ideas of these entrepreneurs and finance them as a result of being convinced that their ideas can transform into successful investments (Çolak, 2015: 8).

5.2.9. Tawarruq

Each Islamic bank has a Sharia Audit Commission established to be consulted whether the financing methods the banks apply comply with the sharia law (Shinsuke, 2012: 126). One of the methods criticized by these commissions is tawarruq. Tawarruq is a contract that provides monetary liquidity which also functions as a kind of

consumer loan. The Islamic bank buys a commodity at the current price on behalf of its customer in need of liquidity from the commodity market and then sells it to its customer who uses murabaha (ibid). There are scholars who say that this method of financing, which has become quite popular, is as mubah as it is said to be makruh or haram. Those who do not approve of the tawarruq method argue that this method is based on selling goods to a person who is in financial trouble and they stated that this was also prohibited by sharia law. This is because the person who has the ability and resources to lend put the person in financial need in a difficult situation by refraining from lending to this person and then sells the goods in installments to this person (is<https://www.katilimbankaciligi.com/teverruk-n>Those who say that the tawarruq method is permissible states that the trading contracts are made to acquire the goods or to make money from the goods; so they argue that both purposes were considered religiously legitimate. There are fatwas that the tawarruq method would be mubah under the following conditions (ibid):

- Tawarruq salesman must be in need of money particularly. The tawarruq method is not permissible if this condition is not met.
- Tawarruq salesman must be unable to acquire the financing he/she needs through a completely mubah methods such as qard or salam. If they are able to acquire the financing through mubah means, tawarruq will not be permissible.
- There must be no conditions similar to interest in the tawarruq contract.

- The person must not sell the goods before holding it as his/her his own possession.

5.2.10. Sukuk

Sukuk, also known as lease, certificates, generally represents the shares of ownership for profitable or rented assets, commercial or sectoral enterprises or profitable investment instruments such as real estates or vehicles that can involve various projects (Usman, 2007: 3). More specifically, sukuk, which is attached to a commercial asset, means sale of these assets with certificates following their securitization. Sukuk is also known as Islamic bond and its main difference from traditional bonds is that it is interest-free. While there is a certain amount of income guarantee in the bond, there is no such guarantee in the sukuk. However, in addition to the right of ownership, additional assurances may also be provided in sukuk. Sukuk is similar to the stock in that it provides the right of ownership for an asset or project and does not guarantee a certain income. However, the stock gives the owner the right of partnership to the company in proportion to its share and this partnership is not limited to a certain period. However, sukuk grants the owner only the right of ownership for the asset that is subjected to sukuk and this right shall be valid until the predetermined date of the agreement. Holders of Sukuk certificates also do not have the same rights as shareholders of the company, such as participation in the management, voting, pre-emptive rights (Yılmaz, 2014: 83).

The return of Sukuk can be either fixed rated or variable rated. The variable rated sukuk is in the form of resource based mudaraba

and musharakah sukuk described above. The fixed rated sukuk carries a risk-free return and is in the form of ijara and murabaha sukuk mentioned above (Mirakhor and Zaidi, 2007: 53).

5.2.11. Qardh al-hasan

Qardh al-hasan is to lend money to a person or organization which has financial difficulties without any interest and to retaking the same amount of money with no interest, which means debt without interest. Although the maturity is determined in this transaction, it is not binding. The debtor may pay his debt before his due date, and the creditor may always ask for it. (Kızıltepe, Yardımcıoğlu,2017:184).

Generally, it is the transaction of retaking the amount given as debt in the same amount and value within a certain period of time without an additional income expectation or condition. This type of financing is mainly used to meet the short-term cash needs of customers with high credibility. Fatwa rules have normally stated that the difference that emerged as a result of inflation can be obtained in Qardh al-hasan transactions. (Gedik, Erdoğan, 2016: 222).

5.2.12. Takaful

Takaful is the traditional insurance that complies with the Islamic rules. Takaful means to help a person in Arabic, and the main purpose is not to make a profit, but to help the person in need. Takaful provides all interested parties, of which there are four, with equality. These parties are: participant, operator, insured and beneficiary. Participants contribute to the funds of other participants managed by the takaful operator and make a profit. According to the sharia law,

takaful should be free of unjust enrichment, interest and inaccuracy (Billah, 2007: 405).

6. CONCLUSION

The Islamic economics aims at growing in compliance with the sharia law. The concept of international trade, which is discussed in the traditional economic theory, includes trades in all kinds of goods and services, portfolio investments and gold-foreign exchange transactions between the states. The applicability of these in Islamic economics depends on sharia law and rules such as avoiding interest and maturity value, and its reliance on partnership. There is a number of practices that do not conform to Islamic rules in the traditional methods used in financing international trade. For this reason, Islamic finance has developed, and participation banks have become the main actor of this financial system.

Commercial applications of Islamic finance have started to develop and spread rapidly since the 2000s. Partnership-based contracts have been effective in this growth of Islamic finance. These contracts are in the form of murabahah, musharakah, mudaraba, factoring, ijarah, salam, istisna, venture capital partnership, tawarruq, sukuk, Qardh al-hasan and takaful. The main difference of these contracts from the contracts applied by western banks is that interest is not applied. Nor is there any speculation, term gain, changes in profit or guarantee of accuracy. Participation banks have grown by executing these contracts and have started to have a voice in the global financial system. Thus, Islamic finance has started to spread, and the

banking sector has become the driving force for the national economies.

It is a controversial topic that participation banks earn and generate income as western banks do. However, the fact that interest is a different economic concept than profit and the fact that participation banks employ money for real assets such as projects and buildings unlike traditional banks differentiate them. As a matter of fact, the objective of the participation banks is not to make money from money, but to make money from goods, which can be labeled as trade. The fatwa, in which these practices were in accordance with the sharia law, paved the way for Islamic financing. In order to compete with Western finance, Islamic finance, which is the source of trade and the development of this trade, should employ financing methods with both Muslim and non-Muslim customers. It is seen that interest-free banking is being followed closely by all countries irrespective of religious difference in a global scale and there is an effort to implement it with new regulations rapidly.

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CHAPTER 4:
DO COMMODITY PRICE SHOCKS MATTER FOR DRY
BULK FREIGHT MARKETS?

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1. INTRODUCTION

The commodity resources are randomly distributed across the world and transport activities are needed to deliver them to the demanding countries. Dry bulk transportation is a fundamental complement of the international trade (Jing et al., 2008), since it is one of the most practicable and cost-effective way of transporting large volume cargoes (Dai et al., 2015). However, due to the fact that it has a derived demand structure (Branch, 2012:1), dry bulk transport is directly affected by the demand for commodities, and commodity prices that affect the demand for commodities and are also affected by this demand are one of the main indicators.

In general, the rise in commodity prices is a sign of strong economic activity, since in such cases, the supply side falls behind to cover the demand side and commodity prices rise. The increase in the prices may be also caused by supply-side factors, but if the increase is caused by demand-side factors, it may be interpreted as indicative of strong economic activities (Tsioumas and Papadimitriou, 2018). Whether the change is demand-side or supply-side, changes in commodity prices cause volatility in freight rates due to impact on demand for commodity and transportation activities (Açık and Başer, 2018).

There are several studies examining this effect, but these studies have approached the event from a linear perspective, or they have examined the interaction from a single point of view. However, since the financial series are exposed to many unexpected events and crises over time, their structures are far from linear shape. In addition, the

series are continuously exposed to positive and negative shocks. The fact that players in the market may react differently or be unresponsive depending on the type of shocks is ignored. The most appropriate method to eliminate this deficiency and to reveal the relationship between shocks in commodity prices and shocks in freight rates is thought to be the asymmetrical causality test developed by Hatemi-J (2012a). The advantage of this method is that it examines the causality relationship from one series to another in four different combinations; from positive shocks to positive shocks; from positive shocks to negative shocks; from negative shocks to negative shocks; and lastly, from negative shocks to positive shocks. In this respect, it is hoped that this is a very suitable method for examining the freight and commodity markets which are considered to have non-linear structures.

In this study, the asymmetric causality from major three dry bulk commodities in the world, which are iron ore, coal and wheat, to major three ship types in the dry bulk market, which are Capesize, Panamax and Handymax, has been investigated. The results show that the causality relations vary according to the types of ship and commodity market. In this respect, this study provides a significant contribution to the literature in terms of using the nonlinear approach and the asymmetric causality test.

The rest of the study is organized as follows; the relevant literature is reviewed in the second section; the method used is introduced in the third section; the results obtained from the analyzes

are presented in the fourth section; and finally, conclusions are made in the last section.

2. THEORETICAL BACKGROUND

Before examining the relevant literature, it may be necessary to find an answer to the question of why these ship types and cargo types are intended to be examined. The answer to this question is that the main ship types that make transportation in the dry bulk market are Capesize, Panamax and Handymax, and the main cargo types carried by these ships are iron ore, coal and grain. Nevertheless, each type of ship is often used extensively in the transport of certain cargoes, and the estimated cargo densities are presented in Table 1. As it can be seen from the table, 70-80% of the iron ore cargo is carried with Capesize vessels. The majority of the remaining part is transported by Panamax vessels, and Handymax vessels are also used in transportation of a small portion of this commodity. Capesize vessels are also used extensively in coal transportation, however the majority of the coal cargo transportation is carried out by Panamax type vessels. Handymax type vessels carry a very small amount of cargo as in the iron ore cargo. Capesize vessel type is almost never used in grain transportation. Most of the transport in this market is carried out with Handymax vessel types, which are relatively small in size. Panamax type vessels are also used in this transportation nearly as much as Handymax vessels. From this data, it can be concluded that the Capesize vessel types is specialized in the iron ore transportation, the Panamax vessel type is specialized in coal and grain

transportation, while the Handymax ship type is specialized in grain transport. However, it should be kept in mind that this table presents the total rates of transported cargoes and does not provide clear data on the intensity of transport activities. For instance, the transport rates of Panamax and Handymax vessels are very close in grain transportation. However, as the Handymax vessels are smaller, much more voyages are required to service this rate of grain.

Table 1. Three Types of Main Cargoes of Three Main Bulk Carriers

	Iron Ore	Coal	Grain
Capesize	70%-80%	30%-40%	0%-5%
Panamax	10%-20%	40%-50%	40%-50%
Handymax	10%	10%-20%	45%-55%

Source: Meersman et al. (2014)

Considering all these cargo intensities, it is inevitable that the changes in the commodity prices may affect the transportation sector since the changes in the price of the transported commodities are the reflection of the demand for that commodity. In this respect, it is not groundless to think that there is a relationship between the freight rates and commodity prices. When the literature related to this subject is examined, some researchers have been interested in the subject and have done some academic studies. The main research subjects of these studies are; economic spillover effect (Kavussanos et al., 2010, Kavussanos et al., 2014) and linear causality relation (Yu et al., 2007; Chou et al., 2015; Tsioumas and Papadimitriou, 2018). Kavussanos et al. (2010) have found return and volatility spillover effect between Panamax freight and commodity derivative markets. They have

revealed that commodity futures are important indicators for understanding the events in the Forward Freight Agreements (FFA) markets. Kavussanos et al. (2014) have indicated that commodity futures lead the FFAs in terms of both returns and volatilities. New information is first evaluated in the commodity market and then reflected on the maritime market. Chou et al. (2015) have investigated the commodity and freight market relationship in a linear way through Baltic Capesize Index and Asian Steel Index. They found that the Capesize index is a leading indicator for the steel index. Tsioumas and Papadimitriou (2018) have investigated the relationship between the major dry bulk freight markets and the prices of major bulks. They have revealed that there are bidirectional causal relationships in the cases of iron ore and coal. However, there is one unidirectional causality from wheat to Baltic Panamax Index. These authors have examined the effects of positive and negative shocks as targeted in this study, but they have presented it in a linear framework.

Evaluations and findings obtained by these researches are quite valuable, however assuming linear relationships between the variables is considered to be missing aspects of these studies, since it is possible that players in the markets may react differently to the new information considering whether it is good news or bad news (Hatemi-J, 2012a). In addition, exposure of the series to too much shocks and crises causes their structures to evolve into a non-linear shape. In this respect, this study is a first in the literature in terms of examining the relationship between commodity prices and freight markets with a non-linear approach.

3. METHODOLOGY

A number of econometric methods are used in economics to examine the relationships between variables. These methods differ according to the purpose of the study, the type of data and the research theory. Recently, the popularity and use of nonlinear methods have increased considerably, because financial series are exposed to many unexpected events and shocks over time. Therefore, the linear causality tests are insufficient in determining the nonlinear relationships between the variables (Adıgüzel et al., 2013; Bal & Rath 2015; Kumar, 2017). Patterns of the economic and financial series may be nonlinear, as sudden changes may be occurred in economic structure, industrial production levels, reform policies and investor heterogeneity (Ajmi et al., 2013). In addition, series are exposed to several small or big crises which also causes high volatilities in them (Bildirici & Turkmen, 2015).

Asymmetric causality test which is one of the most useful nonlinear methods is used in this study. The test is developed by Hatemi-J (2012a) and considers potential asymmetries in the series. The test distinguishes the causal impacts of positive and negative shocks (Shahbaz et al., 2017) by constructing cumulative sums of the both shock types (Tugcu & Topcu, 2018). This feature is very useful since the asymmetric negative and positive shocks can have different impacts (Hatemi-J, 2012b), and players in the market may react differently to the shocks depending on whether they are positive or negative (Hatemi-J, 2012a).

Hatemi-J (2012a) achieves critical values and Mwald statistics using the bootstrap simulation technique (Tugcu & Topcu, 2018). Since this method provides leverage corrections, it provides more accurate critical values (Hatemi-J & Uddin, 2012). In addition, one of the most important benefits of this technique is that it does not require data to have normal distribution characteristics. This feature is very useful considering that the financial series are generally not normally distributed (Hatemi-J, 2012a).

Since this method involves a Toda & Yamamoto process, it is necessary to determine the maximum degree of integration (D_{max}) in the analysis (Umar & Dahalan, 2016). Unit root tests are used to determine this value, and extra lag(s) is added to VAR equations if there is a unit root(s) in the series (Hatemi-J & Uddin, 2012). In other words, the D_{max} value is the number of difference operations that must be taken for the series to be stationary when analyzing two series. For instance, if the two series in the analyses become stationary when their first differences are taken, the d_{max} value is determined as 1, or, if one of them is already stationary and the other one becomes stationary when its first difference is taken, the d_{max} value is again 1. Apart from this, the other initial values to be determined are the type of the information criterion, the maximum number of lags, and the number of bootstrap simulations. Assessments on the selection of these values are presented in the findings section.

4. FINDINGS

Descriptive statistics of the variables used in the study are presented in Table 2. The dataset covers from July 1999 to May 2018 for Capesize and Panamax markets, and from August 2005 to May 2018 for Handymax markets on monthly basis. The data for the Handymax market could be obtained with some shortfall, but is not an obstacle to the analysis. The table includes both the raw and return series of the data obtained using $R_p = \ln p - \ln p_{-1}$. The use of the return series is important both for examination of the characteristics of the series and for the evaluation of their linearity.

The commodity prices in the table are the prices paid per ton. When the averages are examined, it is seen that the highest priced commodity is wheat. As freight indices are ordered by ship size, the average freight rate of the Capesize vessel, which is the largest vessel, is naturally the highest. Then the averages are listed in proportion to the size of the ship. In the return series, it is possible to get ideas about the shocks they are exposed by using Kurtosis and Skewness values. If the value of the Kurtosis value is much higher than 3, the sign of the Skewness value indicates the type of shock that is most exposed in the covered period. When the variables are analyzed, it is seen that the values of Skewness are positive in all commodity prices. This situation shows that commodity prices are more exposed to price increasing (positive) shocks (news) in the covered period. On the other hand, when the freight indices are examined, it is seen that the Skewness values are all negative. This shows that, in contrast to commodity prices, freight rates are more exposed to price decreasing

(negative) shocks(news) in the covered period. The distribution characteristics of the return series also provide information about the non-linearity. Since the series exposed to too much unexpected shocks, the impact of the tail effects increases. Therefore, distributions of the series move away from the normal distribution structure. Jarque-Bera statistics show the distribution characteristics, and the null hypothesis of this test indicates that the series have a normal distribution. When JB probability values are examined for the return series, it is seen that the null hypothesis is rejected for all variables. In other words, the structures of the variables have non-linear characteristics. Asymmetric methods can be said to be applicable in such cases (Shahbaz et al., 2017), however further improved tests should be also applied.

Since asymmetric causality test is a nonlinear method, it is necessary to determine the nonlinear structures in the series. BDS (Brock et al., 1987) independence test and some other supportive tests are applied to test the linearity of the series. In order to perform these tests, the return series must be separated from the deterministic structures. Therefore, ARMA models with the lowest AIC value for each variable have been estimated and residuals have been separated

Table 2. Descriptive Statistics of the Raw and Return Variables

	Commodities			Freight Markets		
	Coal	Ore	Wheat	Cap	Pan	Hand
Mean	66.7	82.2	192.0	3386.0	2306.8	1715.4
Med.	61.6	67.3	181.0	2245.0	1542.0	1139.5
Max.	180.0	197.1	419.6	18749.0	11515.0	6949.0
Min.	22.2	27.5	85.3	174.0	287.0	304.0
Std. D.	32.3	49.1	69.6	3088.6	2046.8	1393.9
Skew.	0.58	0.73	0.66	2.19	2.02	1.81
Kurt.	2.94	2.39	2.78	8.35	7.25	5.77
J.B.	12.9	23.9	16.9	452.7	326.8	134.0
Prob.	0.001	0.000	0.000	0.000	0.000	0.000
Obs.	227	227	227	227	227	154

	Return Commodities			Return Freight Markets		
	Coal	Ore	Wheat	Cap	Pan	Hand
Mean	0.006	0.003	0.003	0.001	0.000	-0.004
Med.	0.000	0.000	-0.001	0.015	0.004	0.021
Max.	0.363	0.539	0.258	1.419	0.682	1.094
Min.	-0.328	-0.454	-0.260	-1.512	-1.258	-1.543
Std. D.	0.069	0.091	0.070	0.350	0.247	0.224
Skew.	0.22	0.14	0.05	-0.29	-0.90	-1.62
Kurt.	8.12	10.8	5.06	5.91	6.98	19.6
J.B.	249.4	573.6	40.4	83.2	180.1	1841
Prob.	0.00	0.00	0.00	0.00	0.00	0.00
Obs.	226	226	226	226	226	153

Source: Bloomberg, 2018; Worldbank, 2018

from the model, and their linearity has been tested on these residuals. As a result of the model selection processes, ARMA (5,4) with -2.606 AIC value for coal, ARMA (0,1) with -2.050 AIC value for ore, ARMA (2,3) with -2.507 AIC value for wheat, ARMA (8,8) with 0.665 AIC value for Capesize, ARMA (9,4) with 0.039 AIC value for Panamax and ARMA (5,6) with -0.226 AIC value for Handymax models have been determined as the most suitable models. Then, the BDS independence tests have been applied to the residuals of the

models and the results are presented in Table 3. According to the results, null of independence hypotheses have been rejected in all variables at least one-dimension except wheat. This can be interpreted as a sign that the variables have non-linear structures. When the residuals have been examined for wheat variable, it has been seen that the residuals do not show normal distribution characteristics and contain ARCH effect. These supportive tests can be interpreted as a sign that there are nonlinear structures in wheat variable as well. These results show the applicability of the asymmetric causality test on our variables.

Table 3. BDS Independence Test Results

Dimension	Coal	Ore	Wheat
2	0.007 (0.18)	0.024 (0.00)	0.007 (0.15)
3	0.023 (0.01)	0.044 (0.00)	0.008 (0.32)
4	0.034 (0.00)	0.071 (0.00)	0.011 (0.23)
5	0.046 (0.00)	0.088 (0.00)	0.011 (0.28)
6	0.049 (0.00)	0.094 (0.00)	0.010 (0.27)
Dimension	Capesize	Panamax	Handymax
2	0.026 (0.00)	0.017 (0.00)	0.000 (0.99)
3	0.054 (0.00)	0.029 (0.00)	0.016 (0.10)
4	0.071 (0.00)	0.039 (0.00)	0.021 (0.07)
5	0.080 (0.00)	0.046 (0.00)	0.025 (0.04)
6	0.085 (0.00)	0.051 (0.00)	0.032 (0.00)

Logarithms of the series are taken and these versions are used in the analysis. This is because discrete data becomes continuous and the processability of the series increases. In addition, the logarithms of the series show better distribution characteristics (Shahbaz et al., 2017).

In the asymmetric causality test, the series does not have to be stationary but the maximum degree of integration must be known in

order to add extra lags on to the VAR equations, as Toda Yamamoto (1995) procedure is followed in the application of this method. Therefore, all of the series are tested with Augmented Dickey-Fuller (Dickey and Fuller, 1979) test and the results are presented in Table 4. The null hypothesis of this test indicates that the series contains unit root. According to the results, null hypotheses cannot be rejected for all variables except Capesize index. In other words, all variables except Capesize index contain unit root at the level. In order to purify the unit roots from the variables, it is necessary to apply difference-taking operation to the series. The null hypotheses are rejected for all variables according to the results obtained after the difference-taking. Considering the information obtained from the ADF test, all variables except the Capesize variable are I(1), and therefore the maximum degree of integration (dmax) value that is going to be used in the asymmetric causality test is determined as 1.

Table 4. Augmented Dickey-Fuller Unit Root Test Results

Variable	Level		First Difference	
	Intercept	Trend and Intercept	Intercept	Trend and Intercept
Capesize	-3.444379**	-3.743792**	-14.90108***	-14.87975***
Panamax	-2.525355	-2.882919	-13.72118***	-13.70115***
Handymax	-2.072728	-3.008282	-11.09907***	-11.06255***
Coal	-1.615150	-2.135872	-10.30768***	-10.28606***
Ore	-1.885791	-1.684031	-10.87917***	-10.90942***
Wheat	-2.228856	-2.422663	-12.23691***	-12.23673***

Critical values: -2.57 for *10%, -2.87 for **5%, -3.45 for ***1% at Intercept; -3.13 for *10%, -3.42 for **5%, -3.99 for ***1% at Trend and Intercept. Critical Values for Handymax: -2.57 for *10%, -2.88 for **5%, -3.47 for ***1% at Intercept; -3.14 for *10%, -3.43 for **5%, -4.01 for ***1% at Trend and Intercept.

After determining the maximum degree of integration, the maximum number of lags value that can be used to determine the best model in the estimated equations is need to be selected. 12. This value is determined as 12 since the data frequency of the variables is on a monthly basis. The information criterion used in the selection of the best model is selected as AICc which is the corrected version of the Akaike Information Criteria for small samples. And finally, the maximum bootstrap repetition used to make the probability values more stable is determined as 1000. Then asymmetric causality test is applied by GAUSS codes written by the Hatemi-J (2012a).

The results obtained from the asymmetric causality test are presented collectively in Table 5. Evaluations based on ship groups are more appropriate for us since the study looks at the subject from a maritime perspective. Firstly, it has been determined that Capesize freight index is affected by shocks in iron ore and wheat prices. Both positive and negative shocks in ore prices are the cause of negative shocks in the Capesize freight index. Secondly, it has been determined that Panamax freight index affected by shocks in iron ore and wheat prices as in the Capesize market. The impact of iron ore price on the Panamax freight index is the same as that of Capesize, but the ways of being affected by the price of wheat differ. Positive shocks in the wheat price cause positive shocks in the Panamax freight index. Thirdly, it has been determined that Handymax freight index affected by shocks in iron ore and coal prices. Considering the three types of ships, the only market affected by coal price is the Handymax market. Furthermore, the extent of the impact of the iron ore price on the

market is slightly narrower than the others, since the negative shocks in the market is only affected by negative shocks in the iron ore price. Considering the impact of the coal price on the market, it is determined that the positive shocks in coal prices are the cause of the negative shocks in the Handymax freight index and the negative shocks in the coal prices are the cause of the positive shocks in the freight index.

Table 5. Freight Market Results

	Commodity => Capesize			Commodity => Panamax			Commodity => Handymax		
	C+F+	C-F-	C-F+	C+F+	C-F-	C-F+	C+F+	C-F-	C-F+
ORE									
Optimal Lag; VAR(p)	1	3	3	1	3	3	1	2	2
Additional Lags	1	1	1	1	1	1	1	1	1
Test Stat (MWALD)	0.00	8.22	35.0	1.11	13.2	54.8	0.54	3.25	11.5
Asym. chi-sq; p-value	0.92	0.04*	0.00*	0.77	0.00*	0.00*	0.46	0.19	0.00*
Critical Val.	1%	8.95	0.00	0.17	0.02	2.69	7.69	17.6	16.1
	5%	3.76	0.00	0.00	0.00	0.28	4.48	7.41	7.14
	10%	2.47	0.00	0.00	0.00	0.05	2.97	4.99	4.95
COAL									
Optimal Lag; VAR(p)	1	2	2	1	2	2	1	2	2
Additional Lags	1	1	1	1	1	1	1	1	1
Test Stat (MWALD)	0.04	0.95	0.35	1.80	0.90	2.67	0.40	21.2	0.01
Asym. chi-sq; p-value	0.83	0.62	0.83	0.40	0.63	0.26	0.52	0.00*	0.91
Critical Val.	1%	6.76	10.5	11.2	11.0	11.9	9.41	22.4	11.0
	5%	3.87	6.42	7.0	7.06	6.56	4.58	7.07	3.63
	10%	2.56	5.13	4.9	5.25	4.45	2.84	4.40	2.20
WHEAT									
Optimal Lag; VAR(p)	1	1	2	1	1	2	1	1	1
Additional Lags	1	1	1	1	1	1	1	1	1
Test Stat (MWALD)	7.37	0.04	6.11	0.05	2.94	0.14	1.17	0.16	1.59
Asym. chi-sq; p-value	0.18	0.84	0.04*	0.82	0.08*	0.66	0.18	0.68	0.20
Critical Val.	1%	8.52	8.42	13.6	8.52	9.06	9.60	14.4	9.48
	5%	4.21	4.32	6.99	4.29	4.25	4.37	4.83	3.65
	10%	2.91	2.90	4.66	2.89	2.80	2.89	2.53	2.21

5. CONCLUSIONS

In this study, the causal relationship between the main types of dry bulk cargo and the main cargo types is examined with a non-linear approach. This approach, developed by Hatemi-J (2012a), makes it possible to identify the causal relationship between shocks (news) by separating positive and negative ones. This feature is quite advantageous since the relationship between variables is far from linear in real-life conditions. For example, a freight market affected by the positive shock in the commodity price may not be affected by the negative shocks in the price. The linear methods do not have the ability to capture such relationships.

On the other hand, as the freight market is affected by many different factors, it would be erroneous to consider that freight market situations are only due to developments in commodity prices. For example, fuel prices are one of the main determinants of freight rates, but they are overlooked in this analysis. In addition, there is no basis for each statistically significant relationship to be theoretically meaningful. Therefore, the results of the statistical relations modeled according to the theory should be interpreted in accordance with the theory as well. In this context, causal effect of negative shocks in the iron ore prices to the negative shocks in Capesize freight market can be explained by the decrease in the demand for iron ore, which consequently causes a decrease in its price. This situation also affects the demand for transportation and cause a negative movement in freight rates. The results have revealed another simultaneous causality as well, which indicates that positive shocks in commodity prices are

the causes of negative shocks in the Capesize freight market. Theoretically, the increase in iron ore prices due to the non-demand-driven factors may decrease the demand for commodity and may have a negative impact on freight rates. Nonetheless, this situation needs to be supported empirically. On the other hand, as mentioned in Table 1, it is interesting to note that the Capesize market is affected by shocks of wheat, which these vessel types have a small share in transportation of the commodity. It can be interpreted as the decrease in the demand for wheat reduce the price, and since the earnings have fallen in the freight market, other types of vessels enter the Capesize market. This causes excess capacity in the Capesize market and freight levels in the market fall. However, the low transport cost per unit of Capesize vessels in terms of economies of scale undermine the competitive position of other vessels in this market. This remains a difficult issue to answer. In the Panamax market, the causal relations from the iron ore price are likely to the Capesize market. Similarly, although the rate of transport of iron ore by Panamax vessels is low, it can be said that the fall in the demand for commodities has reduced the demand for transportation, which consequently causes falls in freight rates. In addition, positive shocks in ore prices are causes of the negative shocks in Panamax freight market. This situation can be assessed by the same inference in the Capesize market. When the relation of Panamax market with wheat commodity is investigated, it is determined that positive shocks in wheat price trigger positive shocks in freight market. This can be interpreted as the demand-driven price increases in the wheat positively affect the Panamax freight market by

increasing the demand for transportation activities. When the relationship between Handymax and iron ore price is examined, the negative shock in commodity price is the cause of negative shocks in the freight market, as is the case in all other vessel types. It can be said that this result is caused by the negative impact of demand-driven price decline on the freight market. And finally, there are only significant causalities from coal price to the Handymax vessel type while no significant relationship has been found between coal and other vessels. Cross-causal relationships have been identified in this type of vessel; the positive shocks in the coal price are the causes of negative shocks in the freight index, and the negative shocks in the coal price are the cause of the positive shocks in the freight index. This is somewhat difficult to explain with demand-driven hypotheses. However, they can be explained by the transportation costs caused by the economies of scale. An increase in the price of coal may result in the search for cheaper sources at the longer distances, and large-scale ships may be used to reduce the cost per unit of transportation made over long distances. This may negatively affect demand for Handymax type vessels of relatively small size and may reduce freight levels. In case of falling prices, opposite scenario may be observed.

If we need to make a general evaluation, the effects of commodity prices vary according to the type of commodity and the ship market. The impact of commodity price on freight market is diversified and examined in a unique way in this study, and this increases the originality of the paper. It is hoped that the results obtained reduce the risks arising from uncertainty for the carriers

performing their activities in different market types by providing them to be one-step ahead in the market. Further studies may examine the relationships by including the price of fuel in order to take account the bunker cost effect, and they can achieve healthier results. In addition, it is possible to approach the subject from a different perspective by using methods such as time-varying causality since the relations may change over time.

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CHAPTER 5:
THE ROLE OF SOCIAL SUPPORT IN THE RELATIONSHIP
BETWEEN THE PERCEPTION OF CAREER FUTURE AND
ENTREPRENEURSHIP TENDENCY

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1. INTRODUCTION

The process of transition from industrial society to information society has changed the career selection process of the individual along with the economic and social dynamics. Career selection, which is a developmental process, has been explained by career maturity which is needed to be achieved in the development processes of an individual, puts more emphasis on the developmental period of adolescents, and in which an individual matures enough to make educational and professional choices. Since many people have changed many jobs and pursued more than one career together during the career process, the concept has been insufficient. Since people of our day keep changing many jobs and pursue more than one career at once in their career process, the concept has been reduced to be insufficient. Therefore, in order to explain current career selection process, the concept of career compliance has been brought to the fore.

Savickas, who has undertaken pioneering studies on the concept of career compliance and creator of “career construction theory”, defines the career compliance concept as “*a psychological structure referring to individual’s existing and to be revealed vocational development tasks, to the changes and transformations about the profession along with overcoming of the personal traumas and to the personal sources which individuals can make use of* (Savickas, 2005). Career compliance is the adaptation of the individual to the future by making use of these experiences (Kalafat, 2012). Other features that help individuals in providing their self-expansion by means of experiences are planning and optimism. These features, in the

assistance of the individual, help the individual to develop their coping attitudes, beliefs and competences against obstacles and to expedite the individual's idea of who is in charge in his or her career, and thus leading to entrepreneurial behaviors identified with risk taking and self-confidence.

Entrepreneurship emerged when the autonomous person ruled by independent mind decided to leave his secured position and open up to new fields (Lumpkin & Dess, 1996). Entrepreneurs are considered as people with leadership qualities and with high self-confidence, who can take risks, are innovative, can see the gaps in the market (Hitt et al., 2005). Entrepreneurship tendency, which is a function of individual and environmental factors, expresses the desire of individuals to start their own businesses and determination in this regard (Parnell et al., 1995). The main factors influencing the emergence of entrepreneurship tendency can be given as follows; education, knowledge level, risk-taking capacity on the entrepreneurship issue, beliefs related to the entrepreneurship opportunities and self-esteem held by the individual in evaluating these opportunities (Parnell et al., 1995).

Support of family and social circle come as leading factors, among others, in encouraging the entrepreneur. In general, the concept of social support (Lin, 1986: 17), which is characterized as a set of forces or factors that keep individuals alive, is defined as “*offering knowledge, suggestion and financial aid which has emotional and behavioral advantages on the individual or supporting the individual in improving his bilateral relations with other people*” (Gottlieb, 1983: 278). It is stated that social support is one of the crucial tools

contributing to individual's feelings and their problems solving efforts (Lirio et al., 2007: 35). Social support, which is a positive guide for individuals in order to be able deal with challenging situations, is defined as factors that enable individuals to survive in their interaction environments or in their social environment (Truxillo et al., 2012). In social relations, individuals' beliefs related to the fact that they can easily reach other individuals from whom they will get support in their environment contribute to their feeling of security. This situation is one of the critical indicators that individuals are in need of a strong social support network (Clara et al, 2003). In this regard, perceptions of social support appear as a variable associated with positive outcomes in social and business life.

In his constructivist career theory Savickas (2002) states that society structures the individual's life with social roles and shapes them by means of social processes. For that reason, the support that the individual enjoys from his immediate environment, work and private friends will allow him to cope with the situations and changes in the career selection process. Thus, the individual's attempted behaviors will help him overcome the barriers encountered, and also will be able to raise the level of entrepreneurship tendency which is a driving force of societal development and economic growth.

From this point of view, the research aims to see the supposed interaction between perceptions on future career and entrepreneurial tendencies in the university education (Super & Knasel, 1981) process, which is described as a developmental period, in which individuals begin to make more realistic plans about their future work and private

life. It also examines the regulatory impact of perceived social support on the supposed interaction.

2. LITERATURE REVIEW

The concept directly related to career development is career adaptability. Career adaptability, starting with the individual's university education and continuing until the end of his career, means that individual should evaluate the suitability of his profession throughout his life in terms of interest, talent, value and personality traits. It seems that Savickas (2002) also explains the process of individual's future structuring in an adaptation process. In this process, the individual is expected to take action before anything else regarding his / her career. Starting the university after the national exams is an important indicator of this fact. The planned behavior of the individual and his optimistic perspective about his career lead him to procure positive attitudes towards planning and attain awareness of the future consequences of his current behaviors.

The concept of career adaptability puts stress on the coping skills that individuals use when building relationships and structuring careers. The personal stories that the individual expresses in the process of structuring his career give an idea about his adaptation level. During this process, the individual interprets his business environment and constructs his career. In the process of this interpretation, the issues that he perceives as an obstacle for his career and his confidence in coping with these obstacles affect the level of his to be exerted effort (Savickas, 2005). According to Hirschi's study (2009), individuals' life satisfaction increases in parallel with their high career adaptation. Similar results

were also obtained in other studies on the issue (Santilli et al., 2014). What is more, having high career compatibility affects the well-being level of individuals (Maggiori et al., 2013).

If the individual is having optimistic ideas that he can overcome the career barriers before himself and if he is making plans by examining career options, then he will control the career development process effectively. For this reason, the Career Futures Inventory developed by Rottinghaus, Day and Borgan (2005), which aims to measure the adaptation skills, career optimism and career level knowledge of both adolescents and adults in the career development process has been used for the study.

Career adaptability is the perspective which is related to an individual's ability to cope with and benefit from future changes. It is also an individual's level of feeling comfortable with his job responsibilities and the ability to pull himself together in the face of unexpected events that lead to changes career plans. Career adaptability comprises of four basic attitudes: interest, curiosity, trust and control (Kalafat, 2012: 170). Career optimism is the fact in which individual always expects positive results about his future career development or he emphasizes the most positive aspects of the events and feels right in the career planning process. Perceived information regarding the labor market is how well individuals perceive the labor market and employment tendencies. It indicates the level of knowledge about the current and desired sectors and business processes. These dimensions, which strengthen the perception of career future as a whole, provide

opportunities for young adults to overcome many obstacles, especially from cultural and economic reasons such as entrepreneurship.

Entrepreneurs are value added producers who blend production factors in an advantageous way. According to an eclectic definition (Wennekers & Thurik, 1999) related to the entrepreneurs, multi-talented entrepreneurs are those who can create innovative and new opportunities, endure a certain risk and offer products to the market, make decisions about the location, use and shape of resources, manage their business and compete for market share. As for another definition, entrepreneurship includes all of the activities of entrepreneurs such as taking the mentioned risk, identifying and realizing opportunities, creating innovation, combining production factors in different ways, and can be, while doing those above mentioned things, defined as a holistic process affecting the ones called entrepreneurs, and stating the interaction of factors such as personality, self-sufficiency, self-esteem, achievement motivation, internal control focus (Baumol, 1990; Mueller & Thomas, 2001; Börü, 2006).

Different researches point to a number of factors such as infrastructure conditions, state programs, cultural behaviors and attitudes that are effective in the emergence of entrepreneurship (Börü, 2006). For instance, “perceptions of entrepreneurship-related opportunities”, which can be defined as the ability to become aware of job opportunities to create new enterprises, are considered as an important part of the entrepreneurship process (Shane & Venkataraman, 2000). In general, factors that predominate entrepreneurship decision can be grouped as individual (such as

education, age, need for control) and situational factors (such as layoffs, work experience, support networks, other exemplary entrepreneurs and role models) (Chen et al., 1998). Entrepreneurship tendency as a function of individual and environmental factors expresses the desire and determination of individuals to start their own businesses (Parnell et al., 1995). Entrepreneurship tendency can be explained theoretically by planned behavior theory (Ajzen, 1991). According to that theory, it is stated that the entrepreneurial tendency will be positively affected in the case the person's positive attitude towards his own starting behavior, his belief in coping with the difficulty of it and the subjective norm takes place in a supportive way (such as believing that it will not encounter social resistance).

Entrepreneurship, which is important for countries because of its contribution to economic growth and employment, is also an important career alternative for young adults. For the economic growth, this situation creates important opportunities especially for the countries like Turkey whose young population is higher in proportion to its general population. In addition to this, the mistakes especially made in the workforce and university education planning, together with the cultural and economic barriers facing entrepreneurs correspond to 23.2% (TUIK, 2019) unemployment rate within the 15-24 age group, which is a very high rate. Young adults need therefore to be prepared for the conditions of the variable labor market and equip themselves in-depth with knowledge of the market. Thus, by consolidating the perceptions of overcoming the barriers, it will be able to provide a

positive rise in risk taking, being proactive and the entrepreneurship tendency that is associated with the self-sufficiency.

Individual's perception of career future and entrepreneurship tendency are shaped by many individual and especially environmental variables. Some people do not face the same conditions as everyone else when choosing a career. Economic needs, educational constraints, lack of family support or other reasons (gender and racial discrimination) may make it difficult for the individual to pursue the career option and entrepreneurial tendency he is interested in or preferred. The perceived social support concept is defined as the impression of the individual as to whether the social network established by individuals is supported or not. The perception of social support goes behind the intensity of relationships surrounding the person quantitatively, it tells more about the quality of these relations and qualitative connections to which one can reach when in need (Cohen & Wills, 1985). Moreover, the concept of perceived social support is defined as an individual assessment of how much a person can trust other people for emotional support (Williams & Galliher, 2006). Social support is also interpreted as a stress coping mechanism and a psychosocial resource that can be used in stress management (Thoits, 1995).

Social support contributes the individual's well-being by a) eliminating the conditions that affect the life negatively or decreasing their effect, b) improving person's endurance against negative experiences, c) lowering the effects of environmental stress sources completely or partly tamponing them (Zimet et al., 1990). Concerning

the source of social support network, special people are mentioned in the literature who shape the private life of family, friends and individuals (Çeçen, 2008; Wills & Shinar, 2000: 92). Due to the fact that young adults from universities spend more time in social environments, the perception of support becomes even more important for them. Young adults, who have not yet started their work life, need social support more than ever in planning their future and creating jobs for themselves (Çavuş & Pekkan, 2017).

3. METHODOLOGY

The aim of this study is to see the interaction between young adults' career future perception and entrepreneurship tendency. It is also to test the regulatory role of perceived social support in this interaction.

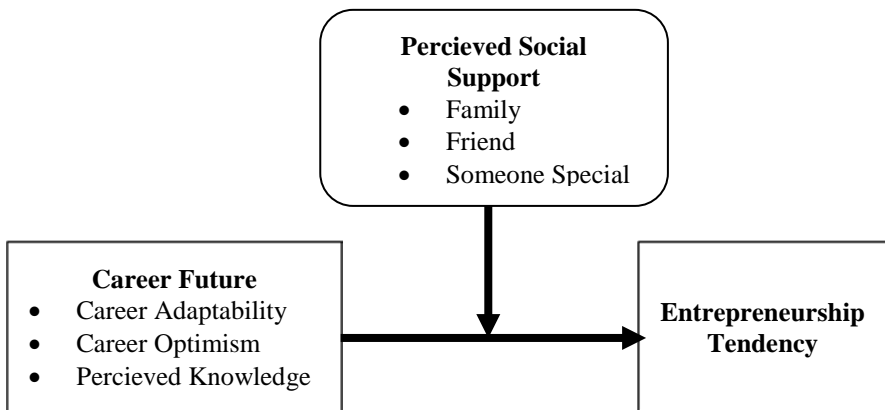


Figure 1. Research Model

In line with this aim and initiating from related literature;

Hypothesis 1. There is a positive correlation between the perception of career future of young adults and entrepreneurial tendency perception, and they are statistically related.

Hypothesis 2. Social support with its perceived form by young adults positively regulates the supposed interaction between career future and entrepreneurship.

In the study, construct validity and factor structure suitability of data collection tools were tested with confirmatory factor analysis through IBM AMOS program. Whether χ^2 / df , RMSEA, CFI and AGFI values were acceptable on the basis of threshold limits was evaluated as a criterion in order to determine model compatibility (Kline, 2010). In addition, Pearson correlation test was used to test the hypotheses and the relationships between the scales. In order to test the interaction hypothesis of the research, the regulatory variable analysis steps of Aiken and West (1991) were followed.

Population and Sample

The universe of the research consists of 4th grade students who will graduate from the university. The reason why 4th grade university students are selected for the universe is that they are on the eve of implementing their career plans. They also have benefited from lectures, seminars and courses about their careers and entrepreneurship during their time in the university. In order to provide the research universe and the level of competence for the related analyzes, students were easily reached by using the convenience sampling method. A

questionnaire covering research scales and demographic variables was applied to 214 students studying in public universities in Manisa, İzmir and İstanbul. Before starting the analysis, 22 questionnaires that were filled out incorrectly and incompletely were taken off and related analysis has been made over 192 attendants.

When the demographic structure of the participants was examined; it is seen that 105 (%55) of them are women, 87 (%45) of them are men. 35 (%19) of the attendees state that their family income is under 2020 TL which is a determined minimum wage, 117 (%61) of them state that their income is between minimum wage and 6706 TL (TURKİŞ, 2019) which is a poverty line according to Türk-İş syndicate, while remaining 40 (%20) gain more than 6706 TL for their income. In general, In general, the average income of the families attending the questionnaire is 2910 TL.

Data Collection Instrument

In the research, career future inventory, entrepreneurship tendency inventory and perceived social support inventory were used as data collection tools.

Career Future Inventory: The scale developed by Rottinghaus and his friends (2005) and provided to Turkish by Kalafat (2012) was used in order to measure the perception of the individual's career future. The scale consists of 25 items and three sub-dimensions called career adaptability, career optimism and knowledge. The scale includes statements such as "I can easily adapt to changes in my career plans" and "I am aware of my professional interests". The overall internal

consistency coefficient (Cronbach's alpha) of the scale was found to be 0.91, and the reliability level of the sub-dimensions was discovered as 0.89 for career adaptation, 0.94 for the career optimism, and 0.88 for the knowledge. Confirmatory factor analysis (CFA) was applied to the scale whose factor structure was confirmed previously. The first-level goodness adaptation values were found as follows; $\chi^2 / sd = 3.012$, RMSEA = 0.77, CFI = 0.92, AGFI = 0.90. The second-level goodness adaptation values resulting from questions 1, 8, 19, whose errors are associated with each other and subtracted because the item factor loadings are low, were found compatible as $\chi^2 / sd = 2,912$, RMSEA = 0.73, CFI = 0.92, AGFI = 0.91.

Entrepreneurship Tendency Inventory: A 14-item and single sub-dimensional scale which was developed by Girginer and Uçkun and was applied to different studies was used in order to measure entrepreneurship tendency. The scale includes expressions such as "I prefer to act based on intuition and imagination by forcing the facts at hand". It is seen that the internal consistency (0.81) of the scale was acceptable. On the other hand, it is seen that the goodness adaptation values for the CFA confirm the single factor structure $\chi^2 / sd 1,233$, RMSEA = 0.47, CFI = 0.95, AGFI = 0.94.

Perceived Social Support Inventory: Eker and his colleagues (2001) adapted the revised form of the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet and his colleagues (1990). The scale comprises of 12 items and 3 sub-dimensions as family, friend and special human support. In the scale,

expressions like “My family (for example, my mother, my father, my spouse, my kids, my brothers or sisters) really strives to help me”, “I can trust my friends when the things go bad way”, “There is one person (for example, finance, relative, neighbor, doctor) who helps me to relieve apart from my family” are given place. The internal consistency coefficients for the sub-dimensions of the scale were 0.88, 0.84 and 0.86 for the family, friend, and special human dimensions, respectively. The goodness adaptation values for the three-dimensional factor structure were found as $\chi^2 / sd = 2.45$, RMSEA = 0.61, CFI = 0.94, AGFI = 0.92. Participation in expressions in all scales was graded with a 5-point Likert scale (from 1-I disagree to 5-I fully agree).

4. RESEARCH FINDINGS

Correlation test was conducted to see the relationships between career future inventory and its sub-dimensions, entrepreneurial tendency and perceived social support inventory by means of the scales whose factor structure was confirmed as a result of confirmatory factor analysis. Findings are provided in Table-1

Table 1. Correlation Analysis Results Regarding the Research Variables

	Mean	SS	1	2	3	4	5	6	7
1. Career adaptation	3,93	,59	(,89)						
2. Career optimism	3,41	,74	,34**	(,94)					
3. Percieved knowledge	3,29	,77	,33**	,28**	(,88)				
4. CFI	3,63	,47	,77**	,74**	,57**	(,81)			
5. ET	3,06	,53	,26**	,22*	,37**	,28**	(,88)		
6. Family	4,05	,96	,25**	,24*	,14	,25**	,32**	(,84)	
7. Friends	3,71	,91	,14	,15	,22*	,21*	,27**	,53**	(,86)
8. Someone Special	3,11	1,29	,12	,15	,16	,19	,23*	,54**	,49**

*N= 192 **p < 0.01, *p<0.05, ET= Entrepreneurship Tendency, CFI= Career Futere Inventory is the total scale, the values in the paranthesis are internal consistency coefficients.*

According to correlation analysis findings, positive and statistically significant relationship was observed between career adaptation and entrepreneurship ($r=0,26$, $p<0,01$), career optimism and entrepreneurship ($r=0,22$, $p<0,05$), perceived knowledge and entrepreneurship tendency ($r=0,37$, $p<0,01$), overall career development scale average and entrepreneurship tendency ($r=0,28$, $p<0,05$). Based on the findings, the first hypothesis of the study was supported.

In order to test the second hypothesis of the study, regression models were established by taking the entrepreneurship tendency variable as a dependent variable. In the first step of the model, the control variables, in the second step, the perception of career future, which is the independent variable, and it's the sub-dimensions together with the perceived social support which is the regulatory variable are included. In the last step, upon the suggestion of Aiken and West

(1991), non-categorical variables were standardized and the interaction variable formed by multiplying (career future perception*family support, career future perception*friend support, career future perception *someone special) the independent variable and the regulatory variable was included in the model. The results are presented in Table 2.

Table 2. The Results of Hierarchical Regression Analysis

Dependent Variable: Entrepreneurship Tendency		1. Step β	2. Step β	3. Step β
1. Step	Age	0,155	0,145	0,141
	Gender	0,323**	0,245*	0,267*
	Family Income	-0,142	-0,122	0,123
2. Step	CFI		0,274*	0,906**
	Family Support		0,294**	1,295**
	Friend Support		0,125	0,721
	The Support of Someone Special		0,015	0,748
3. Step	CFI * Family			1,795**
	CFI * Friend			0,979
	CFI * Someone Special			0,768
<i>F</i>		11,323**	5,880**	4,752**
<i>Adj. R²</i>		0,323	0,390	0,545
<i>ΔR²</i>		0,105	0,151	0,297

N=192. All β coefficients are standardized regression coefficients.

*p <0,05, **p < 0,01

According to the findings of the model's third step in Table 2, while the independent variable CFI (career, perception of future) which is included in the second step ($\beta = 0,274$, $p < 0,05$) and family support variable which is perceived as regulatory variable contributed to the model, perceived friend and someone special support didn't provide significant contribution. In the third step of the hierarchical regression analysis, the interaction variable included in the model, perceived

family support ($\beta = 1,795$, $p < 0.01$) had a significant effect on entrepreneurship tendency. While the model explained 15.1% of the total variance ($F = 5.880$, $p < 0.01$) in the second step, when the interaction variable was included in the model, it explained 29.7% of the total variance ($F = 4.752$, $p < 0.01$). When evaluated generally, the second hypothesis of the study was supported because of the 14% increase in the explanatory power of the model.

5. CONCLUSION

In recent years, the rapid changes in the individual's work and personal lives, which are very difficult to separate from each other, have accelerated the transition cycle of the individual between professions (Cairo et al., 1996). Some of the factors that affect this change in the career development process are globalization, advances in technology, changes in the labor market and organizational structure, changing recruitment and employment conditions, decreasing fixed job guarantee, and changes in social values (Eryılmaz & Kara, 2017). For this reason, differentiation in the labor market or other problems that arise in individuals' professional lives, optimistic or pessimistic view of career choice, happiness and similar factors have become related to the emotional well-being of the individual (Boehm & Lyubomirsky, 2008). In this sense, besides being an important factor in the individual's ability to adapt to these sudden changes in his career development, developing an optimistic perspective about his career and being ready for new career opportunities, it is also an important factor in protecting his emotional health (Griffin & Hesketh, 2003).

This research aims to see the effect of career future perceptions of young adults who are university senior students on entrepreneurship tendency. In addition, it is assumed from the relevant literature that social support perceived from family, friends and special people will regulate the assumed relationship positively. For this reason, data were collected from 192 senior university students by means of research scales and questionnaires.

When the findings of the research were evaluated, a positive and low-level relationship was found between career adaptation, career optimism and perceived knowledge and entrepreneurship tendency which are the components of the individual's perception of career future. It was seen that entrepreneurship tendency enjoys the highest relationship with the perceived information. The “sectoral foresight“ which forms a feeling and an idea in an entrepreneur about improvement, profitability and investment gap of the sector, and "knowledge level" that is based on the training or experience gained by an entrepreneur are important capabilities for starting an enterprise (Mietzner & Reger, 2005; Balaban & Özdemir, 2000). in this context, KOSGEB and universities organize entrepreneurship trainings. Young people who want to start their own business at the start of business life participate in these trainings specially to apply for entrepreneurial incentives. Therefore, entrepreneurship tendency levels of young adults with increasing knowledge about the sector and entrepreneurship are also increasing.

The family support perceived by the individual positively regulates the interaction between career future and entrepreneurial tendency and increases the explanatory power of the model as a whole by 14%.According to the results of a study organized by the American Enterprise Association (AmCham T/ABFT), respondents from Turkey reports that when starting a business, support of the family and social environment is the most encouraging by 40%. This rate is well above the international average of 27% (girişimhaber.com). This can be taken into account in the cultural context. In the Turkish cultural context with

a high tendency to avoid uncertainty, young generations are discouraged from entrepreneurship, which involves inherent risks and uncertainties, by the advice of families on fixed income and regular working hours on entrepreneurship. For this reason, young adults who feel family support or are part of an entrepreneurial family have more positive career prospects and higher entrepreneurship tendencies.

Universities and guidance services have a great responsibility on the issue when the results of the research are considered. In this sense, guidance services should not only help the individual make a career decision and receive education at the university, but also help them to overcome future career barriers. These assistances can only be provided through guidance and psychological counseling centers with systematic, well-structured programs. The career centers established at universities in Turkey also should share this responsibility. In a similar vein, instead of publishing job advertisements, teaching job application techniques and so on, these centers should develop their activities on psychology-based practices that support the personal development of individuals. In this sense, it is important to determine the concerns of university students about their professional future with the effect of today's changes, which obstacles they expect to encounter and which individuals with more personal characteristics have problems about their professional future. Considering the fact that the higher education years have a critical developmental importance, this study is expected to provide support for educational programs and psychological career counseling practices to be developed.

This study has some constraints. First of all, in this study, sampling was not made from a population whose boundaries were determined. Furthermore, only a group of students studying at the university was included in the study. No data were collected from the adult group or older individuals who have started business life. Similarly, only with a single time measurement, relational research was carried out. In any event, the fact that this study was not carried out with repeated measurements in a longitudinal research design is an important deficiency. In the modeling study undertaken, no any assessment based on gender or economic situation was made.

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CHAPTER 6:
PRECIPITATION CHARACTERISTICS OF THE
MEDITERRANEAN REGION

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1. INTRODUCTION

The general atmosphere circulation is the major mechanism that determines the characteristics of the major climate zones on the earth. All climatic types occur in the control of general atmospheric circulation and their characteristics are shaped in relation to this circulation. Equator and its surroundings receive more energy from Polar Regions during the year, and general circulation develops due to the difference in the energy balance between these regions.

Climate is one of the most important processes that ensure the continuity of life on earth and at the same time give it a current look. Climate is the average state of meteorological events such as temperature, humidity, wind, precipitation, for many years (Gönençgil, 2008; Erol, 1999). The climate shows quite different characteristics on a global scale when all meteorological events are considered. Location relative to planetary circulation is the most fundamental feature that determines climate.

In the Mediterranean climate, the subtropical coastal climate on the western side of the continents, the character of the winter season depends on the position of the polar façade. During the winter season, the polar façade settles on this area and cyclonic activity increases and rainfall occurs during the winter season. In summer, the polar façade is pulled north and the site is occupied by tropical air masses. In the summer season, sparse summer rainfall occurs with some conventional local rainfall and the introduction of a polar façade (Erinç, 1996; Erol, 1999; Koçman, 1993).

The Mediterranean climate is on a special passageway and is under the control of western currents in winter and subtropical anticyclones in summer. In summer, it is under the influence of the Azores high-pressure cell to the east which is the expanding influence area in the Mediterranean. With the sudden weakening of the Azores high pressure and the effectiveness of the Polar façade increased, the cold air descends further south to the latitudes and the winter is formed.

In winter, the Mediterranean basin, Turkey is also included, has also been transformed into an active frontojenez field. While the general air flow in the north is dominated in all parts of the basin in summer, in the southern half of the basin, the winds of the south-west and in the northern half of the basin, northeast winds of the air flow lines are effective in winter. These air currents from different directions meet each other along the long axis of the Mediterranean basin. In winter, the Mediterranean basin becomes a convergence site. The reason for this major change is the fact that the Mediterranean has become a low-pressure area in this season that the Azores high pressure shifts to the south, while the pressure in the north, especially in Eastern Europe, increases due to thermal reasons. The pressure gradient occurring under these conditions is directed towards the Mediterranean both in the north and south (Erinç, 1996).

Seasonality in the Mediterranean climate is significant in relation to the seasonal change in the impact area of subtropical high pressure and the western jet flow in the upper troposphere. While thundery showers are mostly seen in the summer (or spring) due to the effect of warming, with the autumn season, when the cold façade is introduced

into the Mediterranean basin, frontal rain occurs more. Sudden decreases in pressures in the Western Mediterranean basin in October and after October cause an increased likelihood of precipitation. The amount of precipitation per week falls from 50-70% at the beginning of October to dramatically 90% towards the end of October (Barry and Chorley, 2003).

Significant winter precipitation on the Mediterranean Sea is related to the high sea water temperatures and the position of the polar façade during this season of the year. Even in January, sea water temperatures are above 12 ° C. By introducing cold air into this area, convective instability increases along the cold façade and frontal rain occurs. Although continental arctic (cA) air activity is less frequent (more effective in northern Europe), the effect of unstable maritime polar (mP) air is greater in the Mediterranean basin. With autumn, pressure rises over Central Asia and Eastern Europe. In the West, the Azores anti-cyclone continues to influence towards central Europe. During this period, the Mediterranean basin is a low pressure area. Under these pressure conditions, a pressure gradient develops from the north, northwest and northeast to the Mediterranean basin. Thus, polar and Atlantic air masses are introduced into the Mediterranean basin. Frontal rain and cyclonic activities begin to emerge with autumn and these activities become stronger during the winter season. The emergence and movement of these depressions is linked to a branch of the Polar frontal jet stream at a latitude of about 35 ° K (Barry and Chorley, 2003; Haylock and Goodess, 2004; Erinç, 1996; Erol, 1999).

2. BASIC CHARACTERISTICS OF PRECIPITATION EVENTS IN THE MEDITERRANEAN REGION

In the study, provided by the Turkish State of Meteorological Service, it has been benefited from long term daily precipitation data of total 60 meteorological stations belonging to the province of Hatay, Antalya, Mersin, Adana. General information about the stations used in the study is presented in Table 1 (Figure 1).

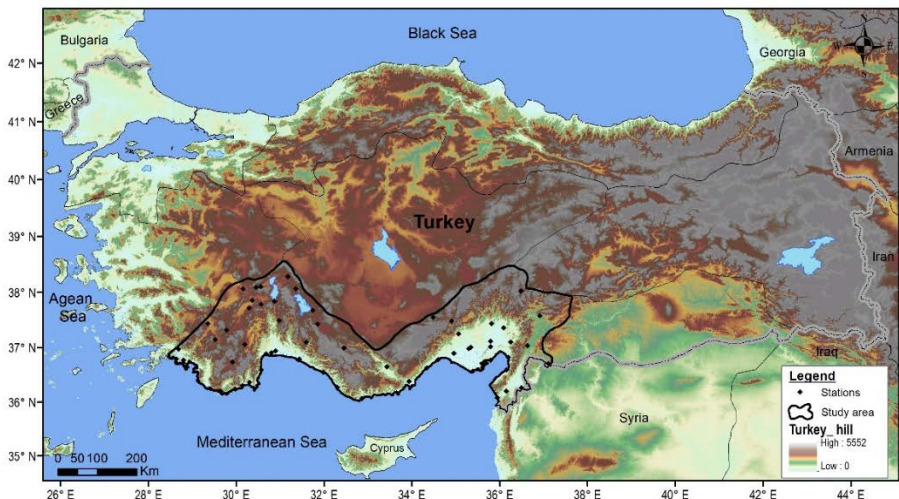


Figure1. Location map of study area.

Table1 . Latitude, longitude and altitude information of the stations used in the study.

Station code	Station name	City	Latitude	Longitude	Elevation
17238	Burdur	Burdur	37.722	30.294	957
17240	Isparta	Isparta	37.7848	30.5679	997
17241	Isparta S.D. airport	Isparta	37.8554	30.3683	869
17242	Beyşehir	Konya	37.6777	31.7463	1141
17255	Kahramanmaraş	Kahramanmaraş	37.576	36.915	572
17262	Kilis	Kilis	36.7085	37.1123	640
17294	Dalaman	Muğla	36.7719	28.7986	12
17295	Muğla Dalaman airport	Muğla	36.7229	28.7896	5
17300	Antalya airport	Antalya	36.9063	30.799	64
17302	Antalya bölge	Antalya	36.8851	30.6828	47
17310	Alanya	Antalya	36.5507	31.9803	6
17320	Anamur	Mersin	36.0686	32.8649	2
17330	Silifke	Mersin	36.3824	33.9373	10
17340	Mersin	Mersin	36.7808	34.6031	7
17351	Adana bölge	Adana	37.0041	35.3443	23
17352	Adana Şakirpaşa airport	Adana	36.9838	35.298	20
17355	Osmaniye	Osmaniye	37.1021	36.2539	94
17370	İskenderun	Hatay	36.5924	36.1582	4
17372	Antakya	Hatay	36.2048	36.1513	104
17375	Finike	Antalya	36.3024	30.1458	2
17380	Kaş	Antalya	36.2002	29.6502	153
17645	Hatay TİGEM	Hatay	36.26577	36.49813	96
17649	Ceyhan TİGEM	Adana	37.1148	35.7905	36
17826	Senirkent	Isparta	38.1047	30.5577	959
17828	Yalvaç	Isparta	38.283	31.1778	1096
17862	Dinar	Afyonkarahisar	38.0597	30.1531	864
17863	Şarkikaraağaç	Isparta	38.063	31.3558	1158
17864	Uluborlu	Isparta	38.086	30.4582	1025
17866	Göksun	Kahramanmaraş	38.024	36.4823	1344
17882	Eğirdir	Isparta	37.8377	30.872	920
17890	Acıpayam	Denizli	37.4337	29.3498	941
17891	Göhlisar	Burdur	37.1427	29.526	990
17892	Tefenni	Burdur	37.3161	29.7792	1142
17893	Sütçüler	Isparta	37.4939	30.9721	985
17895	Aksu/Boztepe TİGEM	Antalya	36.9393	30.898	10
17898	Seydişehir	Konya	37.4267	31.849	1129
17906	Ulukışla	Niğde	37.548	34.4867	1453
17907	Kadirli	Osmaniye	37.3575	36.0907	86
17908	Kozan	Adana	37.4337	35.8188	112
17924	Köyceğiz	Muğla	36.97	28.6869	24
17926	Korkuteli	Antalya	37.0565	30.191	1017
17927	İbradı	Antalya	37.0968	31.5952	1036
17928	Hadim	Konya	36.9893	32.4557	1552
17934	Pozantı	Adana	37.4758	34.9022	1080
17936	Karaisalı	Adana	37.2506	35.0628	240
17951	Kumluca	Antalya	36.3646	30.2978	60
17952	Elmalı	Antalya	36.7372	29.9121	1095
17953	Kemer/Antalya	Antalya	36.5942	30.5672	10
17954	Manavgat	Antalya	36.7895	31.441	38
17956	Mut	Mersin	36.6514	33.4339	340
17958	Erdemli	Mersin	36.6268	34.338	7
17960	Ceyhan	Adana	37.0153	35.7955	30
17962	Dört Yol	Hatay	36.8244	36.1981	29
17964	İslâhiye	Gaziantep	37.0333	36.6333	518
17970	Kale-Demre	Antalya	36.2421	29.979	25
17974	Gazipaşa	Antalya	36.2715	32.3045	21
17978	Tarsus	Mersin	36.8942	34.9597	12
17979	Yumurtalık	Adana	36.7687	35.7903	34
17981	Karataş	Adana	36.5683	35.3894	22
17986	Samandağ	Hatay	36.0814	35.9492	4

Precipitation is classified according to the thresholds determined by the Turkish State of Meteorological Service. According to this classification, precipitation between 21-50 mm was evaluated as heavy precipitation, between 51-75 mm as very heavy precipitation days, between 76-100 mm as severe precipitation days, > 100 mm as extreme precipitation days (Table 2).

Table 2. Precipitation intensity of threshold of 12 hours

Precipitation intensity	Threshold (mm/12h)
Heavy precipitation	21 > P < 50 mm
Very heavy precipitation	51 > P < 75 mm
Severe precipitation	76 > P < 100 mm
Extreme precipitation	P > 100 mm

Heavy Precipitation The distribution of strong rains throughout the region attracts three regions. Dalaman and Köyceğiz stations to the west of the study area are the most important areas. The number of heavy precipitation days in this area is 12.7-13.4 days. The elevation of these stations on the coastal parts of the Western Taurus ranges between 5-24 m. The most important reason for heavy precipitation in the stations behind the station is the presence of mountainous areas over 2000m. The area where İbradı, Manavgat, Alanya, Gazipaşa and Anamur stations are located is an important precipitation area in the western Taurus Mountains. Here, the number of heavy precipitation days is 13-17.5 days. The presence of the Western Taurus Mountains plays an important role in both high rainfall and heavy precipitation in the stations in this area. Another important area in the Mediterranean Region is the İskenderun Gulf and Nur Mountains. The elevation of the

stations in this area is 4-518 m. The elevation of the mountainous mass in the area where the stations are located is around 2000 m. The number of heavy precipitation days varies between 8-14.4 days (Figure 2).

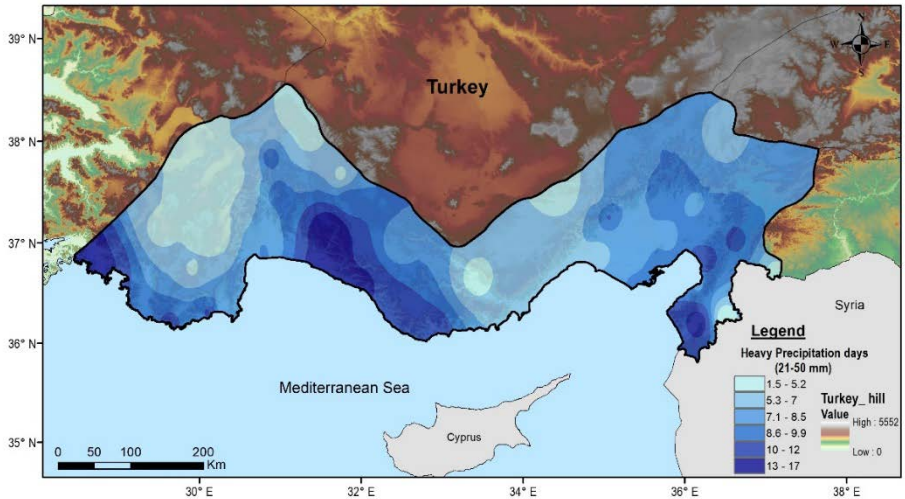


Figure 2. Spatial distribution of heavy precipitation days

According to the evaluations, the area with the highest rainfall in the Mediterranean Region is shaped by the Western Taurus Mountains located to the west of the region. It is one of the major areas of socio-economic problems due to heavy precipitation.

Very Heavy Precipitation: The spatial distribution of very heavy rains is similar to the distribution of heavy rains. İbradı-Manavgat-Alanya area has the highest values due to the influence of Western Taurus Mountains. Very heavy precipitation occurs in most of the Mediterranean Region around İbradı-Manavgat - Alanya stations. Very heavy precipitation in this area is around 5.6-2.5 days according to long-term averages. The elevation of the İbradı station is more than 1000m

and the presence of mountainous areas just over 2000 m behind it causes severe precipitation in this station to be significantly higher than its surroundings. Another area where very heavy precipitation shows significant spatial distribution is around Dalaman-Köyceğiz-Finike. Although the elevations of the stations are in the range of 2-24 m, the precipitation falls due to the presence of mountain areas exceeding 2000m just behind the stations. Very heavy precipitation in this area according to the long-term average is around 2.5 days. Another very heavy precipitation occurs around Iskenderun Gulf. Here, Nur Mountains, which have a broad direction of extension, play a strong role in precipitation and increase rainfall. Very heavy precipitation occurs in this area around 2-1.5 days compared to long-term averages (Figure 3).

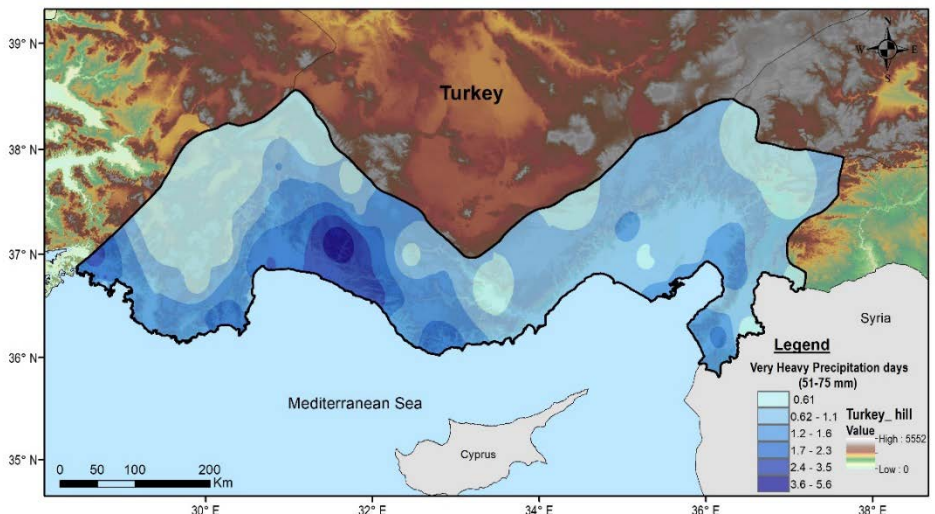


Figure 3. Spatial distribution of very heavy precipitation days

Severe Precipitation: It is observed that severe precipitation is distributed throughout the region under 2 days. The highest severe precipitation show similarities with the previous heavy precipitation distributions. The highest number of severe rainy days belongs to İbradı station with 2 days according to long term averages (Figure 4). According to the long-term averages around the Gölgeli Mountains in the west of the study area, the number of severe days is experienced under one day. Similarly, in the east of the study area, in the east of İskenderun Gulf, around Nur Mountains, the number of severe rainy days is less than one day.

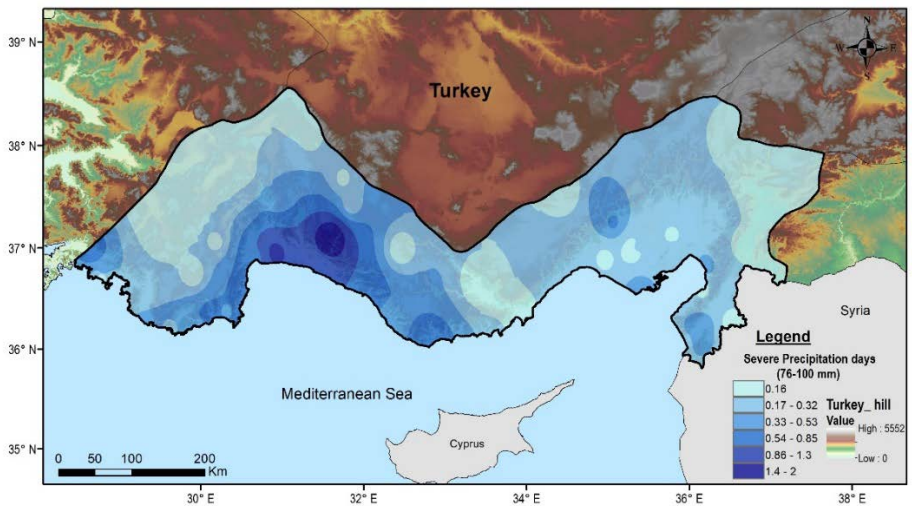


Figure 4. Spatial distribution of severe precipitation days

Extreme Precipitation: Extreme precipitation events are mostly observed around Antalya Gulf. The most prominent feature of this area is that it is the area with the strongest precipitation. The highest values of extreme precipitation here are around İbradı-Antalya-Kemer.

Extreme precipitation is around 1-2 days according to long-term averages. While the extremities around Iskenderun Gulf are around 0.2 days compared to the long term average, there are 0.5 days in the area where Köyceğiz-Dalaman stations are located to the west of the study area (Figure 5).

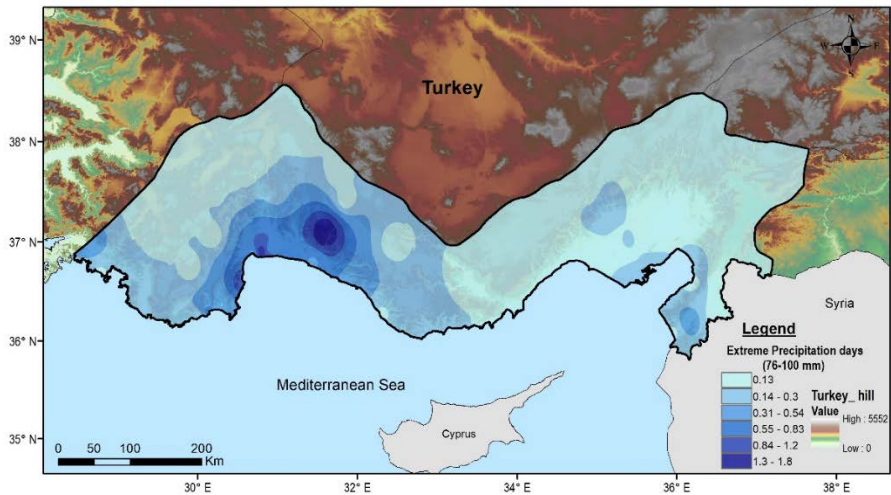


Figure 5. Spatial distribution of heavy precipitation days

3. SEASONAL CHANGES IN EXTREME PRECIPITATION IN THE MEDITERRANEAN REGION

Most of the precipitation in the Mediterranean region is experienced as extreme precipitation. In order to determine how these extreme precipitation changes according to the seasons, 99% percentile values of the precipitation experienced at the stations were calculated. For very humid days calculated as the 99th percent of the distribution of daily precipitation amounts on days receiving 1 mm or more precipitation from the data start period of the stations, the number of

rainy days above the threshold specific to the stations were determined (Alexander et al., 2006; Frich et al., 2002; Gönençgil and Acar Deniz, 2016).

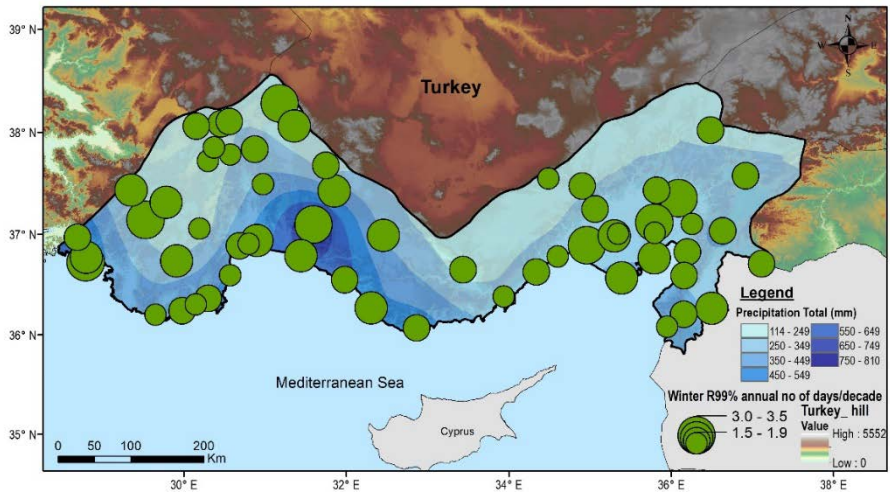


Figure 6. Spatial distribution of extreme precipitation days and total precipitation in winter

According to these calculations, the number of days above each threshold of each station was determined throughout the region in winter. With the calculations made for the region, the number of very humid days is 3 days or more in areas where the topography effect is significant in winter. In the areas remaining in the precipitation widow, this number is around 1.5 days according to the long-term averages. The highest values are generally concentrated in the west of the region, around Antalya Gulf and Çukurova (Figure 7).

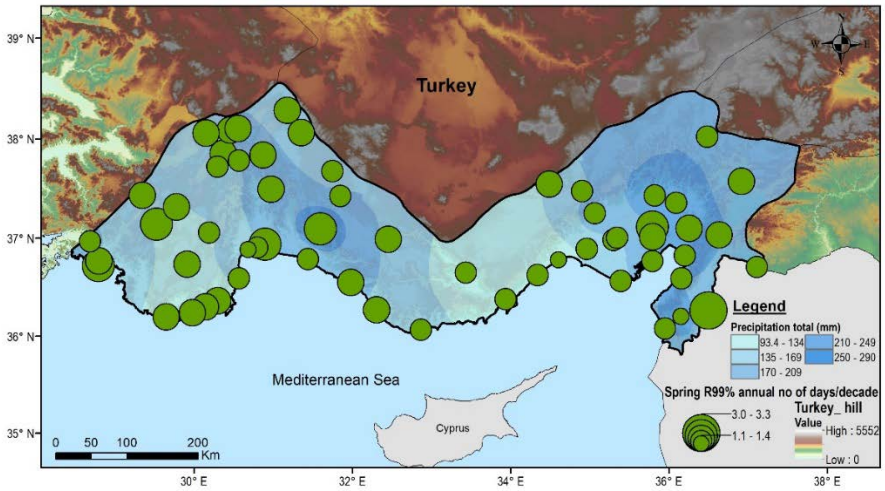


Figure 7. Spatial distribution of extreme precipitation days and total precipitation in spring

In the spring season, there is an important similarity between the number of very humid days and the topography throughout the region. There is an important link between the areas with the highest precipitation and the stations with the highest precipitation intensity around the Gulf of Antalya. In the Mediterranean region, the number of precipitation days in spring is generally 1-2 days. Spring R99% annual season is the size to be considered for Antakya station. Antakya station has the highest number of precipitation days in this season.

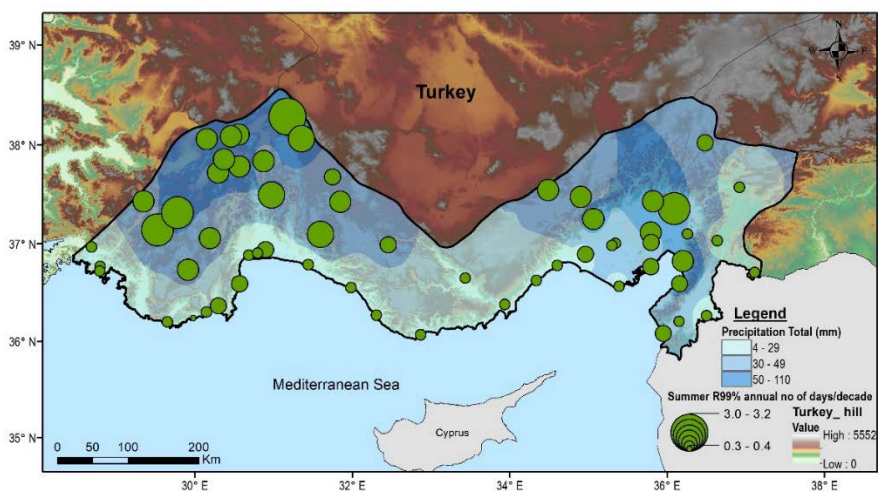


Figure 8. Spatial distribution of extreme precipitation days and total precipitation in summer

The number of very humid days in the summer season is more than 2 days in the mountainous areas called Western Taurus Mountains to the north of Antalya Gulf. The number of very humid days along the coastal zone is also significantly low. The share of summer precipitation throughout the region is quite small. Especially during the season, the amount of precipitation in the coastal zone is below 30 mm. Precipitation above 30 mm increases with the effect of elevation depending on the topographic characteristics of the region.

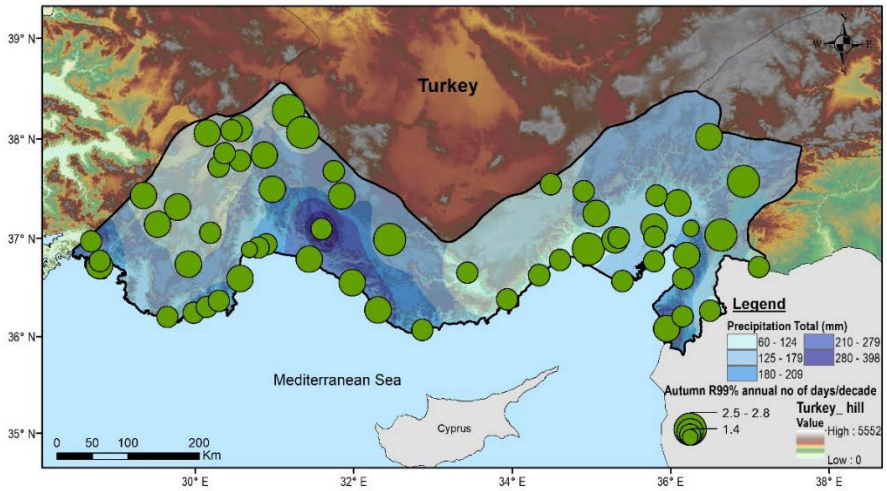


Figure 9. Spatial distribution of extreme precipitation days and total precipitation in autumn

The areas where very humid days live in autumn are similar to other seasons. Due to the topographic effect of the Western Taurus Mountains and the Nur Mountains, Antalya Gulf and the north of it and İskenderun Gulf are areas with high humid days. Very humid days in these areas are experienced over 2 days.

4. CONCLUSION

The characteristics of precipitation were evaluated in the Mediterranean region, which is located on the shore of Mediterranean Sea and named after the neighboring sea. Mediterranean precipitation regime is effective throughout the region. This precipitation regime is effective in a very wide area. The most important feature of the Mediterranean regime is the uneven distribution of precipitation between seasons. There is a significant difference in precipitation between summer and winter seasons. Summer is dry, and in some periods it can last long enough to combine with spring or autumn. It is also possible to see the stations with low precipitation and drought on the maps in summer season. Drought is critical in mostly coastal stations. In the areas where the Western Taurus reaches, the amount of precipitation is higher than that of many coastal stations. Topography is the main factor in increasing precipitation in this area. With the effect of elevation, these areas are also among the highest precipitation areas in the region. The slopes of the mountainous areas facing the shore receive more precipitation than the inland stations. Areas where Western Taurus has been has the highest precipitation after Turkey's Eastern Black Sea. The most important feature of this area is that the falling precipitation is limited to the station due to changes in the topography. This area does not show regionalism as in Eastern Black Sea Department. In Western Taurus, depending on the topography, stations with low precipitation and close to humid and very humid stations are interrupted. Due to this interruption, they cannot form large humid areas like Eastern Black Sea. One of the areas where

precipitation is high throughout Mediterranean region is around Nur Mountains. The stations on the western slopes of Taurus Mountains and Nur Mountains facing the sea are areas with high precipitation.

There is a significant similarity between the strength of precipitation and topography. The presence of the high mountainous area just behind the stations causes the strength of precipitation to increase. One of the most important areas where this effect is observed is Western Taurus Mountains. The stations in this area are experiencing severe and extreme precipitation. At the same time, precipitation events are strong in all seasons in most of the stations in Western Taurus.

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CHAPTER 7:
SELF-SOCIAL CLASS PERCEPTION OF THE ARCHITECTS
IN TURKEY: CASE OF ANKARA

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1. INTRODUCTION

In this article¹, it is assumed that there is an idealized profession and architectural man's mission in the minds of architects with the influence of current professional ideologies. The discussions on class positions among architects remain mostly superficial due to the definition of the "idealized profession" and an "idealized professional". However, although "architects" refer to a general professional mass, it is possible to mention that it is difficult for them to have a homogeneous class position in the context of their positions and roles in production relations. As the number of architects increases and the differences that provide social stratification increase in the society, it is difficult to mention a homogeneous professional environment. Based on this problem, as the designer identity of architects was cared for, the scope of the present study was limited to the architects working as paid employees in the capital city, Ankara, where large and small offices are located in this business field. Since the architects working in public sector are not as efficient as the paid architects working in private offices in the structure design and production, they were excluded from the study. In this context, the present study aimed to determine the perceptions of the class architects working in private offices and the factors that constitute this perception in the 21st century under the changing conditions of the architectural practice, and also to develop suggestions by discussing the reasons of class position problems caused by the professional ideology and the process of architecture education. In the present study, first of all, the class perception and identity consciousness of the architects who worked at private offices were

determined. For the purpose of determining the social class perceptions and identity awareness of 55 architects, who were contacted with Snowball Sampling Selection Method, and who were from different age groups and work experiences, 38 open-ended questions were asked apart from personal information data by using detailed interview method.²

Discussions on architects and the profession of architecture have been the subject of many studies and were evaluated in various perspectives.³ These studies provide us with a theme showing the historical background of the architect-architecture, the social roles and positions of architects, and inform us how architects and architecture was characterized under current production conditions. This paper; however, aims to rename the changing social class positions of the architects working as paid employees in Turkey, and to establish the authenticity of the profession by investigating the class perceptions of architects. Since the content of the paper is related to the changing class positions of the architects employed in the architectural practice, the sections of the study include the following; the history of the architectural practice and the architect, the social position of the profession in the past and current process, the relation of this profession with capital, the place of the class concept in the field of architecture, and the viewpoints of architects on class perceptions.

2. THE SOCIAL CLASS POSITION OF ARCHITECT

The term “architect”, which has been used since ancient times, defines the identity of the professional with its meaning. Kostof (2000) stated that the term “architect” was derived from the Greek “*architectus*” in etymological terms, and the titles of the architects came from the mason guilds in the medieval period. Before the industrial revolution, the master mason and other building manufacturers were not separated from each other; and there was no professional reputation for the profession. Davis (2006) said that the architect was not only the person who drew but also brought together design and practice in the traditional society. The period of early 15th Century brought with it the separation of labor in the whole world. With the fast change in social structure by the Renaissance, architects began to establish their own social positions. They struggled to present themselves as artists, and the first establishment effects emerged in Italy. In this period, we see that the architect was recognized as an artist and as an intellectual; and architecture was separated from craftsmanship easily. Giorgio Vasari grouped painters, sculptors and architects as artists and talented artists in his book “*Life Stories of Artists*” (Leach, 2015).

The studies of Magali Sarfatti-Larson are important in terms of the social acceptance of the architectural profession and to examine the formation of professional ideologies. Larson (1982) stated that the conceptualization of the “architectural function” as an architectural profession dates back to the process when artists acquired intellectual status in the 15th Century Italy. In this respect, the first stage in the formation of the architectural profession began with the separation of

design and application. In 16th Century, when architects had measured drawings and theoretical texts on architecture, they reinforced their professional identity. By the 17th Century, it is seen that a specialized architectural office appeared with the increase in the inputs related to design. According to Larson, the separation of design and application concepts formed the concept of “creative genius”. The definition of architect in the 17th Century was also seen in the 19th Century professional model. Architects were at the forefront with their expertise in building design in the 19th and 20th Centuries. This professional solution was the path to acquire a professional identity for the respected architects of the 19th and early 20th Centuries (Gurallar, 1997). Batuman (2012) stated that the subject-architect came to the forefront with the dominance of modern social relations. In this respect, in the historical process, the architect was able to overcome the status of being a “construction master” after the enlightenment period; and only after this point could the architect introduce his/her professional identity. Besides, Tanyeli (2007) stated that the boundary between the medieval architect and the modern architect was determined by the strong and dominant professional identity of the modern architect. Briefly, in the common point of these discussions, there is the idea that the architect’s gaining his/her professional identity, the process of establishing the elite social class position, and the change of the former social status are related with the “modernity project”. The transformation of the professional status of the architect with the enlightenment process and the acquisitions brought by modern architectural education were decisive for the formation of the profession’s ideology and artistic

identity of the architect and his outstanding social status in the history of architectural profession (Onur, 2018).

Similar processes are also seen in architectural profession of Turkey. In further processes, other factors defining the social position of the architect emerged with the transformation of the production relations. The capital-construction production rate factor, which affects the position of the architect in a strong manner in the production relations, is another issue that must be considered. Based on this viewpoint, discussing the construction sector which is directly related to the professional practice of the architect and the speed gained by this sector in the 21st Century are important in terms of questioning the place of the architect in practice and the architect-capital relation.

In the context of the neo-liberal economic policy applied in Turkey in the 20th Century, the rapid rise of the construction sector draws attention. The movements in the construction sector affect the employment, working conditions, and socio-economic status of architects. Today, the execution of developmental policies in the construction sector has resulted in an increase in the number of architectural education institutions and architecture student quotas especially as of 2009 (Figure 1).

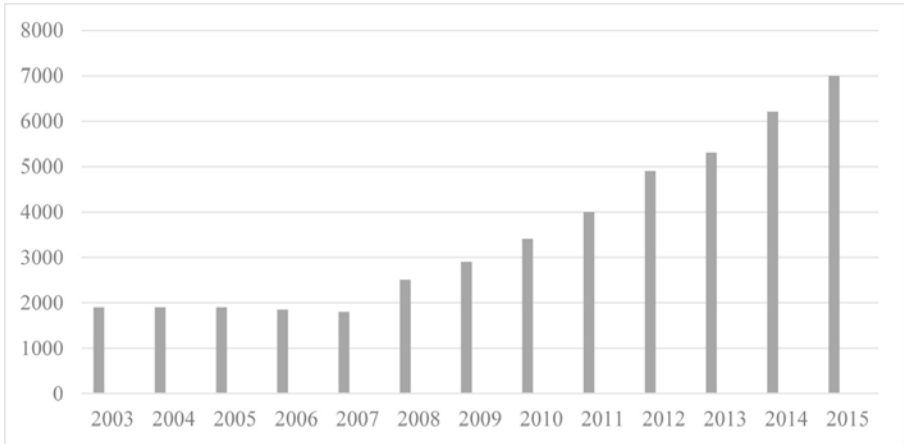


Figure 1. Quotas of department of architecture (Chamber of architects 44th. report, 2016)

Depending on the higher education strategy of Turkey that emerged in the context of neo-liberal economy, the rapid growth of the architectural education institutions and their quota brought with them the potential of unemployment for new graduates. It was reported that approximately 21 thousand people were unemployed in the field of architecture and construction in 2016 (TUIK). In the context of the accelerated increase in the construction sector, another important issue that must be mentioned in the context of the professional position of the people in architectural profession is the need for technical labor force and intermediate personnel positions in the sector in relation to the increase in the production speed; and as a result of this, the use of the work force of the newly graduated architects within the scope of technicians. The position of the intermediate-technical staff that is needed by the rapidly-growing construction sector is being covered

through the architects who are new to the profession (Onur-Işıkoğlu, 2018).

In addition, the subcontracting policies has created another important aspect of the transformation in the construction sector in Turkey in recent years. The subcontracting strategy that appeared before us in the process of disintegration of production relations is an important issue with its impact on labor processes. Ongel (2014) stated that when the number of subcontractors in the private sector was considered, it was seen that the construction sector pioneered this list. In addition, the expansion of the contractor relation in the construction sector at such a high dimension also caused that the labor market was disintegrated (Safak, 2004). This situation is reflected on the employees who work under subcontracting as more insecurity, alienation to labor, being detached from the integrity of the production process, and proletarianization. In addition to the subcontracting practices affecting the professional position of those who work in the subcontracting sector, it also has an aspect that affects the functioning of architectural offices, and therefore, the position of office owners. The increase in this trend, which emerges in the form of subcontracting of technical labor, leads small-scale offices to work as the subcontractors of large firms in architectural practice. These fragmented relation forms in the construction sector threaten the survival and future of small-scale offices. In other words, the subcontracting strategy makes us question not only the position and future of the paid architects in the professional practice but also the professional status and future of the architectural offices.

In brief, such a transformation, which has become more and more evident in the current construction sector, brings with it the alienation of the employees to their work and efforts, proletarianization, and exploitation due to the defragmented work. The “privileged social position” of the architect, the architectural profession and the quality of the labor of the architect are also affected by this situation.

Although the existence of a labor type through being paid is independent from whether or not it is productive, the guiding point for this study is to be able to make inferences about the quality of paid labor. For this reason, it is important to determine which criteria are to be employed in determining whether or not the labor of the paid architect working at a private office is productive. When the theories on the labor concept are examined, we see that whether a labor type is productive or not is defined depending entirely on the relation between the labor and the capital. For example, according to Yurtsever (2011), the activity of producing material life objects may be described as “productive labor” in general. The labor, which creates added value, and which is replaced directly by capital, is productive labor. In other words, labor is productive as long as it produces the capital that is its counterpart. It is not compulsory that a commodity that is obtained in the context of the productivity of labor results in a material outcome. In this respect, Ongen (1994) refers to the concept of productive labor as the one that is involved directly in the process of production, and that produces added-value. The distinction between these two represents the division between “the labor of the arm” and “the labor of the mind”, in other words, the division between blue-collar and white-collar

employees. According to Ongen, engineers are the most important exception in this classification. Engineering work involves more mental labor, and therefore, is based on using productive labor, although it is included in the white-collar sector.

As it is well-known, according to the concept of “immaterial labor” concept, the distinction between “mind labor” and “arm labor” has been overcome today. Under today’s dominant economic system that is known as “cognitive capitalism”, abstract services and intellectual products have caused that the traditional relations are questioned. The architectural profession, and architects, who are the doers of this practice, also have controversial positions in these processes. In this context, Deamer (2015) pointed out in his book “The Architect as a Worker” that the labor concept must consider the “labor value” of the architectural profession. Today, it is known that cognitive-intellectual labor type has a counterpart as a product. This corresponds to a certain fee. At this point, it must be said that the architect who works at a private office is a “paid employee”. If labor can be sold, it is seen that mental activity is also charged and converted into a commodity, which was initially only an idea, by being purchased in the market economy (Sargın, 2017). Similarly, Aykaç and Sert (2018) state that the architect-worker uses the discourse of creative labor as the defense of labor.

In this context, it may be argued that the function of architecture is subject to capitalist production conditions; and depending on this, office employees, who are deprived of means of production, and who are paid by selling their cognitive labor, create added-value because

they continue the global function of capital and constitute one of the dominant and hegemonic forms of labor in production relations in the neo-liberal system (Onur, 2018). The “head and arm labor” produced in the scope of office work is both productive labor types. In the basis of this, there is not only being a commodity, but also production of value. Based on this infrastructure, in the following section, how architects, who work as paid employees at private offices, whom we may define as “*white-collar productive workers*”, perceive their own social class in the context of the current production relations is dealt with.

3. THE VIEWPOINTS OF THE ARCHITECTS WHO WERE INTERVIEWED ON THEIR SOCIAL CLASS PERCEPTIONS

In this section of the study, it is important to understand the approach of the architects professional practice, to analyze his/her professional ideology, and to determine the social class perception that is characterized under these professional ideologies. At this stage, firstly, the methodology of the field study will be explained. In the further parts of this section, the data that were obtained on the profession and class perception in-dept interviews with the architects working at private offices and the findings based on these data will be presented.

4. THE METHOD OF THE STUDY AND FORMING THE SAMPLING

The Qualitative Research Method was employed to receive the viewpoints of the architects, who worked at private offices as paid employees, on professional practices and social class positions. In this context, it was considered that the data that were obtained with the In-dept Interview Method would be useful in terms of providing new data. A method like In-dept Interview aims to create a picture of the realities of a small group rather than large sampling groups. Meaningful themes, categories and trends are extracted from the discourses that are obtained from the interviews (Fielding, 2001).

In this context, a field study was conducted in the capital, Ankara, in 2016 and 2017 for the purpose of determining the relations of the architects, who worked as paid employees, with their professions, and their class perceptions. Face-to-face interviews that were supported with the In-dept Interview Technique were carried out with 55 architects who worked at various locations in Ankara. When the answers reached a general model, it was decided that the field study was fulfilled after the 55th interview. The sampling that consisted of twenty-one (21) male and thirty-four (34) female architects were contacted with the Snowball Sampling Method. Since the present study aimed to determine the occupation and class perceptions of the architects who worked at private offices, the sub-headings of the in-dept interview questions consisted of the demographic data of the architects, the nature of the education they received, their viewpoints on the teaching of

education, the relation forms of the architects with their professional practices, and their viewpoints on architect identity-professional ideologies.

Demographic Data

Considering the data of 2017, it was determined that there were 51.946 registered members in the Chamber of Architects in Turkey, and the number of the registered architect members in Ankara Branch was 8.855 with a rate of 15,58% (Table 1).

Table 1. 2015-2017 number of registered architects in Ankara and Turkey (Chamber of Architects) (www.mimarlarodasi.org.tr)

Year	Ankara Branch	Turkey
2015	8.216	47.847
2016	8.514	47.862
2017	8.855	51.946

In addition, in the present study, the distribution and working styles of all the architects registered at the Ankara Branch of the Chamber of Architects and TMMOB were investigated for the year 2016. With this study, the purpose was to determine the rate of the architects and the architects who worked as the owners of their own offices in relation to each other across Turkey and Ankara. In this respect, the resulting numerical data are given in Table 2 and Table 3.

Table 2. The way of working of architects of TMMOB member (reports of Chamber of Architects, 2016)

The way of working	Number of members
Independent	9.268
Building control	3.264
Construction site	3022
The others	32.308
Total	47.862

Table 3. The way of working of architects of Ankara Branch (reports of Chamber of Architects, 2016)

The way of working	Number of members
Independent	1.081
Building control	620
Construction site	482
The others	6.331
Total	8.514

According to the data in the tables, the forms of employment of architects are mainly determined based on being paid employees in Ankara and in Turkey. These numerical indicators show that two-thirds of the architects who worked in private sector are male, and that the rate of men in the architect group exceeds the general average (Figure 2) (“Numerical Data and Comments on the Members, Registered Offices and Professional Auditing Application” published by TMMOB Ankara Branch 2008-2009).

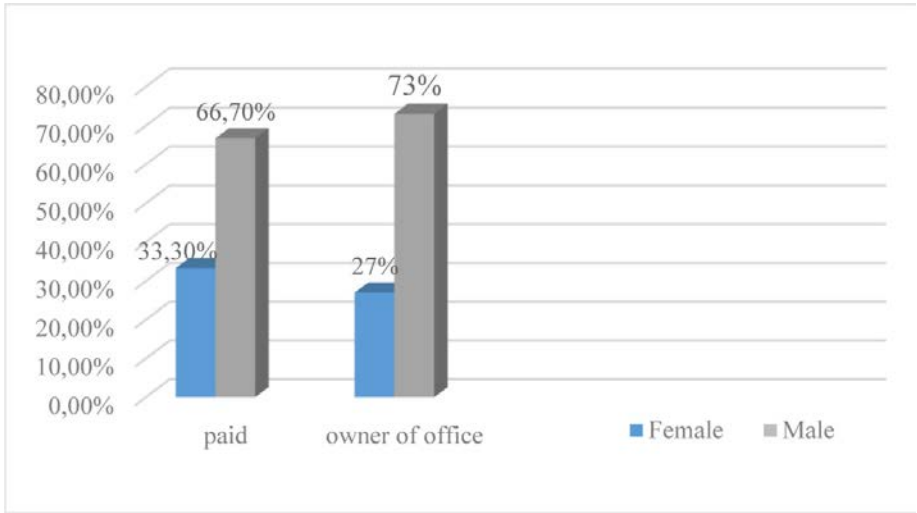


Figure 2. Distribution of the members according to their work and gender (Ankara)

In-dept interviews, when the demographic characteristics were examined, it was determined that the sampling group (55 people) was predominantly in the 25-36 age group (Figure 3). In addition to this, it was also determined that the sampling mostly had a professional experience of 1 to 5 years (Figure 4).

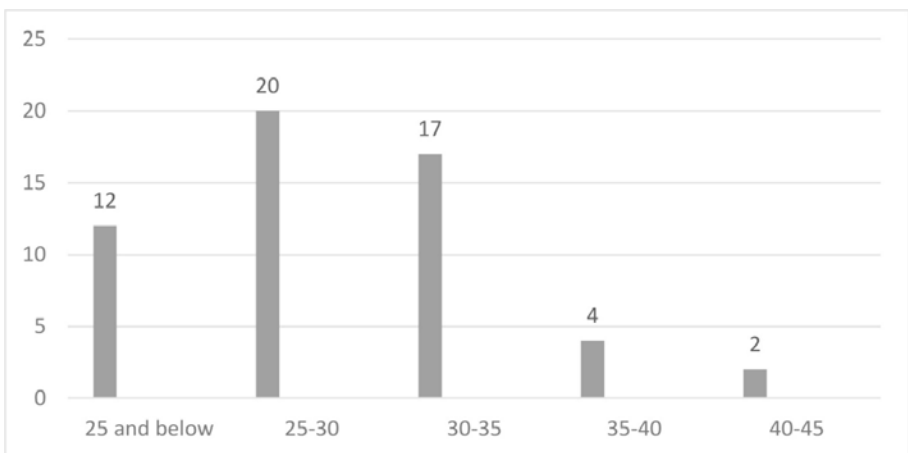


Figure 3. Age chart of the interviewed sample group (55 architects)

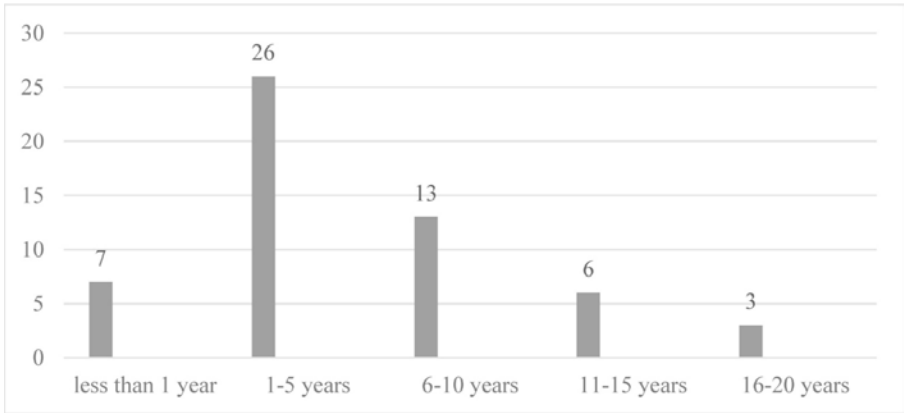


Figure 4. Professional experience of 55 architects.

Another subject, which was determined when examining the profile of the interviewed sampling group was about recognizing the socio-cultural environment in which the architects grew up. For this purpose, the architects were asked to describe the city they were raised and the socioeconomic status and occupations of their families. In this context, 84% of the participants, which is a great rate in this respect, stated that they grew up in the city, while 16% stated that they grew up in rural areas. The participants were explained that they could use one of the lower-middle or upper options since their answers on the socioeconomic status of their families would reflect their perceptions about their class perceptions. At this point, when the socio-economic status of the families was asked, the answer was “medium” at a high rate. The data on the professions of the families of the participants are given in Figure 5. The monthly incomes (Figure 6) and working positions in the

offices were also asked to complete the demographic indicators of the architects.

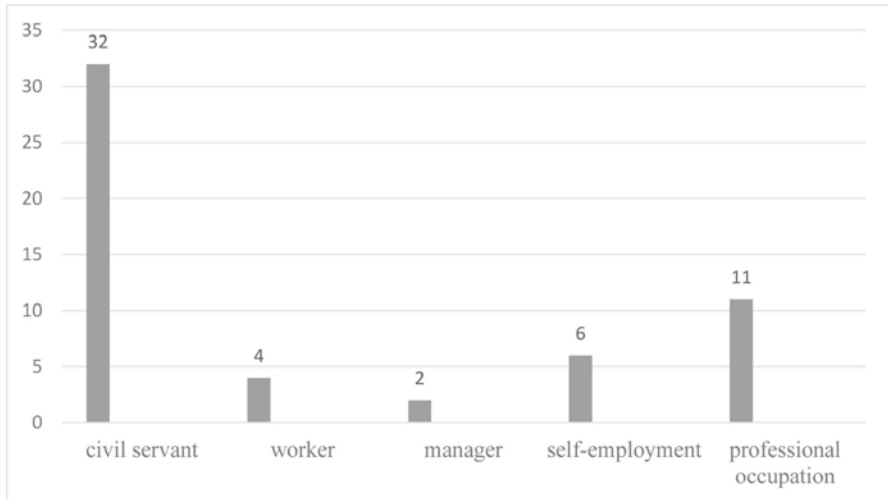


Figure 5. The occupations of the families of the participants

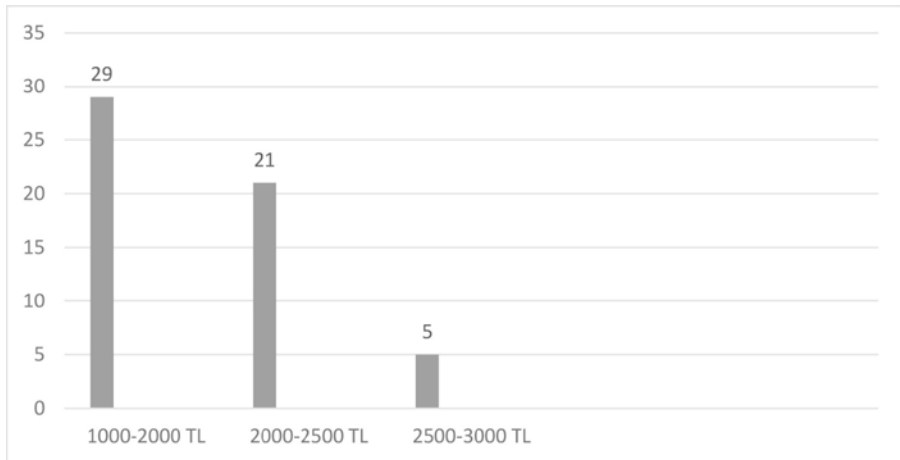


Figure 6. Monthly fee of 55 architect

In addition to the questions that determined the demographic characteristics, other questions on architectural education, architectural profession practice, professional ideology-architect identity were also

asked to the architects. Based on this, in the next section, the subjective viewpoints of the architects who worked as paid employees will be explained.

Architecture Education

In-dept interviews, in the questions on how the participants chose the architecture education, how the image of architect changed in their minds before and after the education process, the aspects of their education they found positive-negative or incomplete, the satisfying effects of their education, and the effect of schools on providing architectural ideology were questioned. The viewpoints that were obtained in this respect are as follows:

- The architects who worked as paid employees that were interviewed considered the architects as a person who produces, designs, creates, and who is elite, idealist and artist. According to them, architects are respected people in the society with their intellectual and artistic aspects.
- They stated that they learned to think differently and critically with the architecture education they received. They also added that they emerged as different individuals at the end of their educational processes.
- Nearly 75% of the architects who were interviewed thought that architectural education is the most important factor in gaining professional ideology. They also added that the architects who designed and produced during the process of architectural education should be different from other people.

- They stated that despite the respectable architect image acquired as a result of the architecture education, their education also had contradictions. They acquired the professional ideology they have in their educational processes. However, they also said that there was a mismatch in real practice with the education process.

Architectural Profession Practice

In this section, which examines the relations between the professional practices and working practices of the architects, who work as paid employees, the architects were asked about the reasons of doing the architectural profession, the positive-negative aspects of their profession, the employer-employee relations, their evaluation on wages, their roles in producing added value as architects working at private offices, their positions in the production processes, and the future of their profession.

- The architects talked about the limitations brought by the regulations on the practice of their profession, their ideas not being considered by the employer architect during design processes, low wages, overtime work, decrease of their professional motivation because of their profession being considered as a service sector based on rent. However, the situation is different for architects who design and apply their ideas in the architecture offices where mainly design works are implemented. They feel happy because they have participation in a concrete architectural product and they are part of the production process. Although the architects, who were not

allowed to design, considered themselves as technical staff mostly, they stated that they still wanted to be involved in the production processes.

- They stated that the condition in which they were not the person who made the decisions in design processes brought with it professional dissatisfaction and demotivation.
- The group that had been in the profession for less than 5 years were planning to establish their own offices in following years, and thus, they would experience real professional satisfaction; and they would have a different identity than the architect identity they had at present.
- The architects who could design did not consider themselves exactly as technical artists.
- The architects who were interviewed considered the architect as the most important actor in the production of the established environment. Although architects generally mention difficult working conditions, they still said that they would choose to be an architect in case they were to make a new preference. They described the most satisfying side of this profession as being “involved in the production process”.

The Professional Identity

In this section, which examines the identity of architects and the ideology of their profession, the architects who worked as paid employees were asked about the factors that were influential in the formation of the architect image that had a social prestige, whether they

had superiority in the context of social status due to being an architect, whether they considered themselves as superior in the social hierarchy, how their personal styles and appearances were affected because of being an architect, whether architects could create a homogeneous group in the context of class positions, where they positioned themselves in blue collar-white collar descriptions, and their professional reputation in the environment where they lived.

- They defined the professional person, who is called as an architect, as a person that is knowledgeable in every subject, who is respected in the society, who is unique, who has an ego, who is determined and productive, and who can think differently and criticize.
- They also stated that the cause of the professional ego depended on the phenomena that were acquired in their education. They said that being an architect made them different from other people (in the context of viewpoints), and they were considered as superior in terms of social positions in the eyes of the society because of reasons like the historical reputation of their profession .
- In the sampling of the architects who worked as paid employees, the group that worked in the field of design/concept said that they were white-collar office employees, and were from the middle-class group. They associated this with the training they received, the conditions of doing their business, their wages not being very low, positive relations with their bosses, their participation in production and being together with respectable people in business

life. The other sampling group that had been working for a long time or that was only responsible for drawing an implementation projects, stated that they considered themselves as white-collar employees; however, they were treated as blue-collar employees. Four people who were interviewed in the sampling group stated that they considered themselves as being close to blue-collar employees. The group of architects who worked as paid employees and who could make designs considered the architects who draw implementation projects in the blue-collar category.

- The architects believe that all architects should be considered in the same class position. The reason for this is spontaneous professional ideology. They think that all architects receive the same training; therefore, it is not right for one of them being superior to the other in terms of social position; however, they also believe that hierarchy is acceptable in the context of an experience/experience rating. Some of the architects defined themselves as middle-class also used the “middle-class” description for the class positions of their bosses. In this respect, when the difference between themselves and their bosses was questioned, they said that the factors that constituted the difference were “economic and professional experiences”.
- The majority of the sampling group stated that they were raised in a middle-class family. In addition to this, one of the interviewed architects stated that despite their white-collar consciousness, they might achieve a higher point with the help of the professional identity and education.

5. FINDINGS

One of the results of the field study was that the socio-cultural and economic backgrounds of the architects are one of the elements that differentiate them in terms of their class in the society. Most of the architects employed were from lower-middle class families who did not have any intellectual claims. The majority of these architects were not able to go higher than the economic income levels of their families. The number of the architects who could climb higher than the lower income group was determined to be four. Three architects who were interviewed were separated from their colleagues in terms of their socio-economic backgrounds. For example, the opportunities of an architect whose family owned an architectural office differed compared to other colleagues (in terms of social-economic and cultural capital). A significant relation was determined between the fact that the architects who had these opportunities were at higher levels in terms of economic income and social capital hierarchy and in terms of being less pessimistic about the future of the profession. For this reason, it was determined that the sociocultural and economic conditions of the architects who were interviewed gave them different capital dimensions.

About the different nature of the work received by the offices, it was determined that the work of the paid architects also differed. This situation shows the existence of different forms of relations and labor processes in the implementation of the profession. Although the owner of the office has the power to make the decisions in the office and provide the auditory function on the labor processes, paid architects in

an office who participate in architectural competitions often have the chance to make designs. It was determined that this group felt a stronger architectural identity because of the opportunity to makes designs and convert ideas into an end-product. In addition to this, it was observed that the architects who worked at offices that carried out housing projects and some other projects according to the demands of public institutions had to implement the ideas and opinions other than their own wills, which contradicted with their designer-architecture identities. In addition, the middle-size offices where the paid architects who were interviewed were employed actually constituted the general texture of the urban area with their architectural products (houses, public buildings). In this respect, the positions and roles are very important in architectural practice.

As a result of the in-dept interviews, it was seen that the main factor, which made up the professional ideology of the architects, was the architectural education. Although the working conditions and quality of work differed among the paid architects, it was seen that they had common professional ideologies as a result of the education they received. In other words, the educational process and teachings of architecture bring these architects together under the umbrella of a common professional ideology.

As a result of the in-dept interviews, the factors, which constituted the class perceptions of paid architects, it was observed that the factors that constituted the social perceptions of the architects who worked at private offices as paid employees were shaped under the criteria like the nature of the work done in the architectural production system (the

design work or technical work), the duration of the professional experience, and having or not having economic and symbolic capital (prestige) (Table 4).

Table 4. The factors that determine their class perception as white-collar or blue-collar

	Architectural Production		Professional Experience		Capital	
	Design	Technical work	Less than 5 years	More than 5 years	Economic	Symbolic (Prestige)
White-collar	+	-	+	-	-	+
Blue-collar	-	+	-	+	-	-

In the architectural production process, although the architects who could make designs in their work stated that they considered themselves as white-collar employees; the group that did technical work (drawings) expressed their class positions as blue-collar. In the context of professional experience, the architects, who joined their profession for less than 5 years, expressed their class positions as being white-collar; however, the group that worked for more than 5 years expressed their class positions as being blue-collar.

Right at this point, it may be argued that there appear negative effects on class perceptions of architects as the duration of the professional experience and the duration of being exposed to difficulties in work conditions increase. Although the architects who were interviewed stated that they did not have an economic capital in general, the group that had symbolic capital stated that its class position was

white-collar. Here, the symbolic capital concept is formed around the social environment of the architects, the possibilities of their families and the other opportunities they have.

6. CONCLUSION

The findings that were obtained in the scope of the class perceptions of the sampling group that was interviewed emerged in the framework of some factors. In this context, the factors that constituted the class perceptions of the architects, were economic income, the duration of the professional experience, the nature of the work (design or technical work), the living environment, the occupational reputation and the social environment the architect had, and the role in the production of added-value. The architects who worked at private offices argued in the first step that there should not be any social class differences among architects; and added that the differentiations between architects could only be considered in the framework of economic reasons, professional experience, capital forms and production roles, which was mentioned above. In this respect, although the group that could make designs among the sampling group that was interviewed had professional experience of 1-5 years and thought that they had symbolic capital and said that their social class was middle-class (white collar); the architect group that was responsible for technical work, who worked as paid employees for longer durations and who thought that they neither had economic nor symbolic capital, expressed their social class position as blue-collar. It is considered that exposure to negative conditions when performing the profession in the

long-term, discrediting the labor and moving away from the identity of designer-architect acquired in the education process were effective in the formation of this viewpoint of the group that considered its class position as “blue collar”.

When it is considered that architecture emerged as a capitalist service sector component in the real economic relations in the real world, it was determined that despite the cognitive value, the architects working at private offices as paid employees covered the need for intermediate staff and technicians; and gradually became “proletarianized” employees in the economic sense. However, it was also seen that an architect who was educated with concepts as *artist* and *creative* moved away from these concepts when s/he entered work life, and experienced contradictions in the education-practice axis. This contradiction brings architect demotivation in profession in practice. It is considered that a conscious architectural approach must be adopted to avoid this demotivation. Future architects must have the chance to know how to work in a practical systematic or probabilities in the ordinary, massified and fragmented setting of the current architectural practice. It is an important step that the *architect subject* comprehends that s/he is now a “productive employee” and is confronted with a class situation. Since architecture brings role conflicts and professional demotivation in the context of architect-technician positions for professionals, it is recommended that future professionals start work with a real consciousness.

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NOTES

¹ This article was produced from the PhD dissertation ‘The Architect as a White-Collar Productive Worker: Professional Practice and Class Perception’, Gazi University, 2017, Ankara.

² Gazi University Committee of Social and Humanities Research Ethics approved for in depth interview questions.

³ There are studies in Turkey conducted on the professionalization process and the development of architecture as a profession from Ottoman Period (Baydar, 1989), *The Professionalization of the Ottoman-Turkish Architect*, PhD, University of California and some other studies conducted to comprehend the mentality of the architectural profession in close historical period. In this context, Batuman's dissertation (2006) *Spaces Of Counter-Hegemony: Turkish Architects and Planners As Political Agents in the 1970s* examined the urban problems and policies and how these became an autonomous field of struggle and the emergence of this struggle of architects by focusing on the social role of architects and planners in rapid urbanization that shaped social environment in 1970s in Turkey. The social role of the professional people, who play specific roles in this struggle and in the production of social sphere is also guiding in recognizing the architect identity of the period. In addition to these studies underlining the importance of societal roles and political positions in the context of the cognitive background of architects, architect identity and professional practice , there are also some other studies analyzing how the architect-subject identity was constructed under the present production conditions. The literature on architecture-capitalism, on the other hand, points to the methods with which the identity was shaped as the subject in the architectural profession, which itself was the instrument of capitalism, how the connection between the capital and architect was established, and the transformations in the labor processes.

In this context, Tafuri (1988), criticized the effect of the capitalist production type on architectural practice by arguing that architecture could not produce alternatives in the existing capitalist system; and at this point, offered a viewpoint claiming that the architect moved away from the socialist function and became an agent of the existing system in *Architecture and utopia; design and capitalist development*. Cambridge: The MIT Press. Like Tafuri, Deamer (2015) also tried to understand the professional, who is called an architect, in the capitalist process; and carried the architect, whom he considered as an employee, beyond the established employee definition, and made his discussions through creative labor and product in “*The architect as a worker; immaterial labor, the creative class, and the politics of design*, London and New York: Bloomsbury Academic”. In “*Architecture and capitalism – 1845 to the present*, London and New York: Routledge (2014)” Deamer divided the processes from the 15th Century to the post-industrial time into periods, and questioned the relation between capitalist production and architectural practice via practical-product and architect. If the architecture-capitalism discussions in Turkey, the study of Artun “*Fordizmin ve mühendisın dönüşümü*. Ankara: TMMOB (1999) may be given as an example to illustrate the panorama of architects and engineers in the process in which relations of production changed in Turkey as a perspective on being the intermediary of production for the subject-architect. Another study dealing with the architect identity and professional practice in Turkey was the PhD thesis of Kennedy “*The Ethos of Architects Towards an Analysis of Architectural Practice in Turkey*, METU, Ankara (2005). In this study, the factors that affected the professional practice of architects were determined by conducting interviews with architects/partner architects, and it was determined that the architects were the main associates of the main merger of the common “habitus” of “professional ideologies” of architects.

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CHAPTER 8:
COLLABORATIVE SPATIAL PLANNING FOR
SUSTAINABLE GROWTH IN THE EUROPEAN UNION

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1. INTRODUCTION

The global landscape of human habitat has changed dramatically with the explosion in the global population from 1800 onwards. The global population in 1800 was 1 billion people. Today its 7 times that number with over 7.5 billion people (Roser, Ritchie & Ortiz-Ospina, 2013). World Health Organization (WHO) states (World Health Organization, 2017) that global urban population of 34% of the total global population in 1960. In 2014 it increased to 54% and by 2020 almost 5 billion people globally will be living in urban areas. These facts point to a myriad of challenges that are facing the planet and its resources which are being tested to the limits. Contemporary human habitat pose serious challenges for the spatial planners at all levels. Also at the heart of these planning challenges is the diversity and disparity in the consumer demands for services. The EU governments through various regulatory bodies try and carve out a space in this area as well. Spatial planning bodies have emerged as an integral policy initiative at all levels of governments. European Union (EU) which is a unique experiment in collaborative legal and policy making which emerged at the end of the second world war. EU places emphasis on spatial planning through its 1999 adoption of European Spatial Development Perspective (ESDP). ESDP lays out a polycentric and socially mobile discourse for European Spatial planning and development. ESDP proposes EU regions to develop communities that can live in harmony with their environment (Science for Environment Policy, 2011). Such spatial planning goals aim to create habitats that are environmentally and economically sustainable. This paper aims to

review the collaborative spatial planning initiatives within the EU. We will review the existing data to support our arguments. We argue that ESDP has achieved limited success. We also argue that while EU has improved its data protection laws (The EU General Data Protection Regulation, 2016) EU needs collaborative spatial planning to build on the concepts of *smart communities* in the near future.

The history of human habitat has evolved since the traces of the human existence on planet Earth. The hunter-gatherer communities expanded as the scope and evolutionary process gained sophistication. The historical development of the human habitat highlights that *communal* living is the core concept that underpins the spatial planning and development (Shenker, 2011).

On larger scales of regional and urban planning the sum total of plans and programs are mixtures of human knowledge flowing from several areas of scholarship. Those include anthropology, history, sociology, economics, politics and science to name a few (Ryan, 2005). Spatial planning and development in its true sense is an interdisciplinary exercise not exclusive to town planners who may be architects or civil engineers.

The interdisciplinary nature of spatial planning and development is not always visible or highlighted in policy guidelines made available to those at the execution end of the system. A robust system of spatial planning and development would fall short without fully understanding the social trajectories of existing spatial spaces, their economics and historical underpinnings (Ye & Liu, 2019). Throw in this mix the technological advancements such as Smart technologies,

environment and tourism, the complexity for spatial planning and development is enhanced.

Spatial planning and development is also time and space sensitive. Urban space exists within the context of time and space. Context is relevant in the time in which they were planned and subsequently developed. The socioeconomic and political situation during the time of spatial planning and development also influence the space. The spatial planning and development of urban spaces also reflects the political power dynamics between the various tiers of planners and the space (Kang & Aldstadt, 2019).

Spatial planning and development also reflects the relationship between the macro spatial scales at national and regional levels and their impact on the micro spatial space. These impacts cascade from the national level to the levels of small towns and neighbourhoods. Spatial planning and development also give us an insight into the creative forces driving the planning and development process. The future political ambitions for the spatial planning and development are at times interwoven with the creative forces to produce spatial designs that reflect the iconic thinking at the time (Di Ludovico & D'Ascanio, 2019).

Each urban space and its spatial study for planning and development is unique. Spatial planning and development is a dialectic process. It is *integrated* and it is *multidisciplinary*. It is through the investigation of the multidisciplinary dimensions such as socioeconomics, history and the power dynamics between the various

tiers of planner that we can fully understand the spatial planning and development (Soja, 1980).

This paper takes the holistic approach of building a short albeit comprehensive narrative of spatial planning and development within the European context. Our frame of reference is a qualitative analysis of the existing scholarly literature with peppered conclusions by the authors.

2. THE EUS HABITABLE SPATIAL LANDSCAPE

The Industrial revolution reshaped the European spatial landscape. Urbanisation picked up pace between the 19th and 20th centuries placing distinct boundaries between the rural and urban spaces. The concepts of *metropolis* started to take shape in the literature of all forms. Socioeconomics became the driver for reshaping of the subspaces within the metropolis.

In 2008 United Nations reported that 50% of the global population lived in urban spaces (Turok & Parnell, 2009, May). The European urban space housed 73% of its total population by 2018 (Terama & et al., 2019). These are astronomical changes to the spatial landscape of the continent. Some of the urban movement can also be attributed to the post-World War Second rebuilding of European countries that saw extensive devastations during the war. Interestingly Europe's rebuilding post World War Second blurred the lines between urban and rural spaces with the advent of the *suburbia*. The *Suburbs* provide the transitional space between the urban and rural spaces which are a rich mix of both the spaces.

The EU-28 comprise of approximately 22 Million Square Kilometres area. 1.95 Million Square Kilometres of the European continent is inhabited with an average 34 inhabitants per Square Kilometre. European metropolitan regions with more than one million inhabitants are home to 39% of the EU-28 population. Interestingly these same high density urban spaced provide employment to 42% of the EU workforce and generate 48% of EU's GDP. A rather simplistic conclusion can be drawn that spatial regions with higher urban density in Europe also have higher employability and make greater economic contributions to the wealth of the continent. Another rather startling conclusion from the spatial landscape of Europe shows that only 10% of the inhabited space is home to 72% of the European urban population. The rural 28% of the European population resides in the remaining 90% of the inhabited continent (Terama & et al., 2019).

This is an amazing spatial snapshot of Europe in the 21st century. According to the Eurostat 2015 census, 28% living in the rural areas reduced by 1.7% in 2019, increasing the population living in Suburbs and larger cities to over 75%. The risk of poverty in Europe for people living in the rural areas is greater (25.5%) than the risk of poverty for people living in the suburban and urban areas (22.1%). This may explain in some part the 1.7% increase in movement of population from rural to urban areas between 2015 and 2019. People with university education is also recorded higher in urban areas (48.1%) compared to rural areas (27.9%) for the European between the ages of 30 to 34 years (Source: Statistics Explained, 2019).

While these statistics are not all telling of the changing spatial landscape in Europe, it does allow us to look at some indicators such as urbanisation due to economic reasons. It is in line with our earlier discussion on the multidisciplinary and integrated review of the spatial planning and development of Europe. The poverty threshold is a relative factor independently defined by each of the EU member states with their specific factors defining poverty. Regardless of the definition of poverty, EU policy makers declared in 2019 that 86.6 million Europeans in the EU-28 faced the risk of monetary poverty (Silander, 2019).

Keeping in line with our economic inquiry of spatial landscape, the material deprivation is an absolute index compared to the relative index of poverty. Severe material deprivation is more stark in the South Eastern parts of Europe compare to the rest of the continent. Bulgaria (42.6%), Romania (29%), Hungary (20%) and Greece (20%) have their rural populations living in severe material deprivation. The rest of the EU-28 report an average of 2% severe material deprivation in their rural populations (Sakellaropoulos, 2019).

Housing costs overburden is defined as housing cost being 40% or more of the total household income in EU-28. The housing cost overburden rate in 2019 is lower in rural areas (9.1%) and peaked in the cities (13.3%). The unmet healthcare needs gap between rural and urban areas in EU-28 for 2019 is reported as 4.2% in the rural and 3.5% in the cities. Access to higher education in rural areas in 2015 was reported at 27% with urban areas at 48.1%. The gap between rural and urban areas increased by 20 points in 2019. Consequently the

share of young people between the ages of 18 to 24 without any further education or training was 3.7% higher than their peers in urban areas (Gobillon & Selod, 2019).

The digital landscape is now a significant factor in spatial planning and development. The digital divide between the rural and urban communities is significant in EU-28. Less than 62% of the rural population in EU-28 access internet on daily basis compared to over 75% of urban dwellers. The digital divide can and will play a significant role in the spatial design of smart cities projects Lucendo-Monedero, Ruiz-Rodríguez & González-Relaño, 2019).

With this factual and statistical background, we will examine the spatial development and planning of Europe/EU-28 as it stands and its future development.

3. EUROPEAN SPATIAL DEVELOPMENT PERSPECTIVE (ESDP)

The first draft of the ESDP was drawn up in 1997 after a comprehensive consultation between fifteen member states of the EU became a non-binding agreement in 1999. The consultation was multi-staged through a series of seminars held on the key issues by the European Commission. The discussions were held at national, regional and social levels. The European Parliament along with other socio-economic institutions of the EU contributed to the consultation process. The process while being extensive and robust, faced constant challenges due to the diverse nature of power interests within the EU institutions and the governments of the member states (Cotella, 2019).

ESDP draws its strength from the political structure of the EU itself. The so-called four freedoms (Genakos & Pollitt, 2019), the freedom of movement of goods, capital, services and people underpins the ESDP's political objectives. These objectives are aimed at providing the EU wide guiding principles for spatial development within the member states. The aim of the ESDP remains to consistently evaluate the impact of EU wide policy decisions for spatial planning in the future development of the cities and regions within the EU. ESDP was not conceived as a static framework rather it was conceived to be a dynamic and evolving process driven by the unique spatial needs of the member states and their communities.

The cooperation between the member states was the key element for the success of the ESDP initiative with the European Commission providing the necessary guidelines through the translations of ESDP set objectives as they evolved. The role of various actors at different levels of planning and policy was very much part of the ESDP blueprint. The net result of the ESDP would have made it possible to implement measures and projects under the European policy on spatial development.

The ESDP is a set of non-binding policy guidelines agreed upon between the EU member states who are signatory to the treaty. Three distinct policy directives (Purkarthofer, 2019) underpinning the ESDP are clearly stated. They are:

- ✓ *A polycentric urban system that balances development within the rural-urban spaces*
- ✓ *Ensure equitable access to knowledge and social infrastructure*
- ✓ *Sustainable development based on judicious management that ensures the protection of nature and cultural traditions*

The non-binding nature of the ESDP can only achieve its policy aims through diplomatic persuasion and voluntary adoption. The ideology of the ESDP policy discourse is aimed at balancing a polycentric urban system through specific sustainable development ideas (Malý, 2019). The ideology prescribes a new planning approach based on specific ideas. These ideas are:

- ✓ *Environmental and Culture conservation leading the development*
- ✓ *Spatial approach for social mobility*
- ✓ *Polycentric Urban Systems*

The ESDP political objectives are also the result of various EU Treaties which have supranational reach and impact sectoral policies. Those Treaties are understood to have a strong influence on the implementation of national and regional spatial development policies through ESDP. We have established in our introduction that spatial planning and development is a multidisciplinary and integrated study. The EU's ESDP approach to *Spatial Impact* refers to its EU wide significance through its potential for socio-economic altering of the EU landscape. We argue that the initial blueprint of the ESDP missed the mark by this narrowly defined scope of the spatial impact.

The EU policy makers did recognize albeit as a secondary factor, the spatial impact also influencing the *competitive position* of a city or a region within the EU's economic space. The rural and urban movement was linked to the economic influences by the ESDP policy makers. The early policy makers of ESDP recognized the following areas of EU treaties (Cotella, 2019) that could directly impact the spatial design and planning:

- ✓ *EU Competition Policies*
- ✓ *EU Digital Networks/ Data Policies*
- ✓ *European Infrastructure Funds*
- ✓ *EU Common Agricultural Policy (CAP)*
- ✓ *EU Environment Policies*
- ✓ *EU Research, Technology and Development (RTD)*
- ✓ *Euro Currency and European Investment Bank*

The discussion on each of these policies is beyond the scope of this paper. The list however, highlights the initial thought process at the level of European Commission when the policy objectives for ESDP were being formulated in the late 1990's. The policy areas do point to a strategic overview that led to the formulation of the ESDP within EU. The difficulties at policy making level within the EU create tensions between political expedience and dire social needs that need to be incorporated in the spatial planning and development policies.

4. CRITICAL ANALYSIS OF ESDP OBJECTIVES

The ESDP policy objectives highlight the core principles of polycentric urbanisation and the ability of the planned spatial spaces under the ESDP to ensure social mobility. It is not clear if the social mobility refers to the *physical* 'Rural- Urban' mobility or *social mobility* within the various earning classes, or *mobility* pertaining to the accessibility of social services. The discussion on the polycentricity and mobility elements of the ESDP spatial approach points to an emerging discourse. The discourse points to the future ESDP approaches for developing frameworks to support polycentricity patterns and mobility infrastructures.

Academia has shown preference for *discourse analytic approach* (MacCallum, Babb & Curtis, 2019) for spatial planning research. Analytical approach for discourse analysis if generic in nature can create ambiguity where the discourse is a combination of enunciated text and policy practices based on existing ideologies guiding the policy.

Foucault (Mashhadi Moghadam & Rafieian 2019) offers an interpretation of discourse that allows discourse analysis in its totality of ideas and actions as they perform, reform and transform. Such an analysis underpins the power dynamics driving the linguistic enunciations and policy practices. For the purposes of our study we will not be going into the details of the Foucauldian interpretative discourse. We will give an overview of the ESDP discourse that will allow us to draw a conclusion for the purposes of its policy making discourse. Our analysis aims to highlight the competing logic between

the theoretical knowledge and the existing spatial realities that flow from the ESDP policy discourse. The base idea is to establish if the ESDP policy discourse truly provide a regulatory mechanism which satisfies the power dynamics at each level of spatial planning and lead to meaningful policy actions. Those actions must satisfy the polycentricity and mobility objectives of the spatial planning and development through ESDP.

The ESDP document was adopted in 1999 by fifteen member states. The European spatial discourse at the time envisioned some of global trends that were challenging the European spatial development. These trends were globalization, internet connectivity and social mobility. Two decades later the challenges remain the same. Some added dimensions are Middle East migrant crisis and anti-EU sentiments such as Brexit. These challenges need to be balanced before polycentric and socially mobile cities can emerge through the ESDP policy discourse.

ESDP policy framework flows from the EU's competence to dictate policies for the member states to adopt. ESDP policy framework envisions European cities planned within the EU discourse as a *node* of the EU system. This poses a challenge for the polycentric ideals in an increasingly competitive European economic space.

Researchers have also challenged the ESDP discourse for aiming to shrink the European spatial landscape through borderless movements for the four freedoms. ESDP discourse envisions future European cities surpassing spatial segregation across EU in a frictionless polycentric spatial existence. The rise of the far-right

political powers within EU counter such a discourse. While the ESDP discourse may proclaim frictionless spatial development, it lacks the evidenced social mobility that ensures freedom from discriminatory human interactions. The statistical data presented in the earlier part of this paper confirms this conclusion.

There is little evidence to counter the conclusion that ESDP has been curtailed to a ideological and political thought that exists outside of the existing European spatial policy planning. The actions taken by the EU member states for their national spatial planning and development are opposite to the perceived goals of achieving the polycentric and socially mobile ESDP objectives.

Polycentricity remains the focal point of ESDP. The tensions between the various levels of planners nationally and EU wide view a polycentric spatial planning process with differing ideals. Since ESDP is non-binding and is not covered under any specific EU treaty, it is hardly a surprise that little progress has been seen since 1999 towards achieving this core objective of ESDP. The ideals of social mobility and spatial polycentricity are central to the ESDP discourse. These ideals formed the basis for creating a more equitable socioeconomic communities across Europe. The physical mobility towards European urban spaces from the rural areas has been statistically highlighted in our earlier discussion. There is still no evidence of coming up with practical policies to remove the ambiguities related to the ESDP polycentric urban systems.

The question that ESDP polycentric discourse encouraged healthy competition between European cities and it did not lead to

European cities competing to gain access to European and foreign business is not yet answered. We have seen statistical evidence of the widening income, healthcare and accessibility to higher education gap between European rural and urban spaces. We are also seeing any increase in the national policies within the member states where strategic policies for gaining access to foreign capital and attracting talent do not follow the trajectory of polycentric Europe. The question of ‘Irish Back-Stop’ in the Brexit negotiations between the EU and UK is a case in point.

The tensions between the political strategies and institutional development to strike a power balance for EU wide cohesive spatial planning is presently lacking. While there is interest in academia for further exploring the ESDP polycentric spatial planning discourse, there is limited progress on the side of practical policy making.

5. SPATIAL PLANNING CHALLENGES AND EU TOURISM MARKETS

Tourism is the fastest growing sector of global economy. The number of global travellers between 1950 and 2015 jumped from 25 million to 1200 million worldwide. Europe is the choice destination for 51% of these 1200 million tourists (Kim & et al., 2019). Tourism comprises 36% of the EU’s GDP. Asia-Pacific region received 24% of the tourists. The share from tourism to the regions GDP is higher at 33% on the tourist to revenue ratio. North America received 24% of tourists and contributed only 16% to the regions GDP (Lin & et al. 2019). While these statistics have variables which go beyond the

scope of spatial planning and development, we will try and draw certain conclusions relevant to our discussion.

The spatial planning and development within the tourism sector can be best explained by the 1980 concept of *Tourism Area Life Cycle* model by Butler (Milano, Novelli & Cheer, 2019). The model allows the study of tourism through its spatial impact on the host communities life style, shared spaces transformation due to the type of tourist and the environmental stress at different historical moments of the tourism area life cycle.

The digital technologies within the digital space create new opportunities for the development of tourism. The digital space is now becoming a ubiquitous part of the spatial planning and development strategies. Smart technologies, FinTech and Internet of Things (IoT) are enablers which are transforming spatial landscape. The difference however remains stark for tourism communities that lack behind in terms of technological infrastructure to support the enabling technologies. Factors such as access to digital education, reduced costs of technology services and strategic policies to support environmentally responsible tourism are all part of the spatial planning challenges in Europe.

The participatory governance model is still an ambitious goal within the EU bureaucratic system. Local governments are able to carve some decision making space when it comes to preservation of their local environment and culture. These efforts are by no means enough to ensure that Europe can cope with the increasing number of tourists descending on the continent and the continents ability to

ensure that the spatial development keeps pace with environmentally responsible and sustainable tourism development. The role playing and interest of the local communities in all this is still a question that needs answering.

6. SPATIAL SNAPSHOT OF TODAY'S EUROPE

The definition of urban space is now settled. Both Eurostat and the OECD classify urban spaces into three subcategories (Masini & et al., 2019). The categories according to the definition are:

Cities: Densely populated, 50,000 inhabitants or more. Minimum 50% population in high-density clusters

Towns and Suburbs: Less than 50,000 inhabitants, less than 50% live in high density clusters

The ESDP polycentric and socially mobile discourse seems to have not followed the perceived trajectory as Europe moves forward in its mixed trajectory of spatial development. Spatial development in urban Europe today consists of four morphological urban region (Guastella, Oueslati & Pareglio, 2019). They are:

Monocentric: These are regions where a single city acts as the hub for supporting surrounding rural spaces. Such monocentric spatial regions with monocentric urban structures are common in countries such as France, Spain, Portugal and European countries in the North and East of Europe. Monocentric regions are marked by cities which are located over wide areas.

Dispersed: These regions have cities formed due to scattered socioeconomic dispersal with relatively low densities. Such regions are common in Belgium, Italy and Poland

Linear: These regions formed as clusters along Europe's coastline. Portugal, France, Spanish and Italian coastlines are some examples. Linear urban regions in Europe also formed in the valleys of Alps along the Swiss and Austrian mountains.

Polycentric: These regions have multiple cities within close proximity. The industrial and production heartlands of UK, Germany and Netherlands are some of the examples.

The European dialogue since 1999 ESDP discourse has moved on. Now the talk is centered around spatial planning and development to achieve European 2020 goals of Smart, Green and Inclusive growth (Neto, Serrano & Santos, 2019). The European Cohesion Policy 2014–2020 speaks of multidisciplinary agendas for the spatial development of Europe (Uyarra, Ribeiro & Dale-Clough, 2019). EU is positioning itself to support investment programs through prioritizing urban mobility, economic inclusion and social regeneration as its ambitious targets. How these targets are to be achieved is a long and strenuous road map which is still in the making.

In 2016 EU Presidency under the Dutch Leadership, the three main objectives were highlighted. These objectives are supposed to strengthen the *Urban* dimension in EU spatial development and planning (Purkarthofer, 2019). These objectives are:

- ✓ *Improve the development, implementation and evaluation of EU Legislation*
- ✓ *Ensure access and utilization of European funds*
- ✓ *Improve the EU Urban-Knowledge-Base by sharing of best practices and cooperation between cities*

7. CONCLUSION

Europe is highly urbanized. This is a fact that can be gleaned through global comparison of regions. The regions of Europe that became part of the European Union at the time of its inception are more urbanized than the Eastern Europe which predominantly joined the EU after the collapse of the Soviet Union in the 1990's. The most urbanized parts of Europe are located around the cities of London, Hamburg, Paris, Milan, Munch and Frankfurt. The European dreams and ambitions of creating polycentric urban regions, social mobility are still in the pipeline. The Smart, Green and Inclusive spatial development of European Urban space will need a concerted efforts that cannot be driven through policy alone. European Union as a cohesive single market became a reality. The economic goal was a necessity due to the forces of globalization. Perhaps recent climate change initiatives along with economic disruptors such as crypto economy which are best known in Europe will lead the spatial changes in the European urban plans.

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CHAPTER 9:
SATELLITE TECHNOLOGY AND ITS USE IN TURKISH TV
BROADCASTING

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1. INTRODUCTION

Today, as technology is developing rapidly, mass media tools are gradually changing their faces. The emergence of Internet technology and the power of digital systems have led to a change in the way television broadcasting is transported to the masses. Publications both in Turkey and around the world have started to be transmitted using Internet infrastructure. Although digital video broadcasting technology - terrestrial (DVB-T) has been in a rapid breakthrough especially in developed countries, it has not reached the desired level in Turkey. The inability of this technology to develop is due to economic and technical reasons, as well as the inability to standardize Turkey's communication infrastructure and the inability to provide the desired level of investment in the media sector.

Mass media have basic functions such as informing, informing, educating and entertaining. Television performs these functions more extensively. With a much wider program perspective, television has a much more important power to influence the masses than mass media tools such as cinema, radio, newspapers, magazines etc. Appealing to all segments from all ages, television is still popular despite the many mass media tools that developed after it. Because television is not only an audio visual and auditory technology, but it is a qualified mass media that outweighs the commercial aspect. Television, which has managed to use technological developments to its advantage, can also contain the qualities of many mass media tools.

Canadian communications scientist Herbert Marshall McLuhan, who introduced the concept of “global village” in the 1960s, stated that, with the spread of electronic culture, nothing would remain hidden, and he emphasized that television would be able to transfer all the developments occurring worldwide.

Satellite broadcasting technology enabled television to be an effective mass media and contributed to the wide spread of broadcasts to a wide audience. Satellite communication expanded the scope of television technology, enabling broadcasts to be transmitted to the world. Thus, satellite technology has become indispensable for television broadcasting. Broadcasting and signal transmission have been facilitated through the revolutionary satellite broadcasting in the field of communication. In this study prepared using the field literature method, the current state of digital satellite technology was examined by providing information about the history of satellite broadcasting and inferences about the future of satellite broadcasting in Turkey were made.

2. THE CONCEPT OF SATELLITE

Satellites communicate are human-designed structures, each of which is used in different ways according to their tasks, that communicate with the ground station using communication systems and that have an orbit in space consisting of many electronic and mechanical sub-components to avoid being affected by extremely challenging environment conditions in space while performing their tasks. “Useful load” is the main reason why we sent the satellite into

space. However, this does not mean that other subsystems are useless. Other subsystems undertake critical tasks such as providing the necessary conditions for the useful load to operate with necessary energy and transferring the data it produces to the ground station. For example, the useful load of the Hubble Space Telescope, photographing the depths of space and that will be reviewed in coming chapters, is a 2.4-meter diameter telescope. As in the case of Hubble, it is common for other subsystems of the satellite to be mounted “around” a giant useful load.

We have already stated that, whatever the purpose of the satellite is, the useful load is designed for this task. For example, we use weather satellites to display cloudiness and weather movements of the world. While such satellites allow for a global investigation of meteorological phenomena, they periodically send the data recorded by their sensors (antennas, cameras, lenses, etc.) during their movements in their orbits around the earth to their ground stations. One of the most important features of these devices, which are of great benefit to humanity with the ease of communication, is that it is possible to obtain meteorological information from many large areas such as oceans, deserts, mountainous areas, polar regions where ground observation stations cannot be installed and data cannot be collected (Berger,1995:19).

There are a wide range of satellite systems with different capabilities and used in different missions. In general, global communications satellites, reconnaissance-observation satellites and remote sensing satellites make up the majority of these systems. There

are also navigational satellites, meteorological satellites, astronomy satellites and search-and-rescue satellites.

3. HISTORY OF SATELLITE BROADCASTING IN GENERAL TERMS

Satellite technology has a long history. It is possible to base the start date of satellite broadcasting on the year 1957. The cold war between the United States (USA) and the Union of Soviet Socialist Republics (USSR) at the time had a profound effect on the beginning of satellite technology. A year after Sputnik 1 was launched into space, which was the first artificial satellite produced by the Soviet Union, the United States sent Explorer satellites into space. However, none of these satellites were produced for communication purposes. Efforts to launch satellites gained momentum, and Telstar 1 was launched into space on July 10, 1962 by the Bell Telephone Laboratories to transmit television broadcasts between the two sides of the Atlantic Ocean. Telstar 1, launched for experimental purposes, could only remain in its orbit for a few weeks due to radiation problems (Dalglish, 1991: 2-3). Although the work carried out during this period did not achieve its full purpose, it went down in history as an important step in the development of satellite broadcasting.

With a better understanding of the importance of satellite broadcasting in the world and the changing face of publishing, on August 20, 1964, many countries came together to create a new organization called INTELSAT (International Communication Satellites Organization). The year 1965 marked the turning point of

satellite broadcasting. Because, within this year, the world's first communication satellite, Early Bird was launched into space (Şimşek, 1994: 628). Through Early Bird, the first color television broadcast was broadcast worldwide via satellite. Turkey, on the other hand, was not indifferent to the developments in satellite broadcasting, and "Peyk Satellite" Telecommunications Group Chief Engineering was established within PTT (General Directorate of Postal and Telegraph Organization) which conducted satellite surveys of Turkey at the time. Thus, significant progress was achieved towards satellite broadcasting in Turkey, and Turkey became a member of INTELSAT in 1968 (Taurus, 2002;188).

Upon the establishment of INTELSAT, INTERSPUTNIK, a space communications organization led by the Soviet Union, was established on November 15, 1971. Headquartered in Moscow, INTERSPUTNIK is an international organization. In 1976, Marisat, the world's first maritime communications satellite, was produced by the United States and launched into space. In 1979, an organization called INMARSAT, headquartered in England, was established upon the major boost in global maritime activities. Turkey is also one of the members of this organization. By 1984, China's first satellite, the STW-1 satellite, which provided TV, telephone and data transmission services, took its place in space (ITU, 2002: 3-4). Upon all these developments, countries have stepped up their efforts to produce their own national satellites.

The rapid development of satellite broadcasting worldwide attracted the attention of Turkey, and important efforts began to become a national satellite owner. Thereon, an agreement was signed with the French company, Aerospatiale, and Turksat 1A satellite was produced and launched into space on January 24, 1994. However, Turksat 1A exploded in the air about 12 hours after its launch. On 11 August 1994, the efforts to create a second satellite accelerated and this satellite, called Turksat 1B, was launched to 42 degrees east position. This satellite broadcast in a total of 3 destinations including Turkey, Central Europe and Central Asia. After the successful service launch of Turksat 1B satellite, a more advanced satellite was produced by Aerospatiale company. This satellite, called Turksat 1C, was launched to 31.3 degrees east on July 10, 1996, and orbital tests were conducted, and about 17 days later, Turksat 1B satellite was placed at 42 degrees east position (Çakaloz, 2007: 67-68). Turksat 1C satellite had a much wider coverage area than the previous Turksat 1B satellite.

After receiving high efficiency from the first-generation satellites, second generation satellite works were started, and EURASIASAT was established in Monaco in partnership of Türk Telekom by 51% and Aerospatiale by 49%, thus new satellite works started. On February 1, 2001, the Turksat 2A (Eurasiasat 1) satellite had a power of 2800 Watts and a weight of 3400 kilograms. Turksat 2A has also served the geography in Europe and Central Asia where Turkish society lives extensively. After receiving maximum performance from Turksat 2A, the production of Turksat 3A started on February 10, 2006 in accordance with the treaty with Alcatel, and as a result, this satellite

was launched into space on June 13, 2008. Turksat 3A satellite is also located at 42 degrees east longitude. This satellite has a power of 24 Ku-Band transponder, 6112 Watts and a weight of 3070 kilograms (Vardar, 2010: 10, 59).

4. SATELLITE RECEIVER SYSTEM

It is a system of devices that send signals to the cable TV system to the part where they are received with various devices and converted to signal that the end user will use. It consists of three main elements:

1. Dish antenna
2. LNB (Low Noise Block)
3. Satellite receiver

Thanks to this system, channels that are broadcast in different frequencies from various satellites are collected and converted to the desired format to be processed in the download centers on the ground, and the broadcast to the Cable TV network is prepared. The costs of these system elements are within the cost of Superstructure.

5. DISH ANTENNA

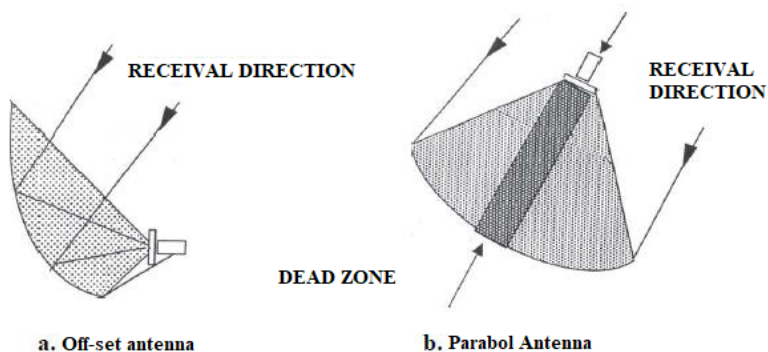
Since the satellites are 36,000 km higher from the ground, the waves reaching the ground spread and reach the earth with a force of approximately 200 dB. In this case, to be able to pick up signs with the desired sign/noise ratio, it is necessary to use high-gain antennas. Such high earnings can only be achieved by using a parabolic reflective antenna. Parabolic reflective antennas collect parallel heat from each

other at the focal point and send them to the feedhorn element (Dağdeviren,1990:112).

The gain of a dish antenna depends on reflection coefficient of the material by which antenna is made off, the smoothness of the parabola, and the position of the feedhorn at focal point. Its aluminum antennas are used in professional systems due to their good and light reflectivity. Satellite antennas are generally divided into Parabolic and Offset antennas.

In parabolic antennas, the satellite signal has to come perpendicular to antenna surface. The signals, coming perpendicular to antenna from satellite, are projected into focus, they converge at a point here, and they are collected by feedhorn and sent to LNB. In parabola antennas, a dead zone is formed on the antenna because the focal point of antenna is right in the middle of the antenna, and this area cannot be used.

Figure 1. Receiving Directions of Satellite Antennas (Teknotel, 2005: 13)



In offset antennas, satellite signal arrives at a certain angle on the antenna, so the focal point of antenna shifts to an area outside the antenna signal receiving surface. Therefore, the LNB does not intercept satellite signals on the antenna and does not cause a dead zone on the antenna. Offset antennas appear to be superior to parabolic antennas with these features, but are not used much above 3 m as they hold too much wind in large antennas.

Dish antennas are of various sizes and help to collect broadcast flows in a single center according to the desired broadcast service to collect and present signals in different orbits; in the Turksat antenna field in Gölbaşı, Ankara and Acibadem Türk Telekom, there are dish antenna fields and services provided at Cable TV are collected here. Their costs are considered when calculating superstructure and maintenance costs.

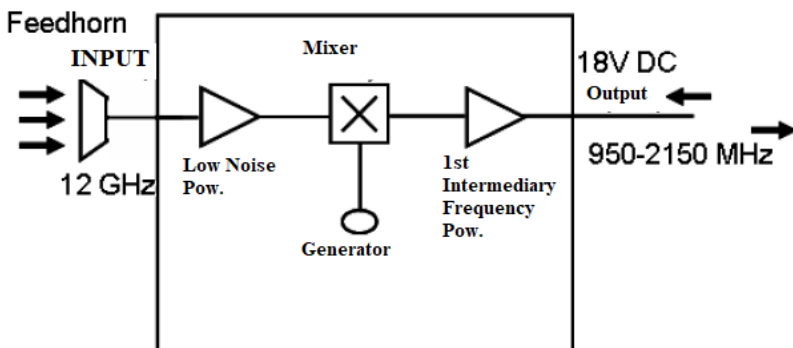
6. LNB (Low Noise Block)

Low Noise Block first amplifies the magnetic waves of signals from antenna collected in feedhorn element at the front. Then, magnetic waves are reduced to 950-2,150 Mhz intermediate frequency by local oscillator. These signs are transmitted to satellite receiver via a low-loss co-axial cable. There are two main types of LNBs: C and Ku Band. They also have different frequency ranges as Wide (top) Band (Universal) and Narrow (Bottom) Band. C Band LNBs are mainly used in ancient Russian satellites and Russian channels. Ku Band LNBs have 2 different frequency ranges. Wide (Top) Band LNBs (universal) are those with a frequency range of 10,700-12,750 MHz, and the most

widely used type today. Narrow Band LNBS are LNBS with a frequency of 10,950 to 12,250 MHz (Lewis, 2005:14).

It is also important to move the signal from LNBS to satellite receivers. As shown below, signals taken from the antennas are usually carried to the distribution center by RG-6 and RG-11 cables. The cable distance carried out is an important factor in the cleanliness of the carrier signal and the healthy operation of demodulators and should not exceed 100 m.

Figure 2 . Signal Transport from LNB



In long-distance cable requirements, line amplifiers are used to raise signal level and cover losses. However, line amplifiers should not be used unless they are very mandatory because they raise signal level but cause suffocation on carrier signal.

LNB is an electronic tool used in the antenna field to receive the broadcast of our dish antennas, they are used to receive services provided in different bands from satellites in different orbits so that the

broadcast is received. LNB costs are calculated within superstructure costs and maintenance costs.

7. SATELLITE RECEIVER

The Receiver picks 950-2,150 MHz frequency signals coming from LNB, selects the desired channel and demodulates the frequency, separating image and audio signals and giving them to the output. It also provides supply voltage required for LNB. In DM (H-E) system, a satellite receiver is used for each broadcast.

Figure 3 : Satellite Receiver

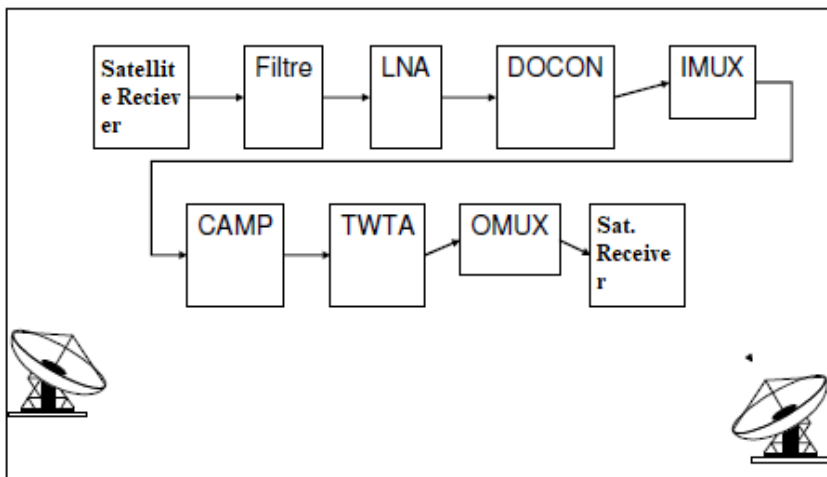


Signals collected by dish antennas must be processed at power plant and converted to digital broadcast format, which is done by satellite receivers operating at power plant. Each channel has 1 satellite receiver, the more channels is provided, the more receiver is needed. This service is not a service that varies by region, but a service that varies by operator. Example: While cable TV has 150 channels, Digiturk has 123 channels. The costs of satellite receivers are assessed within the superstructure and maintenance costs.

8. TECHNICAL CHARACTERISTICS OF RECEIVERS

Satellites are the group of electronic devices prepared with advanced technology that pass signals from any part of the earth through electronic circuits on them and send these signals in various frequency bands to desired regions. One of the most important parts of this group of electronic equipment constitutes of transponders called which are divided into smaller units of the total capacity. Communication data progresses via satellite by following this path called this transponder, which is a kind of signal pathway.

Figure 4 . Transponder (Teknotel, 2005: 39)



Communication satellites usually consist of between 24 and 72 transponders. Very few of these transponders may be for backup purposes. Capacities of transponders are measured in MHz. In today's world where transition to digital broadcasting via satellite is almost complete, data usage is becoming increasingly common and SCPC

(Carrier Press Single Channel) applications are realized; capacity sales and leases are made over Mbit/s. There are 36, 54 and 72 MHz transponders on the market. Transponders with a capacity of 36 MHz are common in satellites. Larger transponders such as 72 Mhz are also designed especially for Internet and data exchange. Such transponders are capable of transmitting 155 million bits of information per second. This capacity allows satellites to transmit audio, Internet, video, etc. as data wholes (Şeker, 2009:75).

Satellites send signals to earth at varying signal levels. Depending on signal levels of satellites, footprints of satellites are obtained, which are obtained by showing satellite EIRP contours covering the earth on regions where they can reach, and example of which is given in Footprint of Turksat 3A Satellite. Footprints can serve different purposes with different radiation, frequency and power values depending on the design during satellite construction.

Signals sent by satellites to the earth are indicated in dBW. Since signal levels sent to the earth vary by region, the diameter of dish antenna used to receive broadcast varies accordingly. To make an analogy, the fact that signal levels vary by region can be better understood by that light power of flashlight held to illuminate a specific region is stronger around the center, and the light power decreases with the distance from light center; similarly, footprints of satellites and accordingly their power may vary.

Table 1 : Receiver Antenna Diameter and Signal Strength

Signal Power	Smallest size	Largest size
36 dbW	240 cm	360 cm
40 dbW	120 cm	150 cm
45 dbW	90 cm	99 cm
50 dbW	60 cm	65 cm
55 dbW	40 cm	50 cm

Satellites transmit information in the form of radio frequencies. Frequencies in C-band Ku-band and upper Ku-band ranges are used by satellite operators in satellite communications. Ka-band, which is higher than the Ku-band, has recently been used to prevent frequencies from interfering each other due to each filling of certain frequency values used (the state of close wave size of signals and interfering with each other's broadcasts).

Today's modern satellites are designed to reach specific geographic allocations at different frequency ranges and at different power levels. Depending on the geographic region covered by satellite, types of radiation can be divided into four main groups:

- ⇒ **Global:** It easily covers 1/3 of the globe. C band is used.
- ⇒ **Hemi:** It easily covers 1/6 of the globe. C band is used.
- ⇒ **Zone:** It covers a large area. It can be a Ku band.
- ⇒ **Spot:** It covers a specific geographic area. It could be Ku or Ka bands.

9. TRANSITION TO DIGITAL SATELLITE BROADCASTING

Upon positive influence of television systems by technological developments, a comprehensive broadcast technology called digital has developed, and this technology has begun to be used in satellite broadcasting. Before examining digital satellite broadcasting in depth, it would be appropriate to address the reasons why this technology is preferred in satellite systems (Richharia, Westbrook, 2010: 212):

- ✓ **Stability:** While analog signals may experience distortion and interference after a certain degree, this is not the case with numerical signals. Transmission does not face any deterioration or loss.
- ✓ **Regeneration and ease of replication:** Numerical signals can regenerate themselves (regeneration), and errors can be corrected. In addition, transmitted signal copy can be reproduced without loss of information.
- ✓ **Ease of switching:** Electronic circuits used in digital computers are also used in digital publishing. In this way, storage and transition process between targets can be carried out more easily. However, it is possible to create a common multimedia stream for different sources of information.
- ✓ **Eligibility for mathematical manipulation:** Switching and storing operations are carried out in these systems using DSP (Digital Signal Processor); thus, the quality of communication is increasing. This system can also be used to compress numerical

signals to reduce data transfer time in cases where the amount of data that needs to be stored is excessive.

Digital technology has many advantages over analogue publishing. It is possible to list these advantages as follows (Durmaz, 1999: 4-6):

- Digital broadcasting technology offers much better-quality audio and video than analogue.
- In digital broadcasting technology, problems arising from noise and noise can be eliminated.
- 4-6 programs can be broadcast from one channel through digital broadcasting so that they can be used more efficiently.
- In digital broadcasting, film broadcasting in more than 2 languages or a 4-5 channel music broadcast can be performed optionally.
- Digital publishing supports interactive applications.

In digital broadcasting, additional information can be provided to audience on demand outside the image.

- Digital publishing is suitable for different screen formats (4:3, 16:9, 14:9).
- In digital broadcasting, it is possible to transmit information in a narrower band or frequency as a result of compressing repetitions in images and sound and removing unnecessary information.

- In digital broadcasting, digitally coded images and sounds work in a harmonious manner with all transmission networks (cable TV, satellite, terrestrial broadcasting etc.).
- In digital broadcasting, broadcast transmission can be provided to audience in different quality and detail.
- Radio television can be made via digital broadcasting through Internet and similar communication standards (IPTV, Internet TV, Mobile TV).
- With digital television broadcasting via satellite or cable, spectators can watch images from different angles.

In the late 1990s, satellite communication technologies began to develop and direct satellite broadcasting systems called DBS (Direct Broadcasting Satellite) met with viewers. With the DBS system, nearly 200 television channels could be viewed with a fixed dish antenna about 46 cm in size (Srivastava, 2002: 27). DVB-S (Digital Video Broadcasting - Satellite) standard was established on the integration of satellite broadcasting with digital technologies. DVB-S is referred to as the standard of digital broadcasting directly to homes or distribution centers, both encrypted and unencrypted in multi-channel via satellite.

DVB-S broadcasting standard QPSK (Quadrature Phase Shift Keying) uses the modulation technique, while the data rate offered is 2-4 mbps for SDTV and 8-20 mbps for HDTV. Digital signals are sent to satellites from ground stations via transmitters operating in the 17.3-18.1 frequency band and via 9-12-meter dish antennas. A standard communication satellite contains a total of 32 transponders. Signals

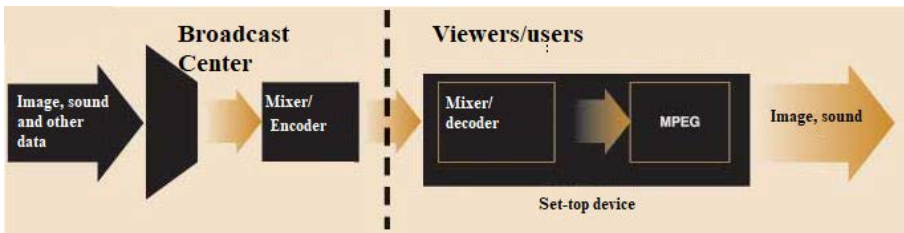
transmitted to carrier and converter transponders are converted to the range of 10,750 GHz-12,750 GHz in Ku band and transferred to surface again. In DVB-publications providing service normally, the task of transponders is only to transmit incoming signal to earth. With the positioning of several satellites in close proximity, more transponders in numbers can be obtained. Satellite broadcasting is also carried out via the C-band, which is in the range of 3.7-4.2 GHz; however, it is not much preferred. The C-band is generally preferred in regions with an equatorial climate where tropical precipitation is intense (Morgül, 2011: 244-245). The European Telecommunications Standards Institute is important because it is an organization that makes important decisions about digital satellite broadcasting. Nevertheless, the maximum symbol and usage bit rates corresponding to the channel widths of DVB-S (Digital Satellite Broadcasting) standard by this European institute are shown in detail in the Table below. This table continues to be valid in the same way today.

Table 2 : Speed Values by DVB-S Channel Widths

Channel Width (MHz)	Maximum Symbol Rate (MHz)	Maximum Usage Speed (Mbps)				
		Rc = 1/2	Rc = 2/3	Rc = 3/4	Rc = 5/6	Rc = 7/8
54	42,2	38,9	51,8	58,3	64,8	68
46	35,9	33,1	44,2	49,7	55,2	58
40	31,2	28,8	38,4	43,2	48	50,4
36	28,1	25,9	34,6	38,9	43,2	45,4
33	25,8	23,8	31,7	35,6	39,6	41,6
30	23,4	21,6	28,8	32,4	36	37,8
27	21,1	19,4	25	29,2	32,4	34
26	20,3	18,7	25	28,1	31,2	32,8

Digital satellite technology has provided significant convenience not only to publishers but also to users/spectators. Passive viewers are transformed into active users thanks to the interaction opportunity offered by digital broadcasting. From the audience's point of view, in digital satellite technology, broadcast transmission is divided into two branches: encrypted and unencrypted. Unencrypted publications are briefly referred to as FTA (Free to Air). In order for encrypted broadcasts to be deciphered by the receiver, conditional access software and hardware called CA (Conditional Access) is needed (Figure below). Digital broadcasting platforms deliver their broadcasts in this way. There is no need for a conditional access unit to receive FTA broadcasts. Such receivers are much cheaper and cost-free (Çakaloz, 2006: 149).

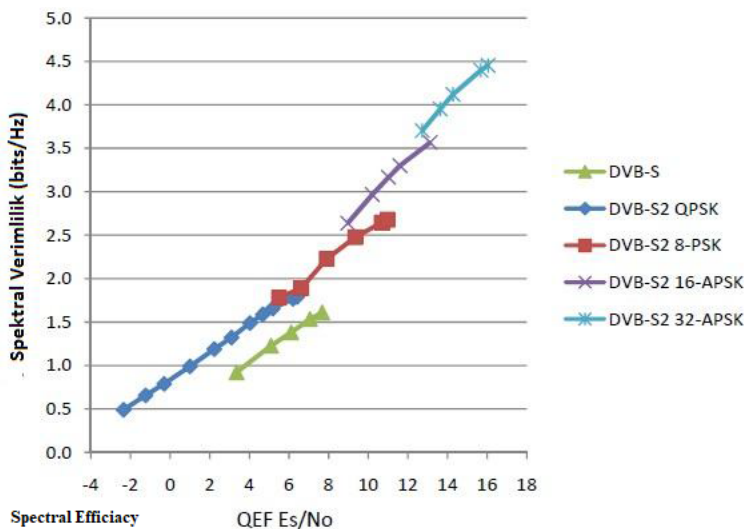
Figure 5. Conditional Access Unit (CA) Technical Operating Scheme



Since digital satellite broadcasting provided viewers with great advantages, this has enabled publishers to benefit more from this technology, then, the DVB-S2 standard was developed in 2003 and revised by the European Telecommunications Standards Institute in 2005. DVB-S2, as its name implies, is expressed as the 2nd generation

standard of digital satellite broadcasting and is a much more comprehensive and new broadcasting technology than the DVB-S standard. This standard is fully compatible with the 1st generation DVB-S, and input signal can be in MPEG-2, MPEG-4 and H-264AVC format. With DVB-S2, a much higher data rate can be sent in the same bandwidth. At the same time, DVB-S2 broadcast standard can also be referred to as “Generic Stream” (Morgül, 2011: 245). The Figure below shows a comparative graph of DVB-S and DVB-S2 standards in terms of spectral efficiency.

Figure 6 : DVB-S and DVB-S2 in Terms of Spectral Efficiency



Services and practices offered by DVB-S2 standard cover a much wider range than DVB-S, and it is possible to achieve high bit rates with this standard. DVB-S2 standard, with the increase in H264 and MPEG compression standards, can easily provide the necessary bandwidth for

healthier realization of HDTV broadcasting technology. It seems likely that a new communication infrastructure and equipment will be needed for the DVB-S2 standard to convey all features of HDTV broadcasting technology to audience. DVB-S2 standard is crucial to forming the basis of a new broadcast technology called “Satellite TV” (Benoit, 2008: 128-129). As can be seen, digital satellite technology provides significant convenience for both publishers and spectators in data speed, compression capacity and technical specifications.

10. BRIEF LOOK AT THE HISTORY OF BROADCASTING

Introduction of television as a mass media tool was made possible as a result of inventions made at different times and places such as electricity, photography, cinema, telegraphy and radio. The fact that television works with a more complex technique than the ability to transmit images, as well as being a more expensive tool, prevented it from spreading as quickly as radio in countries outside the United States and Europe. The first technical discovery related to television was demonstrated by the work of Andrew May, an Irish telegrapher working on an Atlantic Telegraph cable, and Willoughby Smith in 1873. Paul Nipkow developed a device that can scan the picture while it was moving. What made this device important, developed by German scientist Nipkow, was that it had a rotating disc. With this disc, the pictures could be scanned animately, and it became possible to scan shaded and luminous parts of an item allowing the image to be obtained elsewhere (Abramson, 2003;34). Nipkow’s this invention was improved by John Logie Baird, allowing for the first trial broadcasts.

The system, developed by John L. Baird in 1924, allowed the outer contours of objects to be scanned, as an important step in television development. The main factor that funded television work was the improved forms of Nipkow disc (Projesi, 2008: 27).

Later, Vladimir Kosma Zworykin developed a tool that allowed image broadcasting with electronic scanning called iconoscope (Durmaz, 1999). This technique was actually the original scanning technique used today, but not developed much. The first application with this tool was a broadcast from one coast to another in 1928 by the NBC broadcasting organization, and an image from London was viewed from New York in the same year (Burns, 1998:65). After these experiments, the first regular television broadcast using electronic scanning technique began in England in 1936 (Projesi, 2008: 26).

We see that the Second World War had a negative impact on the development process of television. After the war, the pace of television broadcasting was improved. Thus, new transmitters were built, new television stations were established, and new receivers were produced (Bay, 2007: 42). After the Second World War, television broadcasts began in Asia. In 1952, television broadcast began in Japan. In China, television was launched in 1958. With the rapid development of television broadcasting and technology, the first 'color television' was invented in 1954 and mass production was introduced in 1960 (Aziz, 2013: 54-55). By the 1990s, significant steps were taken in international television broadcasting. During this period, a significant increase in investments in new communication infrastructures occurred. Established operators have returned to Internet protocol-based

networks. Thus, in addition to communication, the presentation of new data services has become possible (Yeşil, 2013: 45).

Considering the historical development process of television broadcasts, it is possible to outline the process in question as follows; 1938-1945: Trial or start-up period: During this period, television was able to broadcast in a limited number of countries. The occurrence of World War II also prevented television from becoming broadcast in more countries. 1945-1960: Development or maturity period: This is the period when television began to become prevalent in various parts of the world.

1960-1980: The golden era of television: With the developments in the technical field of television, live broadcast began with satellites. Color television broadcasts began, and increase in the types of broadcasts also occurred in this period. 1980-2000: Satellite age. After 2000: The era of digital terrestrial publishing (Aziz, 2013: 54-55).

11. HISTORICAL DEVELOPMENT OF TV BROADCASTING IN TURKEY

Initial studies on television broadcasting in Turkey were launched to provide applied education to students of the High Frequency Technique Science Branch in 1949 at Istanbul Technical University (ITU). With this initiative of ITU, it was aimed to create an electronic laboratory where students can primarily carry out studies, and in the first step, the aim was only to establish the system without thought of going to regular broadcasts (Yengin, 1994: 67). The first amateur Turkish television was composed of three small rooms within ITU, and

the largest of these three rooms was used as a studio. Although it was for practical lessons by students, television in Turkey went down in history in 1952 as the year in which images transmitted from ITU stations were watched on a screen. The first person in television history to appear before a camera, in other words ‘the first cameraman’, was Prof. Dr. Adnan Ataman, an associate professor at the time. The first TV lighting consisted of a projector placed on a stool. The ‘first décor’ in TV history consisted of two curtains, one grey and the other brown. ‘First director’, ‘First producer’ or ‘First picture selectors’ consisted of students and faculty members at ITU (Kıvanç, 2002: 25-26).

When ITU began its first trial broadcasts in 1952, it was said that the number of receivers in Istanbul was 10, and four of them were at ITU (Bay, 2007: 43). The work for television broadcasting, which began in Turkey in 1950s, paid off in 1968. With the establishment of TRT in 1964, closed-circuit publications were initiated in 1966 as a result of the efforts behind the state power, and regular broadcasting was started on January 31, 1968.

In 1963, an agreement between the Ministry of Foreign Affairs and the Federal Government of Germany planned the establishment of a television training center in Turkey to train producers and technical staff, but this arrangement was later adopted by TRT established in May 1, 1964 as per law no.359. The first thing TRT did during its founding phase was to ask for technical assistance from Germany in accordance with the cooperation with the Federal Germany. The first broadcast in Ankara was launched in Ankara province with a 5 KW transmitter gifted by the Federal German government. Broadcasts, which were held

three days a week, began to cover all days of the week in 1974. Initial broadcasts were broadcast in CCIR European standard with 111th band and 7 MHz broadcast width in 5th channel and with 625 linages; and news, sports, poetry, music, open sessions, films, culture, education and children's programs were published.

Since television broadcasting required a large budget, the government and the Parliament were indifferent to this issue, and decisions on broadcasts were not included in the second 5-year development plan, as a result, the first trial broadcasts were more devoted than today, in higher quality, however, the situation caused them to progress slowly with a limited budget. The publications carried out between 1968 and 1969 in all kinds of impossibilities were described as "trial publications". According to the fourth five-year development plans data, TRT broadcasts in Turkey in 1974 were watched by 55 percent of the total population, while in 1977 this rate reached 81.5 percent (Bay, 2007: 44)

TRT carried out informative programs in the countryside during this period, and sent television receivers to four villages in Ankara in February 1969 to ensure that these programs were watched. Within the scope of these works, films were shot for educational purposes and broadcast as television series in different rural regions of Anatolia. With the success of these studies, viewer forms were created and feedbacks were received (Aziz, 1999: 31-32).

On March 12, 1971, a new era of Turkish political life began with the memorandum of the Turkish Armed Forces. TRT autonomy, which had been unsettling political power for a long time, was abolished

during this period. While various amendments were made to the constitution, article 121 was amended, and the definition of "autonomy" of TRT was abolished, and replaced with the concept of "neutrality". In this way, TRT ceased to be an autonomous institution and came under the domination of political power. In accordance with the constitutional amendment, some provisions of law 359 were amended, and additional provisional provisions were introduced (Tamer, 1983: 95).

The Military Coup of September 12, 1980 was a turning point for radio-TV broadcasts. With the impact of the coup, news, news programs, education and cultural programs changed their face (Aziz, 1999: 56-61).

As per Article 133 of the 1982 Constitution, amended after September 12th coup, "Turkish Radio and Television Law no. 2954 was adopted." This law regulated not only TRT, but also publications outside the institution; thus, "Supreme Council of Radio and Television of Turkey" responsible for radio and television was put into operation. Among the most important tasks of this board can be shown as proposing two candidates to the council of ministers for TRT general manager, and 12 candidates, which are twice as much for the six-member board of directors, and to approve publication plans. TRTHC is obligated to inform TRT, the Prime Minister and the President in three years of reports by checking whether radio and television broadcasts comply with the law (Aziz, 1999: 66).

While these developments were taking place in Turkey, the waves of political, economic and technological changes in Europe in the 1980s were described as deregulation and had a profound impact on Turkey.

The monopolistic structure implemented by TRT continued until 1990. However, with the drastic changes experienced in 1990, private television broadcasting was launched in Turkey. Europe is the first starting place of private television in Turkey. In 1989, Cem Uzan and Kuno Frick founded Magic Box in Liechtenstein, then Turgut Özal's son Ahmet Özal became a partner in 1990. Turgut Özal explained that although it is illegal, it is not objectionable for channels abroad to broadcast to Turkey. However, Magic Box began broadcasting test signals as Star 1 channel on the Eutelsat F5 satellite in 1990 (Kırık, 2010: 29)

Color publications in Turkey were launched in 1984. In 1985, technical directors and picture selectors reorganized the broadcast studios for color broadcasting, taking courses for six weeks. New image use techniques were introduced, and a monitor set was installed (Yengin, 1994: 73). While the world was shrinking thanks to television, the TRT monopoly in Turkey was destroyed illegally in 1994. The first private television channel, Star, was broadcast by other national and local channels in the following years. "With *the Law on Radio and Television Organizations and Broadcasts adopted in 1994, private radio and broadcasters have gained legal roof*" (Bay, 2007: 45).

12. SATELLITE BROADCASTING

Satellite broadcasts are an indispensable technology especially for rural areas that cannot access terrestrial and cable broadcasts and cable transmissions. Satellite television broadcasts, which mean better quality imagery for urban audiences, are the only source of image

without alternatives for some rural geographies. On the other hand, technological facilities provided by satellites have also provided significant distances in collecting news from the scene. Especially in television journalism, it was possible to transmit news from all geographies to the studio with portable small satellite antennas. This development has enabled live broadcasting from all over the world. Local and alternative radio and television organizations, which also try to broadcast on limited budgets, found opportunity to reach a wide audience through increasingly cheap digital channels. The failure to technically block satellite broadcasts has led to the benefit of satellite broadcasting by a large number of channels that cannot broadcast terrestrially, especially for political reasons. The prohibitions on using dish antennas in some countries have failed with the use of camouflaged antennas in camouflaged shapes and sizes that cannot be seen from the outside (Atabek, 2001: 100)

Communication satellites are expected to be able to deliver the broadcast to the geographical area where it is targeted and to provide quality and safe service during its life. This process is determined by the satellite's communication capacity, physical conditions to operate and technological equipment (Richharia, 1999: 274).

Two-way radio system in communication satellites are called transponders. Transponder picks up signal coming to the satellite and amplifies it, lowering its frequency to satellite receiving frequency and landing in designated areas of coverage. It is determined depending on the bandwidth of transponder how many TVs will be transmitted. Transponders send their broadcast to broadcast area without changing

it. Broadcasts sent to satellites from the ground are also picked up by parabolic antennas on satellites and sent back to earth. Publication sent by parabolic antenna to the earth covers a circular area (Rigel, 1991: 56).

Broadcasts received by dish antennas or ground stations in houses are converted by satellite receiver in a format suitable for normal television receivers. Image and sound are transmitted with frequency modulation (FM) in analog satellite broadcasts, while digital satellite broadcasts use MPEG coding and QPSK (Quadrature Phase Shift Keying) modulation (Morgül, 2002: 7).

Satellite digital television and radio broadcasting has been increasing in recent years. Digital publishing, which allows more economical use of transponders using MPEG-2 compression algorithm, has become preferred over analogue broadcasting. 1 analogue television broadcast can be broadcast from a transponder of 36 MHz, while 10 digital channels from the same band width can transmit broadcasts. Depending on compression ratio and quality of image, number of channels that can be transmitted also varies. To spend a fixed bandwidth more efficiently, bouquet broadcast format is also used to deliver publications of many different broadcasters together by an organization.

In order for satellites to function, they must follow a known and predetermined path in space. This path, called orbit, is positioned in accordance with the mission of satellite. Satellites travel in orbits where they are placed for their intended use.

13. NUMERICAL SATELLITE PUBLISHING

DVB-S satellite can be described as a multi-channel, encrypted or unencrypted broadcast standard directly to homes or distribution centers. In this type of satellite transmission, direct broadcasting (DBS-Direct Broadcasting Satellite) can be carried out in MPEG-2 or MPEG-4 formats using numerical compression methods. In Turkey, satellite management is operated by TURKSAT Inc., and television broadcasts are transmitted in full digits (Paçacı, Seçki, Pençereci, 2011, p.13).

Platforms providing paid satellite broadcasting services in Turkey include Digitürk, D-Smart and Filbox.

DVB-S standard is used for digital satellite broadcasts from DVBS (Direct Broadcast Satellite) satellites. These broadcasts are made from geostationary satellites 36.00 km from the ground on equatorial plane. These satellites seem to be moving from the ground at all, but they actually circle earth in 24 hours. Once we have set up our antenna, it is not necessary to follow satellite. However, because these satellites are too far away, signals sent from satellites weaken while reaching the earth. For this reason, high-gain (40 -50db) dish antennas are recommended to reduce signal losses (Morgül, 2011, p.243-244).

Signals are usually received via satellite dish, LNB (Low Noise Block) and parabolic reflector antenna. Then, broadcast reaches television via satellite receiver. In paid satellite broadcasts, program is solved with a satellite receiver smart card. Receivers can be STB or internal television receivers (Telkoder, 2015, p.4).

14. GENERAL INFORMATION ABOUT TURKSAT SATELLITES:

⇒ TURKSAT SATELLITE;

In 1989, an international satellite tender was opened as a turnkey. Following the evaluation of proposals, Turkish National Communications Satellites System Agreement was signed between Aerospatiale Company and Türk Telekom on December 21, 1990.

⇒ TURKSAT 1A;

TURKSAT-1A, the first satellite of TURKSAT Project, was launched on the ARIANE-4 rocket from the Kourou Space Station in French Guyana on January 24, 1994. However, due to a malfunction in the launcher rocket, TURKSAT-1A was lost before it could be placed in its orbit.

⇒ TURKSAT-1B;

TURKSAT-1B satellite was successfully placed in position 42°E on August 11, 1994. Following orbital tests, TURKSAT-1B satellite was put into service on October 10, 1994. It was shifted from 42° to 31.3° east during 27 September to 12 October 1996. After October 12, 1996, it began to serve at 31.3° east longitude. Turksat 1B satellite, which will be switched to inclined orbit in May 2004, will continue to serve until 2007.

TURKSAT-1B satellite has 3 coverage areas including Turkey, Central Europe and Central Asia. On TURKSAT-1B, there is a total of 16 transponders, 10 of which are in 36 MHz width and 6 of which are in 72 MHz width running on Ku-band (11-14 GHz). It has ability to

switch 4 transponders between Turkey and Central Europa, and switch 4 transponders between Turkey and Middle East.

Over TURKSAT-1B satellite, services such as Internet, SCPC, VSAT, TES (Telephony Earth Station) Project and small-scale IBS systems and Southeast IBS/IDR telephone channels are provided.

⇒ **TURKSAT 1C**

Following the loss of TURKSAT-1A, Aerospatiale Company started the construction of a new satellite in accordance with the insurance clauses of the TURKSAT contract. This satellite was later modified to have two wider coverage areas instead of the three coverage areas at TURKSAT-1B, under an agreement signed between Türk Telekom and Aerospatiale. TURKSAT-1C is designed to cover Turkey and Europe in the Western Spot, Turkey and Central Asia in the East Spot to serve Turkey and Europe at the same time and to establish a direct connection between Europe and Central Asia.

TURKSAT-1C satellite was thrown into 31.3° East position successfully on July 10, 1996. Following orbit tests, this satellite was shifted from 31.3° to 42° east longitude. After this 17-day transfer, broadcast traffic on TURKSAT-1B satellite was transferred to TURKSAT-1C satellite. TURKSAT-1B satellite was also shifted to 31.3° east longitude with similar orbital maneuvers. On TURKSAT 1C satellite, there are analogue and digital TV and radio broadcasts, Internet, SCPC, TES, Central Asia IBS phone channels, VSAT data communications network and a numerical TV broadcast belonging to Azerbaijani television company.

⇒ **TURKSAT 2A**

Maintaining this success of TURKSAT Satellite Systems in the future requires that we have new satellites with multi-channel, broadcast coverage, backup capability in international market like other satellite operators.

Therefore, to provide a wider range of satellite coverage to existing domestic customers and to compete with other satellite operators in the international market, it is considered that a new satellite be manufactured and placed in the same position with TURKSAT 1-C Satellite.

Turksat 2A Satellite, manufactured by Joint Venture Company EURASIASAT, established between Türk Telekom and French Aerospatiale Company, was placed in the same position as our TURKSAT 1C satellite, which operates in 42° Eastern location, and was opened for commercial services on February 1, 2001.

There are 32 transponders on TURKSAT 2A Satellite, 20 of which are fixed and 12 are in moving coverage areas.

Fixed coverage fields on TURKSAT 2A satellite and having BSS band transponders have two separate covered areas as in TURKSAT 1C. Broadcasts from fixed coverage areas to be provided over this satellite can reach from England in the west to Scandinavian countries in the north, to North Africa in the south, to Caspian Sea in the east in western coverage area; and from Balkan peninsula in the west to Russian Federation in the north, to Indian Subcontinent in the south, and to Chinese border in the east within the scope of east coverage area. Over moving coverages having FSS band transponders, it is possible to

reach regions within satellite's field of view such as India and South African Republic.

⇒ **TURKSAT 3A**

Production of Turksat 3A satellite began on February 10, 2006 with an agreement with Alcatel. The satellite was sent to space with Ariane 5 rocket launched from the Kourou Guyana Space Center in French Guiana at 01:05 a.m. on June 13, 2008. Turksat 3A satellite, serving in the 42.0° Eastern location, has 24 120-watt Ku-band transponders on it.

Turksat 3A satellite, which has a higher usage capacity of 1296 MHz compared to our other satellites, is used both for satellite communication services and for direct TV broadcasts through Europe, Turkey and Central Asia. With the advantage of high receiver power of Turksat 3A satellite, Turkey coverage is used for uplink TV broadcasts, broadband data services, VSAT and narrow band data services from Turkey. In this way, small-scale and low-cost uplink systems have provided great convenience to users who provide services via satellite.

Turksat 3A satellite will respond to the needs of users who want to use different coverage areas. Turksat-3A can meet the needs of users who want to use different coverage in Uplink and Downlink. Turksat 3A has high switching capability among its coverage areas. With this feature, it has brought great flexibility to the satellite fleet.

In addition to direct TV broadcasts via these satellites, Turksat 3A satellite is also used for delivering a wide range of services such as telephone, Internet, faxes, etc. via satellite terminals (VSAT) to regions

where radio-link and cable communication infrastructure does not exist due to geographical conditions.

TV channels broadcasting via Turksat 3A Satellite deliver their broadcasts to a wider geography in a more powerful way compared to previous satellites. Powerful broadcasting ability and high gain Turkey coverage of this satellite also bring along another social benefit.

With Turksat 3A satellite, telephone and Internet service is provided to regions, schools and villages where access to these services is not possible due to infrastructure and geographic conditions in Turkey. In addition, these services can be carried out with lower costs compared to prices in the past.

⇒ **TURKSAT 4A**

Turksat 4A communications satellite, which was successfully launched from Kazakhstan Baikonur on February 14, 2014, was placed in its first orbit (50° East). Satellite's orbital acceptance tests were launched. A week later, Turksat 4A will move towards its latest business location, 42° East longitude.

Turksat 4A communications satellite will start providing satellite communications service in 42° East orbit together with Turksat 3A and Turksat 2A communications satellites after a week-long journey.

15. THE FUTURE OF SATELLITE BROADCASTING IN TURKEY AND TURKSAT 4A

Since Turkey is a country that closely follows technological developments, Turkey has never been insensitive to changes in communication systems and satellite broadcasting. Turksat Inc., subject

to the provisions of Turkish Commercial Code and private law, started its service life on July 22, 2004 and became the authorized body of Turkey in the field of satellite technology with a view to ensure healthy communication activities via satellites in Turkey and to establish a solid foundation of the communication infrastructure. Turksat Inc. is a very important step for the future of satellite broadcasting in Turkey. Because satellite broadcasting has expanded its field of activity throughout Turkey with Turksat Inc. Turksat Inc. also has aims to follow developments in satellite technology occurring worldwide and to increase Turkey's effectiveness in satellite market. In more descriptive terms, Turksat Inc. carries out all activities for satellite technology in Turkey (Büyükbakkal, 2013: 23).

As part of international communication organizations, Turkey is expanding its efforts in the field of satellite broadcasting. Turkey, also a member of EUTELSAT and INTELSAT organizations, has delegates in these organizations. In this way, inter-institutional relations are strengthened. Nevertheless, since Turkey is a member of the European Broadcasting Union (EBU), Turkey also makes use of ECSF2 satellite along with its communication systems. All satellite connections with Intelsat and Eutelsat fall under the jurisdiction and responsibility of Turksat Inc. Turksat have large dish antennas facing satellites Intelsat's 1 degree west and 66 degrees west, and Eutelsat's 13 degrees east and 7 degrees west satellites in its ground station facilities located in Gölbaşı district of Ankara. All connections with Turkey's communications satellites are carried out through this facility (MEB, 2013: 6).

Japanese technology company, Mitsubishi Electric MELCO, signed an agreement of \$571,000,000 with Turkey to accelerate Turkey's efforts for satellite broadcasting and to produce 4th generation satellites in March, 2011. Thus, the construction of Turksat 4A started and the planning of Turksat 4B also began. Having proton rockets, Turksat 4A was designed to have 2340 MHz bandwidth and a weight of approximately 3800 kg. Turksat 4B, which is intended to be launched in 2014, will be 3340 MHz band width and weigh 3900 kg. Turksat 4A, the first satellite of the 4th generation, which is placed in the 42-degree east longitude and is projected to serve for about 15 years, can also be deliver broadcasts to Africa because it uses the C-band in addition to 28 Ku-2 Ka transmitters. In this way, it has become possible to receive broadcasts by the African continent after Turkey, Europe, Middle East, North Africa, China and Central Asia.

Turksat 4A has a much wider coverage area. Likewise, Turksat 4B satellite, which will take its place in space in the near future, will be able to offer Internet and data services to companies thanks to Ka band as well as television and satellite services. In addition, satellite Internet service will be much cheaper, and this will contribute greatly to users and spectators economically.

All operations for the construction of Turksat 4B satellite and all kinds of controls of the satellite are carried out at Melco and Jaxa's own facilities. Turksat 4B weighs 4,985 kilograms and is in 3,400 MHz bandwidth and will be positioned in an eastern orbit of 50 degrees.

Turksat 4B satellite, which will allow live broadcasting from three continents, will have much wider coverage in Turkey, East and West than Turksat 4A.

Important steps are being taken regarding the future of satellite broadcasting in Turkey. Engineers of Turksat A.S. are currently working on Turksat 5A (Peykom 1) satellite at the Turkish Aerospace Industries Inc. (TAI) facilities.

Studies and research on the production of Turksat 5A and other communication and observation satellites in Turkey are carried out at Satellite Assembly, Integration and Testing (UMET) Facilities. Turksat 5A satellite is expected to be launched into space in 2015, Turksat 5B satellite in 2017 and Turksat 5 satellite in 2019. Turksat Inc. has indicated that at least three satellites will be produced in Turkey in 2019, and a fleet of 7 satellites will be established. In this way, it is planned that 91% of the world's population will be broadcast via Turkish satellites by including eastern North America, South America, Asia, Europe, Africa and western Australia to the coverage area.

16. CONCLUSION

Communication is one of the oldest and most fundamental activities in human history, and it is possible to say that this importance will continue in the same way as long as human beings exist. The rapid development of mass media and dizzying changes in size of technology have led to the emergence of alternative broadcasting systems. The most important among them is satellite broadcasting technology that allows signals sent from the earth to be transmitted back to earth.

Satellite broadcasting has progressed significantly from its inception to the present day and has survived despite many communication systems that followed it. With the popularization of satellite broadcasting and publishers paying attention to this technology, many countries around the world have started to invest significantly in satellite systems. Countries, members of international organizations such as Intelsat and Eutelsat, are in a desire to cooperate with different countries by increasing their knowledge and capabilities for satellite broadcasting. The production objectives of satellites may differ from each other. Because not all satellites are launched into space for communication purposes. Countries produce satellites for research purposes, and they can carry out investigations in different fields such as agriculture, technology, observation, water resources, agriculture, forestry etc.

The most fundamental point that enables the development of satellite broadcasting worldwide is the transition from analog to digital technology. With the power of digital technology, satellite broadcasting has gained significant advantages, and the face of communication

systems has begun to change. While digital publishing has improved the quality of broadcasting, it has provided great convenience to both viewers and publishers.

Upon determination of the advantages of satellite broadcasting and understanding of its importance, countries have made significant efforts by conducting great research in order to produce their own national satellites. Turksat Inc. was established and started to offer services to advance satellite broadcasting in Turkey from a single branch. Efforts to produce Turkey's first national satellite, Turksat 5A, organized by Turksat Inc. are promising for the future of satellite broadcasting. Consequently, it is possible to say that Turksat Inc.'s efforts to develop and renew satellite broadcasting will expand its coverage in 2020s and gain an international dimension, and Turkey will receive both economic and technological support from many countries that have proven themselves in the field of technology.

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CHAPTER 10:
THE EFFECT OF UNIVERSITY STUDENTS
'DEMOGRAPHIC CONDITIONS ON ENTREPRENEURSHIP
AND INTENTION (İİBF EXAMPLE)

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1. INTRODUCTION

Achieving innovation in terms of entrepreneurship, markets and products is a unique resource that should be the focus of today's complex business environment, which is vital to the survival of economies. Entrepreneurship is a synergistic force in the development of the economy and the welfare society, especially in recent years, is one of the most important topics that have been emphasized. Entrepreneurship is also seen as an important and popular topic in academic research, both because of the attractive success of entrepreneurship and as a remedy to the stagnant economies of the 21st century.

Although the majority of innovation does not consist of newly established companies, newcomers improve economies by reducing unemployment, diversifying existing products and services, increasing market efficiency and attracting investments. In other words, entrepreneurs have long been the key solutions for stagnant economies that have been ineffectively revived by fiscal and monetary policies.

In the literature, two theories (emergency models and feature theory) are generally accepted to explain the concept of entrepreneurship. (Littunen, 2000: 297). The emergency model tries to explain the preferences and behaviors of individuals with the help of situational factors. However, traits theory is directed to individuals' personality traits that are relatively stable over time. It is particularly important to be able to recognize entrepreneurial potential and identify entrepreneurial behavior priorities for the promotion of this valuable intangible asset or for policy-making purposes.

In this respect; Looking at the entrepreneurship characteristics and intentions of university students who are prospective entrepreneur candidates in the future, it is very important to determine the individuals who can perform important entrepreneurship activities for the future. (Demirel and Clicker, 2010: 222).

2. THEORETICAL FRAMEWORK

2.1.The Concept of Entrepreneurship

Entrepreneurship was first published in a work written by economist Cantillon (1755) (Hébert, 1981: 75).John Stuart Mill later made this term popular with the use of English literature in the 19th century (Mill, 1998).

Schumpeter (1909) presented a different perspective than the model developed by neoclassical economists and laid the foundations for the economic theory of today's entrepreneurship (Schumpeter, 1909: 213).In addition, for Schumpeter (1934), the greatest benefit of entrepreneurship to society is to support yaratici creative destruction layarak by providing social and economic innovation (Schumpeter, 1934).According to this theory, entrepreneurs are individuals who make current progress in markets, products and processes that challenge the status quo due to innovation.

Since the concept of entrepreneurship is an abstract concept with broad borders, it is quite difficult to make a single definition. In fact, Morris (1998) found that more than 77 definitions were made in the academic literature even in a five-year period (Morris, 1998).

In this sense, when we look at the definitions of entrepreneurship from the 17th century to the recent past, it is seen that they are handled in different ways as shown in Table 1 below:

Table. 1. Entrepreneurship Theory and Development of Entrepreneur Concept.

17th century: Individuals who make an agreement with the government at a fixed price and plan to make a profit as a result of this are called entrepreneurs.
1725: Richard Cantillon - a person who takes an additional risk of providing capital or is called an entrepreneur.
1797: Beaudou - defines entrepreneurial individuals as risk takers, planners, consultants, organizers and owners.
1876: Francis Walker made a distinction between those who benefited from funding and those who benefited from management skills.
1964: Peter Drucker - Entrepreneur maximizes opportunities.
1975: Albert Shapero - Entrepreneur takes initiative, regulates socio-economic mechanisms and learns from mistakes by accepting them.
1985: Robert Hisrich-Entrepreneurship is the sum of the process of creating a different value for financial rewards and personal satisfaction by undertaking the necessary time and effort, taking on financial, physical and social risks.

Source: Hisrich and Peter (1992)

The most important point to be noted in the table above is that the owners of the capital have replaced the owners of the company in the period from the 17th century to the 1985, and the distinction between the managers and entrepreneurs is more apparent.

Today, entrepreneurs are defined as individuals who are able to foresee opportunities and to keep their risk coefficients at high rates and make profit as a result. In addition, entrepreneurs focus on improvements to gain or maintain competitive advantage. Previous studies also showed that entrepreneurs are more successful than managers in search of opportunities and recognition. (eg Baron, 2006; Gilad, et al., 1988).

2.2.Intention of Entrepreneurship

The concept of entrepreneurial intention, for the first time by Bird (1988) focus on the mind, creation-continuation status and has been listed as the target selection (Bird, 1988: 442). Thus, entrepreneurial behavior is seen as a pioneering step for real behaviors such as entrepreneurial intention since it is a planned behavior rather than a random impulse (Ajzen, 1991; Fayolle and Gailly, 2005). In addition, when the researches about entrepreneurial intention are examined, the reason why some individuals have entrepreneurial characteristics or why others do not have entrepreneurial intention has been examined in terms of some personality traits. (Hansemark, 2003; Miron and McClelland, 1979).

Therefore, measuring entrepreneurship intention is important for understanding entrepreneurship behaviors. In short, the factors that

have the potential to affect entrepreneurial intention in general can be listed as demographic characteristics, personality traits and environmental factors (Franco, et al., 2010).

Demographic factors such as income level, gender, age, education, marital status, profession, religion, family size, place of birth can have a weakening or empowering role for the person in entrepreneurial intentions or behaviors. Similarly, environmental factors, such as economic, social, legal and technological developments, can play an important role in individuals' decision to start a company. Therefore, in this study, entrepreneurship characteristics and intentions of university students who are potential individuals who may exhibit entrepreneurial behavior in the future are tried to be evaluated in terms of demographic characteristics, family income level.

3.METHOD

3.1. Purpose, Scope and Method of Research

The aim of the research is to determine the entrepreneurial characteristics of university students, potential entrepreneurs of the future. The scope of the study consists of the students of İ.İ.B.F of a public university. In the study, the scale called Girişim Entrepreneurship Scale for University Students geliştiril developed by Yılmaz and

Sünbül (2009) and the general entrepreneurship intention scale used by Naktiyok and Timuroğlu were used together. ^{2,3}

The first part of this scale includes demographic questions and the second part contains statements to determine the entrepreneurial tendencies of the students. The questionnaire prepared was distributed to the participants and 248 returned questionnaires were analyzed by using SPSS program.

3.2. Limitations of Research

The research was carried out at İ.İ.B.F. It is limited to students studying in the department of business administration. One of the most important limitations of the study is that the data were collected from a faculty of only one university. The research is limited to a sample of students selected to represent the universe. It is known that as of 2018-2019 period, 550 students representing the main population are enrolled in the day and night program of the Faculty of Economics and Administrative Sciences. Therefore, the sample size to be selected was determined as 226 by predicting a 5% error at 95% confidence level.⁴

Thus, 300 questionnaires were distributed to the participants, and 248 of these questionnaires returned approximately 83% without error and complete. Entrepreneurship characteristics and entrepreneurship

²Yılmaz Ercan and Ali Murat Sünbül (2009) “Üniversite Öğrencilerine Yönelik Girişimcilik Ölçeğinin Geliştirilmesi”, Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, Cilt 21, Sayı 2, 195- 203.

³ Naktiyok, Atılhan and M. Kürşat Timuroğlu (2009) “Öğrencilerin Motivasyonel Değerlerinin Girişimcilik Niyetleri Üzerine Etkisi Ve Bir Uygulama”, Atatürk Üniversitesi İktisadi Ve İdari Bilimler Dergisi, Cilt: 23, Sayı: 3, 85-103.

⁴ <http://www.surveysystem.com/sscalc.htm>.01.08.2019

intention scale were kept short in order to get the answers of the students who were asked to answer the questionnaires correctly.

3.3. Research Hypotheses

H1: There is a significant relationship between university students' entrepreneurial intentions and gender.

H2: There is a significant relationship between university students' entrepreneurial intentions and their ages.

H3: There is a significant relationship between university students' entrepreneurship intentions and their classes.

H4: There is a significant relationship between university students' entrepreneurial intentions and their family's monthly income.

H5: There is a significant relationship between the entrepreneurial intentions of university students and their GPAs.

H6: There is a significant relationship between the entrepreneurship intent of university students and the type of education.

H7: There is a meaningful relationship between the entrepreneurial intent of university students and the sector they intend to work in the future.

3.4. Results

Table 2. Demographic Information

AGE	Person	(%)	GPAS	Person	(%)
18-20	74	29,8	1.00-1.50	22	8,9
21-23	131	52,8	1.51-2.00	71	28,6
24-26	27	10,9	2.01-3.00	115	46,4
27-29	5	2,0	3.01 and above	40	16,1
30-32	6	2,4			
32 and above	5	2,0			
CLASS	Person	(%)	FAMILY INCOME LEVEL (TL)	Person	%
1st Class	63	25,4	Less than 2000	46	18,5
2st Class	72	29,0	2001-3000	122	49,2
3st Class	54	21,8	3001-4000	52	21,0
4st Class	59	23,8	4001 and above	28	11,3
TYPE OF EDUCATION	Person	%	GENDER	Person	%
First Teaching (Daytime)	207	83,5	Woman	139	56,0
Second Teaching (Night)	41	15,7	Male	109	44,0
FUTURE SECTOR	Kişi	%			
Public Sector	160	64,5			
Private Sector	87	35,1			

According to Table 1, 56.0% of the students are female and 44% are male. The average grade of students is between 2.01 and 3.00. This shows that the majority of students are successful in intermediate and intermediate levels. Nearly half of the students' family income is between 2001-3000 TL. In other words, family income is concentrated at a low level. According to the types of education, there is only 15.7%

of the students who receive night education in 2017-2018 night education. Looking at the age of the students, the general tendency (29.8% between 18-20 and 52.8% between 21-23) was observed. Finally, it is seen that 64.5% of the students prefer the public sector.

3.4.1. Reliability and Validity Analysis of the Scale

The construct validity of the scale used in the research was first determined by explanatory factor analysis and then by confirmatory factor analysis. In the explanatory factor analysis, KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) value which shows the suitability of the data to make factor analysis is greater than 0,60 and the degree of sphericity (Bartlett's Test of Sphericity) indicating that there will be significant factors will be obtained from the obtained data. (Tobias and Carlson, 1969: 375).

Factor loadings were not less than 0.40 in exploratory factor analysis and 0.50 in confirmatory factor analysis (Kerse and Karabey, 2017: 375-398). On the other hand, in the explanatory factor analysis, items where the difference between the loads were less than 0.10 were included from the analysis (Tavakol and Dennick, 2011: 53). In the study, the internal consistency of the scales was examined to determine the reliability of each scale; Accordingly, Cronbach's alpha coefficient of the scales was examined. The Cronbach alpha coefficient is considered to be higher than 0.70 (Bland and Altman, 1997: 572). As the reliability of the scale is 85%, it is highly reliable.

Table 2: Factor Analysis Results

FACTOR	FACTOR LOAD								
Innovation	0,714	0,699	0,598	0,591	0,541	0,493	0,436	0,417	
Yourself Confidence	0,894	0,801	0,693	0,628	0,547	0,539	0,512		
Opportunism	0,763	0,748	0,696	0,547	0,448				
Risk Taking	0,679	0,599	0,587	0,516	0,463	0,432	0,410		
Outward Span	0,789	0,629	0,583	0,541	0,497	0,418			
Believe in Success	0,623	0,547	0,501						
Intention of General Entrepreneurship	0,859	0,739	0,707	0,633					

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO Test): 0,752 Bartlett's Test of Sphericity Approx. Chi-Square: 2714,243 Df:6 Sig. ,000

3.4.2. Testing Hypotheses

The aim of this study is to answer the question of whether the effect of demographic characteristics on entrepreneurial intentions is significant. For this reason, firstly T test and correlation tests were conducted and hypotheses about entrepreneurship intention were tested in this context. Table.3 and Table below. After the hypotheses (H1 and H6) were tested in 4, respectively, the other hypotheses were concluded by correlation analysis as shown in Table 5.

Table 3: Independent T-test Results

Scale	Woman (n=139)		Male (n=109)		t	P
	X	S.	X	S.		
Innovation	3,69	0,647	3,61	0,669	4,269	0,239
Yoursself Confidence	4,12	0,692	4,77	0,741	3,693	0,008
Opportunism	4,74	0,764	3,52	0,682	2,124	0,196
Risk Taking	3,52	0,532	3,79	0,537	-1,478	0,102
Outward Span	4,77	0,782	3,80	0,621	1,,867	0,003
Believe in Success	3,89	0,623	3,39	0,796	1,743	0,468
Intention of General Entrepreneurship	4,28	0,786	3,75	0,788	2,476	0,002

According to the independent T-test analysis, there is a significant difference between the openness characteristics and gender of the students ($P = 0.003$) and female students have a more open structure than male students. There is also a significant difference between students' self-confidence and gender (0.008), and male students are more confident than female students. Finally, there is a significant difference between students' general entrepreneurship intentions and their gender (0.002), and girls' general entrepreneurship intentions are higher than boys.

According to the results of the analysis, male students have higher self-confidence compared to female students, while female students have higher openness and general entrepreneurial intentions than male students. However, no significant difference was found between the gender, innovation, opportunism, risk taking, and belief in success. H1 hypothesis can be accepted as. There is a meaningful relationship between the entrepreneurial intention of university students and their

gender. The H6 hypothesis was then tested as outlined above and is shown in Table 4 below.

Table 4: Independent T-test Results

Scale	First Teaching Woman (n=207)		Night Male (n=41)		t	P
	X	.S.	X	.S.		
Innovation	3,32	0,579	3,69	0,601	4,214	0,310
Yourself Confidence	4,12	0,682	4,14	0,641	3,688	0,412
Opportunism	4,23	0,587	4,56	0,579	2,136	0,187
Risk Taking	3,69	0,523	3,81	0,512	1,582	0,116
Outward Span	4,41	0,788	3,29	0,636	1,,693	0,237
Believe in Success	3,10	0,593	3,96	0,704	1,429	0,483
Intention of General Entrepreneurship	3,69	0,614	3,47	0,749	2,213	0,364

According to the independent T-test analysis shown in Table 4, it was observed that there was no significant difference between the students' learning type (innovation, self-confidence, opportunism, risk taking, openness, believing in success, general entrepreneurial intention). Therefore, H6 hypothesis ‘There is a significant relationship between the entrepreneurial intention of university students and the type of learning’ was rejected. The H1 and H6 hypotheses were tested and interpreted by correlation analysis in the remaining hypotheses (H2, H3, H4, H5) after testing. Findings are given in Table 5 below.

Table 5. Correlation Analysis Results

		Innovation	Yourself Confidence	Opportunism	Risk Taking	Outward Span	Believe in success	Intention of General Entrepreneurship
Family Monthly Income	Pearson Correlation	,324**	,236**	,0213*	,249**	,369**	,113	,118*
	Sig. (2-tailed)	,001	,000	,042	,000	,001	,033	,027
	N	248	248	248	248	248	248	248
Grade Point Average	Pearson Correlation	,143*	,102**	,348*	,132*	,0713**	,0471**	,179
	Sig. (2-tailed)	,034	,001	,031	,014	,001	,000	,024
	N	248	248	248	248	248	248	248
Age	Pearson Correlation	,121	,256	,331	,204	,432	,124	,218
	Sig. (2-tailed)	,0611	,364	,067	,699	,765	-,783	,566
	N	248	248	248	248	248	248	248
Class	Pearson Correlation	,022	,190	,065	,078	,054	,006	,018
	Sig. (2-tailed)	,226	,063	,218	,547	,229	,361	,457
	N	248	248	248	248	248	248	248
The sector we intend to work in the future	Pearson Correlation	,236	,112	,145	-,018	,358	,069	,138
	Sig. (2-tailed)	,000	,027	,031	,021	,043	,042	,019
	N	248	248	248	248	248	248	248

**p<0,01; *p<0,05

According to the results of the correlation analysis, there is a positive and significant relationship between the monthly income of the students' families and their self-esteem, self-confidence, opportunism, risk taking, openness, believing in success and general entrepreneurial intentions (H4 accepted).

There is a positive and significant relationship between the grade point average and innovation, self-confidence, opportunism, risk-taking, openness, belief in success and general entrepreneurial intentions. (H5 accepted).

There is no significant relationship between the students' age and the level of innovation, self-confidence, opportunism, risk-taking, openness, believing in success and general entrepreneurial intentions according to their class level (H2-H3 Rejected.)

There is a positive and significant relationship between the sector that the students intend to work in the future and innovation, self-confidence, opportunism, risk-taking, openness, belief in success and general entrepreneurial intentions. (H7 accepted.)

4. CONCLUSIONS

The aim of this study is to reveal how the demographic status of the students studying at the Department of Business Administration of the Faculty of Economics and Administrative Sciences affect the entrepreneurial characteristics and entrepreneurial intentions. Findings show that demographic status affects both entrepreneurship characteristics and students' intention to be entrepreneurs.

Today, with the rapid development of technology, while the need for entrepreneurs increases, it is important to better understand the concept of entrepreneurship, which is a driving force for the development of society, and to evaluate opportunities quickly. In societies where there are good enterprises, prosperity is increasing rapidly and therefore, entrepreneurship spirit should be revealed in universities, which take on a very important task at this point and which is the last stage of getting started in business life. When the results of the study were examined, the relationship between the demographic characteristics of the students, entrepreneurial characteristics and entrepreneurial intentions was statistically analyzed.

According to the findings, there is a significant difference between students' self-esteem characteristics and gender and male students are more confident than female students. There is a significant difference between students' openness and gender. According to this, female students have more openness than male students. There is also a significant difference between students' entrepreneurial intent and gender. According to this, female students have more entrepreneurial intentions than male students.

There is a positive and significant relationship between the monthly income of the students' families and innovation, self-confidence, opportunism, risk-taking, openness, belief in success and general entrepreneurship intentions. Therefore, it can be said that as the monthly income of the students' families increases, entrepreneurship characteristics and entrepreneurship intentions generally increase.

There is a positive and significant relationship between the grade point average and innovation, self-confidence, opportunism, risk-taking, openness, belief in success and general entrepreneurial intentions.

There is a positive and meaningful relationship between the sector that the students intend to work in the future and innovation, self-confidence, opportunism, risk-taking, openness, believing in success and general entrepreneurship intentions; however, there is no significant difference between students' ages and classes and entrepreneurship characteristics and intentions.

The findings of the study are partially similar to those of the studies mentioned in the literature. In general studies, it was observed that the average level of entrepreneurship of male students was higher, but female students were found to be more entrepreneurial than male students in this study.

However, the number of areas where women can engage in entrepreneurship activities is increasing rapidly with the support of the state. Therefore, female students also need to be directed towards the areas where they can become more entrepreneurial in the future. Finally, it is a fact that a good entrepreneur provides social capital to the society regardless of gender and can bring new job opportunities to society more quickly and easily.

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CHAPTER 11:
SECURITY IN THE CITY AND THE ENVIRONMENT

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1. INTRODUCTION

The cities where the majority of the population live in the world are among the places where the security need is most felt. Throughout history, people gathered together with the instinct of protection and established a city; they felt safe in the city. However, when the cities grew up, it became so difficult to provide security. In the modern age, problems, crime and violence have been increasingly seen as the city's population grew and the city's poor grew. However, it would not be right to look at the problem of urban security only through the windows of population growth, crime and violence. It is also necessary to look at the environment and rights windows. Anymore it is accepted that residents have the right to live in a safe urban environment. Urban life should be within security for everyone.

The quality and security of urban life starts with the urban culture of the city residents. In the city, it is necessary to live in a sense of belonging to the values of the city, respect for others and responsibility. Some people feel themselves excluded in urban life and may conflict with the normal harmony of the urban. Nevertheless, while security is the fact that individuals and institutions living in the city do not go to non-civilized behaviors but the main security is that they know that they are within security in the day and night in all areas of the city. The reduction in crime rates is not only achieved by the criminal system, but also depends on the activities of institutions responsible for shaping our social and physical environment. Service of the security forces who is a peaceful organization provides city order, the public and individual life-property security of the city, and

the peace of the city. Service units should function not with an understanding of sanction but with an understanding of providing preventive social services. The function of providing security services to the community highlights the need for further cooperation with individual and social institutions.

In this study, the city-environment and security duo is evaluated together. Today, urban environment security is being questioned in cities that have become unsafe. The big cities have almost come into contact with everything. We could get hit by a car, drop tiles on our heads, or be struck by stray dogs. In this context, the study consists of four parts. The first part introduces city, environment and urban environmental concepts. The second part focuses on the concept of security, its meaning and content. In the third part, the security phenomenon in the city and environment is discussed with its different aspects. The final part contains the result and evaluation.

2. CITY, ENVIRONMENT AND URBAN ENVIRONMENT CONCEPTS

The city is defined as a place where non-agricultural production is carried out, where distribution and control functions are collected, and where there is a certain level of size, heterogeneity and integration (Keleş, 1996:35). In addition to the population size in the city definition, economic and social indicators of non-agricultural production gain importance. The city is an advanced settlement unit with its lifestyle and functions. The city exists in an environment. The environment refers to all the external conditions that affect the life of

the individual and society. The urban environment is an eco-system that accommodates both urban people and urban environment (nature) (Kaypak, 2015:12-13). As an artificial environment created by people the city is based on physical and socio-cultural structure.

Cities that describe an organized life differ from rural areas in terms of their way of life. The main characteristic of the city is that it is not agricultural; industrial functions are dominated by industry, trade and service sectors. The city which is built by the human hands has the advantages over the natural environment as the areas where knowledge and culture have accumulated over the years. The city not only refers to physical environment, but also to a different social order that affects the thoughts and behaviors of individuals in social life.

In terms of the way of life, although there are basic common features between cities, there are also differences that the cities have created in their historical development process. The concept of the city has been used in the historical process as the words “police” and “cite” in close meaning to each other. Policy is defined as the equivalent of city and state affairs. The city has a more administrative and political character. The settlement area which The Greeks called the big one a polis and the little one cite area meant that economic, social and political independent organization. It meant the state. In other words, the cities gave birth to the state and the state established its foundations on the cities (Bumin, 1998:26). The word “police” generally mean the fortress to explain the necessity of defense. The city-states, the so-called polis order, meant a place that included society (Ağaoğulları, 1994:11). The word polis has now abandoned

the city's content and means the security force (Aydın, 1996:5). The old Turks used the word "kend" in the sense of the castle, and they said to kend to all the small and large settlements. We also see that the Persian words "şar", "şehir" and Arabic "Medina" are used for the city (Ögel, 1978:175; İsbir, 1991:5). Today, criteria such as "feeling live in the city" have entered into the definition of the city and with the growth of the cities, step by step, "metropolitan" concept which means "big city" in started to be used (Toprak, 2001a:5-7).

Urbanization is defined as the growth of cities in terms of area, population, number and economic parameters. Urbanization is one of the basic social phenomena and processes that are manifested in Europe today and then spread to the whole world. *Being urbane* is the adaptation of urban life. *Being urbanized* is the internalization of urban life values of the individuals who are included in the city and its participation in the economic, social and cultural life of the city. Being urbane is the internalization of the value-norm system of the urban society, the city's behavior and way of life by those who immigrated to the city and lived in the city. Being urbanized is a process of adaptation and integration to the urban life as the population is an element of the city by developing a form of relations appropriate to the new conditions. Being urbanized is a city art and takes place in the urban environment. The mass dimension of the city gave birth to the city and the spatial dimension of the population gave birth to the phenomenon of the city (Parlak, 2009:1257). The degree to call the contemporary world a city is measured not by the proportion of the total population living in cities but by culture and urbanization.

Cities are the realms of civilization. Researchers consider the settling of settled lives of people due to agricultural activity from hunting and shepherd as the beginning of civilization and urbanization (Childe, 1978:146). The words urban, civic and civilization derive from the concepts of civitas in Latin, meaning “unity of citizens” (Holton, 1999:13). In the east, “medeniyet” comes from “medeni” (Toprak, 2001a:1-2). The city is the name of humanity’s journey to ‘society’ from ‘community’. Cities are the places that best reflect the level of development of a society. When the city is called, civilization, specialization, cooperation, standardization, population accumulation, transformation of economic activities, commercialization, appreciation of land, political structure come to the fore (Parlak, 2019:1255). The city is a place where technical, economic, social, political and cultural structure are together. The city is a complex social unit composed of settlement-related relationships in terms of human life. A city gains the nature and identity of the inhabitants, both with the structures that make up the city as a physical area and the cultural richness created by the relations with each other.

Cities are the starting point of change and transformation. This change and transformation takes place in physical/spatial, economic, political and cultural dimensions. There are differences in agriculture and industry between the first cities and today’s cities. The main view of the changes in the urban environment is that the agricultural sector has lost its influence and left its place to the industrial sector as a result of the diversification of the changing and developing economic resources. It is seen that the differences between rural and urban areas

are decreasing, and cities are marked by the culture of industrial society. The cities, which have the characteristics of science, trade, architecture, fine arts, economy and politics in every period, have increased their value with the Industrial Revolution; until that time there have been unprecedented population increases in the city. Parallel to all these changes, intensive migration from rural areas to urban areas has been experienced and squatting has occurred in the cities. Along with industrialization, rural migration to the city has increased the number of cities, economic and social life capacities as well as expanding the cities as Area and population. More people live in cities and the world is rapidly urbanizing (Duran, 2008). Urbanization has been accompanied by development in industrialized societies (Keleş, 1996:21). Increasing rate of urbanization is a common process observed in all countries, although there is a degree difference between them (Kavruk, 2002:36).

The process of globalization has been one of the important dynamics shaping the social life by affecting the economic, political, social and cultural areas of today's world towards the end of the 20th century. The fact that the cities are transformed from production center to consumption center emphasizes the process of restructuring the urban environment. In the complexity of social structure in cities; the idea that the globalization process is as effective as the Industrial Revolution is an undeniable fact. The cities became the epicenter of these changes in the 21st century and this century has become known as the “century of cities”. Following the industry-based mode of production, the shift to knowledge-based production has brought cities

out of the industrial center features. Today's cities have become cultural-recreational areas where the services sector is concentrated and 'IT centers'. The emergence of relations that transcend national structures has also changed the position of cities in the globalization process. The cities have specialized in the liberalization of goods, services and trade and have tended to meet all demands of their environment in the fields of work, recreation and tourism (Ercan, 1996:68). Settlement areas shaped by information-communication technologies bring together a new understanding of "quality of life", depending on how the vital needs are addressed according to the dimensions and criteria for provision. In terms of urban environment, the quality of life refers to the level of life satisfaction (subjective dimension of life quality) of people living in a particular city and the capacity of the city to satisfy the various needs and demands of these people (objective dimension of life quality) (Bilgin vd., 1991:2).

3. MEANING AND CONTENT OF SECURITY CONCEPT

Security is the execution of the legal order in the life of the community without hindrance, the case for people to live fearlessly and safety (TDK, 2015). Security is to rely on, feel secure. The concept of security refers to the absence of threats and dangers to the lives, possessions and possessions of individuals. The security of the people means that they are protected against all kinds of attacks, threats and accidents. Security refers to the fact that individuals can be found without being subjected to attack, coercion and obstruction, and not to worry about their lives and goods (Pektaş, 2003:22).

Security is wide-ranging; it can be seen as individual, social, national and global security. Occupational safety, social security, national security, public safety, environmental safety, food safety, international security can be in such varieties. Security is that individuals can live without being harmed by various factors. *The elements of security* are knowledge, fear, belief and power. People are afraid of things they do not know; they are not afraid of what they can perceive by sensory organs, such as seeing, hearing, touching, tasting and feeling, and not fear what they know. If we don't feel confident to anything, it means we don't believe in them.

Security word also evokes the words of safety and public order. 'Safety' is a position what not dangerous; has a narrower, more concrete and positive content than security. Security has intangible and negative content. Safety is the state or feeling of being free from fear or danger (Erhan, 2001:78). Security is also related to feelings; it is a feeling and perception. A person is worried about what will happen tomorrow, and if he/she doesn't know what to face, he/she won't feel safe himself/herself (Kaya, 2008). About the security of a state or the safety of a vehicle can be mentioned. If it's in danger problem, there's a security problem. It is more appropriate to use the concept of security for human beings, due to the ability to perceive of the danger and the ability to take measures against it (Küçükşahin, 2006:10). The word security is also close to the word public order. 'Public order' is the state away from fear and anxiety; law, order and dominance, peace, order and calmness is the state.

Situations that pose a security problem appear as threat, risk and damage. 'Threat', intimidation to someone; 'risk', danger of injured; damage; the situation that can lead to danger, great loss or destruction is defined as an undesirable adverse situation (TDK, 2015). The concepts of security and threat are subjective rather than objective. What is threatened may be due to perception; it may vary according to person and time. For this reason, security should be examined in objective and subjective dimensions (Buzan, 1991:17).

One of the reasons that lead people to live together is the need for security. The need for security is an issue that has preserved its importance and has taken its place in the first stages of the instinct of life. Social scientist Abraham Maslow's hierarchy of needs in the pyramid of needs is listed as 'physiological, security, social, respect and self-realization' (Maslow, 1968:38). According to Maslow, the need for shelter in a safe environment after feeding needs. Having the right to life, the fundamental rights and freedoms are possible in a peaceful and safe environment. The need for security is that man/woman feels himself/herself physically, economically, socially and politically in safe (Kaypak, 2011:44-45). The provision of security is a social need and means the provision of peace, confidence, presence and public order in society. The provision of security has evolved from the providing of individual's own security to the providing of an organizational security. Ensuring the peace and security of the people and the continuation of the trust environment has emerged in the form of public order opposite to states.

It is the duty of the state to ensure public order and to protect the fundamental rights and freedoms of the people living within the borders of a country and to ensure that they live in peace (Toprak, 2001b:130). Security is one of the main reasons for the existence of states. In the basis of this idea lies in the belief that public order will be realized with the state. Without performing this basic duty, the state's education, health, etc. other tasks will not be easy to fulfill. Public officials want to ensure the safety of life and property before they can work (Aydın, 1996:12). Public order corresponds to the existence of a safe environment. The position of a state that cannot protect its citizens is not tolerated (Dedeoğlu, 2008:23). None of the individuals whose security needs are not met can reach socialization and the success of completing their personal development (Toprak, 2001b:131). Security needs is a public service. Public services include all activities that concern the life of the community.

Security services are divided into as internal security and external security services for the countries. 'Homeland Security' is domestic security. Internal security is homeland security and domestic security. 'External security' includes the threat of foreign countries. The state provides peace and security to its citizens through its organs. The protection of society and individuals against all kinds of crime is carried out by law enforcement agencies to ensure a regular and safe environment in which fundamental rights and freedoms can be exercised (Dedeoğlu, 2008:23). Today law enforcement means two things: general law enforcement and private law enforcement forces. General Law enforcement includes police and gendarmerie powers.

'Private law enforcement' is a law enforcement force specifically established for the execution of a particular public service. The municipal police officers are one of the private law enforcement agencies (Toprak, 2001b:131). In recent years, private security units belonging to private sector have been established by law.

The concept of security has become increasingly important in recent years. While security was an external factor, it was an internal factor functioning within us. We do not feel safe from external factors as we walk, work, build relationships, and build protection walls in our personality. It wasn't like this before, everyone trusted each other, nobody would be afraid of anyone. Unfortunately, the lack of security increases the speed in the urban environment.

4. SECURITY IN THE CITY AND THE ENVIRONMENT

Urban security is to ensure that an individual or group living in the city can do this in safety while meeting the needs of urban life and realizing their relations. Urban security is a security request what is valid within the boundaries of the city where residents in the urban environment are expected to be fulfilled (Kaypak, 2011:45). It is an urban problem that needs to be solved. Urban security refers to the safety of the individual who is expecting to meet the urban expectations as a citizen in the service delivery stage. If we don't have life and property safety where we live it is an unsafe environment. If a city is safe, it is lived there; if it is not, it is migrated to another safer place. It is not possible for people to perform their material and spiritual development unless they feel safe and confident (Armağan,

1980:51). Therefore, cities have to be places that provided public order and deliver confidence to the inhabitants (Kaya, 2008).

Cities and castles are thought to be connected to each other. Among the reasons for the emergence of cities, there is also the hope that people will live more safely together in addition to geography and climate conditions. As a result of the improvement of the life of the villages in Ancient Greece and Rome due to economic development the land owners and merchants enriched and seized control of the country, the settlements were surrounded by the walls and became the castle (Acropolis) for the purpose of securing security (Toprak, 2001a:2). The Acropolis was a fortress overlooking the city, a sanctuary, and the place where kings lived before. The city was spread around this Acropolis (Pustu, 2006:132). These places, which have been traded in time, were taken into the city with sub-castles. In order to protect the economic and social values the city has put into operation the security armor. Thus, a systematic security mechanism emerged with the city and the state and with it for protection and defense. Ensuring the security of the city means ensuring that the legal order in the city life is carried out without interruption (Kaya, 2004:15). As can be seen, there is always a security problem in the urban environment, but it has become more and more important.

The main reasons for the security problem in cities are excessive rural migration, population growth, rapid urbanization, poverty/deprivation, vacancy, lack of urban infrastructure and supervision, anomaly, terrorism and violence. The accumulation of migration in the cities adversely affects the security in the big cities.

In Turkey, the urbanization process has gained momentum since the 1950s. As a result of ongoing the case of migration from the village to the city, the ratio of urban population in Turkey to the total country population was almost 93% (www.tuik.gov.tr, 2019). This process can bring about unhealthy and irregular urban structuring, economic and socio-cultural imbalances in the city and the social tension that increases the poverty/deprivation caused by this imbalance and the political violence in the big cities (Ünsal, 1996:29).

Nevertheless, the only reason for the security problem in cities is not the crowding of urban spaces as a result of internal migration. ‘Administrative dysfunction’ is the cause of negative impacts on society seriously (Kaya, 2008). The people who have accumulated in cities in the hope of better livelihoods are unable to turn into a truly urban population in the slum and suburb environment in which they live. Those who are unable to adapt to the way of urban life cannot improve their urban identity under conditions of social anomie and worthless. Furthermore, they tend to ‘regional or tribal, religious, sectarian’ identities in search of social belonging (Şentürk, 2005). The fact that urbanization does not occur in its own natural flow in developing societies and that it takes place as a fast, unplanned process brings many problems. The fact that urbanization is not parallel to economic development has brought phenomenon as called anomic urbanization to the agenda. This pathological condition, also called unhealthy urbanization or hormonal growth of the city, presents problems with versatile effects like squatter settlement, spatial and cultural site formation, formation of congregation, urban alienation,

mafia, unregistered economic activities, street children, an escalation of crime and violence, marginal formations in urban social tissue (Parlak, 2009:1257). As the city scale grows, the security concerns of the urbanites are growing (Kaya, 2008). With increased murder and terrorist attacks, the security problem in cities has been mentioned more increasingly. Life, property and honor security of the inhabitants of the city has become a serious problem, and news about the issue almost every day began to take place in newspapers and television.

As cities get crowded, they quickly become places where social control is reduced (Ünsal, 1996:30). As a result of rapid urbanization, there cannot mention about development of mutual relations in society; social control decreases in cities where neighborhood and kinship relations are almost over. Cultural conflicts are experienced and social values are deteriorating. It is difficult to develop a common value, a common culture, a common history, as there is intense mobility in cities. In the process of globalization, we face international communication which is miniaturized to the world, finance, fashion, consumer goods and lifestyles, television channels with the same program, information technology and internet, which produce homogenous societies, accelerate ideological and cultural expansion and reduce the world. In monotony, an individual loses his sense of belonging to urban furthermore local skills, arts, neighborliness and trust are lost. People are looking for solutions that can recreate the sense of urban which was lost, Social integrity and solidarity, the sense of local color, language and space that is lost (Malik, 1998:45). The disappointment of people who come to the city with great hopes

and the encounter of many new problems in the huge structure of the city, 'otherness' increases the mismatch experienced in the city, and this incompatibility can cause security problems beyond socio-psychological problems. Mechanisms that try to alleviate the problems faced by people who cannot adapt to the city and cannot carry the city, such as the fellow countryman associations in big cities, instead of encouraging compliance with the city, condition people to the places not where they live, where they were born, and increase isolation in the protectionism relations (Şentürk, 2005).

The differentiation of urban area in the post-1980 period strengthened spatial and social breakage as a result. The weakening of the social direction and internal of the state due to the transition to practices establishing the hegemony of free market and competition principles, have further withdrawn the vital positions of disadvantaged groups within the city. Instead of an approach that cares about the culture of living together and shared within the city's ideal, a perception of the social groups has begun to disseminate through which the relations with each other have been completely severed. In urban areas, life is created without any connection between people. This led to the formation of various 'urban islands' in the city. As a result of feelings of insecurity, anxiety and fear, a large part of the urban environment has been protected and kept under various forms. The number of sheltered houses in the city is increasing day by day and these practices are becoming widespread. In this respect, the 'city in the city' cites are as if surrounded by walls; wire netting and armed guards are responsible for the protection of the castle. There are

'residences' which isolation areas where only certain income and privilege groups have private security units. Bilkent Plaza, Kemer Country, Uphill Court, Acarkent etc. cites in Turkey, is the most prominent examples of this process (Karasu, 2012:182).

Security is everyone's concern. The tension and contradictions that have emerged in the city have led to an increase in the feeling of insecurity against the city. Since no one in the urban environment is familiar with each other, there is a favorable environment for crime. This is an indication of the increase in the crimes against the city, the society and the citizens. Throughout history, the changes seen in social structures have also been reflected in the character and security of the crimes. Generally, it has been found that the crime is being further processed in big cities compared to villages and small cities (Kaya, 2008). The city offers advantages for those who want to commit crime. These advantages include the density of the city, the loss of a sense of help of society, the presence of receivers to ensure that the stolen property is easy to hand, the easy to hiding, the ease of transportation and the city consists of completely separate regions in terms of economic, social and cultural terms (Glaeser & Sacerdote, 1999:241). Moreover, the pressure of society has been reduced. Therefore, in rural areas, even though those who committed crime for the first time; in large cities, both the rates of guilt and the repetition rates of the crime are high (Kaya, 2008). Among the reasons underlying the prevalence of crime in Western countries are the loss of communication between the society, the weakening of the bonds that maintain the society, and the decrease of social control (Karasu,

2012:179). Crime and the fear it creates are one of the biggest problems facing urban development (Johnston, 2001:956). Rape, harassment, robbery or terrorism etc. the fear of being the victim of an event has started to affect society life more and more every day.

It is emphasized that in addition to the adequacy of the measures for security in the city life, psychologically, it is emphasized that feeling a sense of trust is essential for 'urban right'. Unless the security of the inhabitants of the city is ensured and the fear of crime is reduced, it is obvious that the city cannot be mentioned about its rights. Ensuring security is primarily the duty of the central government; the right to security of the people living in the city is also an urban right. The maximum limit of this right is to ensure that the safety of an individual living in the city can be met in all relations in the city life (Armağan, 1980:51). Planned urbanization is possible by streamlining physical environments and ensuring coordination with central government; this is also the basis of urban security. As stated in article 5 of The European Convention on Human Rights as stated in article 19 of our constitution the right to security is defined as "the right to liberty and security of the person". Here 'freedom and security' are complementary elements. Basic human rights are already rights that contain freedom. Within the right to security, freedom constitutes the main protection area. The state shall prevent and/or impede attacks from other persons or groups on the fundamental values of human rights (Erdogan, 2007:90).

One of the arrangements to shape the management of urban habitats is the 1992 *European Urban Charter*. The basic philosophy

of the European Urban Charter; to create universal principles for urban development and quality of life, to indicate that citizens have a basic set of urban rights and that these rights are valid for the inhabitants of the city without any discrimination (Tuncay, 1994:83-85). The Council of Europe has produced the principles of the 13-point charter and a declaration on the European Urban Charter and urban rights. European Urban Charter 6. The Department is under the heading “Ensuring City Security and Prevention of Crime”; consistent security, prevention of crime, implementation of laws should be based on mutual support; prevention of crime is essential to all community involvement and the cooperation of the local people in the fight against drugs (Tuncay, 1994:108-112). The European Urban Charter first mentions security in the 20-point declaration, counting the rights of the citizens and states to “the right to live in a safe and secure city, free from crime, violence and illicit activity” (Akgül, 2010).

An effective urban security policy depends on a tight cooperation between security forces and the residents of town. Public, private and civil actors and social projects should be provided with social support for victims who face crime as a key element of local security policy. Urban security cannot be treated only as public order. Threats to the lives, goods and honor of the residents of the city do not come only from street gangs, drug addicts or people with a tendency to commit crime and harm others. Urban service presentations also include threats to property and life. Without taking the necessary security precautions the damage caused by the pits which has digged, to life and property is significant. The purchase and sale of substances

that harm human health without necessary inspections is another threat from the point of view of safety. The offences caused by drug use have increased in European cities, and the public institutions in urban society are extremely busy with that crimes (Toprak, 2000:136). The European Urban Charter-2, adopted in 2008 by the Congress of Local and Regional Authorities of the Council of Europe, offers a new approach to protect the city and urban life with “The Manifesto for a New Urbanism” which forces European local governments to build sustainable cities (Council of Europe, 2011).

It is a right approach to perceive the security of the city as prevention and elimination of crimes committed in cities and against the city and the urban residents. In this sense, terrorism, murder, wounding, extortion, theft, fraud and bribery as well as crimes; leakage structure, dealing with illicit goods trade, pollution of the environment, unhealthy or expensive public offering of various necessities, unauthorized occupation of public areas, etc. actions and jobs are among the elements that threaten the security of urban environment. Due to the unhealthy urbanization, security organizations will have difficulty making strategic choices in terms of security (Erkan, 2002:200). Today, urban security is evaluated together with the right to life. In this respect, lack of urban infrastructure is the main problem area concerning security. Inadequate infrastructure both threatens the health and has a deterrent effect, especially in the provision of illumination. The planning of roads and parks is important in terms of security. They must be designed as well-lit spaces and not far from sight. The individual has

to feel that he is safe in the dwellings and common living areas (on the roads and on the streets). Establishment of city information and security systems (MOBESE) are implements which the security according to the possibility of using street lights or using technology, opening of women's and children's shelters, making social structure analysis with social tissue scans, reinforcing security and ensuring the right to security. As in all over the world, the computer, which finds an increasingly intensive application area in all the activities of the city in Turkey, reveals the importance of the information systems which are necessary for contemporary management understanding every day. Management tools, information-communication systems, such as computer hardware and software, which are becoming an integral part of the management, and technically advanced video, verbal and written communication systems, information and data banks, should be used in a way to guide the local government structure and operation (Geymen & Çelik, 2001). Security policy is based on frequently updated physical, social, economic and political statistics and information, Geographical Information Systems (GIS), and social support for victims of crime, youth, health, entertainment, education and employment, creating opportunities and taking of measures to improve the urban environment are providing.

In a city without security, neither a healthy urban life nor economic investments can be mentioned about it. Although combating crime against public order is of great importance, it is not possible to consider supervision of security in the modern societies as a mere police force. Crime is a component of dozens of interconnected

factors. The measures taken by the police will not be sufficient to solve the problem. Structural measures need to be taken. For this purpose, unemployment, inequality of income distribution, social exclusion, racism, etc. issues should be tackled. Measures should be taken to increase tolerance both within the city and among societies, to ease prejudices. In addition, new networks of communication should be established (Akgül, 2010; Karasu, 2012:190). Police should be supported by community power and participate in the determination of common security policies with alternative organizations (Kaypak, 2011:68). In this case, both general and private law enforcement services are becoming more important service units (Erkan, 2002:200). The impact of civil society organizations on mobilizing public opinion and forms of control is known. Security is a common phenomenon that everyone assumes responsibility for. In order to achieve this, it is emphasized that individuals, families and civil and security organizations should work together (Pektaş, 2003:22).

5. CONCLUSION

The most important problem of cities is security. The cities have been founded on the norms in order to create a regular living environment. However, urban life, which has become more complicated in big cities whose population is increasing day by day, has become a center of problem instead of peace. The increasing range of crimes ranging from petty crime to terrorism has brought a new dimension to the concept of urban security. In most big cities, the privatization of public spaces, the use of it technologies in many places for surveillance purposes, increasing the number of public and private security personnel, and covering urban areas with huge “cites” according to income levels can cause the city to separation. In the city, economic, social, political and cultural differences create problems of harmony and belonging, and social control is weakened.

Ensuring security is basically the duty of the state. The security service in the city is carried out by the police, which is considered to be the general law enforcement force. However, security should not be considered as merely a combination of police measures in urban society. Although security services are sought to be maintained in a powerful centralized approach, such a choice cannot be met today's needs. The city's growth and complexity required new organization schemes on the city scale. In parallel with the growth and diversification of urban services, the security concept also changes. Development of cities, not state-centric, community-oriented administration (governance) orientation, and control and prevention mechanisms for urban crime, for the functioning of the service

differentiation is brought as a proposal. In public services, success can be achieved through a guiding, participatory and harmonious social unity, not rigid and not commanding.

In this context, a holistic approach should be adopted in the solution of security problems in the urban environment. The provision of participation in the city in terms of security necessitates structures that can be associated with micro-management level. How urban service will be fulfilled and how its control will be achieved is important for the urbanized. It is inevitable to find solutions to the security problem together with the public. People's ability to adapt to the city they live in and to feel belonging can become stronger when they are more involved in the processes they are in. Civil society-supported structures should be included in the urban management and security system as the most appropriate urban units in terms of urban services and participation-representation-control functions. Developing information-based services, awareness of responsibility towards the city, partnership in the solution and active participation should be. Urban consciousness may change. Little changes can create dynamic results in urban life and create habitable spaces.

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CHAPTER 12:
THE SUPPLY SIDE APPROACH TO REAL EXCHANGE
RATE: THE BALASSA-SAMUELSON EFFECT

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1. INTRODUCTION

The exchange rates are fallen into place by many multifarious demand and supply side factors. While the monetary factors such as interest rates, monetary policies, capital flow, total debt, foreign trade balance, and government expenditures substantially direct the demand side, the supply side expansions like productivity growth in manufacturing might be effective on the exchange rates. The magnitudes of monetary-real sectors are interrelated with exchange rates in an economy.

The outward oriented growing countries originate goods and services by making use of their production factors, and subsequently tender some portion of the production to the domestic market and the rest to the foreign market. The foreign exchange earnings attained from foreign markets help rise the value of national currency and positively impact the current account balance. In general, the goods market is called tradable, while the services market non-tradable. Mac Donald and Ricci (2001: 12) phrase the magnitude of total production exported as a criteria for determining the tradable sectors. Accordingly, the relevant sector is defined as a tradable sector provided that more than 10% of its production is exported. In other saying, production technologies differ greatly as the levels of development vary by country. In more cases than not, the developed countries make capital intensive production, while the emerging economies use labor intensive technologies.

In the study, internal and external economic effects engendered by productivity differences between closed and open sectors are sought

to dig out. The impacts in question are generally named as Balassa-Samuelson effect in the literature. Both Bella Balassa and Paul A. Samuelson individually analyzed the impacts of productivity differences between tradable and non-tradable sectors on the real exchange rates in 1964. The hypothesis asserted in two distinct studies has been called as Balassa-Samuelson hypothesis or Balassa-Samuelson effect in the later years. In the hypothesis mentioned, the fluctuations in exchange rates are expressed by real factors such as augmentation of productivity and labor force on the one hand, and by monetary factors such as rises in wages and prices on the other hand.

Within the scope of study, first of all the theoretical information will be revealed about the formation of exchange rates by emphasizing the substantiality of international trade. In the sequel, the Balassa-Samuelson effect will be probed extensively in national and international scale, and the intriguing findings derived from multifold studies shall be shared through a rigorous literature survey.

2. THE FORMATION OF EXCHANGE RATES

An exchange rate shows the value of a national currency against the values of foreign countries' national currencies. The international flows of goods, services, and capital are affected when the comparative equilibrium between two countries is altered. The nominal exchange rate denotes the units of foreign currency to be exchanged for one unit of national currency at a certain time. The nominal exchange rate is equal to the real exchange rate provided that the domestic prices rise at the same rate in both countries. However, the nominal exchange rate

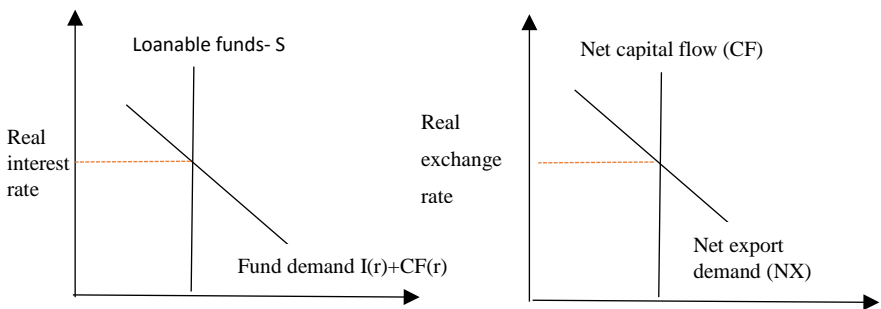
differs from real exchange rate when the rates of price indices changes in two countries is different from each other. The real exchange rate can be calculated from the equation below (Krugman and Wells, 2009: 509).

Real Exchange Rate = Nominal rate x (National price index / International price index)

The real exchange rate influences significant macro ratios (ratios between tradable and non-tradable goods, capital, labor force, export, and import), capital flow, inflation rate, and aggregate demand (Chowdhury, 2011: 78). Barbosa, Jayme Jr. and Missio (2018: 67) defined the dynamics effecting exchange rate as short term net outstanding external debt, foreign capital flows, rate of exports meeting imports, refinancing, and convertibility. The national currency depreciates when the inflation rate rises while the other factors are kept constant (Mankiw, 2007:161). For instance, if inflation rate in USA happens to be 3% and Turkey's is 23%, then the real exchange rate should be approximately TL 1=USD 0.20 [$0.25 * (1.03/1.23) = 0.20$], given the nominal exchange rate was TL 1=USD 0.25 in the previous year. However, the nominal exchange rate may be traded at a level of TL 1= USD 0.22 because of distinct factors like hot money flow, monetary policies implemented, or other market agents. In this scenario, Turkish lira is more appreciated than it must really be even though it depreciates against US dollar. In other words, TL is overvalued. The over appreciation or depreciation of national currency results in some unusual effects in economy and international competitiveness.

The net capital flow is the difference between amount of funds being invested abroad by domestic investors and amount of funds being invested domestically by foreign investors, and it is also one of the determinants of real exchange rate. Net capital flow is a function of real interest rates. Another determinant of real exchange rate is the net export demand (Mankiw, 2007:168).

Graph: The Equilibrium of Real Exchange Rate



Resource: Mankiw, N.Gregory (2010). Macroeconomics. (Ömer Faruk Çolak, Trans. Ed.). Ankara: Efil Publisher. (Original work published 2007), p.168.

The purchasing power parity is the nominal exchange rate which equalizes the value of a basket comprised of certain goods and services in both country (Krugman and Wells, 2009: 510). For example, if a basket with a value of \$100 in USA costs 1,000 pesos in Mexico, then the purchasing power parity should be \$1=10 pesos. Assuming that the purchasing power parity is valid only for tradable goods, the nominal exchange rate is set at the place where the price level of a country's tradable goods is equal to the price level of a foreign country's tradable

goods (Imai, 2018: 41). The relationship between purchasing power parity and exchange rates gives chance to compare the living standards of two countries. Given the exchange rates are usually used as conversion ratio, the gross national product of high income countries increases much more than it should be, while the gross national product of low income countries decreases more than it must be (Balassa, 1964: 596).

It is observed that inflation rate differences among the countries based on purchasing power parity converge to depreciation ratio of exchange rate, when the Fischer equation is expanded (Dornbusch, Fischer and Startz, 2004: 579).

Inflation difference \approx Interest difference \approx Depreciation ratio (Nominal exchange rate)

In the approach of purchasing power parity appeared in economic literature, it is underlined that the real exchange rate is unlikely to follow a stochastic trend but tends to take a constant or average value. In other words, it is argued that the real exchange rate is fixed and the deviations from rate is not permanent (i.e. the purchasing power parity holds true for long term). There are plenty of academic researches about the stability of real exchange rate. For instance, Tatoğlu (2009:310) scrutinized the stability of real exchange rates of 25 OECD member countries for the period of 1977-2004, and figured out that the purchasing power parity was valid for 10 countries when the structural breaks were ignored, and for all countries when the structural breaks were considered. Although, the factors like crisis, war, earthquake etc. which might cause a structural break influenced the exchange rates, the

deviations from real exchange rates were not permanent and the exchange rates came back to long term average. On the other hand, there are also some findings about the instability of real exchange rate in the other academic researches. For example, Bozoklu and Yılanç, 2010: 600-601) conducted a research involving the stability of real exchange rates of some countries including Brazil, China, Indonesia, India, Mexico, Russia, and Turkey, and asserted that the real exchange rates were instable in all countries mentioned except Mexico and China during the period of 1995-2009. And, they also added that the short term fluctuations in exchange rate should be rather explained by monetary factors than real factors.

3. THE BALASSA-SAMUELSON HYPOTHESIS AND ITS MATHEMATICAL BACKGROUND

Within the context of studies conducted independent of each other by Balassa and Samuelson in 1962, it is brought forward that the productivity differences between tradable and non-tradable sectors have serious effects on the real exchange rate. According to the hypothesis, wage, cost, and exchange rate consecutively start to rise when the growth rate in tradable sector is higher than that of non-tradable sector. In this case, there occurs a permanent deviation from the stability of real exchange rate argued by purchase power parity. While the traditional name of this model has been called as Balassa-Samuelson, recently the name of Harrod-Balassa-Samuelson is widely used. The alternative name of this model is mentioned as “productivity biased approach” in the literature (Tica and Druzic, 2006:14).

Balassa (1964) referred per capita income as an indicator of productivity, and revealed that per capita income growth increased the real exchange rate in an analysis including 7 industrialized countries. The findings of Balassa's study (1964:586) are summarized below.

a) The exchange rate equalizes the prices of tradable goods provided however that no trade restrictions are in effect.

b) Assuming that the price equals to marginal cost, then the wage differences among the countries in tradable goods sector correspond to productivity differences. In other words, the wages are equalized within each country, while there are wage differences based on production productivity among the countries.

c) Transnational productivity differences are more often seen in goods sector than services sector. The wages tend to be equalized in each country. Consequently, the services sector is relatively expensive in the countries with higher productivity and higher volume of merchandise trade.

d) While the services sector is taken into consideration when it comes to calculate the purchasing power parity, it has no impact on exchange rates. Therefore, the purchasing power parity between two countries (defined by the currency of the country with higher productivity) must be lower than the equilibrium rate of exchange. (The level of wage earned by labor force should be determined in accordance with the marginal productivity of labor. Hence, the employees working at the sectors with higher productivity should be economically earning higher wages. On the other hand, labor force desires to move to the sectors with higher wages, and it results in higher wages in the other

sectors because of the high mobility of labor force. The higher wages in the goods sector with higher productivity and international trade also reverberates to the services sector. The uptrend in prices in the services sector without productivity growth causes the exchange rate to float higher than the purchasing power parity).

e) The more productivity differences of tradable goods between two countries, the bigger differences in the level of wages and service prices. Accordingly, the gap between purchasing power parity and equilibrium rate of exchange tends to widen.

The prices of tradable goods are dictated by the supply and demand in international markets. Therefore, the prices in tradable sectors will remain same. On the other hand, non-tradable sectors selling into domestic market will give rise to increase domestic price level through reflecting the higher costs of labor force to their sale prices (Burgaç, 2012: 17). Balassa and Samuelson (1964) asserted that the domestic and external prices of tradable goods are equalized through international trade but not the prices of non-tradable goods. That is why the countries with higher productivity have higher levels of prices, and their currencies are overvalued. On the contrary, the national currencies of countries with less productivity are undervalued. The level of demand in the countries with higher per capita income is also higher, and this case further increases the level of prices and appreciates the exchange rate. The first who made the explanations on these micro basics was (1991) Bergstrand (Barbosa, Jayme Jr. and Missio, 2018: 64).

The rise of relative prices in the non-tradable sectors because of the productivity growth in tradable sectors, and the inflation differences among the countries caused by intercountry productivity differences are two distinct subjects. The B-S effect emerged in the national markets is generally bigger than the international effect (Mihaljek and Klau, 2004:83). The relationship between productivity and price level is tested in the internal side the B-S model. The model is focused to the supply side of economy. The high inflation caused by productivity growth is stronger in the economies that have a growing demand for services sector (Halpern and Wyplosz, 2001:14). The external side of the model analyzes the changes in real exchange rate stability of two countries. Fernandez, Osbat, and Schnatz (2002: 441) used the below formula as the representative of productivity differences.

$$\frac{\text{Nontraded goods at home}}{\text{Traded goods at home}} \times \frac{\text{Traded goods at abroad}}{\text{Nontraded goods at abroad}}$$

Rogoff (1992:5) has formulated Balassa-Samuelson (B-S) model first time mathematically. The model is based on a standard production function with three factors: capital (K), labor (L), and technology (A). The goods domestically produced are divided into two sections as tradable (T) and non-tradable (N). It is assumed that there the rules of perfect competition market prevailing, fully free international capital mobility and national factor mobility exist, and the rule of unique price for tradable goods in effect. It is asserted that the relative prices (p) in non-tradable sector is a function of relative changes in the productivity of sectors or relative factor intensity of sectors (Tica and Druzic, 2006:6).

$$Y_T = A_T K_T^\alpha L_T^{1-\alpha}$$

$$Y_N = A_N K_N^\beta L_N^{1-\beta}$$

$$\frac{P^T}{P^N} = \frac{\beta}{\alpha} a^T - a^N$$

The mathematical infrastructure of B-S hypothesis is explained by the equations below (Altunöz, 2014:110-112). The relationships between real exchange rate (Q_i) and price levels (P and P^*) are respectively expressed in the equation #1. The domestic production functions (Y_T and Y_N) of tradable (T) and non-tradable (N) goods are shown in the equation #2, while the foreign production functions are in the equation #3. Accordingly, the production of goods is a function of labor force productivity (L). The nominal exchange rate (e) could be denoted like in the equation #4 as the B-S hypothesis accepts purchasing power property valid only for tradable goods.

On the other hand, under the assumption of domestic and foreign tradable goods' prices are equal ($P_T = P^*_T$) in accordance with unique price principal, the nominal exchange rate equals to 1 ($e=1$). The general price level of economy is the weighted average of tradable and non-tradable goods and services. Given that the weight of tradable goods is $(1-\alpha)$ while the weight of non-tradable goods is α , then the domestic and foreign average prices can be respectively expressed like in the equations #5 and #6. Also given the equation of $P_T = P^*_T = 1$ is valid, then also the equation of $P = P^\alpha$ is valid. In this case, the ratio of domestic non-tradable goods' prices to foreign non-tradable goods' prices will be equal to the real exchange rate. The relationship between

domestic-foreign average prices and labor force productivity is shown in the equations #9 and #10.

$$Q_i = \frac{P}{e_i P^*} \quad (1)$$

$$Y_T = f(L_T) \quad Y_N = g(L_N) \quad (2)$$

$$Y^*_T = f(L^*_T) \quad Y^*_N = G(L^*_N) \quad (3)$$

$$P_T = e P^*_T \quad (4)$$

$$P = P_T^{(1-\alpha)} P_N^\alpha \quad (5)$$

$$P^* = P^*_T^{(1-\alpha^*)} P^*_N \alpha^* \quad (6)$$

$$P = P_N^\alpha \quad (7)$$

$$Q_i = \frac{P}{e_i P^*} = \frac{P_N^\alpha}{1 P_N \alpha^*} = \left(\frac{P_N}{P^*_N} \right)^\alpha \quad (8)$$

$$P_T f'(L_T) = P_N g'(L_N) \Rightarrow 1 f'(L_T) = P_N g'(L_N) \quad (9)$$

$$\Rightarrow P_N = \frac{f'(L_T)}{g'(L_N)}$$

$$P^*_N = \frac{F'(L^*_T)}{G'(L^*_N)} \quad (10)$$

$$Q_i = \frac{P}{P^*} = \left(\frac{P_N}{P^*_N} \right)^\alpha = \frac{\frac{f'(L_T)}{g'(L_N)}}{\frac{F'(L^*_T)}{G'(L^*_N)}} \quad (11)$$

The productivity differences of inter-sector labor force effect the prices of non-tradable goods. The prices in tradable sectors increase because of the faster growing rate of labor force productivity in tradable sector than that of non-tradable sector. According to the final equation (equation #11) derived from these functions, the real exchange rates are acquired by proportioning the domestic and foreign production

criteria to each other. In other words, the real exchange rates increase as a result of faster rising of domestic prices than that of foreign prices.

4. THE LITERATURE SURVEY ABOUT THE BALASSA-SAMUELSON EFFECT

Miscellaneous researches have been conducted to test the hypothesis in question in a great number of countries in a wide period of time. There is a vast number researches about the impacts of productivity growth on inflation and exchange rates in the literature. In this section, a scrupulous compilation related with the researches conducted in this field will be offered.

Podkaminer (2011:726) asserted that the consumer goods are cheaper than the consumer services, and inquired into the reasons of it in rich European countries. Alongside the explanations about cost and foreign trade, the issues stem from demand are investigated in the research. In this context, it is stated that the demand side sees the goods as a necessity but the services as a luxury. There is a negative relationship between the relative prices of goods and supply of goods, while a positive relationship between the relative prices of goods and supply of services. The relative prices of goods keep on falling as long as the supply of goods and services grows at the same rate. In other words, the prices of services will rise more than the price of goods unless the growth rate of services sector is greater than that of goods sector. This is about the higher profitability rates in services sector. The higher the prices of services, the more supply of services will be offered, and the profitability will be reflected on wages.

The developing countries have been catching up the income levels of developed countries for a while. The productivity of sectors manufacturing tradable goods accrues more than that of producing non-tradable goods in the developing countries. The productivity difference of traded-nontraded sectors causes an appreciation in the real exchange rate and encourages faster economic growth (Chowdhury, 2011: 78). They can keep pace with the development rate of advanced countries thanks to the industrial power supervened upon in the long run. The appreciation of China's national currency is a perfect example of B-S effect. China's faster growth rate than that of USA thanks to the manufacturing sector focused on technology and industry resulted in an annual growth rate of 5.9% in total factor productivity of its tradable sector (Imai, 2018: 48).

Guo (2010) identified a strong long-term relationship between the differences of real exchange rates and relative productivity ratios in China and USA. The exchange rate of black market is realized more feasible than the official exchange rate in accordance with the B-S model. If the external openness level of an economy is low, then its exchange rate is likely to deviate from the purchasing power parity. The external openness level of China (X/GDP and M/GDP) is quite lower as compared to other Asian countries like Singapore, Malesia, and Korea.

Chowdhury (2011: 77) analyzed the relationship between real exchange rate and productivity differences for Australia and USA, and figured out there was a long term meaningful correlation for the period of 1950-2003. According to the findings, the real exchange rate of

Australia appreciates 5.6% as a result of 1% more rise in the labor force productivity than that of USA. However, 20% of the long term deviations from the real equilibrium rate of exchange is corrected in a year. Therewithal, the coefficient of elasticity is calculated overvalued because of the lack of other explanatory variables effecting real exchange rate such as external term of trade, government expenditures, real interest rate differences, and net foreign liabilities.

In a cooperative study including 14 countries and covering the period of 1880-1997, Bordo et al. (2017: 89) discovered that the productivity is one of the determinants of real exchange rate. The data set is analyzed by dividing the research into 4 sub-periods with different monetary policies implemented. And, it is observed that there are variations in the productivity effect in each period.

Lothian and Taylor (2008:1760) researched whether there are real effects on the real equilibrium rate of exchange for UK, US, and France. According to their conclusions, the B-S effect is statistically meaningful for the real exchange rate of US. On the other hand, they could not reach a similar finding for the real exchange rates of UK, and France. The authors showed the similar developments experienced in the industrialization processes of United Kingdom and France as a reason of this result related with Sterling-Franc correlation. Although the industrial revolution started in United Kingdom, the industrialization movements in France did not fall behind United Kingdom like US. Even the productivity in France took precedence over that of United Kingdom.

Mac Donald and Ricci (2001) analyzed the real exchange rates of Belgium, Denmark, Finland, France, Italy, Japan, Norway, Sweden, West Germany, and the United States by making use of the panel data analysis throughout the period of 1970-1992. They scrutinized the B-S effect in the distribution sector in their work, and concluded that the production growth resulted in appreciation of real exchange rate. Although the distribution sector is seen as a non-tradable sector, there is observed a B-S effect happened like in tradable sectors. The distribution sector which delivers the intermediate goods needed to produce tradable goods is effective on the real exchange rate.

Küçükaksoy and Çiftçi (2017: 57) applied the tests of Pedroni Panel Co-integration and Kao Panel Co-integration to Turkey and 14 European Union-Nafta countries on the purpose of checking the validity of B-S hypothesis for the period of 1991-2013. According to the test results, there was a long term relationship between real effective rate of exchange and relative productivity. The findings revealed that a rise of 1 unit in the index of relative productivity causes a rise of 0.96 unit in the real effective rate of exchange in the long run. The series of real effective exchange rates which are seen to be non-stationary in value show that the purchasing power parity is invalid. None the less, it is observed a long term cointegration among the variables from test results of Pedroni Panel Co-integration and Kao Panel Co-integration. In other words, the productivity difference of countries move in concert with real exchange rates. The direction and effect of long term relationship are estimated by FMOLS and DOLS method, and a positive correlation is found among the variables (Küçükaksoy and Çiftçi, 2017: 80).

Employing Pedroni panel cointegration method, Egert et al. (2003:552) concluded that the productivity differences between outward oriented sectors and self-enclosed sectors induced inflation in non-tradable goods in the 9 Central and Eastern European countries. By the way, some misleading results might be obtained while analyzing the B-S effect because of the low weight (about 30%) of non-tradable goods in the calculation of consumer price index. That is why they state that the B-S effect partially shows up in the real exchange rate and price level.

Lombardo and Ravenna (2012:560) analyzed the magnitude of tradable and non-tradable sectors in 25 different countries, and concluded that the input shares and demand shares of tradable and non-tradable goods are unlike. It is also observed that the input share of tradable goods is always greater than the demand share of tradable goods in every country. For instance, a 1 unit of consumption demand is comprised of 78% tradable goods and 22% non-tradable goods in Turkey. On the other hand, the aggregate final consumption demand consists of 71% tradable goods and 29% non-tradable goods. When it comes to investment demand, the gap between tradable input shares and demand shares further widens. These findings indicate that the non-tradable goods should be considered as intermediate goods. Input shares show the amounts of tradable and non-tradable contents used in a 1 unit of end product demanded, while demand shares point out the amounts of tradable and non-tradable goods demanded for investment and consumption. Lombardo and Ravenna (2012: 561) argued that the

tradable goods content of demand was undercalculated because of ignoring the intermediate goods.

Froot and Rogoff (1994: 28) asserted that the technologic developments are faster and the productivity growth is higher in tradable sectors. And, they also argued that the exchange rates of developed countries would appreciate further because the technological progress in question happens more often in developed countries than developing countries. Wang, Xue and Du (2016:37) analyzed the B-S hypothesis under two sections as developed countries and developing countries. They used panel cointegration which takes into consideration interunit correlation and structural break. In the developed countries, they found a strong evidence for appreciation of real exchange rate because of high productivity growth, while a little evidence for the existence of B-S effect in the developing countries. This finding about the developing countries indicates that there are mobility deficiencies in their market of labor and capital, and purchasing power parity violations in tradable sectors.

Ito, Isard and Symansky (1999: 126) tested the validity of B-S hypothesis on the countries with fast growth rates in Asia. They acquired positive findings in the Japan, Korea and Taiwan which had successfully turned into exporter of industrial goods from agricultural countries. As a result of the study, they claim that the B-S hypothesis is valid provided that a resourceless open economy grows by altering its industrial structure and the order of export. On the other hand, B-S hypothesis may not be valid for a fast-growing economy based on primary goods export or a planned economy.

The level of Yuan's real exchange rate annually appreciated 4.6% during the period of 2005-2015 after a stable period between 1996 and 2004. Imai (2018: 39) concluded that 1.2% of this real value growth stem from the B-S effect, and the rest 4.4% came from the upsurge of China's tradable sector in the ratio of US's tradable sector. A fast growth and technological progress have been seen in the manufacturing sector of China's economy, and the gap of total factor productivity between tradable and non-tradable sector have been widened. The tradable sectors are defined as manufacturing, mining, and agriculture, while the non-tradable sectors are generally services sector (like construction and public services). (Imai, 2018: 40).

Bajo-Rubio, Berke and Esteve (2018:4) expressed that the real exchange rate would appreciate by the help of working B-S mechanism in case of the productivity growth created by government expenditures in tradable sector, otherwise real exchange rate would depreciate because of the productivity growth in non-tradable sector.

Fidora, Giordano and Schmitz (2018: 38) claims that the relationship among real exchange rates, per capita income, and labor productivity is meaningful and positive, and the B-S effect is valid. They concluded that the real appreciation was attained by the help of high trade restrictions. There were some measures such as low trade deficit, high trade volume, high government expenditures, and short term high real interest rates taken for high trade restrictions. It is observed that such imbalances are taken under control through the single currency in circulation in the Euro zone countries. However, the elimination of nominal exchange rate fluctuations stemmed from

financial market shocks was quite effective on this result (Fidora, Giordano and Schmitz, 2018: 38).

Vogiazas, Alexiou and Ogan (2018: 1) found that the effect of total factor productivity on the real exchange rate varied by country groups in their analysis covering 60 countries with high and mid- high income in the period of 1995-2015. In the countries with high-income, higher productivity leads the exchange rate to depreciate, and consequently leads them to be more competitive in trade. However, just the opposite is true for the countries with mid-income. The higher the factor production the more appreciate the exchange rate.

Egert (2002:14) tested the B-S effect for the countries such as Czech Republic, Hungary, Poland, Slovakia and Slovenia which transitioned from a centrally planned economy to market economy. The findings vary by the country. There is detected a meaningful relationship between appreciation of money and productivity growth in Hungary, while the same relationship is partially observed in Slovenia and Poland, but no relationship is seen in Czech Republic and Slovakia. According to the B-S effect, the productivity growth causes intercountry inflation differences, and the inflation differences leads real exchange rates to change. Nowadays, it is discussed whether this situation will create problems for the countries that are regarded as EU candidates and in the process of monetary convergence within the scope of Maastricht criteria. The exchange rates of EU member countries are kept constant due to the European Exchange rate mechanism (ERM). Egert (2002:15) stated that the rising inflation rates stemmed from productivity growth are not seen as a risk in terms of Maastricht criteria.

The inflation differences never negatively influence the competition as long as appreciation of money stems from high productivity.

Halpern and Wyplosz (2001:14) analyzed the B-S effect for 9 transition economies (Czech Republic, Hungary, Poland, Romania, Slovenia, Estonia, Latvia, Lithuania, Russian Federation) in the 1991-1999 period. At the end of the study, it is argued that there may be a conflict between the transition economies' targets of exchange rate stability and inflation in the process of economic and monetary union. The ratio of services price index to non-food manufacturing producer prices index is used for relative price changes. The findings show that the productivity growth in industry leads to appreciation of real exchange rate, productivity growth in services sector leads to depreciation of real exchange rate, and the existence of B-S- effect. It is generally agreed that the services sector is more labor-intensive than the industrial sector. Productivity growth of 10% in the industrial sector ratchets up the relative price of non-traded to traded goods by 2.4% in the short run, but 4.4% in the long run. It is observed that the B-S effect is strongest in the floating rate regime, when the regimes of exchange rate are divided into three categories as hard pegs, exchange rate commitment, and no explicit commitment. Because this effect shows up faster when the exchange rate is set free.

Apergis (2012:3293) investigated the status of B-S effect in Greek economy, and found out that 33% of total inflation stem from the B-S effect. He also stated that productivity differences between two sectors were a significant determinant of inflation and therefore the B-S effect would pose an obstacle for convergence to EU. Halpern and

Wyplosz (2001) predicated that it became impossible to comply with the criteria of inflation and exchange rates because of the rising inflation caused by productivity growth in tradable sector. On the other side, Buitier and Grafe (2002) argued that the countries implementing wide band around central parity could comply with the criteria in question.

Egert (2005: 282) analyzed GDP and consumer price index by classifying the economy as open and close sectors. He found strong evidences pointing out that the internal side of B-S effect was valid, while the internal side was weaker. In other saying, the relationship between productivity differences and relative prices of non-tradable goods is strong, while the relationship between productivity differences and exchange rate is weak. The inflation was kept limited despite of the high productivity in Estonia in the period of 1993-2002. It is observed that the productivity growth has created extra 1.3% and 1.6% boost in inflation, even that rate has fallen to 0.6% and 0.7% later. This limited effect of productivity growth on inflation is explained by high share of services sector in the calculation of consumer price index. That is why it is concluded that the productivity growth will no longer be a problem for attaining the inflation target in the monetary orientation period to EU.

The B-S effect remains limited because of the lower weight of non-tradable goods in the consumer basket and dependency of real exchange rate to purchasing power parity in the transition economies. It is asserted that B-S effect will no longer create a problem for complying with Maastricht criteria because of the other factors effecting real exchange rates (Egert et al., 2003:570).

Lommatzsch and Tober (2006:129) argued that the countries recently joined to EU have relatively a small weight in the aggregate price level, therefore the B-S effect would create a small impact on the inflation. It is estimated that the prices of industrial good produced in transition economies will slightly accrue. Thereof, the low inflation in the tradable goods sector will compensate the B-S effect.

Mihaljek and Klau (2004:63) tried to explain the inflation differences between the Euro zone and six Central European countries (Croatia, the Czech Republic, Hungary, Poland, Slovakia and Slovenia) via the B-S effect. In conclusion, it is comprehended that 0.2% -2% of the annual inflation differences between Euro zone and aforesaid countries could be explained by productivity differences. According to the findings, the effects of productivity differences on inflation are bigger in Central European countries than that of Euro zone. Mihaljek and Klau (2004:85) propounded that the impact of B-S effect on inflation was low and the subjects explained below supported his conclusion.

1. The elasticity of inflation versus productivity is higher in the short term than that of long term. In other words, the effect of productivity differences on inflation is stronger in the long run than that of short run.

2. Along with the impact of liberalization process experienced in Central European countries at the beginning of 1990s, the other factors except productivity (exchange rate policies, capital inflows, external factors, etc.) were more indicative on inflation. That is why the impact of B-S effect on inflation was relatively small.

3. On the other hand, the productivity growth seen at the second half of 1990s could not be sustained for a long time. Labor productivity was increased by the help of efforts of foresaid EU candidate countries trying to be compliant with inflation criterion. However, the pace of these efforts decreases as the convergence time gets closer. Therefore, it is forecasted that the B-S effect will weaken as compared to past.

4. Finally, the B-S effect is overestimated because of the employment of average labor productivity instead of aggregate factor productivity. For these reasons, the B-S effect is actually smaller, and has no significant impact on being accordant with Maastrich's inflation criterion. The sustainable rate of inflation can be calculated by adding the B-S effect to the average inflation rates of three EU countries with the lowest inflation rates.

Garcia-Solanes and Torrejan-Flores (2009: 19) scrutinized the B-S effect for two groups of countries with different levels of economic development. Total 32 countries from OECD and Latin America were analyzed through the method of panel cointegration. The relationship between price difference and productivity of tradable and non-tradable sectors are statistically meaningful both in OECD countries and Latin America countries. On the other hand, the relationship between price difference and productivity – which is the international dimension of the B-S effect – is detected in Latin America countries but not in OECD countries. Nonexistence of the B-S effect in the group of OECD countries is explained by the deviation of prices in tradable sector from purchasing power parity. According to Garcia-Solanes and Torrejan-Flores (2009:20) this deviation might stem from speculative attacks,

non-competitive policies, and arbitrage agreements. On the other hand, the close economic relations between America and US increase aforesaid countries' national currencies sensitivity against American dollar. Consequently, the upheavals or implemented monetary policies in US are directly reflected to Latin America countries. In aforesaid period, the regime of anchored exchange rate implemented in Latin America countries led to high inflation levels, unemployment, and unsatisfactory growth rates.

Ito, Isard and Symansky (1999: 126) underlined some points illogical with the B-S hypothesis in their work. For instance, the ratio of non-tradable prices to tradable prices might not rise as the economy grows. Or, the dollar price of a tradable good might diverge from its price in America. In another case, there might be a negative correlation between growth and real exchange rate growth because of economic reforms.

5. CONCLUSION

The illustrious hypothesis called as the Balassa-Samuelson effect in the economical literature luminously asserts that the productivity growth in tradable sector eventually leads to intercountry inflation differences and aforesaid inflation differences inevitably cause real exchange rate to shift in an economy where the rules of perfect competition and single price law are in effect, and international capital mobility and national factor mobility are free in full measure. The Balassa-Samuelson effect conspicuously brings out two distinct impacts: internal and external. The impact of productivity differences between open and closed economies on the domestic prices is meticulously dug out within the national scope (internal effect), while the effect of price differences on the real exchange rate is elaborately scrutinized within the international extent (external effect) in the hypothesis. In more cases than not, the national effect is invariably calculated as greater than the international effect. Inflation growth in the economies where the demand for services sector soars is routinely stronger.

The technological progress in tradable sectors is dizzyingly quick and the productivity growth is tremendously high. It is intriguingly observed that the productivity differences are more common in the goods sector than the services sector. The wage rises in goods sector with higher productivity inevitably cause the prices and wages to increment in the services sector. Leaving a lasting impression of productivity growth on the real exchange rate strikingly shows that the equilibrium rate of exchange deviates from purchasing power parity.

The higher aggregate factor productivity growth experienced in domestic tradable sector first rises the levels of wage and cost, and subsequently the domestic prices. The real exchange rate appreciates when the general price index of national economy grows more than the general price index of a foreign country. The hypothesis is tested for various countries in a wide period of time. While the findings extraordinarily vary with time and country, strong evidences are found showing that the higher productivity growth causes the real exchange rate to rise in the developed countries. The higher productivity levels of developed countries leads to further appreciation of their exchange rates. However, the evidences indicating the existence of Balassa-Samuelson effect in the developing countries are surprisingly quite limited.

The comparative weakness of Balassa-Samuelson effect in the developing countries is thoroughly explained by the lack of mobility in labor and capital markets, and the deviation of prices from the purchasing power parity in tradable sector. On the other side, the domestic prices and exchange rates are not merely dependent on productivity growth. The exchange rates are determined by multitudinous supply and demand oriented factors. Similarly, the inflation is still under the pressure of internal and external factors. Additionally, the impact of productivity differences on inflation shows up more often in the long run than the short term.

According to the Balassa-Samuelson hypothesis, the productivity growth inevitably brings along inflationary pressures and real exchange rate increments. While a rise in inflation is declaredly not a desirable

result for the sake of monetary discipline, the augmentation of real exchange rate might weaken the competitiveness in foreign trade. Nowadays, it is feverishly discussed whether this situation could create eventful problems for EU candidate countries passing through the monetary convergence process pursuant to Maastricht criteria. The idea proposing that the rises in inflation stemming from productivity growth is unlikely to create risks widely gains recognition in the literature. The inflation differences are not negatively influential on the competitiveness as long as the real appreciation of money stems from higher productivity.

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CHAPTER 13:

**A CONCEPTUAL OVERVIEW ON THE RELATIONSHIP
BETWEEN MANAGEMENT DEVELOPMENT AND CHANGE
MANAGEMENT¹**

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¹ This study was produced from the master thesis namely “*How Management Development Plays a Strategic Role for Organisations in The Changing Business Environment*” by Yavuz Selim DÜGER

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1. INTRODUCTION

In today's business world, due to the impact of globalisation, technological advancement and increasing customer demands, it is imperative that enterprises continuously renew themselves. This progress has led to an enormous change in business environment. Today's business environment consists of more dynamic, complex and larger system that people and companies operate. These are can be described technological, economical demographic and natural environment. It is very vital for organisations to have capability to respond and cope with rapidly the change and changing business world.

Today, in connection with the global-scale technological and economic developments, organisational scales are enlarging and there is a move towards more complex structure and activity systems. These developments force managers to be informed about potential threats and opportunities, to determine rational strategies through foresight and to apply these strategies effectively for their success (Mabey and Lees, 2007).

Most companies know that managers are major decision makers in any organisation. For that reason alone, an effective management development process is crucial to organisational success. Its generalised purpose can be described as one of increasing the organisation's present and future capability in achieving its goals. Increasingly, organisations use management development efforts to spur organisational change.

On the other hand, many companies do not realise the linkage between management development and change management. They treat them as separate areas. Therefore, many opportunities and benefits

for developments are missed due to poor management development activities. Consequently, the study will attempt to investigate the interactions between management development and change management. Additionally, the study will aim to find out how management development plays a strategic role for organisations in the changing business environment.

2. MANAGEMENT DEVELOPMENT

Today's business affects and changes the structure and management style of organisations. External factors such as economic, social, technologic and cultural forces as well as internal factors seem to be the driving forces for not only regular or incremental changes but also transformational changes in organisations (Mabey and Lees, 2007).

The increasing speed of change in the external environment of organisations, and the numerous new challenges facing managers at all levels in organisations suggest that organisations must have high-quality, flexible, adaptive, multi-skilled and competent managers if it is to survive and thrive.

Before moving towards management development area, 'what is a manager?' and 'what do managers do?' questions need to be discussed in order to insight the meaning of management development. A manager is a person who directs an organisation, unit or department. They manage people and their other resources such as finance, facilities, knowledge, information, time and themselves. They are accountable for accomplishing goals, having been given authority over those working in their department. In a broad sense, they are responsible

for what they do and what they achieve (Moyles, 2006). Managers are like everyone else in an organisation in that they perform roles. The roles of managers vary with regard to the context in which they work. Generally, they will be dependent on their function, level, organisation and their work environment. Managers often carry out their work on a day to day basis condition of variety, turbulence, and unpredictability (Mullins, 2009). After all these explanations on the concepts of ‘managers’ and ‘managers function’, it can be said that managers should be supported to develop their skills and knowledge by organisations. On the other hand, the reasons for the development of managers vary in terms of organisations, as illustrated below (Gold, 2010):

- *To improve organisational culture.*
- *To encourage creating innovative ideas.*
- *To develop knowledge and skills in order to get business opportunities.*
- *To improve organisational effectiveness by using new technologies within the organisation.*
- *To develop the organisational structure and process so as to improve organisational performance.*

According to Mumford and Gold (2006) definition of management development is “*a systematic process of growth and development by which managers develop their abilities to manage.*” They also described management development as “*an attempt to improve managerial effectiveness through a learning process*”. As can

be understood from the definitions management development focuses on enhancing the existing role and effectiveness of managers within the organisation, as well as taking more initiatives.

2.1. Management Development Objectives

Management development is a significant element as organisations attempt to obtain a competitive advantage. It is obvious that developing management talent and skills throughout the organisation is a necessity in order to compete and survive in the market. Therefore, when a company builds a sustainable and scalable management development process within the organisation, a number of clear objectives must be put out. According to Marchington and Wilkinson (2008), some objectives of management development are given below.

- *To improve the performance of managers at all levels.*
- *To identify the persons in the organisation with the required potential and prepare them for higher position in future.*
- *To ensure availability of required number of executive managers succession who can take over in case of contingencies as and when these arise in future.*
- *To prevent obsolescence of executives by exposing them to the latest concepts and techniques in their respective areas of specialisation.*
- *To improve the thought process and analytical abilities.*
- *To provide opportunities to executives to fulfil their career aspirations.*

- *To understand the problem of human relations and improve human relations skills.*

Mumford (2010) stated that the modern view of management development is one that improves an organisation's performance. Second, it is to minimise the effects of globalisation which has removed economic and cultural boundaries. Third, it is building organisational effectiveness by integrating the organisational both general strategies and development strategies into a new organisational culture. Fourth, management development activities are increasingly customised and systematically relative to individual needs.

Undoubtedly, contemporary management development is linked to the organisational strategies. The general development approaches are still an essential condition but no longer sufficient. The key point is the significance of linking management development to an organisation's overall strategic direction. The objectives of the process are to identify and develop the talents and perspectives that the organisation needs to achieve its long-term strategic goals (Karp, et al, 2009).

2.2. Management Development Process

Prior to moving towards management development process, first of all the organisation should decide that either promoting managers internally or picking someone from the outside. When the management development process starts from the inside of the organisation, employees' motivation and belief in the business are increased. Thus,

costs decrease with increasing productivity. On the other hand, if the management development process is carried out with externally recruited managers, the flow of new information to the enterprise is provided and the different methods or techniques are learned and acquired. The major challenges of this approach will be the adaptation of external managers and the lack of information about the organisation. This could lead to loss of time and extra cost.

Management development focuses on providing current and future managers with opportunities to learn, grow, change, experience, and develops knowledge, attitudes and skills to function effectively in organisations (Moyles, 2006). The management development process should be designed to support all of these.

In theory, there are two basic types of the management development process that an organisation can adopt. Both are not very different from each other and similar in their roots. The first of these is a process developed by Byars ve Rue (2008) and consists of 8 steps. The process consists of organisational objectives, management inventory and succession plan, evaluating changes in the management team, determining the net management requirements, needs assessment, establishing management development objectives, management development program, and evaluation of programs in turn.

The other management development process is ‘four steps model’, in order to gain maximum impact, this model divided into four steps, namely diagnosis and specification (planning), implementation and evaluation. The main success of these processes depends on their applications (Harrison, 2009).

According to Sims (2006), during the management development process, HR professionals should bear in mind the following recommendations:

- 1. Management development must be tied to the organisation's strategic plan to be responsive to the needs of the organisation and those of the individuals being developed.*
- 2. A proper needs assessment, including investigating what managers in organisation do.*
- 3. Specific goals, both for the overall program and for each of its components should be established.*
- 4. Participation in and commitment of senior management in all phases of the process, from needs assessment to evaluation, is critical.*
- 5. A variety of developmental techniques, both off-the job and on-the job should be used.*
- 6. The program must be designed to ensure that the individuals to be developed are motivated to participate in such activities.*
- 7. Action must be taken to evaluate the program regularly and modify and update as needs change.*

2.3. Management Development Techniques

There are various management development techniques in the literature and all these can be classified into two main categories, namely 'on-the-job techniques' and 'off-the-job techniques' (Sims, 2006). These techniques mostly related to current managers in the organisation.

2.3.1. On-the-job Techniques

On the job, training means receiving training in time to support the organisation's effort, at the leading edge of the implementation timeline. The employees' responsibility is to know and understand what subject is being given and why it is important for the organisation to learn and use this subject matter. The role of learners is promoting the application of the knowledge by others within the organisation as well as demonstrating their own application of it by participating in the executive reviews, by taking part in the rollout of the job itself and by applying the subject matter in their everyday work (Armstrong, 2009). The most common on-the-job management development techniques are coaching and mentoring, job rotation, projects and secondments, and understudy.

2.3.2. Off-the-job Techniques

In a business environment where change, uncertainty, and risk are extremely high, new information that managers gain from outside will be more important for the organisation (Armstrong, 2009). Therefore, managers need to get external training to understand the external environment conditions and make healthy decisions at the point of change. The most important purpose of this technique, managers realise their potential. And also reflect their potential to the organisation. The most common external techniques are the case study, incident method, role-playing, in basket method, conference, and lectures.

3. CHANGE MANAGEMENT

A key factor in organisational success is the effective management of change. Change can affect all types of organisations, from giants to the smallest business. For this reason, managers must be skilled in managing change. In this context, change management can be stated as *“a process that focuses on achieving the smooth implementation of change by planning and introducing it systematically, considering the likelihood of it being resisted”* (Armstrong, 2009).

Change is inevitable as a way for organisations to survive. At the same time, this inevitable change is a process that managers often face and must overcome within organisation. In the process of change management, leaders must first identify the source of change and determine the direction of change. In this way, leaders can plan how the change will take place within the organisation (Karp, et al, 2009). Change in organisations can result from the internal and external environment. Managers' knowledge and skills may be sufficient to understand and control the change arising from the internal environment. However, it may not be easy to understand and manage the changes arising from the external environment and to reduce the effects on the organisation. Therefore, managers need to have significant knowledge, skills, and abilities in order to manage change effectively.

3.1. Changing Business Environment

Particularly, in the last decade, organisations have faced the reality of change so dramatically that some observers had foreseen the end of work. The change was being brought about through the new information and communications, technologies and though the ways in which organisations have tried to give a response to the need to achieve and maintain their competitive edge in the increasingly global market (Gold, 2010). The pace and volume of changing business environment are drawing increased attention to the ways that human resource development activities can be used to ensure that organisations members have what it takes to successfully meet their challenges (Cameron and Green, 2009). The challenges are highly complex, such as globalisations and an increasingly diverse workplace and markets, and also technology.

Globalisation has a huge impact on market dynamics. Competition has increased within the global business environment as a result of globalisation. The world has become a single operation ground for the organisation. Therefore, this has forced the organisations to change the way they work, operate and manage (Redman and Wilkinson, 2008). This change affects organisations from the bottom to the top level. And this situation reveals the need for the individual development of employees.

Also, technological advancement has brought many complexity, diversity, and convenience to organisations. It is becoming more and more difficult for businesses to keep up with the rapid change in technology. With the influence of technology, changing the needs and

demands of customers is becoming more uncertain. However, the use of technology at every level of the business provides a great competitive advantage to the business and makes the future more specific. These advantages can only be achieved by understanding and adapting to technological change from the bottom to the top level of the organisation. At this point, it becomes clear how important it is to develop managers who will manage change.

According to Cameron and Green (2009), today's business environment consists of a more dynamic, complex and larger system that people and companies operate. These can be described as a technological, economic demographic and natural environment. It is very vital for organisations to have the capability to respond and cope with the rapidly changing business world. Organisations and senior executives deal with the challenges of organisational complexity.

In order to have a deeper understanding of the research topic, in the next section, the linkage between management development and managing change will be discussed. Additionally, the role of management development as a supportive tool for managers to respond and adapt changes will be investigated.

4. THE RELATIONSHIP BETWEEN MANAGEMENT DEVELOPMENT AND CHANGE MANAGEMENT

Due to continuous and intensive change, many organisations are facing difficulties to adapt and improve their managers. Therefore, the vital effect of management development has become clear and obvious for organisations (Redman and Wilkinson, 2008). There are two biggest

challenges which organisations are facing in the current business environment are leadership and change (Mumford, 2010). Attracting, recruiting, developing managers and effectively managing the change which occurs internally and externally within the organisation are the vital activities which keep organisations sustainable and competitive.

Dessler, (2009) states that many companies have seen change management and management development as two different aspects of the management activities, in this context the author believes that many opportunities are missed for the improvement of organisational and individual performance in the changing business environment. Thus, many changing activities cannot be achieved due to weak management development practices.

Tobin and Pettingell (2008) believes that many companies do not realise the linkage between management development and change management. They treat them as separate areas. Therefore, many opportunities and benefits for developments in management development activities are missed. Furthermore, the aims of management development programmes cannot be achieved due to the failure of matching individuals' needs and organisation's needs because the organisational and individual needs consistently change within the business environment.

Sewerin and Holmberg, (2009) suggest that organisations must realise the linkage between management change and organisational change and they should integrate two areas when is necessary. And also Sewerin and Holmberg, (2009) argue that management development cannot play a vital role within organisations unless it is combined with

change management. Tobin, et al (2008) believes that management development gives too much attention to technical and professional skills rather than adapting managers' skills to the changing environment that includes the structural, cultural, political, emotional and psychological influences involved in change.

It can be seen from the above discussion management development and change management are seen as separate areas for many organisations. However, in terms of adopting organisations and managers to the changing business environment, many authors believe that organisations should combine two areas to not result in failure. Therefore, within the current business environment, organisations should start to use management development activities as a tool to support their manager in the changing business environment. As a new discussion era, the author believes that organisations which are not integrated their management development approach with the management change will not be successful within the changing business environment.

5. CONCLUSION

All businesses have aims and objectives. Basic aims may be to survive, in the context of globalisation, to survive in an unpredictable and complex environment. This complexity and the degree of change influence the organisations, which is surrounded by many complex and uncertain factors. As the business grows and technology changes, an increase in business complexity is expected naturally. The way to deal with this complex and changing situation for businesses is to have highly qualified managers. The cost of having such talented managers is high. Therefore, when the internal resources are not sufficient, companies have to bear high costs by recruiting qualified personnel from outside the organisation. However, it would be a much more strategic approach, beyond cost, for businesses to train their leaders to manage change. At this point, the responsibility of human resources management is very significant. It is especially important that training and development activities of HR cover all employees and that they are focused on change. Thus, the fact is without the human resource functions of training and developing their managers, the company would be less effective in the markets.

Businesses consider that the adaptation to change and change management is the different matters. They even believe that the change is to modernise the equipment, open a new facility, produce a new product, etc. Thus, when they believe they decide on a change, they usually mention about those activities above. Therefore, the roles of the managers in change management are limited by those operational level decisions. Whereas, they are the employees who will carry the business

to the future and adapt the company to any change that occurs. Employees have a huge influence in the process of developing or transferring new machines, equipment, plants or products. Therefore, it is necessary to persuade employees to change first. This is only possible with the leaders who believe in change. The management development process is necessary to manage the change as well as in many respects for businesses.

There are macro and micro environmental factors that influence the companies in managing change. Micro factors are related to the close environment of the business and include short-term operations. However, macro factors are related to strategically long term operations and external environment of the business. Researches show that family businesses generally implement management development and change management strategies in micro-level as they aim to be successful in the short term. However, international businesses implement more professional development methods in order to compete with the world.

The family business gives development opportunities to its managers, however with lack of variety. However, having a successful management development process is based on the systematic and continuous use of various techniques. Yet, even this is not enough, they need to use appropriate measurement methods to analyse the success of the management development and change management strategies but in that field, the family business is far from professionalism. Thus, family businesses cannot understand the relationship between management development and change management. It is extremely difficult to

survive for the businesses that do not understand this relationship, resist change or cannot keep up the change.

As a result of this study, some suggestions on how to develop management will be given to enterprises, organisations, leaders, and employees to manage the change. These are given as below:

- To support holacracy instead of hierarchy,
- To build an organisational culture for sustainable change.
- To change their structure and strategies according to the new world's rules.
- To compete with the world, companies have to investigate and analyse globalisation,
- To support leaders by management development activities constantly and systematically.
- To transform the business into professional and institutional organisations,
- To adopt a flexible management approach rather than strict management,
- To promote the transformational leadership style
- To make all human resources activities focused on change.
- To implement internal marketing activities to increase employees' organisational commitment,
- To ensure participate all employees in the decision-making of change.

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