

CURRENT APPROACHES IN SOCIAL, HUMAN AND ADMINISTRATIVE SCIENCES

EDITED BY

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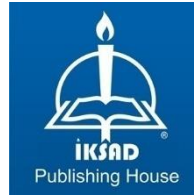
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PREFACE

In today's knowledge era, new information is produced in every second. Particularly, the development process of the social sciences proceeds much more intensely. The main aim of the present study is to make original assessment in social sciences with academicians from different disciplines, as well as, to inspire future research on social sciences. One of the aims of writing this book is to create a scholars network for the future development of studies related to social, human and administrative sciences.

In this book, there are nine chapters containing innovations that may inspire people in social sciences. Herein, there are studies of scientists working in assorted fields of social, human and administrative sciences which are under the titles of Economics, International Trade and Logistics, Accounting, Political Sciences, International Relations, Management and Administrative Studies. First of all, I would like to express my appreciation to our referees and authors for their great teamwork and their contributions in realization of this project. We hope that these valuable studies will contribute greatly to the scientific community.

Dr. Ayşegül GÜNGÖR

CHAPTER 1
A BRIEF HISTORY OF TOYOTA & BMW AND REVERSE
LOGISTICS APPLICATIONS IN THE AUTOMOBILE
INDUSTRY

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INTRODUCTION

Under conventional production conditions, the end product is delivered to a center from a single source, which can be referred to as forward distribution. The products that have completed the usage function reach a single center from a source, which is referred to as backward distribution. In forward logistics, when a product is needed, this product is first sent to the distribution center and from the distribution center to the retail center. Reverse logistics activities usually do not start as a result of decision-making and planning activities in the enterprise, but become the point of further initiation on customers or the network that initiate these activities. This understanding, which started with the transportation of recyclable products from the point of consumption to the collection points and enriched with recycling activities such as re-manufacturing and reuse in time, has been named reverse logistics management, with the subject of examining the said activities in a holistic structure.

According to Lund's (1998) study, what the forward and backward movements are is as shown in the figure 1 below. In the figure, the production process of the product chain and the steps of repair, recycling, reuse and reproduction in this process are displayed. In these steps, the transaction with the highest ring has the highest cost. In other words, while repair has the lowest cost, remanufacturing has higher cost and the highest cost is recycle.

Reverse logistics is a concept defined as “storage and handling of the product or service purchased by the customer with the return transaction”. In addition, the process of reinstatement of the returned products in order to prevent them from harming the nature or disassembling them for reuse is also within the scope of reverse logistics. Reverse logistics was first defined in the 1990s. Within the scope of this definition, the concept of reverse logistics has been put forward as “The process of calculating, executing and controlling the efficient and cost-advantageous process within the scope of re-evaluating and best disposing of raw materials, stocks, finished products and information about the products”. (Keskin, 2008; 38).

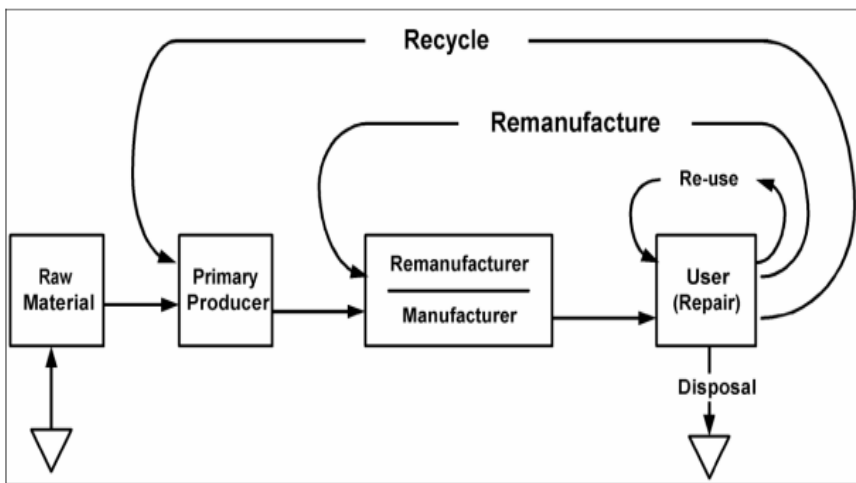


Figure 1. *The Process of Reverse Logistics*

Source: Lund, 1998.

Reverse logistics is fundamentally important because it provides businesses with the following benefits;

- * Value recovery: To regain the value in the product, material and part with added value during the first production and will disappear if the product is not re-evaluated.
- * Profit maximization: as a result of the reduction of costs in raw materials, labor, energy, etc. through product recovery.
- * Fulfillment of environmental obligations: in the form of waste recycling, harmful substance management, etc.
- * Improvement in customer relationship management.

While a successful reverse logistics application improves the image of 'environmentalist company' by fulfilling social responsibility, it provides 'customer loyalty' with this image in the eyes of the customer, decreases the raw material or material acquisition cost of the enterprise and provides a competitive advantage to the business. Reverse logistics, which has become mandatory with legal regulations, has moved to the operating mission in many companies, both environmentally and economically. In 2015, this figure was adopted as 95%. Future strategies of the companies included in the automotive industry are also formed in this context. For example, BMW aims to ensure that all of the cars it designs are recoverable (Nakıboğlu, 2007: 192).

It is getting more and more difficult for companies to continue their existence in the sector they operate in. While developments in communication and information technology further solidify the competitive environment, they also enable businesses to add value to their activities at the same rate. However, these developments also

increase the level of awareness of the customers and move the level of satisfaction to a higher point. In the light of these developments, businesses are constantly trying to improve and renew themselves. Over time, it is seen that businesses have developed very effective systems and methods in these searches. Just in time system is one of the most significant strategies developed in the production sector. This strategy developed in Japan has been implemented all over the world over time. The implementation of this system is developed by Taiichi Ohno (1988). Toyota and BMW manufacturing companies have achieved very good results. Although this strategy has several processes, this study will focus on maintenance issues. In their study, Thierry et al. (1995) determined reverse logistics primarily as direct reuse, product recycling and waste management. They have gathered the product recovery activities, including reproduction, under five subtitles. The main difference between these activities takes place in the disassembly process. However, it is also possible to see the first three as an activity of increasing technology and quality in recycling. The purpose of reproduction is to turn the products used into new products with a high quality standard. For example, used machine parts can often be replaced with “newer” quality and technology, at a cost of 50-60% of the new machine cost. For many years, BMW has been putting high cost parts such as engines, starter motors and alternators into the process of reproduction. Remanufactured parts are tested by BMW trading department in line with high quality standards. The renewed parts are resold under the same quality and warranty conditions and at 30-50% more affordable prices than new parts. Also,

BMW has aimed to reuse more than 80% of all plastics. It uses recycled plastics in the design of new parts. For example, luggage compartments in BMW 3 series are made from recycled bumpers.

Likewise, metals are materials that can be recycled. In developed countries, metals constituting approximately 75% of the weight of a vehicle in the automobile industry can be recycled. For example, BMW has designed a vehicle whose parts are completely recyclable. It has been observed that at least 80% recycling efficiency can be achieved during recycling. Recycled products also benefit the consumer and can be priced between 50% and 70% of new product prices (Thierry et al., 1995).

The common suggestions of the companies that have established a system for product buyback are listed below in order for the system to be successful; Difficulties are encountered in reaching the correct and necessary information, but the necessary information can be obtained by cooperating with companies and suppliers. The basic information required is product features for the reprocessed output, matching demand and supply. It may often be necessary to provide the availability of appropriate products, the demand for the reprocessed product, the laws and the know-how available to the company. Proactive firms try to achieve this by setting reuse targets for operations. For example, BMW has aimed to reuse 80% of its plastics. Setting measurable goals is necessary to implement an effective system. Cooperation between companies in the same market can be made in recycling processes. Joint projects on recycling research can

be realized. The ability of companies to successfully apply product recovery processes to their existing systems depends on the following: Acquiring the correct information,

- Redesigning goods and processes, if it is essential,
- Cooperation with other firms,
- To be able to accurately estimate and manage the supply of used products,
- Creating demand for reprocessed goods,
- Proving that reprocessed products are as good as new products (Thierry et al., 1995).

Businesses develop reverse logistics strategies due to changing conditions and make their long-term plans accordingly. For example, BMW's major target is to develop fully recoverable cars during the 21st century. For this reason, reverse logistics is implemented in several industries such as steel, electronics, computers, chemistry, medicine, and medical tools, in addition to the car industry. BMW Toyota, DuPont, General Motors, and HP have been successfully implementing reverse logistics activities for many years to further reduce the environmental impact of their products and production processes (Dowlathshahi, 2000).

A BRIEF HISTORY OF TOYOTA & BMW

First of all, Henry Ford was the first founder of the assembly line technique which is called as Fordism from the point of car production. Mass production system was developed by Henry Ford at the beginning

of the 20th century. According to assembly line approach, each department is empowered for one certain objective and when task is finished, the process runs to the relevant units in the assembly line. Finally, the duration of production, the cost of manufacturing reduce and a large capacity of production can be performed considerably. In this way, it is able to produce lots of unit. Mass production is related with the cost of production, stability concepts, speed, system, power and sustainability (Batchelor 1994:4). When the history of the automobile industry is examined, from 1908 to 1927 the Ford Model T was the market leader and Ford Motor Company (FMC) had dominated the US automobile market via assembly-line production. Afterwards, FMC's hegemony was ended considerably by Alfred P.Sloan at GM who met the client's expectations in manufacturing markets and they diversified products and services to receive more customers. President Alfred P. Sloan, General Motors offered a car for every purse and purpose in order to increase sales and market shares. Therefore, Ford Company sentenced to lose its market leadership to General Motors (Parry and Graves 2008:15-22).

Car production has performed exceedingly well so far after WW II due to huge customer demand. In addition, when petroleum crisis eventuated, the demand for low-priced automobiles has increased dramatically. For this reason, USA and European economies have influenced profoundly except Japan. Japanese car sales increased through oil crises and Although Western countries impose trade restrictions on Japan, they could not achieve what they wanted. Imports from Japan threatened producers of USA and Europe during

the 1970s and Korean motor industry became more competitive throughout the 1980s. Japanese and Koreans obtained 17 % market share of European continent and 37 % of the USA automobile industry during the 90s (Parry and Graves 2008:18).

Notably after assembly line approach, competition raised between automobile firms. First Ford Model T had a market around \$ **850** in 1908 and the Company provides to manufacture different optional colour automobile and T Model was even convertible. In addition, Baravian Motor Works is a German car brand and producing firm is established in 1916. Initially, the company just concentrated on motorcycle vehicles and BMW have shifted to automobile production in 1926. Sakichi Toyoda sold textile plant and its facilities to begin R&D in terms of automobile production concurrently. Sakichi Toyoda's brother visited Ford's automobile factory in 1926. Nissan and Toyota became independent companies that Japanese government licensed them during that period. Toyoda family changed name of their company to Toyota in 1936 because it is easy to say (McShane 1997:41).

In addition, BMW first started operating in Munich in 1916. The Bayerische Motoren Werke Aktiengesellschaft (BMW) manufacturer developed its first aero-engines for German military aircraft navy in early periods. Afterwards, the company could produce 6000 motorcycles machines in 1920 and BMW Company entered the motorcycle industry by launching new models in 1923. BMW developed its first car (BMW dixi 1928 model) in order to compete in

the car market. Besides, the production capacity of the BMW had reached 10000 vehicles annually from 1930 to 1935. The production level rised to 17017 units throughout the WWII. By 1931, their payroll was only 1300 unit but by 1939 this had soared 9745 unit which produced at Allach and Eisenach plants (Robson 2008:37-41).

Meanwhile, the aggregate labor force of BMW was consisted of 27000 workers. To sum up, the BMW`s production capacity have expanded during 1930s. Dixi-model automobile produced in middle of the 1929 and BMW left the assembly-line production system for Dixi model automobile in 1932. The manufacturing cost of cars for per unit was RM 2650 (\$630) that was too expensive. The BMW company captured 6 percent market share of total German sales in 1933. Moreover, 7215 automobiles were sold in German car market at the end of 1934. The company has developed the BMW 303 new generation and the 320 generation types cars in between 1937 and 1941. The new car models contained special torsion bars to support their rear axles as well (Robson 2008:45).

In the early 1960s, the BMW Company has sustained its stability in terms of market share, production capacity and leading position despite WWII and its destrutions. The Russians abducted worker of BMW Company from main factory including Albert Siedler and other experts by coercing to produce for Autovelo. In other words, the BMW Company was under the control of Red army at that time. The BMW developed its first car in 1952. However, the BMW received

insufficient demand, despite launched flashy new models (Mantle 1995:60).

Furthermore, BMW Company accomplished the objective in terms of market share and profitability in 1960. Herbert Quandt is principal shareholder of the company who saved the BMW and member of a great German industrial dynasty. Quandt convinced Kurt Golda, the chairman of the BMW works council and Bavarian Finance Ministry to provide management authority of BMW in one hand through Golda's support. He also became managing director of company in 1970 and BMW established its domestic first class chain producers and improve its brands value. The company invested in R&D through him. He was so succesful manager of the BMW Company and development of the company in every respect (Mantle 1995:61-63).

During the oil crises, the demand for economic diesel-based automobiles was increased approximately in 1970. The Japanese and Korean car imports increased considerably and global industry structure went through the changes owing to emergence of Hyundai, Honda, Toyota, and others. Henceforward, Japan became 2nd largest economic power globally, because the major explanation is they able to produce diesel cars by ensuring high quality, low cost, safety and velocity in the production. Therefore, they sold many automobiles to Western countries including USA and dominated the both two market. This topic is selected because, it will conduce to improve the perspective in terms of car markets (BMW and Toyota) and its dimensions containing the comprehending of the conditions.

Automobile is proverbially inevitable instrument of transportation which simplifies our life.

After summarizing the establishment and development process of BMW, the other brand Toyota is examined in terms of several respect including its brief history, achievements, establishment philosophy, production strategy (lean production system), and so on.

Toyota was established in 1937 but, previously, the company engaged in producing textile goods via automatic looms for DCM textile operations in 1894. Toyoda enlarged his looms capacity and established Toyota spinning & Weaving, a thousand-loom venture with same amount of labors in 1918. Further to that he developed automatic loom system for Toyoda in 1926. He sold the rights for use of his patents abroad to the UK, China and USA companies in the price of 100.000 Sterlin. After all, Toyoda started to look for automotive piece suppliers and the Kariya assembly factory was completed in May 1936 to combine the pieces for automobile production. The Toyota Company attempted to produce G-1 type trucks. Previously, the company could import car pieces and its necessary subordinate from USA. The company also worked with local producers (Toshiba, Hitachi and Fuji Electronic) to decrease production cost. By the way, it is worth mention that Toshiba, Hitachi and Fuji Electronic were able to produce in high quality standard pieces. However, the production cost of the items was very high. Therefore, the Toyota company decided to buy the production technology of the parts and pieces of automotive and its know-how

from the western countries in order to produce those items which makes it sense. At that time, Ford's and GM's companies were operating the assembly plants in Osaka Japan (Toyoda 1985:25-29).

In addition, Automatic Loom Work Board meeting of Toyota was held in 1937 in order to improve the building of the Toyota motor company and Koromo factory. Moreover, Chevrolet and Ford trucks cost was nearly 3000 Japanese Yen. The manufacturing price per unit was around 2400 Japanese Yen and charged them to its dealers at 2400 Japanese Yen. For this reason, Toyota targeted to manufacture less than 2400 Japanese Yen. After all, Toyota Company manufactured 150 pieces in October 1936 and increased to 200 pieces in November. Accordingly these figures production costs of per unit came to 2948 Japanese Yen in October and finalized to 2761 Japanese Yen in November (Toyoda 1985:37-41).

When manufacturing occupancy rate reached to 500 units per month, the cost of production declined dramatically to 2140 Japanese Yen. Consequently, the production cost reached to 1850 Japanese Yen considering the 1500 units per month. Assume that the dealers were probably invoiced at around 2400 Japanese Yen which was so significant to compete with other competitors including GM and Ford. Toyota's profit reached to 1.8 million Japanese Yen and paid dividend of 5 percent to its shareholders in 1938 (Toyoda 1985:49-53).

Toyota Company manufactured 2685 motor vehicles in 1950. However, at that time Ford Rouge factory was producing 7000 motor vehicles per day. This factory was great and impressive in the world

that Toyota Company implemented Ford's assembly-line system sent the Eiji Toyoda (Sakichi's nephew and young engineer) to USA to obtain the know-how. However, assembly-line technique could never work due to many factors. These are;

- 1) There was a great demand for large vehicle and local market was very insufficient to sell finished car.
- 2) Japanese economy was in the throes of death owing to lack of foreign exchange and capital which delayed to obtain know-how and current western technology.
- 3) Labor unions in Japan have had structural problems and there were administrative problems in the departments.

Despite all these negative developments, Toyota Company had internalized small batches manufacturing which avoids to hold large amount of inventory (stock). Thus, production cost per unit was declined. Thus, assembling them immediately decreased the possibility of making mistakes. It is called as "lean production system". Lean production is an approach to management that concentrates on cutting out waste, whilst ensuring quality. This consideration can be implemented to all factors of a company from design, throughout manufacturing to improve part quality and make sustainable distribution. To sum up, the Toyota Company overcome the obstacles through application of this model (Womack, Jones and Roos, 2007:48-49).

Infact, work specializations were manufacturing downside of productivity. Suppose that assembly factory consist of 50 to 100 working classifications. Employees were not willing to complete the tasks that related to other deparment due to limit flexibility. For this reason, Toyota Company established the Toyota production system (TPS) at the end of the 1960s. The Company developed a new supply system on a day by day basis which took piece just in time that system called “Kanban” as well. Eventually, during the 1980s and 1990s all the car manufacturer replanned the infrastructure and production system similar with Toyota’s lean production system. They all used Kanban production philosophy (Degen, 2009:18-30).

The Toyota Company show interest in the business and financial structure of their own suppliers because, many suppliers are able to affect the manufacturing of any firms. To sum up, if firm fall down in the matter of one suppliers, it influences the whole supply chains (McKenzie:2009).

When a firm intends to launch a new product, they encounter many problems. For instance, BMW Company is one of the leading automobile producers in the world. However, when they improved new 7 series, the drivers faced several problems owing to faulty production. The automobil’s battery cannot recharge itself properly (König, 2002). According to Nieuwenhuis and Wells (2003) out of 50 clients of Mercedes’SL and BMW’s 7-series, 28 % of the Mercedes users and 17 % of the BMW buyers bought defective cars. There is a tough competition among automobile firms in the market. Therefore,

the automobile producers are trying to improve better model to obtain more clients. Notably, several automobiles are further removed from their basic function. The firms manufacture more complex and heavy automobiles day by day.

Another significant law from the point of reverse logistics is ELV (End of Life Vehicle Directives), which is aimed at the car industry. According to this regulation, 85% of automobile parts in weight must be recyclable by the end of 2005. According to ELV, the rate of recycling of vehicles has been set at 95% for 2015. Subjecting the automotive industry to the law is highly necessary and logical, as cars are one of the most recyclable products because, 75% to 85% of the content of a vehicle in weight is recyclable. The future strategies of the car producer and the businesses engaged in this industry are established accordingly. For instance, BMW's strategic goal is to develop fully recoverable automobiles throughout 21st century (Dowlatshahi, 2000).

Many companies around the world strive to reduce their costs through sustainability. For example, General Motors' Delco Electronics division has reduced its logistics costs by 26% by developing a computer model that manages direct and combined shipping routes. This computer model called TRANSPART serves 13,000 different points in 30 General Motors fields. In this sense, positive effects have been proved in terms of both cost and efficiency. German automobile producer (BMW) made a new planning in the early 90s by replacing all transportation modules. According to this new planning, BMW

decided to move its spare parts and final assembled cars in Europe to a greater extent using the railway. The main reason for this decision is to reduce the transportation and packaging costs and protect the environment. Studies show that rail transport is a good alternative to road transport. The reasons for this are that the railway minimizes land use, uses renewable energy sources, avoids the traffic jam problem creates less pollution and noise (BMW, 1999).

Logistics is a significant function of modern transportation infrastructure. While traditional logistics organizes the distribution of transportation, storage, packaging and stock management from the manufacturer to the customer, environmental assessments have created a new sub-sector called green logistics for recycling and product disposal. All types of disposal, including recycling and waste materials, toxic and dangerous goods, have created a new market. From another perspective, this will mean environmental aspects throughout the product's life cycle (at stages such as manufacturing, allocation and consumption). For instance, when designing a vehicle, BMW makes sure that the existing parts are completely recyclable (Saroja, 2014).

Erol, vd. (2010) examine the reverse logistics activities and infrastructure of automotive, electrical / electronics and white goods in Turkey. The senior managers of 40 companies including Ford, Toyota and Aselsan were surveyed on reverse logistics practices. According to this survey, in the electrical / electronic and white goods industry, reverse logistics is in the implementation phase, recycling systems and

reverse logistics systems are carried out in the automotive industry. In addition, firms in the electricity / electronics sector believe that their corporate image will deteriorate when they implement recycling methods in the eyes of their customers who will think that they sell poor quality goods. Also, in many companies, reverse logistics operations have not been implemented with the belief that it will be expensive although it reduces production costs (Srivastova and Srivastova, 2006). In addition, the lack of legal obligation for recovery in Turkey and lack of economic incentives in this regard hamper the implementation and understanding the importance of reverse logistics issues.

Zee (2008) attributes the biggest reason for a firm to take green initiatives to customer pressure. 188 Surveys on customers' attitudes towards sustainability and the environment show that the demand for reliable products and green work practices is consistent and growing steadily. A study conducted by Interbrand firm showed that the brand value of Toyota, which produces the environmentally friendly Prius, has increased by 47 percent and approached 28 billion dollars.

Toyota received the award of excellence in the Energy star program in the USA in 2005 and 2006 consecutively. In this program, it was determined that 80% of the energy was utilized in the mold and defective part of the facilities and these parts were emphasized. Under the name of “Energy Process Assessment”, performance analyses of all processes were performed in all plants around the world. To sum up, the most efficient method has been implemented in other plants.

Energy intensity reduced by 26% in 8 years at the end of the project. Toyota expressed that the organization and managers have high participation as the key to the success of this program (Korkmaz, 2015).

Agrawal and Toktay (2010) express that SCM managing and defining by product synergies, designing and using product service systems, improving and promoting greener products through providing economic development. Actually, the most significant aim of a firm is to measure for car markets the influence of several elements on inventory assets. There are two elements in terms of inventory assets. First one is the amount of dealership in a producer's allocation network and second one is output flexibility of producer, clarify basically all of the difference in completed products inventory among GM, Toyota and Chrysler (Cachon and Olivares, 2010).

CONCLUSION

Resource Dependence Theory emerged in the 70s from the requirement to be explained in terms of the relations of companies' functions and activities with their environment in the organizational field. At the center of the theory is the examination of the questions of how some companies become dependent on other companies for needed inputs, such as products and materials, and how companies should manage such relationships. The mutual but asymmetric dependency that manifests itself in these intercorporate linkage is critical for removing uncertainties in the environment for some firms.

Most of the time, they become tightly interdependent as members of the supply chain work tightly together. For this reason, it has a great value in Source Dependency Theory from the point of supply chain. In this respect, BMW company combined the considerations of suppliers through their own designs, and Toyota made a low cost production breakthrough, showing the first example of this in the car market. (Miles and Snow, 2007: 459-463).

Due to today's economic conditions, it is an apparent matter for companies to gain competitive advantage based on their value-creating approaches. As a result of ecological conditions, rapid depletion of energy resources, population and consumption approaches, the energy requirement is increasing. In 2030, primary energy sources will be halved, but the energy need will double, and the only way to overcome this energy dilemma is to use energy efficiently. The green approaches that companies take while operating are not only providing competitive advantage but also enabling them to use energy and raw materials more efficiently. When the sustainability reports are examined, the economic, social and environmental gains of the practices implemented by the companies with a sustainability perspective draw an attention. In the projects and applications carried out with the sustainability approach, firms minimize the environmental damage by reducing carbon emissions, while at the same time; their energy use is significantly reduced. When the subject is addressed in terms of Supply Chains, the chain needs to adopt Green Supply Chain Management in terms of meeting

customer expectations and sustainability, and implement this with a holistic approach in all rings of the chain. Over time, we see that businesses have developed very effective systems and methods in these searches. Just in time production system is one of the most crucial strategies developed in the production sector. This strategy developed in Japan has been implemented all over the world over time. The implementation of this system was developed by Taiichi Ohno (1988). Toyota and BMW manufacturing companies have achieved very good results. Although this strategy has several processes, this study is focused on maintenance issues.

REFERENCE LIST

- Agrawal, V., & Toktay, L. B. (2010). Interdisciplinarity in Closed-loop Supply Chain Management Research. *Supply Chain Integration*, 4, 197-210.
- Batchelor, R. (1994). *Henry Ford: Mass Production, Modernism and Design*. Manchester and Newyork: Manchester University Pres.
- BMW (1999). Bayerische Motoren Werke AG, Annual Report. Retrieved from https://bib.kuleuven.be/files/ebib/jaarverslagen/BMW_1999.pdf (05/02/2019).
- Cachon, G. P., & Olivares, M. (2010). Drivers of Finished-Goods Inventory in the US Automobile Industry. *Management Science*, 56(1), 202-216.
- Degen, R. J. (2009, December 23). The Confrontational Management-Labor Negotiations that Led to the Failure of the United States Motor Vehicle Companies and Why the Japanese and Germans Prevailed (Working Paper No. 51). Retrieved from <http://econpapers.repec.org/paper/pilwpaper/51.htm>.
- Dowlatshahi, S. (2000). Developing a Theory of Reverse Logistics. *Interfaces*, 30(3), 143-155.
- Erol, I., Velioğlu, M. N., Şerifoğlu, F. S., Büyüközkan, G., Aras, N., Çakar, N. D., & Korugan, A. (2010). Exploring Reverse Supply Chain Management Practices in Turkey. *Supply Chain Management: An International Journal*, 15(1), 43-54.
- Keskin, M. H. (2008). *Lojistik Tedarik Zinciri Yönetimi*. Ankara: Nobel Akademik Yayıncılık.
- Korkmaz, M. K. (2015). *Yeşil Tedarik Zinciri Yöntemi ve Sürdürülebilir Uygulamalar*. Gümüşhane Üniversitesi İktisadi ve İdari Bilimler Fakültesi IV. Ulusal Lojistik ve Tedarik Zinciri Kongresi Bildiriler Kitabı, 21-23 Mayıs. Gümüşhane: 1-13.

König, W. (2002). Made in Germany. *Autocar*, August 21, 17.

Lund, R. (1998). Remanufacturing: An American Resource Proceedings of the fifth International Congress for Environmentally Conscious Design and Manufacturing on 16–17 June 1998. *Rochester, NY: Rochester Institute of Technology*.

Mantle, J. (1995). *Car Wars: Fifty years of Greed, Treachery, & Skulduggery in the Global Marketplace*. New York: Arcade Publishing.

McKenzie, M. (2009). Toyota's Supplier Concerns. *Journal of Supply Management*, 14(6), 1-8.

McShane, C. (1997) *The Automobile: A Chronology of Its Antecedents, Development, and Impact*. London and Chicago: Fitzroy Dearborn Publishers.

Miles, R. E., & Snow, C. C. (2007). Organization Theory and Supply Chain Management: An Evolving Research Perspective. *Journal of Operations Management*, 25(2), 459-463.

Nakıboğlu, G. (2007). Tersine Lojistik: Önemi ve Dünyadaki Uygulamaları. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 9(2), 181-196.

Nieuwenhuis, P., and Wells, P. (2003). *The Automobile Industry and the Environment: A Technical, Business and Social Future*. Cambridge: Woodhead Publishing Limited.

Parry, G., and Graves, A. (2008). *Built to Order: The Road to the 5-day Car*. London: Springer-Verlag London Limited.

Robson, G. (2008). *Inside the BMW Factories: Building the Ultimate Driving Machine*. China: Motorbooks Colin Gower Enterprises.

- Saroha, R. (2014). Green logistics & Its Significance in Modern Day Systems. *International Review of Applied Engineering Research*, 4(1), 89-92.
- Srivastava, R., & Srivastava, S. K. (2006). Managing Product Returns for Reverse Logistics. *International Journal of Physical Distribution and Logistics Management*, 36(7), 524-546.
- Ohno, T. (1988). *Toyota Production System: Beyond Large-Scale Production*. CRC Press, Portland, Oregon.
- Thierry, M., Salomon, M., Van Nunen, J., & Van Wassenhove, L. (1995). Strategic Issues in Product Recovery Management. *California Management Review*, 37(2), 114-136.
- Toyoda, E. (1985). *Toyota Fifty Years in Motion: An Autobiography by the Chairman*. Tokyo and Newyork: Kodansha International.
- Van Der Zee, B. (2008). *Green business*. Dorling Kindersley Ltd. Retrieved from https://books.google.com.tr/books?hl=tr&lr=&id=xmdkr0f-vJMC&oi=fnd&pg=PA2&ots=1duUd6RrnW&sig=Q6mff-A_3Edcoe903YFXN-rnJVQ&redir_esc=y#v=onepage&q&f=false (03/04/2019).
- Womack, J. P., Jones, D. T., & Roos, D. (2007). *The Machine that Changed the World: The Story of Lean Production-Toyota's Secret Weapon In the Global Car Wars That Is Now Revolutionizing World Industry*. Simon and Schuster. Newyork: Free Press.

CHAPTER 2

THE RELATIONSHIP BETWEEN INFLATION, INTEREST RATE, AND MONEY SUPPLY: EVIDENCE FROM TURKEY

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INTRODUCTION

The effect of Covid-19 on economies certainly, cannot guess by economists and politicians a long time ago. Today many companies suffer from insufficient demand or an unhealthy public situation. Many economists believe that companies and firms as well as individuals do not cope with deals this unexpected economic condition so, to save employment rate and companies, economists suggest to government print money to reduce detrimental effects of Covid-19 on economies. Some stimulus packages may help employees to continues of the production process so many workers can keep their current position.

On the other hand, high inflation and interest rate are the top two of the most important problems especially developing countries. After Keynesian policies do not figure out a good solution for inflation and unemployment at the same time, these policies are interrogated. Many economists criticize too much intervention made by government due to the high deficit because of expansionary fiscal policy. Deficit may burden on budget overtime then many governments find an easy solution by printing money, which leads to go prices up.

Moreover, high deficit causes more borrow more money from investors which occur high interest rate in the money market. Higher interest rate may decrease both private investment and consumption so that income will go down which reduces the tax revenue. Next period, governments should borrow more money due to the fact that governments generally achieve reducing enough spending that leads to an increase in deficit. This deficit continues to grow day by day than more funds go to bonds

or treasury bills. The system turns the initial position that causes rising interest rate up in the economy. This may call deficit – interest rate spirals.

Also, governments have a limit to borrowing money relative size of the economy. Under the controlling inflation, monetary authorities try to fix monetary base but Because if governments keep up selling more bonds, then interest rate rises. If deficit is run, then governments keep up selling more bonds, which occurs rising its interest rate. After a certain limit, rising interest rate may be greater than economic growth. Obviously, this cannot go forever. If governments reach the borrowing limit, then they have to compensate deficit by seignorage means that they have to increase money supply. Thus, this will increase the growth rate of price level that is called some unpleasant monetarist arithmetic in the literature (Sargent and Wallace, 1981,2).

Nowadays, many economists agree that governments should printing money and support financially not only firms and companies but also people who are fired during the pandemic time. In this context, the aim of this paper investigates the relationship between inflation, interest rate, and money supply in turkey from 1990-2019. In this period, there are a few economic crises that may lead to a change economic agents' behavior. So, the effects of structural break are also examined. According to the general model, inflation has important effect on interest rate. Also, it is found that if there is a positive shock on interest rate, it may cause rising price level significantly. Money supply has a

limited effect on inflation because it is prohibited by law printing money to cover government spending and public institutions².

1. THEORETICAL BACKGROUND

The reasons for high inflation and interest rate have been frequently debated by many people both politicians and economists, recently. Some claim that inflation is high due to the high interest rate. Others assert that high inflation pushes interest rate up. The missing point is the effects of money supply both inflation and interest rate.

In this section, it is briefly explained classical view about inflation, interest rate, and money supply. Keynesian view about these follows. Finally, modern theoretical approach will be mentioned.

1.1. Classic Economic Theory

Classic economists assume that there is a serious separation between real economy and monetary economy. This assumption causes different reasons for inflation and interest rate. Inflation is derived by monetary variables whereas interest rate is determined by real variables. Also, money supply only affects inflation, it has no effect on interest rate.

1.1.1. Interest rate

As mentioned before there exist a separation between real economy and monetary economy in the classical economic theory. Interest rate is

² During the 1990s, the inflation rate was double digit (generally over 60). Many economists agree that this high and chronic inflation is one of the obstacles to sustainable economic growth. To maintain price stability, politicians made some change law of Turkish Central Bank. Law no: 1211 (Change date:25.04.2001). Central Bank cannot pay in advance or give a loan to the treasury, public establishments, and institutions.

derived by savings and demand for loanable funds which is called loanable funds theory (Kohn, 1981: 859-860).

According to the theory, demand for loanable funds represents a curve its slope is negative since if interest rate goes up, business and households want to use less credit due to the high cost of using. While saving represents with a curve has a positive slope because economic agents tend to save more or consume less when interest rate rises owing to a high alternative cost of consumption and investment (Acemoglu et al, 2016, 256-259).

On the other hand, money supply and inflation can affect on interest rate. Since real interest rate is derived by saving and demand for investment or loanable funds, increasing monetary base does not cause high inflation. Also, inflation may not cause any change in real interest rate.

However, inflation has a substantial effect on nominal interest consequently money supply does, too. The relation between inflation and nominal interest rate are explained with the following equation which is called Fisher Equation.

$$r = i - \pi \quad (1)$$

where r is the real interest rate, i represents nominal interest rate and π stands for inflation (Acemoglu et al, 2016, 254). This equation implies that if inflation goes up one percent, nominal interest rate must rise one percent in order to keep real interest rate constant. Therefore, money supply or inflation cause alteration in nominal interest rate, only.

1.1.2. Inflation

Inflation is occurred only money supply increases more than the economy is needed so inflation is a monetary phenomenon in the classical economic theory. There is no relation between real interest rate and inflation and inflation can not affect to interest rate directly, vice versa. Inflation is explained by the quantity equation.

$$M \times V = P \times Y \quad (2)$$

where M refers to nominal money stock, V is the velocity of money, p denotes price level and Y stands for real income (Dornbusch and Fischer, 1993: 389-390).

Since an economy is full employment and full employment income is constant (all others are held constant), and it is assumed that the velocity of money is too small that can be ruled out. So, this variable is accepted fixed, too. Therefore, if money stock increased five percent, Equation 2 says price level must rise at the same rate. The quantity theory of money implies that any change in money supply causes a change in inflation, so it can be said that money supply has an indirect effect on nominal interest rate via inflation.

1.2. Keynesian Theory

During the great depression in 1929-1933, many political and monetary authorities had realized that theories and practices of classical economic were not be able to solve problems. One country even if it had developed economy could not suffer as much as others due to the changing economic policies. John Maynard Keynes suggested to the

British government use deficit in order to increase demand during the Great Recession. He believed that budget deficits were way out of the recession. “For Government borrowing of one kind or another is nature's remedy, so to speak, for preventing business losses from being, in so severe a slump as the present one, so great as to bring production altogether to a standstill” Keynes said (Cassidy,2011).

Alteration economic thought and theory occur change in cause and effect of economic variables. Hence, the relation between interest rate, money supply, and inflation will explain in this part. First, it is tried to summary the relation between money supply and interest rate. Then it will be discussed why money supply causes inflation.

1.2.1.Money Supply and Interest Rate

Keynesian thought analysis economy from consumer demand. They believe that demand determined the production if there is a demand, so firms and businesses try to cover it. The demand is the key factor of the economy. Politic and monetary authorities have the power of giving a direction to the aggregate demand by using monetary and fiscal policy, so on.

One of the important policies is monetary policy which affect directly interest rate. The demand for money is derived by real income and interest rate whereas money supply is assumed exogenous and it is affected by decisions of monetary authorities.

$$L=kT-hi \quad \text{where} \quad h \text{ and } k>0 \quad (3)$$

L denotes the demand for money, Y and i represents real income and interest rate, respectively. K and h are parameters that show how money demand is sensitive to any change in related variables.

If monetary authority increases money supply, which is called expansionary monetary policy, economic agents have more money than before so to hold more money at the same income, interest rate has to be lower while all other factors are held constant.

On the other hand, if real money supply is decreased then interest rate has to be higher so agents hold less money at the same real income level. In consequence, interest rate is affected by monetary variables which imply there is no dichotomy between good and asset markets (Dornbusch and Fischer, 1993, 108-109).

1.2.2. Money Supply and Inflation

The second point is that how money supply affects price level. The answer to this question is simply demand. Since, interest rate decreases after increasing real money stock, private consumption, and investment rise due to the low alternative costs. Lower interest rate leads to economic agents spend more because households tend to purchase expensive things like cars and houses. Since interest rate is low, they will repay less relative to the high interest rate.

Also, lower interest rate causes more profit of investments. Even more, some projects can be able to turn investable that causes rising amount of investment in an economy. These two effects create new demand

for goods and services which, causes prices going up. It will cause inflation (Dornbusch and Fischer ,1993,124-125).

1.3. Other Theories

After 1970s, Keynesian policies do not prevent inflation and unemployment both developing and developed countries which causes Keynesian theory was questioned. According to the theory of Keynes, if there is any inflation, generally caused by high demand, there should not be any unemployed persons. Unemployment rate should be equal or close to natural rate of unemployment.

However, if there is a high unemployment rate, which means equilibrium income lower than full employment income, prices should not go up since there is not enough demand that pushes the economy up to full employment. After two oil shocks in the 1970s, both inflation and high unemployment has occurred, called stagflation, Keynesian policies do not success producing a solution for the new economic problem. Monetarist economics, Supplied Side Economist, New Keynesians, thought so on, were developed.

According to the monetarist economists, if the growth rate of money exceeds the growth rate of real income or production causes inflation in an economy. Also, monetary policy should conduct a thorough targeting monetary variables such as net domestic assets, instead of targeting interest rate (Dornbusch and Fischer ,1993,546).

Moreover, New Keynesian approach tries to make connection Keynesian macroeconomic theory with microeconomic perspective. They claimed that monetary and fiscal policies should be used to reach full employment. Unexpected an increase in money supply can cause change not only price but also income. So, high prices, so inflation is not a monetary phenomenon. Inflation occurs due to the menu costs and sticky prices.

Rational expectation hypothesis claims that any change in money supply causes inflation. Since the economy is always at full unemployment and economic agents have full information and make perfect forecasting, change in money supply can not alter real income so it causes inflation with the same growth of its.

Theoretical explanations about interest rate, inflation, and money supply are summed up in this part. The chapter organized as follows. Literature review is next. After data and econometric methods will be explained in the third part. The interpretation of estimations' results is in the fourth part. Finally, this chapter will finish with conclusion.

2. LITERATURE REVIEW

Theory models are summarized above. Many papers have tried to explain relation inflation, interest rate, and money supply for a long time but there is no consensus on it. Many researchers consider either relation between interest rate and inflation or inflation and money supply, especially for Turkey. There is a limited number of papers are centered on these three variables simultaneously.

Bhattarai (2001) investigates the effects of the exchange rate and money supply on inflation, interest rate, and growth for the United Kingdom. He found that if money supply increases then interest rate increases due to the fact that London is a global financial hub. Exchange rate and money supply have effects on inflation. Çatalbaş (2007) analyzes the relation between inflation and money supply from 1999Q1 to 2006Q3 with quarterly data. Most of the time, the positive relation between these two variables are confirmed. Only a few periods, negative relation is found.

Pinga and Nelson (2001) studied on 26 countries between 1980-1989 but focuses on only money supply and inflation. They conclude that if real money stock increases the prices go up. Doğan vd (2016) investigate only the relation between interest rate and inflation between 2003:01-2015:2. Two variables are not stationary but the first difference of them are. According to the Granger Causality test, inflation is granger cause if interest rate. But reverse relation is not statistically significant.

Inal (2006) tests the effect of money supply on interest rate between 2001.07 and 2006.03. Monthly data is used. Estimation results support expectation hypothesis. If the expansion of money is unexpected then the effect gets larger otherwise the estimated coefficient becomes smaller and it is statistically insignificant. Oktayer (2010) studies on the relation between budget deficit, money supply and inflation from 1987

to 2009 in Turkey. He finds that budget deficit has more power on why inflation is high Turkey than money supply³.

Korkmaz (2017) studies on determinants of inflation in Turkey between 1998:02 and 2015:04. Growth rate, money supply, interest rate, nominal wages, domestic real credit volume, and real exchange rate are explanatory variables for price levels. It is concluded that interest rate affects inflation in both short and long term. Taban and Şengür (2016) analyze resources of inflation in Turkey from 2003:2 to 2014:1. They use a monthly data set. They get evidence that interest rate does not have any power on inflation.

Saatçioğlu (2005) focuses on the reasons for inflation in Turkey between 199:01,2004:05. It is concluded that one of the reasons for inflation in Turkey is interest rate (Treasury Bond Rate). Girginer and Yenilmez (2005) investigate which macroeconomic variables affect inflation in Turkey. Their data set starts in 1981 and finishes in 2002. They found evidence that money supply is the most second explanatory variable for inflation.

Bleşer (1978) studies on money supply, inflation, and nominal interest rate between 1963 and 1976 by employing quarterly data for Argentina. Expectations are important for the economy. If there is any change in money supply, it causes changing in interest rate by one to one relation. Nguyen (2015) investigates reasons for nine Asian countries;

³ Other researchers investigate the relation between these three variables. Uygur (2001), Neyaptı (2003), Kuru and Özmen (2003), Akçay et al (2001), Altıntaş et al (2008)

Bangladesh, Cambodia, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand, and Vietnam from 1985 to 2012. He concludes that money supply is one of the important reasons for inflation in these countries, and it affects positively. Moreover, interest rate is another statistically significant determinant for inflation.

Deme and Fayissa (1995) analyze the relationship between gross domestic product, exchange rate, imported inflation, money supply, and inflation for Tunisia, Morocco, and Egypt from 1964 to 1990. It is found that money supply has a positive effect on interest rate for Morocco, and Egypt. Interest rate cause a change in expected inflation for these countries.

Fry (1980) studies on relation money supply, interest rate, inflation, and growth in Turkey between 1950-1977. it is found that inflation is derived by change in money supply and demand. Disequilibrium institutional interest rate affects domestic credit and real deposit rate which, causes prices going up. Findlay (1990) investigates the relationship between budget deficit, expected inflation, short term real interest rate for the U.S. between 1965Q1 and 1988Q4. It is concluded that actual and expected inflation have power on interest rate, negatively. Furthermore, if money supply increases then real interest rate goes down.

There are lots of studies try to explain the relation between money supply, interest rate, and inflation but many include other explanatory variables. This studies one of a few papers that includes only three

variables: inflation, interest rate, and money supply. Data set and econometric methods will be introduced in the following part.

3. DATA and MODEL

Aforementioned, the aim of this paper tries to reveal the relation between inflation, interest rate, and money supply in Turkey. The monthly date set covers 1990:01-2019:12 since full liberalization of Turkish economy started at the end of 1989. All data set is retrieved from IMF statistics web page. For inflation, consumer price index is employed. For the interest rate, it is chosen policy-related interest rate. M_1 stands for money supply.⁴

Since the data set includes time series, stationary of variables should investigate before starting estimation. If series are not stationary or include unit root, then estimation results will be biased. Sometimes, time trend of variables can interact with each other which causes low standard error, and it may cause higher t values. Consequently, it is accepted mistakenly statistically significant some coefficients even if they are statistically insignificant, indeed (Enders, 2013, 195). Granger and Newbold (1974) called a spurious regression. They showed that 33 out of 34 macroeconomics variables were not stationary in the U.S.

To avoid spurious regression, variables are tested to learn whether there are stationary. Augmented Dickey Fuller (ADF) and Phillips Perron

⁴ Estimations are done by employing M_2 variable (instead of M_1). Results are not different very much. Results are available upon request.

Also, IMF_IFS website cuts money supply series at the end of 2017. The remaining data set is found Central bank of the Republic of Turkey (EVDS).

tests are employed to find out a solution. The first unit root test is run ADF, introduced Dickey and Fuller (1979). This unit roots test is the most preferred test due to the easily applying procedure. The next test is PP unit root test, developed by Phillips and Perron (1988). This test performs well when variables include moving average format.

$$\Delta y_t = \alpha_0 + \gamma y_{t-1} + \alpha_2 t + \sum_{i=2}^p \beta_i \Delta y_{t-i} + u_t \quad (4)$$

ADT test has three different versions: None (no constant and time trend in the ADF test), only constant, and constant plus trend. The equation above gives ADF test including both time trend and constant. If α_2 is assumed to zero, then ADF test with drift (intercept) model is got. Pure random walk test is applied adding neither time trend nor constant in Equation 4 (Enders, 2013, 206).

Moreover, PP test makes correction of T test for ADF. The estimation equation is the same as ADF test while, t statistics calculates differently. By using coefficient (γ) of standard error, standard error of the unit root test, the consistent estimate of error variance and an estimator of the residuals spectrum at frequency zero, corrected t statistic is calculated and decision for unit root test is decided based on it (Eviews, 2014: 478).

Since period time cover from 1990 to 2019, there is a few structural changes in monetary policy in Turkey. The first structural change occurred in 2001. CBRT has not been able to loan to treasury, public establishments, and institutions in the short run, anymore. The second structural change happened after Mortgage crisis in 2009. Since Federal

Reserve Bank (FED) have started to change expansionary monetary policy, all countries are affected this monetary policy changes due to the fact that many countries' central banks such as in Argentina, India, Brazil, and Turkey hiked interest rate significant after FED has announced starting reducing bond purchase program⁵.

Hence, the structural break unit root test is also employed in this study. Since the break unit root test includes dummy variables that try to investigate whether or not structural break affects stationary of time series. Perron (1989) modified ADF test with a dummy. One of the advantages of Perron Unit root test, structural break date is selected exogenously. But this selection should base on economic theory or history of the economy.

After the determination of stationary for variables, vector autoregressive model (VAR) is applied. Sims (1980) developed an early version of VAR models. This model explains relation variables how much a variable affects itself and others. Impulse response graphs help easily understand the effect of on variables to another.

$$y_t = B_0 + B_1 y_{t-1} + \dots B_p y_{t-p} + C x_t + u_t \quad (4)$$

⁵ Further details can be found at for Turkey: <https://www.wsj.com/articles/turkey-raises-overnight-lending-rate-to-12-1390947033>, for Argentina: <https://www.bloomberg.com/news/articles/2014-01-24/argentina-raises-rates-for-central-bank-notes-after-devaluation>, for Brazil: <https://www.reuters.com/article/brazil-economy-rate-s/update-3-brazil-opts-for-bold-interest-rate-hike-despite-weak-economy-idUSL2N0KP0J620140115>, and for India: <https://in.reuters.com/article/india-rbi-policy-review-repo-rate-crr/rbi-raises-repo-rate-says-further-tightening-unlikely-soon-idINDDEA0Q0K520140129>

where y is the vector of endogenous variables, x is the vector of exogenous variables, B_0, \dots, B_p , and C are matrices of coefficients. U is the vector of innovation. After estimation of coefficient, it is drawn impulse responses, which undoubtedly brings out how variables cause alteration itself and others.

The data set and estimation procedure are introduced in this part. In the following part, it is explained the relation between variables.

4. ESTIMATION RESULTS

As mentioned before, our data set includes time series. First of all, it must determine time series have unit root or not. Cointegration tests should run while series do have a unit root. If they are stationary at the level or first difference of series are stationary, then VAR can be applied. Otherwise, other econometric methods, such as vector error correction or Autoregressive Distributed Lag (ARDL).

Results of ADF and PP test are reported in Table 1. ADF test results show that the null hypothesis, have a unit root of the series, rejected at %5 significant level. But it is not assumed for the other two variables. CPI is not stationary because it is failed to reject the null hypothesis unit root test except trend and constant version. Money supply is not stationary because we can fail to reject the null hypothesis except only constant version. CPI and M1 are accepted as non-stationary. If first differences of these two variables are tested, then the null hypothesis is rejected. So, first differences of CPI and M_1 are stationary.

Table 1: ADF and PP Test Results

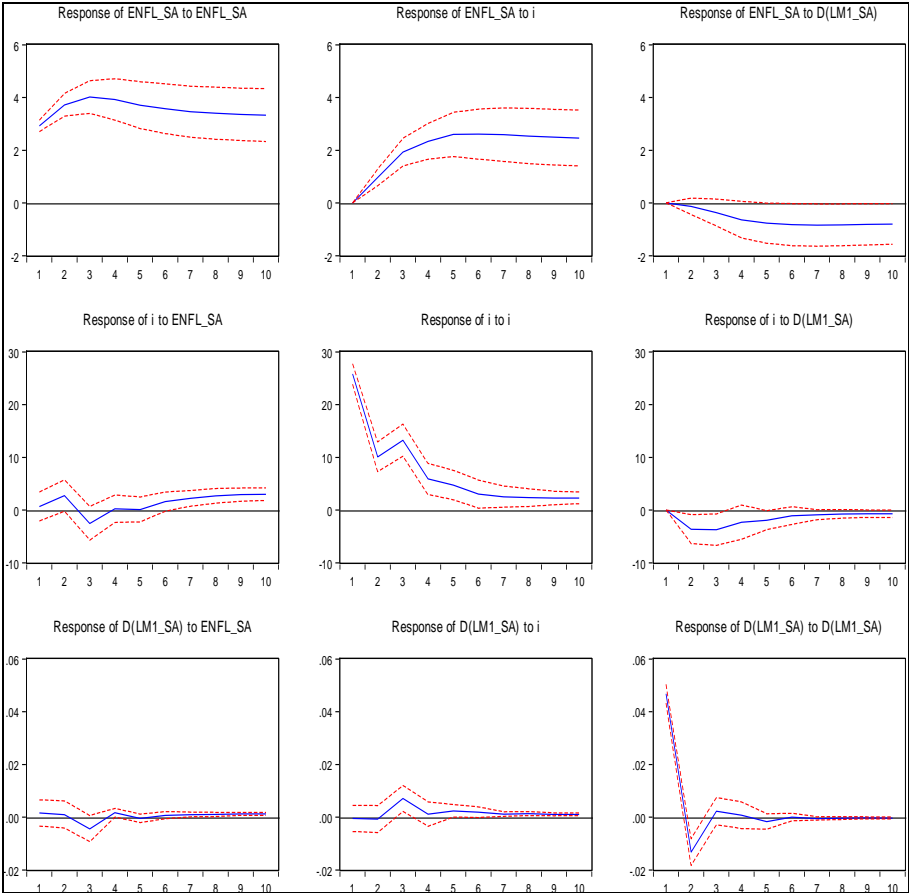
ADF			
	None	Constant	Constant & Trend
CPI	-1.20672	-0.77908	-8.96194***
Interest Rate	-2.28453***	-4.59307***	-6.68831***
M₁	5.764282	-5.68859***	-0.75155
D(Price Level)	-8.92985***	-8.97494***	-8.96194***
D(M₁)	-3.83633***	-22.6897***	-24.3379***
PP			
	None	Constant	Constant & Trend
CPI	-1.24431	-1.21421	-2.20862
Interest Rate	-4.60596***	-7.73211***	-10.928***
M₁	6.833076	-5.35275***	-0.71366
D(Price Level)	-12.6323***	-12.6204***	-12.6013***
D(M₁)	-22.1566***	-22.5208***	-24.1647***

* Critical values for ADF test at %5 significant level; None: -1.94174; Constant version: -2.869653; Trend /constant and for PP test; -1.941709; Constant: -2.869374; Trend & Constant: -3.422391

*** represents reflect null hypothesis at %1 significant level.

The same interpretation can be done for PP tests. PP test also confirms ADF test results. Hence, interest rate does accept stationary but CPI and

M1 do not. On the other hand, first differences of CPI and M1 are stationary for all versions of PP test⁶.



Graph 1. Impulse Responses for Unrestricted Model

Graph 1 show impulse responses for all sample period. If there is a one standard deviation shock on inflation cause the highest effect on itself. Interest rate increases a little bit after the shock to inflation, but one

⁶ The first difference of logarithmic version of CPI is inflation. Also, the first difference of M₁ is the growth rate of money supply. Inflation and growth rate of Money supply are employed in VAR since they are stationary.

period later makes a top, then the effect reduces. Interest rate decreases after second period. One period later, the shock cause going interest rate the up. The response of M1 is flimsy and disappears a few quarters later.

Interest rate shock causes higher effect to itself, but it significantly diminishes one period later, then but falls gradually. A positive shock to interest rate leads to an increase in the growth of money but this shock is not persistent.

If there is a positive shock on the growth rate of money, inflation goes down. Also, interest rate fall. Inflation declines due to the effect of a decrease in interest rate. The shock causes high responses on itself but the effects of shock tern to negative in the second period. After that, it vanishes in a little while.

As mentioned above, there was a sharp change in monetary policy after 2001 economic crisis in Turkey. Also, 2007-2009 global financial crisis leads to a change monetary policy all over the world. Now, these two cases consider in the estimation.

Perron unit root test with break point are shown in Table 2. The first break point is chosen in 2001 and the second is chosen 2009. Interest rate is stationary for both break dates since calculated test statistics are less than critical value so that the null hypothesis – have a unit root- is rejected. Unfortunately, there no clear evidence supports that CPI and M_1 are stationary when the structural break is considered.

Table 2: Estimation of Perron Unit Root Test

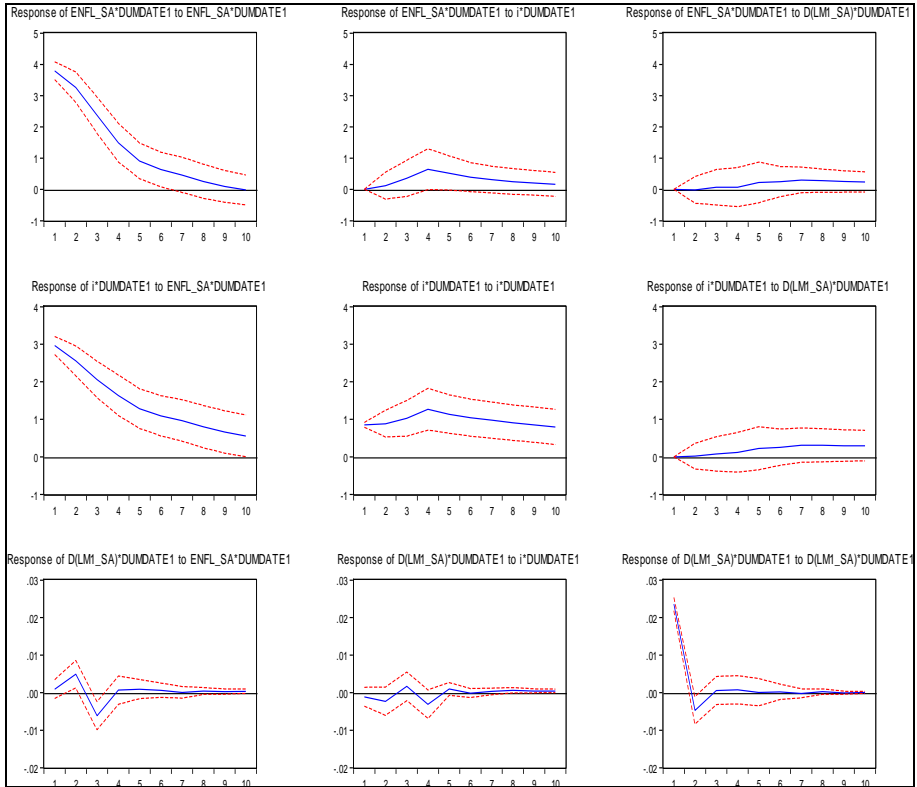
Break Point	2009		
Version	Constant& Trend	Time Trend	Constant
CPI	-2.82446	-2.89179	-1.71075
Int. Rate	-7.91846***	-7.84083***	-6.66777***
M₁	0.957256	1.255781	-1.02584
Break Point	2001		
Version	Constant& Trend	Time Trend	Constant
CPI	-1.36448	-1.80928	-2.09565
Int. Rate	-7.56397***	-6.66597***	-7.45211***
M₁	-3.55619*	-4.07006**	0.305131

* Table values for PP test (break:2009) follows: C&T: -4.21833, T: -3.913889, C: -3.669722 at %5 level. Table values for PP test (break:2001) follows: C&T: -3.732222, T: -3.918611, C: -3.669722 at %5 level.

***, ** and * stand for rejection of null hypothesis respectively at %1, %5, and %10.

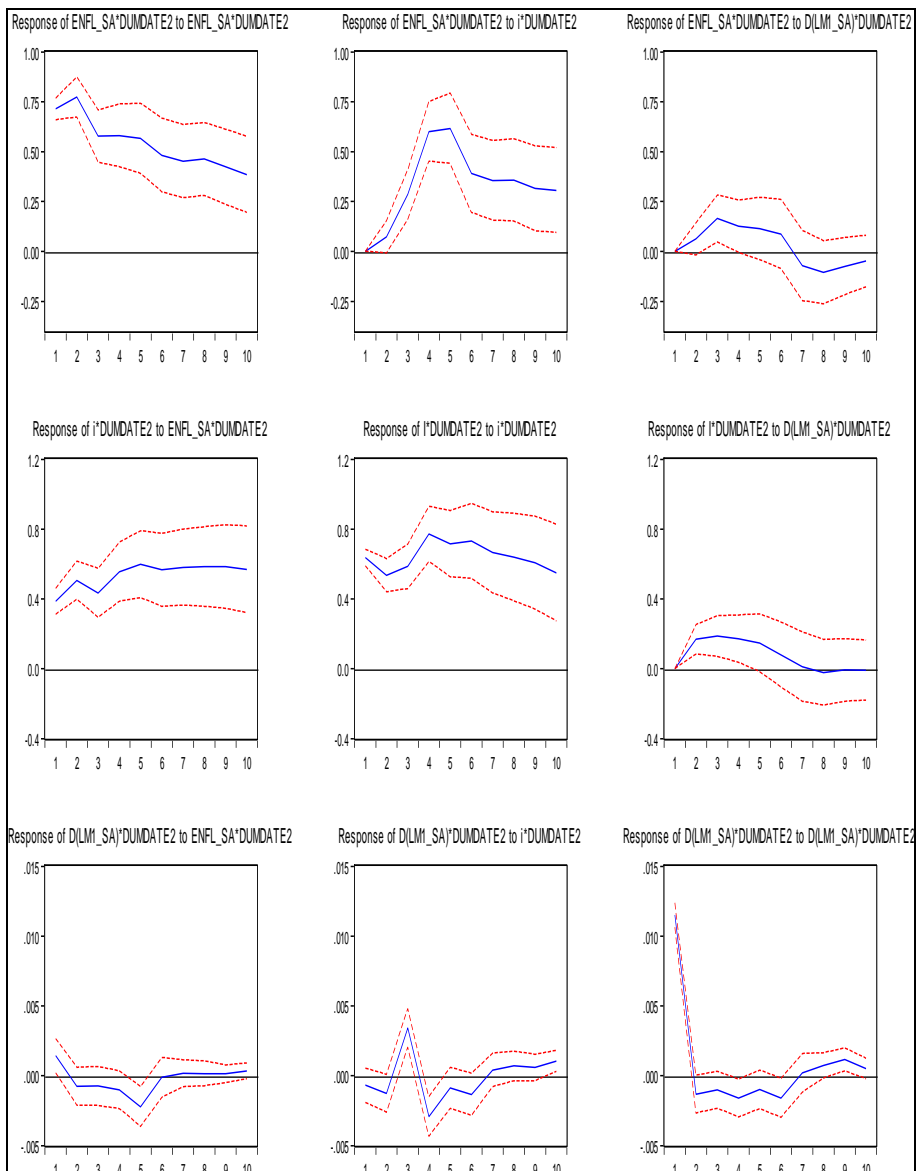
Break date chosen in 2009, both series are obviously non-station. However, if the break date is accepted in 2001, the null hypothesis for money supply is rejected at %5 with the trend break case, at%10 with both trend and constant cases. Unfortunately, these results do not affirm stationarity of money supply.

Consequently, it is estimated interest rate with first difference two other variables with the first restriction model. Restricted model estimates with the structural break. The following graph shows responses of variables with the structural break. If structural break is assumed at 2001, it is clearly explained reducing of responses. Responses of interest rate for all variables are persistent all periods but the effects are flimsy and ignorable. The other two variables' responses die away a few periods later.



Graph 2. Impulse Responses for Restricted Model 1 (The Break Date: 2001)

A positive shock to inflation causes rising interest rate first three periods, then the effects decreases and approaches to equilibrium. This shock almost does not have any effect on money supply. Response of money supply to a positive shock on interest rate is flimsy. Money supply initially decreases a few then increases a little after that its effect disappears. Responses of money supply to a shock on inflation is not as big as the unrestricted model.



Graph 3. Impulse Responses for Restricted Model 2 (The Break Date: 2009)

The date for the structural break is presumed in 2009. The responses of structural break series are exhibited in Graph 3. Under this restriction, inflation and interest rate affects more than the other two models. Also,

there is a bidirectional relation between inflation and interest rate. In other words, a shock to interest rate continues for a long time and the shock is persistent. Moreover, inflation shock also has a perpetual effect on interest rate. A shock to these two variables does not have permanent effects on money supply. But these responses are got less data points than previous models. These extraordinary results are occurred due to including only ten years data points.

Furthermore, responses of money supply to shock on the other two variables are relatively low, consequently, after 2009, money supply affects neither interest rate nor inflation very much.

CONCLUSION

Whether or not interest rate does cause higher inflation or inflation does lead to go interest rate up debates have become a current issue, recently. Some blames interest rate for high inflation while others claim that inflation occurs high interest rate. In this context, one lag of this relation is omitted. Money supply may substantial effects on both inflation and interest rate. The objective of this part is that explains the effect of interest rate, inflation, and growth rate of money supply in Turkey between 1990 and 2019.

According to the estimations' results, inflation shock to cause interest rate going up one period then the effect becomes negative. Inflation causes rising price level up significantly. The effect of inflation on growth rate of money is flimsy in the unrestricted model. However, interest rate leads to higher inflation. Interest rate affects less than

inflation, relatively. If the structural break is considered in the estimation, then the results change remarkably. The effect of interest rate on other variables drops dramatically and inflation has more power on other variables if the structural break is assumed in 2001. Moreover, if the structural break is presumed in 2009, then the effect of inflation and interest rate are almost the same level. In this case, money supply influences more other variables relative to previous estimations.

BIBLIOGRAPHY

- Akçay, O. C., Alper, C. E., & Özmucur, S. (2001). Budget deficit, inflation and debt sustainability: Evidence from Turkey (1970-2000). Bogazici University Institute of Social Sciences Working Paper ISS/EC, 12., 90-112
- Altıntaş, H., Çetintaş, H., & Taban, S. (2008). Türkiye’de Bütçe Açığı, Parasal Büyüme ve Enflasyon Arasındaki İlişkinin Ekonometrik Analizi: 1992–2006.
- Blejer, M. I. (1978). Money and the Nominal Interest Rate in an Inflationary Economy: An Empirical Test. *Journal of Political Economy*, 86(3), 529–534. doi:10.1086/260686
- Bhattarai, K. (2011). Impact of exchange rate and money supply on growth, inflation and interest rates in the UK. *International Journal of Monetary Economics and Finance*, 4(4), 355-371.
- Cassidy, J. (2011). The demand doctor: what would John Maynard Keynes tell us to do now—and should we listen. *The New Yorker*. <https://www.newyorker.com/magazine/2011/10/10/the-demand-doctor>
- Çatalbaş, G. K. (2007). Türkiye’de para arzı ile enflasyon arasındaki ilişkinin parametrik olmayan regresyon analizi ile incelenmesi. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 9(3).
- Deme, M., & Fayissa, B. (1995). Inflation, money, interest rate, exchange rate, and causality: the case of Egypt, Morocco, and Tunisia. *Applied Economics*, 27(12), 1219-1224.
- Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American statistical association*, 74(366a), 427-431.

- Doğan, B., Eroğlu, Ö., & Değer, O. (2016). Enflasyon ve faiz oranı arasındaki nedensellik ilişkisi: Türkiye örneği. Çankırı Karatekin Üniversitesi İİBF Dergisi, 6(1), 405-425.
- Dornbusch, R. and Fischer S. (1993). Macroeconomics. Boston: McGraw-Hill/Irwin
- Eviews. (2014). User Guide II, <http://www.eviews.com/EViews8/EViews8/EViews%208%20Users%20Guide%20II.pdf>, erişim: 15.04.2016
- Enders, W. (2013). Applied econometric time series. John Wiley & Sons.
- Findlay, D. W. (1990). Budget Deficits Expected Inflation and Short-Term Real Interest Rates: Evidence for the U.S. International Economic Journal, 4(3), 41–53. doi:10.1080/10168739000000017
- Fry, M. J. (1980). Money, interest, inflation and growth in Turkey. Journal of Monetary Economics, 6(4), 535–545. doi:10.1016/0304-3932(80)90006-9
- Granger, C. W., Newbold, P., & Econm, J. (1974). Spurious regressions in econometrics. Baltagi, Badi H. A Companion of Theoretical Econometrics, 557-61.
- İnal, D. G. (2006). Türkiye’de para politikası faiz kararlarının uzun dönemli faizler üzerindeki etkisi. Uzmanlık Yeterlilik Tezi, Ankara: Türkiye Cumhuriyet Merkez Bankası.
- Kohn, M. (1981). A loanable funds theory of unemployment and monetary disequilibrium. The American Economic Review, 71(5), 859-879.
- Tekin-Koru, A., & Özmen, E. (2003). Budget deficits, money growth and inflation: the Turkish evidence. Applied Economics, 35(5), 591-596.

- Neyaptı, B. (2003), “Budget Deficits and Inflation: The Roles of Central Bank Independence and Financial Market Development”, *Contemporary Economic Policy*, Vol. 21, No. 4, 458-475.
- Nguyen, B. (2015). Effects of fiscal deficit and money M2 supply on inflation: Evidence from selected economies of Asia. *Journal of Economics, Finance and Administrative Science*, 20, 49-53.
- Oktayer, A. (2010). Türkiye’de bütçe açığı, para arzı ve enflasyon ilişkisi. *Maliye Dergisi*, 158(1), 431-447.
- Perron, Pierre (1989). “The Great Crash, the Oil Price Shock, and the Unit Root Hypothesis,” *Econometrica*, 57, 1361-1401.
- Phillips, P. C., & Perron, P. (1988). Testing for a unit root in time series regression. *Biometrika*, 75(2), 335-346.
- Pinga, V. E., & Nelson, G. C. (2001). Money, prices and causality: monetarist versus structuralist explanations using pooled country evidence. *Applied Economics*, 33(10), 1271-1281.
- Resmi Gazete, (2001), <https://www.mevzuat.gov.tr/MevzuatMetin/1.5.1211.pdf>.
- Saatçioğlu, C. (2005). Türkiye ekonomisindeki enflasyonist sürecin incelenmesine yönelik bir uygulama. *METU Studies in Development*, 32(1), 155.
- Sargent, T. J., & Wallace, N. (1981). Some unpleasant monetarist arithmetic. *Federal reserve bank of minneapolis quarterly review*, 5(3), 1-17.
- Sims, C. A. (1980). Macroeconomics and reality. *Econometrica: journal of the Econometric Society*, 1-48.

- Taban, S., Şengür, M. (2016), “Türkiye’de Enflasyonun Kaynağının Belirlenmesine Yönelik Ekonometrik Bir Analiz”, Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakülte Dergisi, 47, Ocak-Haziran, 47-64.
- Uygur, E. (2001), “Enflasyon, Para ve Mali Baskı: İktisat Politikasında Geri Kalmışlık”, İktisat, İşletme ve Finans, Yıl: 16, Sayı. 189, Aralık

CHAPTER 3

THE EFFECTS OF TRADE LIBERALIZATION ON UNEMPLOYMENT: BRICS-T COUNTRIES¹

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INTRODUCTION

Unemployment is one of the crucial macroeconomic problems for many economies. Especially in countries with high rate of population growth, the economy is expected to create new employment opportunities. Starting from mercantilists, the effect of foreign trade on employment was discussed, and later found a popular place in classical foreign trade theories. In the Theory of Comparative Advantage, the 19th century economist David Ricardo argued that free trade would generate net profits, and countries that specialize in production in their most productive areas would have more goods for consumption. Moreover, the labor is the only factor of production and free trade reduces unemployment. According to this theory which favors the promotion of free trade, resources will move from high-cost products to low-cost products upon the removal of restrictions, and thus the productivity will go up (Siddiqui, 2018). Along with free trade, perfect specialization and division of labor will be the case in the economy, and marginal productivity of labor will be enhanced in export sectors, and hence, the employment will be increased. In other words, there is a negative association between trade openness and unemployment.

Trade arises from comparative technological differences in Ricardian model whereas it stems from differences in factor endowments according to Heckscher-Ohlin (H-O) Model (Factor Proportions) which is another classical theory. In the H-O model, if the country is well-endowed with labor factor, trade liberalization reduces unemployment. However, in economies with scarce labor resources, the unemployment

goes up along with trade liberalization (Dutt et al. 2009; Awad & Yussof, 2016). According to the H-O model, the elimination of trade barriers will increase the production and exports of countries based on their factor proportions, and so this situation will also lead to an increase in employment. Trade will induce employment opportunities to move from import-substitution sectors to export sectors, in other words, it will give rise to the redistribution of employment between sectors. As labor-intensive developing countries export labor-intensive goods, their employment will also go up in this direction. Helpman and Itskhoki (2010) suggest that, if relative labor market rigidities in sectors producing differentiated goods are low, then the trade liberalization will increase the unemployment. Furthermore, if productivity increases alongside trade liberalization, there will be fall in the demand for labor force (Kreicemeier, 2006). Under the standard conditions, the gains of free trade will exceed damages of foreign competition according to classical economists. However, if people lose their jobs along with the production of more goods through free trade, they will be incapable of consuming more goods at low prices. On the other hand, besides free trade, technological developments in recent years especially the automation in production in conjunction with practices of Industry 4.0 lead to job losses.

In contrast to mercantilist thinking, the free trade will bring about win-win situations and each country will benefit from trade according to classical free trade theory. With this theory, the basis of the globalization has been laid. International Monetary Fund (IMF), World

Bank (WB) and World Trade Organization (WTO) which are among important institutions of globalization support the free trade theory advocated by David Ricardo (Siddiqui, 2018). Today, especially in developing countries, the demand for labor force and real wages will go up by virtue of the movement of production from import-substitution sectors to export sectors, in other words, towards labor-intensive sectors along with increase in openness to trade. Nevertheless, trade liberalization and growing foreign competition do not only affect the composition of tradeables sector but also the efficiency of firms. Thus, the long-run effect of trade liberalization on employment depends on the balance of structural and efficiency effects. That is to say, net effect may not be comprehended just by looking into the composition of trade. On the other hand, the short-run and long-run effects of trade liberalization on employment and wages may also vary based on the degree of factor mobility and the competitiveness of labor market (Milner & Wright, 1998).

Globalization generally refers to a case where all markets across the globe are integrated. The fall in communication and transportation costs along with new technologies increases in foreign trade. The growth rate of developing countries have increased significantly. Depending on whether the sectors in which developing countries increased production as per their comparative advantages were labor-intensive or not, the employment was affected as well. On the other hand, the employment can be negatively affected along with decrease in exports or increase in imports due to external economic conditions. The trade openness either

decreases or increases employment depending on external economic conditions, production technology and imports. In conjunction with trade liberalization arising from the elimination of trade barriers, several countries, either developed or developing, share the fear that openness to trade will lead to job losses. It is believed that the trade liberalization will decrease employment in import-substitution sectors in developing countries, whereas in developed countries, markets for unskilled labor force will be adversely affected by trade liberalization (Yanikkaya, 2008).

In this study, the relationship between trade openness and unemployment of BRICS countries and Turkey which are called as emerging economies in globalizing world was analyzed. It has been examined whether the increase in the degree of openness of these labor intensive countries reduces the unemployment by increasing production in export-oriented or labor-intensive sectors. Firstly, globalization trends of BRICS countries and Turkey will be addressed, and then, the review of literature including studies which addressed the relationship between openness to trade and employment/unemployment will be presented. In the third part, panel data analysis and its results will be explored. In the conclusion part, a general evaluation and policy recommendations will be provided.

1. GLOBALIZATION TRENDS OF BRICS COUNTRIES

In ‘Building Better Global Economic BRICs’ report authored in 2001 by Jim O’Neil, who is the Chairperson of the Board of Directors of Goldman Sachs, the idea of creating a grouping of developing countries

comprised of Brazil, India, Russia and China was developed. The group was firstly named as BRIC with initial letters of above four countries, and it was later called as BRICS with the participation of South Africa to the group in 2010. It was suggested that BRIC countries which came together through annual formal summits and cooperated on the basis of common gains would be key countries producing raw materials, industrial goods and services until 2050 with the help of low labor and production costs (Investopedia, <https://www.investopedia.com/terms/b/bric.asp>).

It is discerned that four BRIC countries became WTO members in 2012. Through liberal trade and investment policies, these countries aspired to reach the target of fast growth by integrating their national economies into world markets. BRICS countries implementing neo-liberal policies as of the early 1990s capture attention in conjunction with the fact that they become centers of attraction for foreign investors in parallel to their growing shares in world trade and their large domestic markets stemming from having high populations. There were considerable increases in exports of these countries with the help of certain practices such as creating favorable investment atmospheres, introducing tax cuts, offering incentives to export-oriented companies and establishing free trade zones. BRICS countries are among the most populous countries of the world and they make up 40% of the world population. The group which makes the largest market of the world creates approximately 20% of the world income and total world trade (weforum.org 2019; Ağır & Yıldırım, 2015). On the other hand, their

economic development levels are still below industrialized economies such as Germany and the USA as demonstrated in Table 1. Income per capita is 59,501 US Dollars in the USA and 44,550 US Dollars in Germany and these figures are very high in comparison to income per capita of BRICS countries.

Table1: General Indicators of BRICS Countries

	GDP at current prices (billion USD)	GDP per capita at current prices (USD)	Inflation, average consumer prices (Percentage change)	Population (million)	Current account balance (% of GDP)
Brazil	2,055	9,895	3.4	20.7	-0.5
Russia	1,527	10,608	3.7	144.0	2.6
India	2,611	1,983	3.6	1,316.9	-2.0
China	12,015	8,643	1.6	1,390.1	1.4
South Africa	349	6,180	5.3	56.5	-2.3
Germany	3,685	44,550	1.7	82.7	8.0
USA	19,391	59,501	2.1	325.9	-2.4

Source: IMF World Economic Outlook Database (April 2018)

If BRICS countries are not analyzed as a whole, but addressed individually at country level in terms of economic structures, it will be observed that they come to forefront in world economy in the following areas (Akçay & Erataş, 2012):

- Brazil with its fast-growing commodity market in the field of agriculture,
- Russia with its energy sector,

- India with its services sector, skilled labor force, and advanced technology in informatics,
- China with the highest production growth rate in global economy besides advantages emanating from cheap labor force,
- Included in BRICS group in 2010, South Africa with its steel industry. South Africa is among the top 25 steel producers in the world.

Even if BRICS countries are endowed with different economic structures, it is deduced that they have complementary economic structures (Akçay & Erataş, 2012).

That the long process of Turkey's membership to the European Union (EU) was inconclusive and the economic cooperation between the EU and Turkey did not go beyond the Customs Union led certain groups to open the debate for Turkey's membership to BRICS. Departing from such debates, the group is named as BRICS-T in certain studies.

Upon the comparison of openness to trade of BRICS countries and Turkey as of 2017, it is discerned that the top three countries which are the most open to trade are successively South Africa, Turkey and Russia. The first three countries with the highest growth rate are consecutively Russia, South Africa and India. On the other hand, if unemployment rate is taken into consideration, it is ascertained that the country with the highest rate of unemployment is South Africa which is the country with the highest level of openness to trade. This country is followed by Brazil and Turkey (Table 2).

Table 2. Economic Indicators of Turkey and BRICS (2017, %)

Countries	Turkey	Brazil	Russia	India	China	South Africa	World
Growth rate	7.41	0.97	22.79	14.21	9.35	18.14	3.15
Openness ratio	54.14	24.11	46.72	40.59	37.80	58.27	-
Unemployment rate	11.26	13.3	5.19	3.52	4.67	27.32	5.48

Source: World Bank, 2019

Since the 1970s, the world experienced the globalization trend in economic, political and social domains, and, in order to identify the position of each country in these three domains in the world, KOF (Institute for Business Cycle Research, Switzerland) publishes a globalization index (kof.ethz.ch). The position of BRICS countries and Turkey in the globalizing world as per globalization index is exhibited in Table 3. The index is scored from 1 to 100. In order to measure the globalization trend, four globalization indices are published: economic globalization index (including commercial and financial flows), social globalization index, political globalization index and overall globalization index.

Table 3. BRICS-T Country Ranking by KOF Globalization Index (2017)

General Globalization			Economic Globalization		Social Globalization		Political Globalization	
No	Country	Index Value	Country	Index Value	Country	Index Value	Country	Index Value
51	Russia Federasyonu	72,45	Turkey (109)	55,82	Russia (89)	70,31	Russia (15)	93,05
56	Turkey	71,58	South Africa (111)	55,30	South Africa (101)	67,45	India (16)	92,96
61	South Africa	70,12	Russia (115))	53,98	Turkey (104)	66,46	Turkey (17)	92,47
80	China	65,08	China (140)	47,87	Brazil (120)	62,97	China (26)	90,61
95	India	62,10	India (155)	41,72	China (138)	56,76	South Africa (34)	90,61
101	Brazil	60,52	Brazil (164)	39,43	India (147)	51,62	Brazil (60)	79,17

Note: Values in parentheses indicate the ranking of the country

Source: <https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html>

In Table 3, the position of Turkey and BRICS countries is displayed in world globalization rankings on the basis of calculations made for 195 countries across the world in accordance with KOF Globalization Index. Of these countries, Russia ranks the 51st whereas Turkey ranks the 56th in the overall globalization index. As per economic globalization index, Turkey ranks the 109th and South Africa ranks the 111th, and both countries are followed by Russia which ranks the 115th in the same index. It is perceived that BRICS-T countries which are addressed in this study are positioned in middle rankings in economic globalization index.

2. LITERATURE REVIEW

Across the world, towards the end of the 20th century, changes started to visibly occur in all domains of life including public administration. The gradual increase in difference between the world trade volume and production volume experienced in conjunction with globalization, and,

despite this fact, the failure to solve the unemployment issue made topics of foreign trade and employment more attractive. In the literature, there exist several studies analyzing the effect of openness to trade on employment. Results of these studies vary across methodologies, spaces and time periods.

In the study by Autor et al. (2016), it was deduced that the employment went down in US industries which were open to imports. Acemoglu et al. (2016) argued that the economic rise of China and competition with Chinese imports led to crucial job losses in the USA. In a panel study performed by Fugazza et al. (2014) with 97 countries, it was found that there was a positive relationship between unemployment and openness to trade. In the panel data analysis carried out by Gozgor (2014) on G7 countries, it was concluded that openness to trade and globalization rather than protectionism had negative effect on unemployment, in other words, openness to trade and globalization alleviated unemployment.

Sachs and Shatz (1994) who analyzed the US trade with developing countries suggested that a commercial structure came into existence as described by Heckscher-Ohlin-Samuelson (H-O-S) Theory. The USA exports goods produced mainly by skilled labor force whereas it generally imports goods produced by unskilled labor force. As per research results, employment fell down in sectors dominated by unskilled labor force while it was going up in sectors employing skilled labor force. Besides, together with foreign trade, the relative price of

goods produced by unskilled labor force declined while the income inequality between skilled and unskilled labor force was being widened.

Marquez and Pages (1997) assessed the impact of free trade and economic reforms on employment in Caribbean and Latin America. In the study, by using the panel data analysis method for 18 countries in Caribbean and Latin America, they analyzed the effect of commercial reforms on employment in manufacturing and the overall economy through four different measurements of openness to trade and real foreign exchange rates. In the end, it was ascertained that, even if just slightly, commercial reforms affected employment negatively. It was asserted that the increase in openness to trade could lead to fall in employment by boosting average productivity of labor at a given level of production. On the other hand, it was found that commercial reforms had no effect on unemployment.

In the study performed by Greenaway et al. (1999) for analyzing the effect of foreign trade on employment in 167 manufacturing sectors in the UK in 1979-1991 by using panel data analysis, it was deduced that the increase in trade volume paved the way for a fall in labor demand. This result is consistent with the view that increasing openness to trade serves to enhance the productivity of labor employed by firms.

Fu and Balasubramanyam (2005) test the effect of increase in exports on employment in 29 provinces of China in 1987-1998 through two-step Generalized Method of Moments (GMM). As per the study result, the exportation has a positive effect on employment. The increase in exports creates job opportunities in an economy which suffers from

unemployment, that is, it enables the utilization of idle resources. On the other hand, the increase of exports in labor-intensive industries brings about a rise in production and causes extra supply of labor in agriculture sector to move to non-agricultural sectors. This process accelerated the urbanization and industrialization in Chinese economy.

By using manufacturing data released in 1988-2007 on a quarterly basis, Polat and Uslu (2010) analyzed the effect of foreign trade on employment in manufacturing through ARDL (Autoregressive Distributed Lag) approach. Analysis results indicate that foreign trade had positive effect on employment in the short-run, however, it had no effect on employment in the long-run.

In the study performed by Dutt et al. (2009) for analyzing the relationship between foreign trade and unemployment in 92 countries in 1985-2004 through panel data analysis method, the Theory of Comparative Advantage served as the basis, and it was argued that the increase in openness to trade lowered the unemployment in the long-run.

Karaçor and Saraç (2011) analyzed the relationship between foreign trade and employment rate of industry sector in 1963-2009 for Turkey through bound test approach to co-integration. According to analysis results, no relationship was found between foreign trade and employment in the short-run, however, it was ascertained that there was a positive relationship in the long run.

Awad and Youssef (2016) examine the effect of economic globalization on the long-run unemployment for the period from 1980 to 2014 in Malaysian economy through ARDL model. Analysis results demonstrated that economic globalization reduced the unemployment in Malaysia in the long-run. In their study of Nigeria, Nwaka et al. (2015) find that in the long run, trade openness is associated with an increase in unemployment for the 1970-2010 period.

Özdemir et al. (2014) examined the effects of trade openness on employment in Turkey and the European Union countries using panel data analysis for the years 200-2012. The results indicate that there is positive relationship between the trade openness and employment. Awad-Warrad (2018) analyze the relationship among the unemployment and some key macroeconomic indicators which is including trade openness and real economic growth for seven selected Arab countries using panel data analysis. The results provide evidence of large and significant impact of trade openness on unemployment rates. In another study, Felbermayr et al. (2011) analyzed the effect of the increase in trade openness on unemployment using data from 20 OECD countries. According to panel analysis results, 10 percent increase in openness rate reduces unemployment by 0.76 percent.

As can be seen from the results of the literature review, it is not possible to say an exact result between openness and unemployment depending on the country, the period and method differences handled. However, as stated in the Ricardo and H-O models, in most of the studies

discussed, trade openness has a positive effect on employment and thus negative effects on unemployment.

3. PANEL DATA ANALYSIS

3.1. Model and Data

According to the economic theory, unemployment rate is affected by many variables such as trade openness, real growth rate, fixed capital formation, population growth, export and import. In the study, the effect of openness on unemployment was examined by the panel ARDL Analysis in Turkey and the BRICS countries for the period 1991-2017. Fixed capital formation and real growth rate are also included as control variables. All of the data used in the study was obtained from the World Bank (World Development Indicators) database. Abbreviations, definitions and data sources of the variables to be used in the analysis are shown in Table 4.

Table 4. Variables Used in the Model and Descriptions

Series name	Descriptions of the series	Data source
UNE	Unemployment rate	World Bank
TOP	Trade Openness (Export+Import)/GDP*100	World Bank
FINV	Fixed capital formation rate (At 2010 \$ prices)	World Bank
RGDP	Real growth rate (At 2010 \$ prices)	World Bank

The standard panel-data model is as follows (De Hoyos & Sarafidis, 2006) ;

$$y_{it} = \alpha_i + \beta' x_{it} + u_{it}, \quad i = 1, \dots, N \text{ and } t = 1, \dots, T \quad (1)$$

where x_{it} is a $K \times 1$ vector of regressors, β is a $K \times 1$ vector of parameters to be estimated, and α_i represent time-invariant individual nuisance parameters. Here u_{it} , is error term which is assumed to be independent and identically distributed (i.i.d) over periods and cross-sectional units. In this study, unemployment-dependent, openness (TOP), real GDP and investments are taken as independent variables and the model is determined as follows.

$$UNE_{it} = \beta_{0it} + \beta_{1it}TOP_{1it} + \beta_{2it}TOP_{2it} + \beta_{3it}FINV_{3it} + \mu_{it} \quad (2)$$

According to this study;

- Trade openness; Under major international trade theories and some assumptions, the increase in trade liberalization reduces the unemployment rate,

$$\frac{dUNE}{dTOP} = \beta_{1it} < 0$$

- Real economic growth reduces overall unemployment rate

$$\frac{dUNE}{dRGDP} = \beta_{2it} < 0$$

- Fixed capital formation is expected to increase production, thereby increasing employment, i.e. reducing unemployment.

$$\frac{dUNE}{dFINV} = \beta_{3it} < 0$$

3.2. Cross Section Dependency Test

In the study, first of all, cross section dependency test will be applied to examine whether cross section units are interdependent. The main purpose of this test is to investigate whether the reflection of a shock that may occur in one of the cross-sectional countries to other countries is the same. The unit root tests to be used in measuring the stationarity of the series are divided into two sections as the first- and second-generation unit root tests according to the presence or absence of a cross-section dependency in the units that make up the panel. In this study, Breusch and Pagan (1980) LM, Pesaran (2004) LM test and Pesaran (2004) CD test were used to analyze the cross-sectional dependency.

$$LM = \sum_{i=1}^{N-1} \sum_{j=i+1}^N T_i \hat{\rho}_{ij}^2 \sim \chi_{\frac{N(N-1)}{2}}^2 \quad (3)$$

Where the $\hat{\rho}_{ij}^2$ are the correlation coefficients obtained from the residuals of the panel data model.

Pesaran (2004) proposes a standardized of the LM statistic and an alternative CD statistic based on the average of the pairwise correlation coefficients ρ_{ij} :

$$LM_S = \sqrt{\frac{1}{N(N-1)}} \sum_{i=1}^{N-1} \sum_{j=i+1}^N (T_i \hat{\rho}_{ij}^2 - 1) \sim N(0,1) \quad (4)$$

$$CD = \sqrt{\frac{2}{N(N-1)}} \sum_{i=1}^{N-1} \sum_{j=i+1}^N (T_i \hat{\rho}_{ij}^2 - 1) \sim N(0,1) \quad (5)$$

The hypothesis of interest is as follows

$H_0: \rho_{ij} = \rho_{ji} = \text{corr}(\mu_{it}, u_{jt}) = 0, \text{ for } i \neq j$ no cross-sectional dependence

versus

$H_1: \rho_{ij} = \rho_{ji} \neq 0, \text{ for some } i \neq j$ cross-sectional dependence

CD test results are presented in Table 5.

Table 5: Panel Cross-Section Dependence Test

Variable	<i>CD_{LM1}</i> Breusch-Pagan (1980)		<i>CD_{LM2}</i> Peseran (2004)	
	t-Stats.	Prob.	t-Stats.	Prob.
UNE	46,101*	0,001	2,241*	0,025
TOP	130,251*	0,000	7,104*	0,000
RGDP	74,695*	0,000	8,051*	0,000
FINV	167,058*	0,000	12,248*	0,000

Note: * represents statistical significance at 5%.

Both CD tests indicate the presence of common factors affecting the cross-sectional units (cross-sectional dependence). Since all of the cross-section tests have p-values well below 5% significance level, we

can reject the null hypothesis and accept the alternative hypothesis that there exists cross-sectional dependence.

3.3. Pesaran Unit Root Test

Due to the existence of cross-section dependence in the panel, the second-generation unit root tests are chosen to test the panel stationary (Westerlund et al. 2016). The two most popular tests in the context of cross-section dependence are the cross-section augmented Dickey-Fuller (CADF) and CIPS tests of Pesaran which is the cross-section average of the CADF test. Instead of estimating the factor structures of the error terms, Pesaran (2007) developed a panel unit root test, which considers the horizontal cross-section dependency (CD) that offers ease of application in the analysis. Panel unit root tests, called Cross-Sectionally Augmented Dickey-Fuller (CADF) test, which are expanded in terms of section, are called as second-generation unit root tests in the literature.

For this test, CADF test statistics values are calculated for all units that make up the panel, and then CIPS (Cross-Sectionally Augmented Im, Pesaran and Shin test) statistics are obtained throughout the panel by taking the arithmetic average of the CADF test statistics values.

It is used the following model developed by Pesaran (2007) to test the presence of the unit root in the presence of CD:

$$\Delta y_{it} = \alpha_i + b_i y_{i,t-1} + \gamma_i f_t + e_{it}; i=1,2,\dots,N. \quad t=1,2,\dots,T \quad (6)$$

Where $\Delta y_{it} = y_{it} - y_{it-1}$; y_{it} is an i^{th} observation observed at a particular time t , α_i is the intercept, and b_i is a parameter for the variable of y_{it-1} and e_{it} is the random error. The parameter γ_i is factor loading that is common across cross sectional units i and f_t is latent factor.

The hypothesis test for a unit root is defined as follows:

$$H0: b_i = 0; \text{ for all } i=1,2,\dots,N \text{ (unit root)} \quad (7)$$

$$H1: b_i < 0; \text{ for some } i=1,2,\dots,N \text{ (no unit root)}$$

When the null hypothesis is rejected, Model 6 can be expressed as

$$\text{CADF model: } \Delta y_{it} = \alpha_i + b_i y_{i,t-1} + c_i \bar{y}_{t-1} + d_i \Delta \bar{y}_t + e_{it};$$

$$i=1,2,\dots,N. \quad t=1,2,\dots,T \quad (8)$$

As it can be seen Model 8, the standard of Augmented Dickey-Fuller (ADF) model is improved with two more independent variables which are cross section averages of lagged levels (\bar{y}_{t-1}) and the first differences of the individual series ($\Delta \bar{y}_t$).

In the CADF test, t values of b_i coefficients are obtained.

$$t_i(N, T) = \frac{\Delta y_i \overline{M_w} y_{i-1}}{\hat{\sigma}(y'_{i-1} \overline{M_w} y_{i-1})^{1/2}}$$

Then, the Pesaran unit root test is given by

$$\bar{t} = N^{-1} \sum_{i=1}^N t_i(N, T)$$

$$CIPS = N^{-1} \sum_{i=1}^N CADF_i$$

CADF and CIPS test statistics results are compared with the critical table values obtained by Monte Carlo simulations introduced by Peseran (2007) and hypotheses are tested for stability. In case the obtained CADF and CIPS test statistic values are higher than the critical table value as absolute value, H0 hypothesis is rejected and alternative hypothesis is accepted.

Since there is cross section dependency in all variables in the study, the stationarity of the series was examined by CIPS Panel Unit Root test and the results are given in Table 6 with the critical table value of Peseran (2007).

Table 6. CIPS Test Results

Variables	Peseran (2007) Level		Peseran (2007) First difference	
	CIPS statistics	Critical table value (%5)	CIPS statistics	Critical table value (%5)
UNE	-1.343	-2.33	-3.888*	-2.33
TOP	-3.035*	-2.33	-	-
FINV	-2.320	-2.33	-4.341*	-2.33
RGDP	-4.235*	-2.33	-	-

Note: * Significant at the 5% level.

The CIPS test show a different order of integration of the variables which TOP and FINV follow I(0) orders and UNE and RGDP follow I(1) orders. Notice that the CIPS statistics are greater than the critical values for trade openness and real growth rate so we do reject the null hypothesis at the 5% significance level. These series are stationary at their own level. On the other hand, it is seen that unemployment and

fixed capital formation are not stationary at level, but when their first differences are taken, they are stationary.

3.4. Panel ARDL Test

Since the stationarity levels of the variables are different, our model was estimated using the Panel ARDL Method (Autoregressive Distributed Lag: Delay Distributed Autoregressive Model) developed by Pesaran et al. (1999). In classical cointegration tests, while series should be at the same level, Panel ARDL allows variables to be stationary of different order (I (0) and I (1)).

The generalised ARDL (p, q,q,...,q) model is specified as:

$$y_{it} = \sum_{j=1}^p \lambda_{ij} y_{i,t-j} + \sum_{j=0}^q \delta'_{ij} X_{i,t-j} + \mu_i + \varepsilon_{it} \quad (9)$$

Where y_{it} is the dependent variable, X_{it} is a Kx1 vector of explanatory variables that are purely I(0) or I(1) or cointegrated; λ_{ij} is the coefficient of the lagged dependent variable; δ'_{ij} are Kx1 coefficient vector; μ_i is the unit-specific fixed effects; $i=1, \dots, N$; $t=1, 2, \dots, T$; p,q are optimal lag orders; ε_{it} is the error term.

The model is reparametrized as a VECM system: re-parameterised ARDL (p,q,q,...,q) error correction model is specified as:

$$\Delta Y_{it} = \phi_i [Y_{i,t-1} - \beta'_i X_{it}] + \sum_{j=1}^{p-1} \lambda'_{ij} \Delta Y_{i,t-j} + \sum_{j=0}^{q-1} \delta'_{ij} \Delta X_{i,t-j} + \mu_i + \varepsilon_{it}, \quad (10)$$

Where the β_i are the long-run parameters; ϕ_i are the error-correction parameters (expected that $\phi_i < 0$) and λ'_{ij} , δ'_{ij} are the short-run dynamic coefficients.

To obtain long-run coefficients for the Panel ARDL it can be used the mean group (MG) estimator and the pooled mean group (PMG) estimator. MG estimator tolerates differences in intercepts, slope, and error variances across groups can be used. However, the MG estimator does not take the issue of cross-sectional dependence into account. On the other hand, PMG estimator developed by Peseran, Shin, and Smith (1999) is more efficient due to the valid long-run restrictions and allows the intercepts, the short-run coefficients, and error variances to differ freely across groups. It generates consistent estimates of the mean of short-run coefficients by taking the simple average of individual unit coefficients (Lau et al. 2019). We used PMG estimator in this study and the results of both the long-run and short-run relationships are presented in Table 7.

Table 7. PMG Estimation Results ARDL (2,1,1,1)

Dependent Variable: D(UNE)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long-run coefficients				
TOP	0.259	0.092	2.822	0.006*
RGDP	-0.354	0.166	-2.128	0.035*
FINV	-0.065	0.076	-0.851	0.396
Short-run coefficients				
ECT-1	-0.093	0.046	-2.011	0.046*
D(UNE(-1))	0.204	0.169	1.204	0.231
D(TOP)	-0.043	0.016	-2.582	0.011*
D(RGDP)	-0.017	0.017	-1.001	0.319
D(FINV)	-0.088	0.042	-2.108	0.037*
C	0.543	0.363	1.496	0.137

Note: The optimal lag length for each variable was determined by the Schwarz Criterion. The optimal lag is taken as 1. * Significant at the 5% level.

The PMG results of the analysis are presented in Table 7 showing the short-run and long-run relationship between the unemployment, trade openness, real growth rate and fixed capital formation. A parameter of error correction term, ECT-1 (-0.093) is negative as expected and statistically significant at 5% significance level. It means that there is a long-run relationship among the variables of the model. The coefficient of the ECT term indicates that 9% adjustment in a year from short run disequilibrium to long run equilibrium and the system will reach the equilibrium in about 10.7 (1/0,093) years.

In the long-run, 1% increase in trade openness increased unemployment by 0.259%. This result shows that trade openness have raised the unemployment instead of reducing it, contrary to theoretical

expectations. As stated before, according to the classical foreign trade theory, countries grow by exporting the products they produce at the cheapest price and importing the products they produce expensive. However, the liberal system can increase imports and reduce production and hence employment in the country. On the other hand, 1% increase in real growth rate and fixed capital formation in the long run decreased unemployment by 0.354% and 0.065%, respectively. These results are in line with the expectations of the economic theory. However, the fixed capital parameter is statistically insignificant.

When we look at the results of short-run analysis, a 1% increase in trade openness reduces unemployment by 0.043%. A 1% increase in real GDP reduces unemployment by 0.017%. However, the real GDP coefficient is statistically insignificant at the 5% significance level. This result shows that short period is not enough in decreasing unemployment with increasing production. On the other hand, a 1% increase in fixed capital formation reduced unemployment by 0.088% and the coefficient was statistically significant.

4. RESULTS AND EVALUATION

Globalization process starting in the 1980s is described by Classical economists as the process in which markets prevail over all domains of life. Both in domestic and international markets, liberal policies will facilitate the more efficient use of economic resources, and all countries will benefit. In return, free foreign trade will pave the way for full employment and efficient use of countries' resources. Countries will

either produce and export in areas in which they are the most productive as advocated by the Theory of Comparative Advantage of the Ricardian view or they will be inclined towards specialization and trade which are to be well-suited to their economic endowments according to Heckscher-Ohlin (Factor Proportions) Theory. In the end, the full employment of resources and accordingly the specialization will also increase the employment.

In a globalizing world, parallel to the promotion of openness to trade as a result of liberal policies, employment is expected to increase and thus unemployment will decrease. In this study, data of Turkey and BRICS countries which come together for their analogous and common interests and occupy crucial positions in the world in terms of both population and national income & trade were analyzed in this classical theoretical framework. Results of panel ARDL analysis did not conform to theoretical expectations. A negative relationship between openness to trade and unemployment was found in the short-run, however, the unemployment goes up in the long-run as openness to trade increases. Thus, neither that free trade raises the demand for labor force as a result of specialization and productivity growth as argued by Ricardo nor that openness to trade leads to increase in employment by inducing countries to specialize and raise production in parallel to their factor endowments as suggested by H-O model is the case. This result demonstrates that, as openness to trade is enhanced in Turkey and BRICS countries in the long-run, the unemployment does not fall down, that is, it is not in conformity with expectations of theory and so the

unemployment goes up. This result contradicts the results of studies by Milner and Wright (1998), Gozgor (2014), Özdemir, et al. (2014) and Awad-Warrad (2018). Although openness decreases unemployment in the short-run, it is seen that it will not decrease unemployment in the long-run unless new technology and productivity increase in production is achieved.

As mentioned before, in the liberal system, countries promote growth by producing goods which they can produce inexpensively and by importing goods whose production is costly for them. Nevertheless, with the acceleration of imports, liberal system can lower production and hence the employment in the country. Therefore, the fact advocated by classical theory may not be valid today. The reasons for this scenario are that comparative advantages of countries are considered to be static and that all production is assumed to be carried out within the country. However, in today's world, countries get inputs necessary for production from the most inexpensive locations and they even move the production to locations where production will be the least costly. This situation demonstrates that efforts of capital owners to produce at the lowest cost in order to obtain high profit margins and to survive the competition in globalizing world pave the way for unemployment. On the other hand, besides free trade, factors such as technological developments in recent years especially practices of Industry 4.0 and the population growth are issues related to the increase in unemployment.

REFERENCES

- Acemoglu, D., Autor, D., Dorn, D., Hanson, G.H., & Price, B. (2016). Import Competition and the Great U.S. Employment Sag of the 2000s. *Journal of Labor Economics*, University of Chicago Press, 34(S1), 141-198.
- Ağır, H., & Yıldırım, S. (2015). Türkiye ile BRICS Ekonomilerinin Makroekonomik Performans Karşılaştırması: Betimsel Bir Analiz. *Kahramanmaraş Sütçü İmam Üniversitesi Sosyal Bilimler Dergisi*, 12(2), 33-66.
- Autor, D. H., Dorn, D. & Hanson, G. H. (2016). The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade, *Annual Review of Economics* 8, 205-240.
- Awad, A. &Youssof, I. (2016). The impact of economic globalisation on unemployment: The Malaysian experience. *The Journal of International Trade & Economic Development*, Taylor Francis Journals,25(7), 938-958, DOI: 10.1080/09638199.2016.1151069
- Awad-Warrad, T. (2018). Trade Openness, Economic Growth and Unemployment Reduction in Arab Region. *International Journal of Economics and Financial Issues*, 8(1),179-183.
- Dutt, P., Mitra, D., & Ranjan, P. (2009). International Trade and Unemployment: Theory and Cross-National Evidence. *Journal of International Economics*, 78(1), ss. 32-44. <https://doi.org/10.1016/j.jinteco.2009.02.005>
- De Hayos, R.E. & Sarafidis, V. (2006). Testing for cross-sectional dependence in panel-data models, *The Stata Journal*, 6(4), 482-496.
- Felbermayr, G., Prat, J.,& Schmerer, H-J. (2011). Trade and unemployment: What do the data say? *European Economics Review*, 55, 741-758. Doi: 10.1016/j.euroecorev.2011.02.003

- Fu, X., & Balasubramanyam, V. N. (2005). Exports, Foreign Direct Investment and Employment: The Case of China. *The World Economy*, 28(4), 607-625.
<https://doi.org/10.1111/j.1467-9701.2005.00694.x>
- Fugazza, M, C. Carrère, M. Olarreaga and F. Robert-Nicoud (2014), “Trade in Unemployment”, Policy Issues in International Trade and Commodities. Research Study Series, Nr. 64, New York: UNCTAD
- Globalization Report 2018: What about the BRICS countries? <https://ged-project.de/ged-blog/improving-public-understanding-of-economic-globalisation/globalization-report-2018-what-about-the-brics-countries/>. Accessed:15.02.2019.
- Gozgor, G. (2014). The impact of trade openness on the unemployment rate in G7 countries. *Journal of International Trade & Economic Development*, 23(7), 1018-1037. DOI: 10.1080/09638199.2013.827233
- Helpman, E.& Itskhoki, O. (2010). Labor Market Rigidities, Trade and Unemployment. *Review of Economic Studies*, 77(3), 1100-1137.
<http://dx.doi.org/10.1111/j.1467-937X.2010.00600.x>
- Greenaway, D., Hine, R. C., & Wright, P. (1999). An Empirical Assessment of the Impact of Trade on Employment in the United Kingdom. *European Journal of Political Economy*, 15, 485-500.
- IMF (April 2018). World Economic Outlook Database.
- IMF. (2017). *International Monetary Fund*. <https://www.imf.org/external/country/tur/rr/pdf/intro.pdf> , Accessed:15.12.2018
- Investopedia, <https://www.investopedia.com/terms/b/bric.asp>, Accessed:27.02.2020

- Karaçor, Z., & Saraç, T. B. (2011). “Dış Ticaret ile Sanayi Sektörü İstihdam Oranı Arasındaki Kısa ve Uzun Dönem İlişkisi: Türkiye Örneği” (1963-2009) *Yönetim ve Ekonomi Dergisi*. 18(2), 181-194.
- KOF, <https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html>, Accessed: 29.02.2020.
- Kreichemeier, U. (2006). Unemployment in Models of International Trade, <http://www.kreichemeier.de/unemployment.pdf>, Accessed: 31.01.2020.
- Lau, L-S, Ng, C-F, Cheah, S-P and Choong, C-K (2019). Environmental Kuznets Curve (EKC) A Manual, Chapter 9- Panel Data Analysis (Stationarity, Cointegration, and Causality), Academic Press, 101-113.
- Marquez, G., & Pages, C. (1997). Trade and Employment: Evidence from Latin America and the Caribbean. *Inter-American Development Bank*, 1-27.
- Milner, C., & Wright, P. (1998). Modelling Labour Market Adjustment to Trade Liberalisation in an Industrialising Economy. *The Economic Journal*, 108, 509-528.
- Nwaka, I. D, Uma, K. E & Tuna, G. (2015). Trade openness and unemployment: Empirical evidence for Nigeria, *The Economic and Labour Relations Review*, 1-20. DOI: 10.1177/1035304615571225.
- O'Neill, J. (2001). Building Better Global Economic BRICs, Los Angeles: Goldman Sachs.
- Akçay, A.Ö., & Erataş, F. (2012). Cari Açık ve Ekonomik Büyüme İlişkisinin Panel Nedensellik Analizi Ekseninde Değerlendirilmesi. *Türkiye Ekonomi Kongresi*.
- Özdemir, Z., Yalman, İ. N., & Karaköy, Ç. (2014). Türkiye ve AB Ülkelerinde Dışa Açıklığın İstihdam Üzerine Etkileri. *International Conference On Eurisian Economies*.

- Pesaran, M. H. (2004). General Diagnostic Tests for Cross Section Dependence in Panels. <https://doi.org/10.17863/CAM.5113>.
- Pesaran, M. H. (2007). A Simple Panel Unit Root Test in the Presence of Cross Section Dependence . *Journal of Applied Econometrics*, 22, 265-312.
- Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American Statistical Association*, 621-634.
- Polat, Ö., & Uslu, E. E. (2010). Türkiye İmalat Sanayinde Dış Ticaretin İstihdam Üzerindeki Etkisi. *Gaziantep Üniversitesi Sosyal Bilimler Dergisi*, 9(3), ss. 489-504.
- Shatz, H. J. & Sachs, J. (1994). Trade and Jobs in U.S. Manufacturing. *Brookings Papers on Economic Activity*, (1), 1-84.
- Siddiqui, K. (2018). David Ricardo's Comparative Advantage and Developing Countries: Myth and Reality. *International Critical Thought*, 8(3), ss.426-452. /doi/full/10.1080/21598282.2018.1506264?needAccess=true.
- Yanikkaya, H. (2008). Is Trade Liberalization a Solution to The Unemployment Problem? *Turkish Economic Association*, Discussion Paper 17, 1-32.
- Westerlund, J., Hosseinkouchack, M., & Solberger, M. (2016). The Local Power of the CADF and CIPS Panel Unit Root Tests. *Econometric Reviews*, 35(5), 845-870. <https://doi.org/10.1080/07474938.2014.977077>.
- World Bank. <https://data.worldbank.org/>. Accessed:10.05.2019
- World Economic Forum (WEF), (2019). <https://www.weforum.org/agenda/2019/09/brics-new-development-bank-four-sustainability/>. Accessed:20.12.2019

CHAPTER 4

COMPARISON OF PERFORMANCE CRITERIONS FOR INTERVAL-VALUED TIME SERIES

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1. INTRODUCTION

Interval - valued time series are an emerging issue in the literature. Additionally, it is known as time series whose observations change within the day. They include opening - closing or minimum - maximum values. Interval – valued time series can be encountered in various fields such as economics, engineering, medicine, weather forecast, relative humidity and meteorology. These series consist of market data, price indexes, banking data, balance data and foreign trade indexes. Interval - valued series are also used in Symbolic Data Analysis (SDA). Analysis of Symbolic Data deals with multivariate analysis, pattern recognition, statistical methods and artificial intelligence. Observations of interval - valued time series consist of closed intervals. Interval - valued time series approach is different from fuzzy time series approach. Interval - valued time series do not contain membership values. Notation of interval - valued time series involves four main expressions.

$XU_t, t = 1, 2, 3$ upper bound values of time series,

$XL_t, t = 1, 2, 3$ lower bound value of time series,

$XC_t, t = 1, 2, 3$ mid-point series,

$XR_t, t = 1, 2, 3$ range series,

When interval - valued series are consecutively sequenced, time series of interval - valued series are generated. For $t = 1, 2, 3, \dots, n$ (n is the number of intervals observed in time series) X_L and X_U , $X_L \leq X_U$ are lower and upper limits. It is expressed as,

$$[X_{L_1}, X_{U_1}], [X_{L_2}, X_{U_2}], \dots [X_{L_n}, X_{U_n}]$$

2. ANALYSIS METHODS

2.1. Approach1

Maia et al. (2008) separately analyzed lower and the upper limit values of interval - valued time series (XU_t - upper limit value X_{L_t} - lower limit value) with artificial neural networks. Forecasts of lower and upper limits values are used in Maia et al. (2008)'s study. They are obtained from the following models;

$$X_{U_t} = f_1(XU_{t-1}, XU_{t-2}, \dots, XU_{t-m}) \quad (1)$$

$$X_{L_t} = f_2(XL_{t-1}, XL_{t-2}, \dots, XL_{t-m}) \quad (2)$$

where, f_1 and f_2 lower and upper limit values are the functions derived from nonlinear lagged variables and neural network of time series.

2.2. Approach2

In order to apply linear regression to interval data, an approach based on mid - point and range is proposed (Lima Neto and De Carvalho, 2008). For the analysis of these time series, a third approach is applied in hybrid method of artificial neural network and SARIMA. Mid - point and range time series (XC_t - time series, XR_t - range time series) is formed as follows;

$$XC_t = \frac{XU_t + XL_t}{2} \quad , \quad XR_t = \frac{XU_t - XL_t}{2} \quad (3)$$

XC_t and XR_t time series is separately analyzed with feed forward neural networks. In this case, XC_t and XR_t times series are obtained from the model below,

$$XC_t = f_4(XC_{t-1}, XC_{t-2}, \dots, XC_{t-m}) \quad (4)$$

$$XR_t = f_5(XR_{t-1}, XR_{t-2}, \dots, XR_{t-m}) \quad (5)$$

where f_4 and f_5 are the functions derived from nonlinear lagged variables and neural network of time series. After forecasting midpoint and range series, XU_t and XL_t time series are obtained from the following equation,

$$XL_t = XC_t - XR_t \quad (6)$$

$$XU_t = XC_t + XR_t \quad (7)$$

3. MODELING TECHNIQUES

3.1. Box-Jenkins (Arima) Model

ARIMA (AutoRegressive Integrated Moving Average) models are the methods applied to time series of stationary or non - stationary but stationarized through differentiation. Models applied to non - stationary but stationarized through differentiation time series are called as "non - stationary linear stochastic models". These models are the combination of AR models and MA models. AR models are applied to series differentiated at d degree. The value of the variable at t - period is expressed as a linear function of the values at previous

period and the error term in the same period. MA models are the values of variable at t -period is expressed as a linear function of the error term and the specific number of error terms in the same period. General representation of the model is as follows; ARIMA (p, d, q). Where p and q represent the degree of AutoRegressive (AR) and Moving Average (MA) models, respectively and d is the degree of differentiation. General ARIMA (p, d, q) model is formulated as follows,

$$Z_t = \phi_1 Z_{t-1} + \phi_2 Z_{t-2} + \dots + \delta + a_t - \theta_1 a_{t-1} - \theta_2 a_{t-2} - \dots - \theta_q a_{t-q} \quad (8)$$

which shows that,

$Z_t, Z_{t-1}, \dots, Z_{t-p}$, are the observed values differentiated at d degree.
 $\phi_1, \phi_2, \dots, \phi_p$, are the coefficients for observed values differentiated at d degree.
 δ , is the constant value.
 $\theta_1, \theta_2, \dots, \theta_q$, are the error terms
 $a_t, a_{t-1}, \dots, a_{t-q}$, are the coefficients related to the error terms
 (Çuhadar, 2006).

3.2. Multi - Layer Feed Forward Artificial Neural Networks

Artificial Neural Network is an information processing system and it is found out inspiring by biological neural networks. It performs like biological neural networks (Fausett, 1994: 3).

In artificial neural networks, there are a wide variety of networks and models called neurons. They are formed by a number of nerve cells linking by feed forward and feedback forms. Multi - Layer Feed

Forward Artificial Neural Network (MLP) is generally used among them. Neurons are organized in the form of layers in MLP network. The first layer of MLP is input layer. The input layer enables the information of the problems. These problems are requested to be solved in artificial neural network. The other layer is the output layer. The information transmitted out in the output layer. The layer between the input layer and the output layer is called the hidden layer. There might be more than one hidden layer in the MLP networks. Figure 1 shows the structure of a typical MLP network.

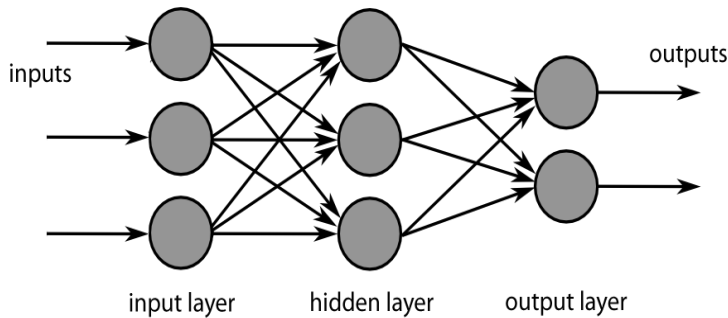


Figure 1. A Multi - Layer Artificial Neural Network (Akca, 2010)

Technically, the basic task of an artificial neural network is to make generalizations by learning the structure of the sample data set. In order to do this the network is given a skill to generalise about the related event (Öztemel, 2003).

It is substantial to determine the structure of the network to use MLP network for estimating the time series. The process of determining the network structure is associated with number of layers, number of elements in each layer and transfer functions. The number of output

neurons are determined depending on how long the predictions will be done.

Determining the number of the neurons to be used in input is not as easy as determining the number of the output neurons, because it is a critical question that by how many previous observations value affected the determination of the value of the series in t time and the answer of that question shows how many will be the number of input process elements. Although there are various opinions regarding the determination of the number of input process element, there is not a general rule. Networks with a single hidden layer are generally used in time series modeling.

3.3. Holt' s Exponential Smoothing Methods

Holt Exponential Smoothing Method is used in the prediction of the series with no seasonal fluctuations with a trend. When there is a linear trend in the analyzed time series, Brown's one - parameter exponential smoothing technique is recommended. One of the methods proposed for series with a linear trend is Holt's two parameter exponential smoothing technique. The second smoothing formula is not used in this method instead trend values are smoothed directly. This enables greater flexibility and trend values are smoothed by a parameter and this parameter different from the parameter applied to the observation values.

In this method, the prediction process is done by the equation,

$$\hat{Z}_{T+F} = a_T + b_T(F) \quad (9)$$

Here α is the average level of the smoothing coefficient and the slope smoothing coefficient.

$$a_T = \alpha Z_T + (1 - \alpha)(a_{T-1} + b_{T-1}) \quad (10)$$

$$\hat{y}_{t+m} = y'_t + b_t \quad (11)$$

$$b_T = \gamma(a_T - a_{T-1}) + (1 - \gamma)b_{T-1} \quad (12)$$

F is the number of the periods ($F = 1$). The initial values of these equations are obtained by applying simple regression to series. The constant term in the regression equation is a_0 (a) and the regression coefficient is (b) b_0 .

When $\alpha = 1$ and $\gamma = 0$,

$$a_T = Z_T \text{ and } b_T = b_{T-1} = b_0 = b \quad (13)$$

Accordingly,

$$Z_{T+1} = Z_T + b \quad (14)$$

In this equation $b = b_0$ and $b_0 = a$, the equation (14) turns into equation (15).

$$Z_{T+1} = \alpha + Z_T \quad (15)$$

the error term,

$$\Delta Z_t = a + e_t \quad (16)$$

Since the trend of the series is linear, there is not be trend in the first variations. Therefore, the trend term is not included in this equation. As a result, it is possible to reach specific regression equations by starting the exponential smoothing formula. Such examples may be

reproduced. The presence of the lower and upper limits of prediction in Holt exponential smoothing method is as in simple exponential smoothing method. Since the predictions are obtained like in exponential smoothing method, predictions for each new period are needed to be updated. This update process can be done both value predictions and the absolute average of the error. If the absolute average of the previous error is known, mean absolute error of the subsequent period can be calculated with the following formula (Kadilar C.,2005)

$$MAE_{T+1} = \frac{T \cdot MAE_T + |e_{T+1}|}{T+1} \quad (17)$$

3.4. Hybrid Models

Many time series include nonlinear relationships in addition to the linear relationships. When modeling the linear relationship with ARIMA models in time series, it can be inadequate in modeling the nonlinear relationships. The artificial neural network model can modeled both linear and non – linear relationships. Hybrid models are based on the modeling of linear and non - linear of components in the time series. As shown in a time series of equation (18) it can be expressed as the sum of the linear and non – linear components.

$$y_t = L_t + N_t \quad (18)$$

L_t indicates the linear components of time series, N_t indicates the non-linear component.

In hybrid approach, L_t the linear component of time series is estimated by using ARIMA model. Then residues are calculated by subtracting prediction values obtained by ARIMA model from the observed values as shown in equation (19).

$$e_t = Y_t - \hat{L}_t \quad (19)$$

L_t is the estimated value obtained from the ARIMA model for t time. All linear components are modeled by ARIMA, the residues are considered as non-linear components. Residues with nonlinear relationships are estimated by using the artificial neural network model in the second stage of the model. The prediction model of hybrid model is obtained by equation (20). In this equation, the predictions are found by using ARIMA and ANN models.

$$\hat{y}_t = \hat{L}_t + \hat{N}_t \quad (20)$$

4. IMPLEMENTATION

Our aim is to get various performance criterions by applying different analysis methods to interval-valued time series. Obtained performance criterions are compared. Suitable analysis methods and modeling techniques are examined and they used in analysis methods. Daily data of interval - valued time series are used. The series used in the study are taken from the website of Central Bank of the Republic of Turkey (Electronic Data Distribution System - EDDS) (evds.tcmb.gov.tr). These series consisted of the lowest (US/ounce) daily data of Gold Exchange Operations I - İstanbul (Business day, TL– USA Dollar),

Gold Exchange Operations II - İstanbul (Business day, TL – USA Dollar) and Consumer’s Price Index (Wage Earners) (1995=100) between 03 January 2000 and 31 December 2004. These modeling techniques consist of Auto Regressive Integrated Moving Average (ARIMA), Artificial Neural Networks, Holt Exponential Smoothing Methods and Hybrid Models. The performance criteria are RMSE (Root Of Mean Square Error), MAPE (Mean Absolute Percentage Error) and DA (Direction Accuracy).

Table 1. The results of Gold Exchange Operations I - Istanbul (Business day, TL-USA Dollar)

GOLD EXCHANGE OPERATIONS I – Istanbul (Business day/TL – USA Dollar)									
APPROACH1			RMSE	MAPE	DA				
2000	ARIMA (1, 0,0)		124.333	27.284		2000	ARIMA(0, 0,0)	0,5520	77,5420
	HOLT METHOD		127.505	26.795			HOLT METHOD	0,5530	88,5320
	MLP-(10-4-1)		126,747	0,001	0,408		MLP-(3-2-1)	0,6896	0,0184
	ARIMA (1, 0,0)+ MLP-(3- 8- 1)		120,394	0,018	0,574		ARIMA(0, 0,0)+ MLP(3-4-1)	0,9833	0,0144
2001	ARIMA(0, 1,1)		94.674	13.757		2001	ARIMA(0, 1,9)	0,8720	108,02
	HOLT METHOD		94.087	13.261			HOLT METHOD	0,9020	128,13
	MLP-(7-1-1)		137,074	0,001	0,387		MLP-(10-5-1)	0,6627	0,0085
	ARIMA(0,		117,402	0,019	0,938		ARIMA(0,	0,6627	0,0085
2002	ARIMA(1, 0,0)		115.129	16.303		2002	ARIMA(0, 0,0)	0,9760	138,16
	HOLT METHOD		117.292	16.998			HOLT METHOD	0,9800	140,45
	MLP-(7-4-1)		222,425	0,007	0,551		MLP-(2-1-1)	1,3270	0,0141
	ARIMA(1,		167,122	0,021	0,755		ARIMA(0,	1,3270	0,0141
2003	ARIMA(0, 0,2)		112.036	10.640		2003	ARIMA(0, 1,1)	2,1350	123,83
	HOLT METHOD		118.540	10.837			HOLT METHOD	2,1200	121,24
	MLP-(10-1-1)		159,679	0,004	0,469		MLP-(3-9-1)	2,4743	0,0119
	ARIMA(0,		141,298	0,017	0,653		ARIMA(0,	2,4743	0,0119
2004	ARIMA(0, 0,1)		93.437	5.723		2004	ARIMA(1, 0,2)	2,1680	158,98
	HOLT METHOD		97.651	6.293			HOLT METHOD	2,2830	181,95
	MLP-(1-2-1)		128,776	6,00E-	5,10E-01		MLP-(2-4-1)	2,1823	0,0092
	ARIMA(0,		136,035	0,022	0,551		ARIMA(0,	2,1823	0,0092

Gold Exchange Operations I - İstanbul (Business day, TL – USA Dollar) is analyzed with four modeling techniques and two analysis methods by using the years 2000 – 2001 – 2002 - 2003 and 2004.

ARIMA (1, 0, 0) expresses the most suitable ARIMA model for Gold Exchange Operations I of the year 2000. Approach 1 analysis technique

is applied to Gold Exchange Operations I series in 2000, RMSE value is found with ARIMA (1, 0, 0) model and its value is 124.333. In the application, the minimum structure of the year 2000 according to artificial neural networks is [10 – 4 – 1]. The number of the input layer is 10, the number of the hidden layer is 4 and the number of the output layer is 1.

Artificial neural network is preferred as activation function is logistic in hidden layer and activation function is linear in output layer. The Hybrid Model is obtained as the combination of the ARIMA model and MLP. In this model, residues are obtained firstly by applying ARIMA model to series. Artificial neural network model is applied to the residues and then hybrid model is obtained.

In Table 1, Approach 1 and Approach 2 are applied to Gold Exchange Operations- I time series. All years are analyzed for Approach 1. It can be seen that ARIMA model gives more accurate forecasting than other models in terms of RMSE performance criterion values. According to MAPE and DA performance criterion, it can be seen that artificial neural network model is preferred. All years are analyzed for Approach 2 analysis method, it can be seen that ARIMA model gives more accurate forecasting in terms of RMSE performance criterion values. According to MAPE and DA performance criterion, it can be seen that they give similar results in artificial neural networks model and hybrid model.

Table 2. The results of Gold Exchange Operations II - İstanbul (Business day, TL –USA Dollar)

GOLD EXCHANGE OPERATIONS II – İstanbul (Business day/TL – USA										
APPROACH1			RMSE	MAPE	DA			RMSE	MAPE	DA
	2000	ARIMA(1, 0, 0)	1037,585	3,824		2000	ARIMA(1, 0, 0)	20,943	75,970	
		HOLT METHOD	1032,259	3,114			HOLT METHOD	22,005	73,673	
		MLP-(3-1-1)	1,442	0,000	0,0005		MLP-(5-6-1)	21,122	0,004	0,612
		ARIMA(1,0,0)+MLP(5-1-1)	1,237	0,000	0,0005		ARIMA(1, 0, 0)+MLP-(4-4-	42,871	0,018	0,428
	2001	ARIMA(2 0, 0)	4881,068	25,118		2001	ARIMA(2 0, 0)	60,073	175,722	
		HOLT METHOD	5112,288	23,960			HOLT METHOD	60,912	227,811	
		MLP-(1-3-1)	6,249	0,000	0,0006		MLP-(10-2-1)	32,833	0,014	0,204
		ARIMA(2,0,0)+MLP-(4-7-	8,833	0,000	0,0008		ARIMA(2 0, 0)+MLP-(10-	86,633	0,014	0,326
	2002	ARIMA(1, 0, 0)	7125,277	29,436		2002	ARIMA(1, 0, 0)	47,176	150,784	
		HOLT METHOD	1032,259	3,114			HOLT METHOD	47,678	150,113	
		MLP-(5-7-1)	7,461	0,000	0,0006		MLP-(7-1-1)	55,944	0,016	0,449
		ARIMA(1,0,0)+MLP-(4-6-	7,003	0,000	0,0008		ARIMA(1, 0, 0)+MLP-(7-1-	55,944	0,016	0,449
	2003	ARIMA(0, 0, 0)	8246,246	33,064		2003	ARIMA(0, 0, 0)	60,392	246,582	
		HOLT METHOD	8280,553	31,246			HOLT METHOD	64,170	213,133	
		MLP-(10-10-1)	1,304	0,000	0,0000		MLP-(5-5-1)	29,097	0,013	0,224
		ARIMA(0,0,0)+MLP-(5-3-	9,741	0,000	0,0006		ARIMA(0, 0, 0)+MLP-(5-5-	29,097	0,013	0,224
	2004	ARIMA(2, 0, 0)	8475,990	32,053		2004	ARIMA(2, 0, 0)	57,550	119,528	
		HOLT METHOD	8800,637	32,139			HOLT METHOD	61,563	137,067	
		MLP-(4-3-1)	7488,400	0,007	0,5306		MLP-(6-3-1)	48,731	0,006	0,449
		ARIMA(2,0,0)+MLP(5-3-1)	8,758	0,000	0,0006		ARIMA(2, 0, 0)+MLP-(1-	45,752	0,019	0,551

Approach 1 and Approach 2 analysis methods are applied on Gold Exchange Operations II - İstanbul (Business day, TL – USA Dollar) time series. Hybrid model is found to give more accurate forecasting results in Approach 1 analysis method for all years in terms of RMSE performance criterion values. Similarly, according to MAPE performance criterion, artificial neural network model and hybrid models are found to give similar forecasting results. According to DA performance criterion, artificial neural network model is found to give more accurate forecasting results. According to Approach 2 analysis method, RMSE performance criterion is found to give the same forecasting results in artificial neural networks model and hybrid model. According to MAPE and DA performance criterions, It is found that artificial neural network model gave more accurate forecasting results than other forecasting models.

Table 3. The Results of Consumer's Price Index (Wage Earners)(1995=100)

CONSUMER'S PRICE INDEX (Wage Earners) (1995=1 0 0)											
APPROACH1			RM	MAP	D	APPROACH2			RMSE	MAPE	D
	2000	ARIMA(0, 1, 0)	39.3	0.593		2000	ARIMA(0, 1, 0)	15.037	97.858		
		HOLT METHOD	39.3	0.626			HOLT METHOD	15.086	99.968		
		MLP-(6-2-1)	7.35	0.000	0.040		MLP-(1-1-1)	1.293	0.000	0.000	
	2001	ARIMA(0, 1, 1)	4.38	0.021	0.061	2001	ARIMA(0, 1, 0)+MLP(1-1-1)	1.293	0.025	0.000	
		ARIMA(0, 1, 0)	81.5	0.698			ARIMA(0, 1, 0)	41.045	97.742		
		HOLT METHOD	81.5	0.923			HOLT METHOD	41.211	98.947		
	2002	MLP-(2-2-1)	79.5	0.000	0.020	2002	MLP-(1-1-1)	4.711	0.000	0.000	
		ARIMA(0, 1, 1)	256.8	0.510	0.040		ARIMA(0, 1, 0)+MLP(1-1-1)	47.112	0.022	0.000	
		ARIMA(0, 1, 0)	97.1	0.563			ARIMA(0, 1, 0)	28.389	95.498		
	2003	HOLT METHOD	97.1	0.573		2003	HOLT METHOD	28.434	98.244		
MLP-(9-4-1)		28.6	0.000	0.020	MLP-(1-5-1)		4.033	0.017	0.040		
ARIMA(0, 1, 1)		12.6	0.021	0.061	ARIMA(0, 1, 0)+MLP(1-5-1)		4.033	0.021	0.040		
2004	ARIMA(0, 1, 0)	120.0	0.446		2004	ARIMA(0, 1, 0)	6.553	97.586			
	HOLT METHOD	120.0	0.443			HOLT METHOD	6.579	97.603			
	MLP-(1-6-1)	10.7	0.000	0.020		MLP-(1-2-1)	1.607	0.018	0.040		
2005	ARIMA(0, 1, 1)	8.28	0.028	0.061	2005	ARIMA(0, 1, 0)+MLP(1-2-1)	4.033	0.021	0.040		
	ARIMA(0, 1, 0)	96.1	0.364			ARIMA(0, 1, 0)	12.125	97.722			
	HOLT METHOD	96.1	0.365			HOLT METHOD	12.125	96.998			
2006	MLP-(9-3-1)	22.0	0.000	0.020	2006	MLP-(10-9-1)	6.931	0.019	0.040		
	ARIMA(0, 1, 1)	21.7	0.020	0.061		ARIMA(0, 1, 0)+MLP(10-9-1)	6.931	0.019	0.040		

In Table 3, Approach 1 and Approach 2 analysis methods are applied to Consumer's Price Index (Wage Earners) (1995=100). All years are reviewed with Approach1, it can be seen that the hybrid model gives more accurate forecasting results according to RMSE performance criterion. Artificial neural network method gives more accurate forecasting results according to MAPE and DA performance criterions. All years are reviewed with Approach 1, it can be seen that artificial neural network method and the hybrid method give similar results. It is found that artificial neural network model gives more accurate results according to MAPE performance criterion. Artificial neural network and hybrid model give similar results according to DA performance criterion.

5. CONCLUSION

Among the methods used in the interval - valued time series, it can be said that the hybrid model gives the highest forecasting accuracy according to RMSE performance criterion. According to MAPE performance criterion, artificial neural network method gives

the highest accuracy. The results are examined, it can be seen that the hybrid method is an effective method and it can be used to develop forecasting accuracy. It can be said that hybrid models can be used as alternatives to traditional methods in interval-valued time series. Studies in the literature show that instead of forecasting time series with only one method, forecasting by combining more than one method gives more effective results. The results of our study also confirm this. In addition, it can be seen that artificial neural network model gives decent results. Artificial neural networks model can learn the non-linear relationships between time series. They make generalizations. Thus they find answers to questions not seen before. Due to these characteristics features, artificial neural network model is used as an efficient method in forecasting. Although statistical methods produce understandable and interpretable parameters about the problem area, it is still not possible to interpret the association weights in artificial neural networks. Thus, it should also be remembered that the model stays as a closed box for artificial neural network.

5. REFERENCES

- Akca İ., Başokur A.T., (2010). Extraction of structure-based geoelectrical models by hybrid genetic algorithms. *Geophysics*, 75, 15-22.
- Çuhadar M., (2006). Use Of artificial neural networks for demand forecasting in tourism sector and comparative analysis with other methods (Application of Antalya province in foreign tourism demand), Doctoral Thesis, University of Süleyman Demirel, Social Sciences Institute, Isparta, 187366.
- Fausett L., (1994). *Fundamentals Of Neural Networks: Architectures, Algorithms And Applications*, 1st Ed., Prentice Hall.
- <https://evds2.tcmb.gov.tr/index.php?>
- Kadilar C., (2009). *Spss Uygulamalı Zaman Serileri Analizine Giriş*, Second Edition, Bizim Bureau Printing Houses, Ankara.
- Lima Neto E.A., De Carvalho F.A.T. (2008), Centre And Range Method for Fitting A Linear Regression Model To Symbolic Interval Data, *Comput, Stat, Data Anal.* 52, 1500-1515.
- Maia A. L. S., De Carvalho F. A. T., (2008). Neural Networks and Exponential Smoothing Models For Symbolic Interval Time Series Processing-Applications In Stock Market, 8th International Conference On Hybrid Intelligent Systems, Barcelona, Spain, 10-12 Eylül.
- Maia A.L.S., De Carvalho F.A.T. and Ludermir T.B. (2008). Forecasting Models for Interval-Valued Time Series, *Neurocomputing*, 71, 3344-3352.
- Öztemel, E. (2003). *Yapay Sinir Ağları*, Papatya Publishing, İstanbul.

CHAPTER 5

HUMAN RIGHTS CONDITIONS IN XINJIANG UYGHUR AUTONOMOUS REGION (XUAR) CHINA

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INTRODUCTION

In the Xinjiang region, there is currently a perceived threat from Uyghurs as being a 'separatist' and the violence of their actions are believed to have something to do with another international terrorist group. It is also reported that during 1990 to '98s, anti-government movements or activities took place which involved acts of a bombing that resulted in some casualties. However, this response is consistently possibly seen as the counteraction of China's 'strike hard campaign' to the Uyghur people in Xinjiang³. Since the aftermath of the 9/11 or Twin Tower attack in New York, China condemned Muslim doings in Xinjiang as activities connected to Jihad movements. Thus, the *East Turkistan Islamic Movement* was seen as a major threat to the security of the Xinjiang Province. Moreover, China thought that this Uyghur organization has its base in the Northern part of Pakistan⁴.

Also, the Uyghur people's claim of self-determination has been hard for the Uyghurs to achieve. They also aim for 'political independence'. However, the Chinese government's answer to their frustrating situations seems to be violent in return⁵. In Xinjiang province, the "strike hard campaign" resulted in the increasing numbers of illegal

³ James Millward, *Violent separatism in Xinjiang: a Critical Assessment*, Policy Studies, No. 6, Washington, D.C.: East-West Center 2004, p.29-30.

⁴ Alessandro Rippa, "From Uyghurs to Kashgaris (and back?): Migration and Cross-Border Interactions Between Xinjiang and Pakistan", *Crossroads Asia Working Paper Series*, 23, Competence Network Crossroads Asia: Conflict – Migration – Development, 2014, p.2.

⁵ Iman Jafarynejad, "Economic Incentives Preempt Independence Movements: A Case Study of the Xinjiang Uyghur Autonomous Region in China", *Topical Research Digest: Human Rights in China*, p. 84.

arrests and ‘executions’ particularly in the year 1997-1999. Thus, it even continued up to the 21st century. Human rights violation has been rapidly reported. For instance, the execution of the 200 people took place and as previously mentioned, changes of policies in China inspired by the 9/11 attack as part of the effort for battling terrorism also took place ⁶. In the post 9/11 attack, Beijing had reinforced its military forces in the Xinjiang region. Indeed, due to this strict reinforcement and repression, some of the Uyghur people inclined themselves towards ‘armed struggle’. And instead of choosing dialogue with these minorities, China proceeded in calling them ‘terrorists’⁷.

With this connection, this paper will try to indicate the current condition or status of Human rights among Uyghur in Xinjiang China. Also, this work would like to determine how the Human rights concept in China differs from the Westerns. And about their concept of Human Rights, this paper would congruently determine the reasons for China's adoption of harsh measures against Uyghur in line with their concepts and perceptions of Human Rights.

⁶ Michael Clarke, “Widening the net: China's anti-terror laws and human rights in the Xinjiang Uyghur Autonomous Region”, *The International Journal of Human Rights*, Vol.14, No.4, 2010, pp.546-547.

⁷ Thierry Kellner, “China: the Uighur Situation from Independence for the Central Asian Republics to the Post 11 September Era”, *UNHCR Emergency & Security Service*, 2002, pp.22-24.

1. HUMAN RIGHTS ORIGIN AND CHINA AND HUMAN RIGHTS

The human rights concept is well-known to have been originated from the Western world. It is also nearly related to the notion of “natural law”, which also progressed from the ancient “Christian and Greek” thinking. The principle of this human rights has likewise been advanced from various periods such as the medieval period, renaissance as well as from “American and French revolutions”⁸. Besides, some argued that Human Rights came as a product of industrialization and globalization. Nevertheless, as equally mentioned above, it is believed or perceived as the "continuation of the Western Imperialism"⁹. The principle of Human Rights is also renowned as a 'universal rights' possessed by all individuals. According to Wasserstrom, Human Rights are said to be true if it fulfills certain conditions such as; the rights must be owned by all humans and owned equally by them. Also, these rights must be asserted as having the ability to speak or expressing it¹⁰. Additionally, some authors argued that this Human Rights concept is not only from Western origin but varies from all civilization. For instance, Hinduism likewise emphasized the notion of universalization of the equality and

⁸ Zhou Qi, “Conflicts over Human Rights between China and the US”, *Hum. Rts. Q.* 27 ,2005, p. 105.

⁹ Ken Booth, *Human rights in global politics*, Cambridge University Press, 1999, p.54.

¹⁰ Alison Dundes Renteln, “The concept of human rights”, *Anthropos*, 1988, pp. 347-348.

fraternity of human souls¹¹. To boot, others had asserted that human rights principles existed after the Second World War¹².

Moreover, as a product of interaction that resulted in civilization, concepts of freedom, dignity laws as well as human rights also advanced over the period. As previously mentioned, the image of human rights as a western origin remains up to this contemporary era¹³. Human Rights as being universal is in the sense that every people of various cultures, origin and religion have all the desire of securing them, which means that these rights are being recognized and valued. Besides, its universalization also means that all actors including the states are bound to 'protect and promote' the principles of Human Rights regardless of one's political, cultural, and economic system¹⁴.

The *Universal Declaration of Human Rights* marks the expectations of international communities to give respect to people's rights. This declaration of rights has also rooted in "western values and concepts"¹⁵. On the other hand, it is revealed also since the year 1945s and '80s, although the mechanisms for the implementations of human rights was weak during those time, the rights were already started deepening and

¹¹ Surya Subedi, "Are the Principles of Human Rights Western Ideas-An Analysis of the Claim of the Asian Concept of Human Rights from the Perspectives of Hinduism", Cal. W. Int'l LJ 30, 1999, pp.45-46.

¹² Ibid., p.49.

¹³ Eva Brems. *Human rights: Universality and diversity*, London, Martinus Nijhoff Publishers, 2001, pp.7-8.

¹⁴ Ibid., pp.10-12.

¹⁵ Richard Daniel Klein, "Cultural Relativism, Economic Development and International Human Rights in the Asian Context", *Touro International Law Review*, 2001, Vol.9, No .1, pp.2-4

growing. Thus, human rights were adopted as part of the policy agenda among 'democratic states' ¹⁶.

China is a government of an authoritarian state where the leadership is held by a single party which is the Communist party from regional up to the local level. The leaders are committed to maintaining social stability and order in the country. That is why, under this system, people are often not free in expressing their opposition to the single party-led governmental system¹⁷.

Human Rights in China has also said to be outlined back to 'Confucianism'. However, even though Human rights in the country was not assimilated to any legal documents, the stability of human rights practices in China has also been seen after its establishment. This concept of Human Rights also perceived by some people as an instrument of 'Western powers to intervene' in the internal affairs of the country. Thus, the notion of Human rights has been finally accepted by Chinese society during the 1990s. Additionally, Human rights practices in China deeply influenced by its history and culture¹⁸.

During Mao's era, there were no absolute writings that specifically pertain to Human rights issues, however, there was writing on the Bourgeois criticism during the 1960s. And this article argued human

¹⁶ Rosemary Foot, "Bush, China, and human rights", *Survival*, Vol.45, No.2, 2003, p.169

¹⁷ Sean Murphy, "Criticism of PRC's human rights practices." *The American Journal of International Law*, Vol. 94, No.3, 2000, p. 526.

¹⁸ Zhongqi Pan, *Conceptual gaps in China-EU relations: global governance, human rights and strategic partnerships*, China, Palgrave Macmillan, 2012.p.84.

rights are 'being used by the imperialists' to intervene in the internal or domestic affairs of other countries. The same writer (Ch'ien Szu) of the said article concluded that these human rights are intentionally created for the interests of the Bourgeois that is in able for them to dominate the working individuals¹⁹. Furthermore, the question of Human rights in China has also been triggered by its open-door policy which made China more open to international interaction ²⁰.

In the traditional political system of China, Confucianism is considered to be an important aspect in the promotion of moral values in their society. Furthermore, the *political human rights* in China played not much significant role in their tradition. It is believed that the holder of the sovereign, acts as the father whom the heaven's decree to possess the sovereign duties. The imperial background of Chinese history incessantly influenced contemporary human rights and politics of China. For more than thousands of years, China declined legal systems which are based on the external rulings²¹.

On the other hand, the concept of Human Rights in China is deeply influenced by ideology and the interests of the group in general. China is also a 'cultural driven' country and it emphasizes the 'universal goal of harmony'²². Unfortunately, for some instances, the maintenance of

¹⁹ Hungdah Chiu, "Chinese attitudes toward international law in the post-Mao era, 1978-1987", *The International Lawyer*, 1987, pp.3-4.

²⁰ Ibid., p.9.

²¹ Melanne Andromecca Civic, "Comparative Analysis of International and Chinese Human Rights Law--Universality Versus Cultural Relativism", *Buff. J. Int'l L.* 2, 1995, 295-.296.

²² Ibid., p. 304-308.

"harmony" had even resulted in a political "repression" like what happened in Tiananmen 1989 protest. Besides, China's 49 articles enlisted more rights than the US constitution. The perception of Human Rights in China gives more empathy to the interests of society or the community even to the expense of the interests of an individual²³.

Human rights violations in China include what the Chinese government practice towards the Tibetan people. Due to these circumstances, even the jus cogens notion has been constrained by Beijing²⁴. Human rights have been said to become a challenging notion in China in the 20th century; debates and discussion took a long time over the matter²⁵. As previously mentioned, China focuses on the collective rights of welfare than individual rights that's why for instance, the possession of religious rights is also viewed as individual right or liberty. This philosophical teaching of Buddhism and Confucianism on maintaining "Unity and Harmony" could even result in the restriction of religious freedom. China also believed that achieving development in the socioeconomic and cultural situations will make a religion or the "opiate" disappear²⁶. In the Xinjiang case, their religious freedom has also been protection based on its regulations. But despite this, certain restrictions are also imposed. The sharing of information or broadcasting of "holy war" has

²³ Ibid., p.311.

²⁴ Lawrence Friedman, "On Human Rights, the United States and the People's Republic of China at Century's End," *J. Int'l Legal Stud*, Vol.4,1998, pp.249-250.

²⁵ Kenneth Cmiel, "The recent history of human rights", *The American Historical Review*, Vol.109, No.1,2004, p.125.

²⁶ Eric Kolodner, "Religious rights in China: a comparison of international human rights law and Chinese domestic legislation", *Human Rights Quarterly*, Vol.16, No.3, 1994, pp.466-467.

also been prohibited. Besides distribution of religious-related materials was also subjected to proscription²⁷.

1.1. Basic Elements and Ideologies of Human Rights Approach in China

Socio-economic development has also an important place in China's Human rights concepts. Besides, it is said that the applicability of human rights in the country is dependent on China's national conditions. They emphasized also the "right of subsistence". In other words, the policies of China and its human rights conceptions are inclined towards economic advancement²⁸. Thus, China, in terms of rights, is more open to its commitment to economic rights. Even during the 1993 World Conference, China had stated when poverty becomes ubiquitous or common and lack of necessities occurred, economic progression must be prioritized²⁹.

Confucianism has played a vital role in the overall aspects of Chinese people. Also, this concept is said to be incompatible with the concept of Human rights. The global characteristics of Human rights include the right of freedom of expression in which this right would be able to protect the individual's right in establishing contacts or communication with one another. Another is the religious right which guarantees people to

²⁷ Ibid., 478-479.

²⁸ Jiangyu Wang, "China and the Universal Human Rights Standards", *Syracuse Journal of International Law and Commerce*, Vol. 29, No.1,2001, p.135.

²⁹ Richard Daniel Klein, "Cultural Relativism, Economic Development and International Human Rights in the Asian Context", *Touro International Law Review*, Vol.9, No .1,2001, p.10.

participate in any religious affiliation. Confucianism is also related to both social and moral duties which apply to all types of relationship in the society. Thus, most of the teachings of Confucius is about behavior in social ties or relationship, for instance, husband-wife and friend to another friend³⁰.

To clarify, Confucius does not reject human rights due to the commonality of those rights to his teachings such as freedom of expression and religion. However, this freedom of expression is justified only if it could contribute to a healthy politics. Furthermore, up to this contemporary period, the philosophy of Confucius encourages the protection of human interests as well as the whole of humanity. Thus, his teaching also justified civil rights on the instrumental ground. Whereas, for Westerners, they justify some freedom of expression on "personal autonomy"³¹.

China also gives more noticed to "collective rights" rather than "individual rights". They argued that the rights of certain people could be sacrificed for a greater cause³². China doesn't always agree with the concept of natural law and also gives more reputation to socio-economic rights. Thus, the teachings of Marx had a strong influence over China's perspectives such as that human rights could not be said to have higher or greater value than of economic structure of society. For

³⁰ Joseph Chan. "A Confucian perspective on human rights for contemporary China." *The East Asian challenge for human rights*, Vol. 212,1999, pp. 215-217.

³¹ Ibid., p.228.

³² Zhongqi Pan, *Conceptual gaps in China-EU relations: global governance, human rights and strategic partnerships*, China, Palgrave Macmillan, 2012, p.85.

them also, achieving economic advancement is one of the major steps of Human rights progress. Culture correspondingly plays a significant role and influence in Chinese human rights practices. China likewise sees obligations more valuable than rights. Besides, China gave value to the possession of sovereignty because losing this as they argued may cause human rights violations³³. Also, China sees colonialism and imperialism as well as genocide as actions that violate the rights of the human being. Even China sometimes participated in the UN Human rights regime and the international community, the country had stayed steady on the Leninist influence³⁴.

In Chinese perspectives, being free from foreign rule, being free from imperialism and possessing the capability to lead or rule one's country as part of democracy, is considered to be a piece of achieving one's rights. Besides, when these rights are being exercised it means that rights such as political may also be achievable. Moreover, China's plan for its economy and the livelihood of its massive constituents is believed to be an enormous phase towards guaranteeing Human rights³⁵.

³³ Ibid., pp.86-90.

³⁴ Rana Siu Inboden and Chen Titus, "China's Response to International Normative Pressure: The Case of Human Rights", *The International Spectator*, Vol. 47, No.2, 2012, pp.47-48.

³⁵ Chen Zhishang, "Rethinking on China's human rights ideology", *International Critical Thought*, Vol.1, No.4, 2011, pp. 411-12.

When China received criticism from the West, it defended itself by saying the human rights during the Tiananmen crackdown had proceeded to an unexpected historical side. Certain rights such as “right of subsistence, China’s values as well as its sovereignty” are being used as China’s defense against any attacks to its policies on Human Rights³⁶. Moreover, during the 1950s and '60s, China saw "self-determination and sovereignty" as human rights. But even in the year 1971, Human Rights are not formally part of its foreign policy. Until 1979, China had started to show interest in international human rights matter by participating in UN meetings³⁷.

2. DIFFERENCES OF HUMAN RIGHTS APPROACHES BETWEEN CHINA AND THE WEST

Being a communist state, China has a diverse concept of Human Rights compare to the West. China also does not agree and accept the notion of “Western Human Rights Standard”. Besides, its human rights also differ from the UDHR (Universal Declaration of Human Rights). \Due to the massive population of China, its government gave more precedence to other necessities such as education and shelter than human rights practices. They emphasize "collective goods" rather than "freedom of individuals". Human Rights in China has also been defined in terms of the "social and economic" necessities of its society as well as give attention to Human rights in a collective manner. Moreover,

³⁶ Jiangyu Wang, “China and universal human rights standards”, *Syracuse Journal of International Law and Commerce*, Vol. 29, No.1,2001, pp. 135-136.

³⁷ *Ibid.*, pp.140-141.

civil and political rights have been denounced as "bourgeois" conceptions and not much related to China³⁸. Furthermore, although China did not formulate legal rights and "individual liberties similar to the West. The teachings of Confucianism were not said to have been mismatched with the contemporary conceptions of Human Rights. Confucianism also considers the liberal government and even condemned any abuse of power by the authority³⁹.

China gave importance to the interest of the group in a community than individual rights. Besides, the state is concerned with the fundamental needs of the majority. Whereas the Westerners promote more on "democracy" and support governance and civil community. The West and China have a common mission of advancing Human Rights practices however these actors adopt different methods of reaching these objectives which even leads to misperceptions. As previously mentioned, China prioritized more on socio-economic aspects of rights than of civil and political. And these socio-economic rights include the rights of having *work, education, employment, food, clothing* and other fundamental rights for survival. Also, it is said that for as long as the Chinese government is still on the process of socio-economic improvement, then civil and political rights will still be counted as "premature"⁴⁰. In the 1980s, China has also supported some of the issues

³⁸ Roberta Cohen, "People's Republic of China: the human rights exception", *Hum. Rts. Q.*, Vol. 9, 1987, pp.464-465.

³⁹ *Ibid.*, p. 522.

⁴⁰ Timothy Webster, "China's Human Rights Footprint in Africa", *Colum. J. Transnational L.*, Vol. 51, 2012, pp.634-635.

of Human Rights including apartheid opposition, racial discrimination and even buttressed right of self-determination. Moreover, in the year 1989, China has also signed UN Human Rights conventions including *the Convention on Racial Discrimination, Convention against Torture and Inhumane Treatment*⁴¹.

China doesn't agree on the idea of a state sacrificing its ideologies or political standards and values just to coordinate with human rights contexts. For China, the practices of Human rights must be in line with the state's circumstances due to differences in the political system, cultural background, and history which varies on the country's Human Rights insights. Thus, because of some problems like poverty, one country is presumed to work more on its economy than to focus on Human Rights issues or political rights. And as mentioned earlier, the country's cultural traditions are important elements of human rights notions that tend to focus on the group's rights than of the individual⁴². In China, the state is the most necessary actor followed by the collective people or group than the 'individuals. Therefore, unions, families and "schools" could be sacrificed for the sake of the interests of the state. Because accordingly, if the individual rights are given more priority than the former then it is labeled as "bourgeois-liberalism"⁴³.

⁴¹ Ann Kent, "China and the International Human Rights Regime: a case study of multilateral monitoring, 1989-1994, *Human Rights Quarterly*, Vol.17, No.1,1995, p.8; Norbert Paul, et al, "Human rights violations in organ procurement practice in China", *BMC medical ethics*, Vol.18, No.1,2017, p.6.

⁴² Michael Santoro, *Profits and principles: Global capitalism and human rights in China*. Cornell University Press, 2000, pp.132-134.

⁴³ *Ibid.*, p. 135.

In Western countries like the USA, they put more emphasis on the civil rights of the individuals that include rights of religion, speech, association, home and of course security. It also points out the political rights of the people like the right to vote. Thus, the Human rights concept in the US is also more on democratic notions and believed that these human rights are capable of protecting the liberty of a person against the state⁴⁴. On the other hand, Human Rights notions in China are comprehensive in the sense that it covers all aspects of life. As cited earlier, the right of subsistence is one of the most vital rights for Chinese people or the so-called "collective rights of subsistence". This right also encompassed shelter from any violence and the grant of good living. China is more careful about the collectivity of rights as what the Chinese government always adheres. They also advance their human rights ideologies within their state policies⁴⁵.

Furthermore, China focuses on the task of developing its economy as well as promoting the order in the community. For Westerners, although they also give importance to the growth in the economy, sharing of governance and encouraging 'social order' are both parallel in essentials. Besides, in China, economic rights received more supports when compared to individual rights which are integrated parts of political rights. And if there will be an existing contradiction between political and economic advancement, China gives more favor to

⁴⁴ Frederic Krumbein, "Media coverage of human rights in China", *International Communication Gazette*, Vol. 77, No.2, 2015, p.158.

⁴⁵ *Ibid.*, p.159.

economic aspects. However, this does not also mean that China disregarded 'civil and political rights' thus as globalization progressed, the demands for 'civil and political rights' had also increased⁴⁶.

2.1. Historical Background of Xinjiang Province in China

Xinjiang province or the "Xinjiang Uyghur Autonomous Region (XUAR)" is an imperative location in China. This region is a Uyghur dominated area who are "Turkic origin". They also considered themselves as "non-Han" Chinese. The Uyghur people generally level themselves with an Islamic identity. The Uyghur people caught the attention of the international media due to their alleged engrossment in terrorism. The Xinjiang Province has been established in the year 1950s and the Chinese government had become supportive of building infrastructure in the place during the early days. But many years passed by, for instance in the year 1996, the implementation of the 'hardline campaign' to the Uyghur weaken the support for the Chinese government projects⁴⁷. Historically speaking, the emergence of the Uyghur people in the Xinjiang province has nothing to do with the Chinese people. Thus, the loss of control over the region and the formation of the "Uyghur nation" since the period of the 8th century manifested the province's independence. However, it is also said that

⁴⁶ Hong Xiao, "Values priority and human rights policy: A comparison between China and Western nations", *Journal of Human Values*, Vol.11, No.2,2005, p.100.

⁴⁷ Arienne Dwyer, "The Xinjiang conflict: Uyghur identity, language policy, and political discourse", 2005, pp.2-4.

these Uyghurs are not related to Chinese people. The province of Xinjiang has been considered to be the Uyghur people's motherland⁴⁸.

Nevertheless, controlling the Xinjiang province is an important duty of the Chinese government. It is because China believed that this province is a legitimate part of the country. Xinjiang region has rich natural resources and minerals. China likewise highlighted economic reforms and Han immigration to the Xinjiang region as part of its effort to taking control. Due to the sporadic existence of alleged terrorist and separatist activities, China has been working towards bringing applicable policies to the region. Military deployment to the Xinjiang province is one of the strategies of China for the sake of having stability in the place⁴⁹. China, moreover, during the emergence of many insurrections, justifies its sending of the Han group to the province of Xinjiang. It mentioned that Xinjiang has been deficient and incompetent in terms of "human labor" and so under these circumstances, the Han group must move to the place in able for the region to achieve modernization⁵⁰.

The impact of the 9/11 attack in the US give way for China's justification of its policies against the Uyghur in Xinjiang Autonomous Region. It is due to China's fear of extremism in the region which forces the country to "rectify the social orders". China's measure resulted in

⁴⁸ Robert Tian, "Cultural Rights and Uyghur Nationalism", *High Plains Applied Anthropologist*, No.2,2004, p.151.

⁴⁹ Michael Dillion, *Xinjiang: China's Muslim far northwest*. Routledge, 2003, pp.166-168.

⁵⁰ Gardner Bovington, "The not-so-silent majority: Uyghur resistance to Han rule in Xinjiang", *Modern China*, Vol. 28, No.1,2002, p.45.

subjective detentions, a clampdown on religious events and also restrictions of religious rites in some public institutions. Many also became victims of the unfair judicial process and were illegally detained. In the year 1997, there were 200 recorded executions by Amnesty International. From the year 1996 up to 2004, the ‘strike-hard campaign’ against the Uyghur people became incessant. This campaign has been particularly launched to monitor the terrorists or the separatists on their possible illegal activities on religious matters⁵¹. Even though the Uyghur has been feeling threatened for many decades, it is said that only in the 1990s, Uyghur people’s voices for assistance had been heard. Uyghur living outside China also engaged in propagating information about the Uyghur situation. They established movements that seek global attention and exposure to China's abuses to the Uyghur in Xinjiang⁵².

2.2. Human Rights violations and current Human Rights conditions in Xinjiang

The Uyghur people in Xinjiang province faced different kinds of abuses; they are racially, socially and culturally harassed. The Chinese government is inspired to engage in repression due to some religious and political associations in the province. China feared Islam's influence through the existence of the “separatist movements”. China

⁵¹ Nicolas Becquelin, “Criminalizing ethnicity: political repression in Xinjiang”, *China Rights Forum*, Vol. 1. No.7, 2004, pp.39-41.

⁵² Margaret Hagan, “The human rights repertoire: Its strategic logic, expectations, and tactics”, *The International Journal of Human Rights*, Vol. 14, No.4, 2010 ,pp.565-566.

started to curtail Uyghur's political and religious practices in the year 1980s and '90s. As part of the Chinese government's action, the suspected separatist Uyghurs are being imprisoned and subjected in a condition of "incommunicado". Moreover, according to Amnesty International, prisoners have limited access to having a lawyer. Impositions of the death penalty in the Xinjiang Autonomous Region is argued to be disturbing. And the Uyghur people are usually executed for their 'political dogmas'. The Uyghurs who were imprisoned were maltreated and tortured for force confessions. These harsh treatments include 'food deprivations, beating and even exposure to extreme cold and heat' ⁵³.

During the 1980s, China had supported cultural rights but it did not last too long. Because in the late 90s, separatism and riots had escalated. And this escalation of fighting served as Uyghur's counteraction on the government's unfair treatment to them such as limited chances of job opportunities and interference to their religious practices⁵⁴. Despite the fact of being a part of the *International Covenant on Civil and Political Rights or ICCPR* (but not ratified by China) and of being one of the consented states in the UN convention against torture, China still

⁵³ Natasha Concepcion, "Human Rights Violations Against Muslims in the Xinjiang Uighur Autonomous Region of Western China." *Human Rights Brief*, Vol. 8, No.1, 2000, p.20.

⁵⁴ Aurora Bewicke, "Silencing the silk road: China's language policy in the Xinjiang Uyghur autonomous region", *San Diego International Law Journal*, Vol. 11, No. 1, 2009, p.140.

consistently engaged in tormenting many Uyghurs. The country's obligations under the ICCPR are unarticulated⁵⁵.

The 'strike hard campaign' which began in 1996 focused on their alleged 'three evils'; these are "separatism, terrorism, and fundamentalism"⁵⁶. The strike hard campaign brought out several human rights violations since the 1990s. Human Rights groups and Amnesty International had reported that there were 'thousands' or numerous numbers of detained Uyghurs in the year 2001 to 2005. They were arrested due to what the government considers as illegitimate religious actions such as the teaching of the Quran. They were victims of the death penalty and imprisonment. As part of the natural stability also, Chinese government criminalized the expressing of one's ethnic identity. China saw the perceived illegal religious events as a menace to national security. The Uyghur people in Xinjiang province is also prohibited to travel outside the country and their passports are under confiscations. Clerics and students who participated in religious activities are being arrested for their attendance⁵⁷.

⁵⁵ Natasha Concepcion, "Human Rights Violations Against Muslims in the Xinjiang Uighur Autonomous Region of Western China." *Human Rights Brief*, Vol. 8, No.1, 2000, p.21.; Eric Kolodner, "Religious rights in China: a comparison of international human rights law and Chinese domestic legislation", *Human Rights Quarterly*, Vol.16, No.3, 1994, p.487.

⁵⁶ Joshua Tschantret, "Repression, opportunity, and innovation: The evolution of terrorism in Xinjiang, China", *Terrorism and political violence*, Vol. 30, No.4, 2018, pp.577.

⁵⁷ Michael Clarke, "Widening the net: China's anti-terror laws and human rights in the Xinjiang Uyghur Autonomous Region." *The International Journal of Human Rights*, Vol.14, No.4, 2010, pp. 550-552.

Although China grants "religious freedom", it restricted some of those practices that are not acceptable or compatible with the state's conditions. China also deprived the arrested Uyghur to attain some of their rights such as the rights of having a defense counsel and appeal. These rights are hardly compiled by the government. Under these circumstances also, the Uyghur may think that only through violence that their rights might be reconsidered⁵⁸.

For instance, the youngsters and children were restricted from entering the mosque and even the Uyghurs who work under the government are not permitted to practice or apply Islam. Thus, the year 2007, Uyghurs were the only group that has been subjected to the death sentence due to their participation in perceived 'separatists' activities'⁵⁹. Additionally, when the Uyghurs peacefully gathered at Urumqi in July 2009 which is the Xinjiang capital for the justice of the two executed Uyghur men who were mistakenly accused of 'sexual assaults' against woman (Han group), the riots occurred due to the violent response of the government policies to the peaceful demonstrators through 'spraying tear gases and firing'. It also led to violence against Han groups and almost 200 people were reportedly dead (majority from Han group), likewise Uyghurs claimed that most deaths came from them.

⁵⁸ Katie Corradini, "Uyghurs under the Chinese State: Religious Policy and Practice in China", June 2016, p.30, <https://voiceofsalam.files.wordpress.com/2016/06/uyghurs-under-the-chinese-state.pdf> (Accessed Date: 27 December 2019).

⁵⁹ Thomas Lum and Hannah Fischer., "Human Rights in China: Trends and Policy Implications", *Library of Congress Washington Congressional Research Service*, 2009, p.16.

The PRC blamed the Uyghur group and situated many of them in detention⁶⁰.

After the Urumqi 2009 event, many scenarios of conflicts and bombing turned to be restless which included protests against the government, ethnical conflict and even attacks to police stations. Thus, in 2013, various incidents happened in some major cities in China. Chinese authorities also asserted that a hundred Uyghur people were traveling to Syria for the sake of developing their "terrorist's skills"⁶¹.

The *Amnesty International*, *Human Rights Watch*, *World Uyghur Congress* and *FIDH* had the joint letter of demand to end the extensive human rights violation of the Chinese government to the minorities that involve the 'illegal arbitrary detention'. Moreover, *the UN Committee on the Elimination of Racial Discrimination* has even stated in the year 2018 August, China transformed Xinjiang into a "no right zone" region due to the inhumane treatment of the government based on the Uyghur's "ethnoreligious" distinctiveness⁶².

The Amnesty also reported that the 're-education camp' is being used to detain minorities such as Muslim Uyghur and other Kazakhs. However, China denied the allegations and said that those in camps were people who committed crimes. Many activities similarly reported the presence

⁶⁰ Ibid., p.17.

⁶¹ Michael Clarke, "China and the Uyghurs: the "Palestinization" of Xinjiang", *Middle East Policy*, Vol. 22, No.3, 2015, p.131.

⁶² "China: UN Secretary-General should denounce human rights violations in Xinjiang", *The Human Rights Watch*, 17 September 2019.

of millions of Uyghur in the detention camp in the region. The detainees were conveyed being forced or required to leave their faith and to 'commit their loyalty to communism'⁶³.

Besides, during the early 1957s, the camps were used for administrative punishments for detainees however recently it has been used for the 'de-extremification process'. Later on, the news about the camp from the year 2014, went viral thoroughly due to the enforcement or impositions of Chinese cultural beliefs which was designed to substitute the apparent harmful ideologies of the Uyghur people⁶⁴.

Lately, several countries had confronted China regarding its treatment on the Uyghur people in the Xinjiang region. This is due to the country's brutal policy on the strike hard campaign. Millions of Uyghur were illegally detained in the Political camp. And most of their cultural heritage has been destroyed. The restriction of 'religious practices', and principally the "mass detention" had also received attention and condemnation from the Western powers and the country has even been called up to consider human rights⁶⁵. In the year 2017, aside from the mass detention of the Uyghurs and Kazakh in Xinjiang, they were also forced to adopt cultural integration and indiscreet scrutiny. Similarly,

⁶³“Chinese re-education camps for Uighur Muslims run like concentration camps, says Amnesty”, *The Independent*, 16 December 2018.

⁶⁴ Adrian Zenz, “Thoroughly reforming them towards a healthy heart attitude”: China’s political re-education campaign in Xinjiang”, *Central Asian Survey*, Vol. 38, No.1, 2019, pp. 104-114.

⁶⁵ Louis Charbonneau, “Countries Blast China at UN Over Xinjiang Abuses: Joint Statement Urges End to Repression of Turkic Muslims”, *Human Rights Watch*, 30 October 2019.

the imprisoned Uyghur minorities were not given the due process of law and get lawyers for the defense. Nevertheless, China still argued that these measures are important for "counter-terrorism"⁶⁶.

The Uyghur people also suffers from the benefits of health facilities because they don't receive just or fair assistance when some of them get sick and diagnose with serious illness. They have insufficient access to proper healthcare programs. As similarly mentioned, the occurrence of the 9/11 attack brought severe repression to the Uyghur. And the moment they assert for their rights against discrimination, they were labeled and assumed as separatists⁶⁷. Stereotyping and labeling as being separatist or extremist became part of their names or identity as Uyghur people. Thus, despite domestic and International law that has been adhered to by Chinese government such as the state's recognition of the ICERD, the law against racial discrimination, considering and protecting the rights of the minority, still, the Uyghur people lack access to protection and security⁶⁸.

China also encourages the US to include or declare the TIM or Turkistan Islamic Party which is a group of "Uyghur nationalists" to be labeled as 'terrorist group'. China used this chance to advance its exertion against Uyghur revolts⁶⁹. According to one of the personnel

⁶⁶ "China: UN Secretary-General must publicly denounce human rights violations in Xinjiang", *Amnesty International*, 17 September 2019.

⁶⁷ Rayila, M, "The pain of a Nation: The invisibility of Uyghurs in China Proper", *The Equal Rights Review*, Vol.6,2011, pp. 47-49

⁶⁸ Ibid., p.50.

⁶⁹ Clifton Pannell, "China gazes west: Xinjiang's growing rendezvous with Central Asia", *Eurasian Geography and Economics*, Vol.52, No.1,2011, p. 109.

(Turdi Ghoja) of the Uyghur association in America, China used the war of terrorism to justify acts of “torturing, murdering, and illegal detention” of the Uyghur in the area of Xinjiang and also to minimize the received of international criticisms. Thus, Amnesty International claimed that many Uyghurs were being detained just because they have “political prisoners” friends or relatives. They were imprisoned for months with no specific charges or cases but only due to some malicious suspicions⁷⁰.

According to some Uyghur issue experts like Adrian Zenz, most of the Uyghur families have at least one or more members of the family under detention. Strict and careful monitoring of every Uyghur activities and their interactions with other people have been implemented in the Xinjiang province. The impact of this social control among the Uyghurs for their cultural character had been occasioned to prevalent persecution. Besides in the year 2017, due to the passage of special regulation which is the "de-extremification" in the region, certain Islamic behaviors like beard growing and the wearing of face-mask has been exposed to some restrictions. They are also prohibited from not attending ‘state-sponsored’ educational and cultural activities⁷¹.

⁷⁰ Dewardric McNeal and Kerry Dumbaugh, "China's Relations with Central Asian States and Problems with Terrorism", *Congressional Research Service Library of Congress*, 2001, pp.12-13.

⁷¹ Fernando Fernandez, "The Persecution of the Uighurs and Potential Crimes Against Humanity in China, *Global Centre*, 5 May 2019, <http://www.globalr2p.org/media/files/2019-april-uighurs-brief.pdf>, pp.1-2 (Accessed Date: 12 December 2019)

The Uyghur Muslims inside the camp are reportedly being forced to learn Chinese official language which is Mandarin. Besides, they are taught to assert praises for the Communist government as well as to obey specific rules that apply to them. Those in the outside camp were also tasked to get engage in some restrictions which even bring about to 'house arrests' and preventions from traveling abroad. Most of them are indeed being punished for their practice of religion. They are also barred from reaching their families and even those outside China. As part of the strike hard campaign, China had enlisted some countries like *Turkey, Kazakhstan, Malaysia, and Indonesia* for reasons that people who have been in these countries, and then establish connections with some individuals from there, whether their families or any relatives, is reported to be the subject of serious interrogations and also might lead to imprisonment. Thus, those who build up connections to the states similar to the countries cited above, via the use of “WhatsApp” and other media means, will be detained. Just in recent years, other nations were also pressured by the Chinese government to return Uyghur people to its country⁷².

Moreover, in the year 2014, some regulations for the prohibition of some practices have been renewed. Besides, this has been applied to the Uyghur people which includes the restriction on the use of internet or any device that can be used for sharing expressions, spreading of any religious documents which could also be published outside China,

⁷² “Eradicating Ideological Viruses: China’s Campaign of Repression Against Xinjiang’s Muslims”, *Human Rights Watch*, 9 September 2019, p.4.

banning of religion as part of education, as well as participation to any religious activities. These are some of the main prohibitions enlisted under the recent regulations for the Uyghur people⁷³. Moreover, based on the Human Rights Watch interview with some of the people who had been detained, they were "being hung from the ceiling" despite not possessing any religious-related materials, they were also "chained and shackled". Besides, they were denied of asking help or assistance even to their families, and to any lawyer⁷⁴.

Since 2017, the massive detention of the Uyghur groups had elevated. Due to China's anti-terrorism law, the numbers of detainees from Uyghur and Kazakh rapidly increased. Many among detainees experienced severe distress and even resulted in self-harm such as suicidal acts and those who refuse to join the 'political re-education' process were treated with many beatings, and other inhumane measures. Thus, various reports of death in the camp have also been said to be reported⁷⁵.

As cited earlier, by the adoption of the "anti-terrorism law" which is specifically applied to the Xinjiang area, many Uyghurs have become the victims of 'denial of rights' such as being in the state of 'incommunicado, not having the right of due process, subject to torture,

⁷³ Ibid., p.19.

⁷⁴ Ibid., pp.33-34.

⁷⁵ Darren Byler, "Uyghur Human Rights Violation in Northwest China", 2018, pp.1-3.

and even death penalty⁷⁶. Furthermore, the Chinese authorities also used ‘watchtowers’ as well as "double locking doors" and also established the presence of video surveillance to restrict any possible escapes. Strict rules on the detainee’s daily activities are also being measure. Detainees are tasked with "memorized ideologies". Correspondingly, by the used of innovative technology, the Chinese authorities’ tasks of interrogating and detaining Uyghurs which included students, as well as government workers, became systematic and more accurate. Thus, the process could be precisely done even just within a ‘week’. The detainees were also purportedly tested in line with their beliefs and ideologies. The rewards were said to be given upon getting good remarks like visiting family and "early graduation". However, those with poor performance were also subject to more severe “management areas” with a chance of an extensive period of detention. These practices were seen as 'cultural genocide" by some experts of the Uyghur issue⁷⁷.

Moreover, as previously stated, the detention camps are exclusively built for repression of the Uyghur people in Xinjiang. The objectives of this repression include the ‘political indoctrinations’ and restrictions of any movements by the Uyghur themselves. However, it is said that the measures or policies of China are not to erase Uyghur people from

⁷⁶ Justin Stein, “Taking the deliberative turn in China: International law, minority rights, and the case of Xinjiang”, *Journal of Public and International Affairs-Princeton*, Vol.14, 2003, p.16.

⁷⁷ “Secret papers reveal workings of China's Xinjiang detention camps: Documents detail the use of technology and artificial intelligence to target people and regulate life inside the camps”, *Aljazeera*, November 2019.

the face of the land only to cure their Islamic ideological conceptions. However, part of this is that they are being tortured, and being deprived of their religious practices as well as of their expressions or thoughts. The adopted measures of China against the Uyghur people are also said to have violated much of international laws such as of the UDHR, ICCPR, the rights against the used of torture (CAT) ⁷⁸.

Based on other's observations, among all other forms of repression, religious freedom has been seen as the most affected rights of the Uyghur people in XUAR. However, China argued that the continuous implementations of its policies against Uyghur will make the world of their 'movement' tinier and that this could make them easily conform with China's traditions. The reinforcement of the Chinese traditions also made impossible for the Uyghur people to practice their religious activities because this buttressing led to the closure of the mosque, Islamic schools and even wearing their cultural attires. The Uyghur women are likewise left with no choice than to proceed to a so-called "late-term abortion" and this is despite the fact that they are subject to exemptions under the "one-child" policy. To booth, even the Imams of the mosque were also required to initiate loyalty to the "communist" China⁷⁹.

⁷⁸ Rakhima, Ayu Suci Rahima, and Ni Gusti Ayu Dyah Satyawati, "Gross Violations of Human Rights Veiled within Xinjiang Political Reeducation Camps", *Kertha Patrika*, Vol.41, No.1, 2019, pp. 2-3.

⁷⁹ Katie Corradini, "Uyghurs under the Chinese State: Religious Policy and Practice in China", Vol.4,2011, pp. 29-30.

In the recent reports, a huge number of about 3 million Uyghur Muslims were held in the 500 detention campsites. Children were also said to have separated from their families, and the women from the Uyghur groups were also inhumanely forced to sleep beside a “Han” Chinese official of the government. Others have also reported on the activities of rape, unconsented ‘sterilizations’ as well as ‘torture’ and ‘death’. Besides, based on the BMI Medical Ethics journal that has been published, the worst scenario of harvesting human organs from the Uyghur people is now what the Chinese government is trying to hide. These organs were taken from the Uyghur detainees who were executed as well as to be taken more from the other prisoners who are subject to annual death executions. Thus, an oncology doctor (Enver Tohti) who exiled from Urumqi shared his experience of taking organs out of the “executed prisoner” who wasn’t fully dead due to firing execution. This incident has been said to happen earlier in the year 1995 but only revealed in the year 2013 by ‘UK Newspaper’. By this horrible trend, some stated that China is not only eradicating the 12 million Uyghurs but also making a profit out of them⁸⁰.

2.3. China's Attempt to Justify of Oppression and Human Rights Violation in Xinjiang

During the 1979s, Due to some confiscated materials from Uyghur people who had returned from Hajj, it is said that there were tapes that contained certain recorded messages inclined to extremisms. It is

⁸⁰ CJ Werlemen, “More Uyghur Horror Harvesting Hundreds of Thousands of Organ from Mass Murder”, *Byline Times*, 26 November 2019.

recorded there that without fighting there is no certain faith and it is allegedly mentioned by a captured terrorist, who confessed that to be able to establish an Islamic regime, people must keep on fighting the oppositions and that people who do not follow Islamic law is 'enemy'. Another confiscated tape was also said to have contained the steps of executing the action of extremisms. For some of these reasons, China saw the undeniable connection between Islam and 'separatism'. And it is taken as objectives of what Beijing had leveled as terrorist groups such as the ETIM and other similar Uyghur movements in Xinjiang⁸¹.

Moreover, China has always been concerned about the problem of terrorism however compared to the Western strategy of combating it, China adopts measures that are more on "multilateral security cooperation". It conducts cooperation with other Asian pacific states. Thus, the event of the September 11 attack empowers China towards its policy on fighting terrorism⁸².

As mentioned, China adopted the strike hard policies to combat the threat from extremisms and separatisms. The dilemma here is that China could be a victim of the Uyghur extremisms or the Uyghur may be the victim of human rights violation as the Chinese government's excuse for fighting 'terrorism'. The country's fear of separatism is considered to be one of the main reasons for China's implementation of

⁸¹ Yitzhak Shickor, "Blow up: internal and external challenges of Uyghur separatism and Islamic radicalism to Chinese rule in Xinjiang", *Asian Affairs: An American Review*, Vol. 32, No.2005, pp.122-123.

⁸² Mahesh Debata, "International response to Uyghur separatism in Xinjiang", *Himalayan and Central Asian Studies*, Vol.14, No.4, 2010, pp. 46-48.

its harsh policies to the said minority group. Similarly, the late President Hu Jintao had stated in his speech in the year 2014, China has to combat what they called the "three evils" mainly "separatism, extremism and terrorism"⁸³.

China also claimed and accused the connection of Uyghur to the Al-Qaeda group, and that these Uyghur people are receiving assistance from this globally recognized terrorist organization. The country perceived the spread of Islamic extremists might carry a massive threat to the security of China. That's why, under these circumstances, China turned to be paranoid of these Uyghur people and choose the implementations of the harsh measures to the point of depriving the rights of some minority group. However, although the strike campaign is ongoing, the turbulence is still at its peak⁸⁴.

The constitution of the PRC recognized the freedom of religion yet this concept is quite different from the Western conceptions of religious rights⁸⁵. Thus, its strike hard campaign focused on its standard "illegal religious activities" and these regulations even continue up to these days. Besides, in the year 2008, young men are forced to remove their beards in Xinjiang before the Ramadhan begins. Political education was made required also in Xinjiang among the Muslim clerics or Imams.

⁸³ Elizabeth Van Wie Davis, "Uyghur Muslim ethnic separatism in Xinjiang, China", *Asian Affairs: An American Review*, Vol. 35, No.1, 2008, pp. 16-18.

⁸⁴ Liza Steele and Raymond kuo, "Terrorism in Xinjiang", *Ethnopolitics*, Vol.6. No.1, 2007, pp. 9-12.

⁸⁵ Dana Carver Boehm, "China's failed war on terror: Fanning the flames of Uighur separatist violence", *Berkeley Journal of Middle Eastern Islamic Law*, Vol. 2, No. 1, 2009, pp. 91-93.

Furthermore, the influence of the Uyghurs' cultures and traditions had also been minimized by Beijing. The Uyghur officials needed permission and approval first before attending any festivals or activities related to it⁸⁶.

China also claimed that Uyghur organizations in Xinjiang such as the ETIM are trying to be separated from China and establish an independent "East Turkistan Republic". These allegations and suspicions from the country's government threaten all the Uyghur people even those who were not involved in any of the organizations. They were also victims of 'anti-Islamic prejudice'. China accepts the freedom of religion concept and recognized Islamic practices however the country also aims to control some of it and be conformed with the state practice. Thus, religion cannot be used to justify separation from the state⁸⁷.

CONCLUSION

To sum up, we could see that Human Rights conceptions in China are quite diverse from the Western principle. As mentioned, the Westerners focus more on the civil and political rights of the people and also stresses the rights of the individuals and the promotion of democracy. Whereas, in China, its human rights practices are deeply influenced by the leverage of its history and culture. Besides, China pays more

⁸⁶ Ibid., 95.,

⁸⁷ Colin Mackerras, "Some issues of ethnic and religious identity among China's Islamic peoples", *Asian Ethnicity*, Vol.6, No.1, 2005, pp.11-13.

attention to the collective rights of its society and has a deep commitment to the idea of economic progress, which is believed to be an important Human Rights development. As the information revealed also, the concept of civil and political rights which are mostly emphasized by the Westerners, are seen by China as the interest of the bourgeois; Thus, China sees it as promotion of individual rights and not of the collective one. Western power gives prominence to democracy and the civil rights of the community. They give more attention to the fulfillment of civil rights such as rights of religion, rights of speech and association.

Concerning the promulgation of ‘strike hard campaign’ as part of China’s harsh policies and measures against the Uyghur people in Xinjiang region, China is trying to justify its position and the implementation of its strict rules to the Uyghur to combat terrorism and due to the possible huge threat of the Islamic extremism and separatism in the country. However, the policy of the country resulted in the massive violation of the Human Rights of the Uyghur people in Xinjiang region.

Thus, based on the cited reports, Human Rights conditions or situations in Xinjiang region among the Uyghur people prior to the adoption of the ‘strike hard campaign’ turned to be in chaos and being too despoiled. Most of the rights including civil, political, social and cultural rights have openly being violated in East Turkistan. They are denied the rights of existence, and being forced to renounce their cultural practices and religious beliefs. They are also destitute of the

rights of establishing free movements. The Uyghurs are similarly subjected to illegal detention and underprivileged of undergoing any due process of law. Thus, it has been mentioned on many reports that the Uyghur people were being tortured and were even forced to leave their faith for communism. Even the rights of freedom from racial discrimination and freedom from torture are violated based on several reports. The Uyghur in Xinjiang is also underprivileged of having access to health care and being deprived of security and protection. Also, they are being executed because of their 'ethnoreligious' uniqueness. Thus, they do not have much freedom of practicing their religion, they lack freedom of expression and being deprived of sharing information. They are also forced to change their beliefs and being obliged to adopt the ways and teachings of communist China. So, under these conditions, the Human Rights conditions in China mainly in XUAR is in a horrible state especially with the strict implementations of the 'strike hard' campaign. The country disregarded several Basic Human Rights practices and freedom. Thus, despite being a part of international agreements such as UDHR, ICCPR, and CAT, still, China violates much of the International Human Rights standards.

Thus, the actions of the Chinese government as part of their effort to combat terrorism and extremism in China mainly in the Xinjiang region had been justified by the state itself because China wants to promote social order and harmony in its society and intend to eliminate everything that may hinder its goals. Thus, the collective rights of the Chinese people are more important than individual rights. And as

mentioned, China could be willing to sacrifice the rights of the minority for the security and protection of the community. For that, we could see in the Xinjiang condition, the rights of the Uyghur people are being put at risk and China's harsh policies towards them are for the sake of protection of the interest of the collective rights of the Chinese people.

BIBLIOGRAPHY

- BECQUELIN Nicolas (2004), "Criminalizing ethnicity: political repression in Xinjiang", *China Rights Forum*, Vol. 1, No. 7.
- BEWICKE Aurora (2009), "Silencing the silk road: China's language policy in the Xinjiang Uyghur autonomous region", *San Diego International Law Journal*, Vol. 11, No. 1, p.140.
- BOEHM Dana Carver (2009), "China's Failed War on Terror: Fanning the Flames of Uighur Separatist Violence", *Berkeley J. Middle E. & Islamic L*, Vol. 2.
- BOOTH Ken (1999), *Human rights in global politics*, Cambridge University Press, p.54.
- BOVINGDON Gardner (2002), "The not-so-silent majority: Uyghur resistance to Han rule in Xinjiang", *Modern China*, Vol. 28, No.1, p.45.
- BREMS, Eva (2001), "*Human rights: Universality and diversity*", London, Martinus Nijhoff Publishers.
- BYLER Darren (2018), "Uyghur Human Rights Violation in Northwest China",
- CHAN Joseph (1999) "A Confucian perspective on human rights for contemporary China." *The East Asian challenge for human rights*, Vol. 212, pp. 215-217.
- CHARBONNEAU Louis (2019), "Countries Blast China at UN Over Xinjiang Abuses: Joint Statement Urges End to Repression of Turkic Muslims", *Human Rights Watch*.
- CHIU Hungdah (1987), "Chinese attitudes toward international law in the post-Mao era, 1978-1987", *The International Lawyer*, pp.3-4.
- CIVIC, Melanne (1995), "Comparative Analysis of International and Chinese Human Rights Law--Universality Versus Cultural Relativism", *Buff. J. Int'l L.* 2, p.285.

- CLARKE Michael Clarke (2010), "Widening the net: China's anti-terror laws and human rights in the Xinjiang Uyghur Autonomous Region", *The International Journal of Human Rights*, Vol.14, No.4, pp.546-547.
- CLARKE, Michael (2015), "China and the Uyghurs: the "Palestinization" of Xinjiang", *Middle East Policy*, Vol.22, No.3, pp.127-146.
- CMIEL Kenneth (2004), "The recent history of human rights", *The American Historical Review*, Vol.109, No.1, p.125.
- COHEN, Roberta (1987), "People's Republic of China: the human rights exception", *Hum. Rts. Q.*, Vol. 9, p. 447.
- CONCEPCION, Natasha (2000), "Human Rights Violations Against Muslims in the Xinjiang Uighur Autonomous Region of Western China", *Human Rights Brief*, Vol.8, No.1.
- CORRADINI Katie (2019), "Uyghurs under the Chinese State: Religious Policy and Practice in China", June 2016, p.30, <https://voiceofsalam.files.wordpress.com/2016/06/uyghurs-under-the-chinese-state.pdf> (Accessed Date: 27 December 2019).
- DAVIS Elizabeth Van Wie (2008), "Uyghur Muslim ethnic separatism in Xinjiang, China." *Asian Affairs: An American Review*, Vol. 35, No.1, pp. 16-18.
- DEBATA, Mahesh Ranjan (2010), "International response to Uyghur separatism in Xinjiang", *Himalayan and Central Asian Studies*, Vol. 14, No.4, pp.55-78.
- DEWARDRIC McNeal and DUMBAUGH Kerry (2001), "China's Relations with Central Asian States and Problems with Terrorism." *Congressional Research Service [Library of Congress]*, pp.12-13.
- DILLION, Michael (2003), *Xinjiang: China's Muslim far northwest*. Routledge.

- DWYER Arienne (2005), "The Xinjiang conflict: Uyghur identity, language policy, and political discourse", pp.2-4.
- FERNANDEZ Fernando (2019), "The Persecution of the Uighurs and Potential Crimes Against Humanity in China, Global Centre, 5 May 2019, <http://www.globalr2p.org/media/files/2019-april-uighurs-brief.pdf>, pp.1-2 (Accessed Date: 12 December 2019)
- FOOT, Rosemary (2003), "Bush, China, and human rights", *Survival*, Vol.45, No.2, p.169.
- FRIEDMAN Lawrence (1998), "On Human Rights, the United States and the People's Republic of China at Century's End, " *J. Int'l Legal Stud*, Vol.4, pp.249-250.
- HAGAN Margaret (2010), "The human rights repertoire: Its strategic logic, expectations and tactics", *The International Journal of Human Rights*, Vol.14, No.4, pp.559-583.
- INBODEN Rana Siu and TITUS Chen (2012), "China's Response to International Normative Pressure: The Case of Human Rights", *The International Spectator*, Vol. 47, No.2, pp.47-48.
- JAFARYNEJAD Iman, "Economic Incentives Preempt Independence Movements: A Case Study of the Xinjiang Uyghur Autonomous Region in China", *Topical Research Digest: Human Rights in China*, p. 84.
- KELLNER Thierry Kellner (2002), "China: the Uighur Situation from Independence for the Central Asian Republics to the Post 11 September Era", *UNHCR Emergency & Security Service*, pp.22-24.
- KENT Ann (1995), "China and the International Human Rights Regime: a case study of multilateral monitoring, 1989-1994, *Human Rights Quarterly*, Vol.17, No.1, p.8

- KLEIN, Richard Daniel (2001), "Cultural Relativism, Economic Development and International Human Rights in the Asian Context", *Touro International Law Review*, Vol.9, No .1, pp.2-4
- KOLODNER Eric (1994), "Religious rights in China: a comparison of international human rights law and Chinese domestic legislation", *Human Rights Quarterly*, Vol.16, No.3, pp.466-467.
- KRUMBEIN Frederic (2015), "Media coverage of human rights in China", *International Communication Gazette*, Vol. 77, No.2, pp.151-170.
- LUNN Thomas and Hannah Fischer (2009), "Human Rights in China: Trends and Policy Implications", *Library of Congress Washington Congressional Research Service*, p.16.
- MACKERRAS, Colin (2005), "Some issues of ethnic and religious identity among China's Islamic peoples." *Asian Ethnicity*, Vol.6, No.1, pp. 3-18.
- MCNEAL, Dewardric L., and DUMBAUGH Kerry (2001), "China's Relations with Central Asian States and Problems with Terrorism", *Congressional Research Service Library of Congress*.
- MILLWARD James (2004), *Violent separatism in Xinjiang: a Critical Assessment*, Policy Studies, No. 6, Washington, D.C.: East-West Center, p.29-30.
- MURPHY, Sean D. (2000), "Criticism of PRC's human rights practices", *The American Journal of International Law*, Vol. 94, No.3, p.526.
- PAN Zhongqi (2012), *Conceptual gaps in China-EU relations: global governance, human rights and strategic partnerships*, China, Palgrave Macmillan, p.84.
- PANNELL Clifton (2011), "China gazes west: Xinjiang's growing rendezvous with Central Asia." *Eurasian Geography and Economics*, Vol.52, No.1, p. 109.

- PAUL, Norbert W., et al (2017), "Human rights violations in organ procurement practice in China", *BMC medical ethics*, Vol.18, No.1.
- QI, Zhou (2005), "Conflicts over Human Rights between China and the US", *Hum. Rts. Q.*, Vol.27, p.105.
- RAKHIMA, Ayu Suci, and SATYAWATI Ni Gusti Ayu Dyah (2019), "Gross Violations of Human Rights Veiled within Xinjiang Political Reeducation Camps." *Kertha Patrika* 41.1: 1-16.
- RAYILA M. (2011), "The pain of a Nation: The invisibility of Uyghurs in China Proper." *The Equal Rights Review*, Vol.6, pp. 47-.49
- RENTELN Alison Dundes (1988), "The concept of human rights", *Anthropos*, pp. 347-348.
- RIPPA, Alessandro (2014), "From Uyghurs to Kashgaris (and back?): Migration and Cross-Border Interactions Between Xinjiang and Pakistan", Crossroads Asia Working Paper Series, 23, Competence Network Crossroads Asia: Conflict – Migration – Development , 2014, p.2.
- SANTORO Michael (2000), *Profits and principles: Global capitalism and human rights in China*. Cornell University Press, pp.132-134.
- SHICHOR, Yitzhak (2005). "Blow up: Internal and external challenges of Uyghur separatism and Islamic radicalism to Chinese rule in Xinjiang." *Asian Affairs: An American Review*, Vol. 32, No.2, pp.119-136.
- STEELE, Liza. and KUO Raymond (2007), "Terrorism in Xinjiang", *Ethnopolitics*, Vol.6. No.1, pp. 9-12.
- STEIN, Justin J. (2003), "Taking the deliberative turn in China: International law, minority rights, and the case of Xinjiang", *Journal of Public and International Affairs- Princeton*, Vol.14, pp.144-163.

- SUBEDI, Surya P. (1999), "Are the Principles of Human Rights Western Ideas-An Analysis of the Claim of the Asian Concept of Human Rights from the Perspectives of Hinduism." *Cal. W. Int'l LJ* 30: 45.
- TIAN Robert Tian (2004), "Cultural Rights and Uyghur Nationalism", *High Plains Applied Anthropologist*, No.2, p.151.
- TSCHANTRET, Joshua (2018), "Repression, opportunity, and innovation: The evolution of terrorism in Xinjiang, China", *Terrorism and political violence*, Vol. 30, No.4, pp.569-588.
- WANG Jiangyu (2001), "China and the Universal Human Rights Standards", *Syracuse Journal of International Law and Commerce*, Vol. 29, No.1, p.135.
- WEBSTER, Timothy (2012), "China's Human Rights Footprint in Africa", *Colum. J. Transnat'l L*, Vol. 51, p.626.
- WERLEMEN, CJ (2019), "More Uyghur Horror Harvesting Hundreds of Thousands of Organ from Mass Murder", *Byline Times*, <https://bylinetimes.com/2019/11/26/more-uyghur-horror-harvesting-hundreds-of-thousands-of-organs-from-mass-murder/> (Accessed Date:10, December,2019).
- XIAO Hong (2005), "Values priority and human rights policy: A comparison between China and Western nations", *Journal of Human Values*, Vol.11, No.2, p.100.
- ZENZ Adrian Zenz (2019), "'Thoroughly reforming them towards a healthy heart attitude': China's political re-education campaign in Xinjiang, Central Asian Survey, Vol. 38, No.1, pp. 104-114.
- ZHISHANG Chen (2011), "Rethinking on China's human rights ideology", *International Critical Thought*, Vol.1, No.4, pp.408-415.
- ZHOU Qi, (2005), "Conflicts over Human Rights between China and the US." *Hum. Rts. Q.* 27 , p. 105.

- _____, “China: UN Secretary-General should denounce human rights violations in Xinjiang”, *The Human Rights Watch*, 17 September 2019.
- _____, “Chinese re-education camps for Uighur Muslims run like concentration camps, says Amnesty”, *The Independent*, <https://www.independent.co.uk/news/world/asia/china-muslims-re-education-camps-amnesty-ughur-religion-human-rights-watch-a8678156.html> (Accessed Date: 03 December,2019)
- _____, “Countries Blast China at UN Over Xinjiang Abuses: Joint Statement Urges End to Repression of Turkic Muslims”, Human Rights Watch, <https://www.hrw.org/news/2019/10/30/countries-blast-china-un-over-xinjiang-abuses> (Accessed Date:28 November, 2019)
- _____, “Eradicating Ideological Viruses: China’s Campaign of Repression Against Xinjiang’s Muslims”, *Human Rights Watch*, 9 September 2019, p.4, <https://www.hrw.org/report/2018/09/09/eradicating-ideological-viruses/chinas-campaign-repression-against-xinjiangs> (Accessed Date: 27, December, 2019).
- _____, “Secret papers reveal workings of China's Xinjiang detention camps: Documents detail the use of technology and artificial intelligence to target people and regulate life inside the camps”, *Aljazeera*, November 2019, <https://www.aljazeera.com/news/2019/11/secret-papers-reveal-workings-chinas-xinjiang-detention-camps-191125004212642.html> (Accessed Date: 09, December,2019).

CHAPTER 6

FINANCIAL LIQUIDITY AND RELIANCE ON SUPPLIERS FINANCING: THE CASE OF AN EMERGING ECONOMY

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INTRODUCTION

Trade credit (hereafter TC) is defined as the credit extended by a supplier to a buyer in the process of purchasing a product. If the seller allows the payment to be made later than delivery of the product, it would be extending trade credit to the buyer. As a result of this arrangement, the buyer will be able to make late payment but receive the product on an agreed upon date, in other words, the seller provides the buyer with liquidity by not requesting immediate payment, yet possibly charging additional fee in return. Most firms, to some extent, take part on either side of this transaction (Petersen & Rajan, 1997)².

Prior studies have emphasized the role of TC as an alternative source of funding, particularly in times of economic contraction, during which some firms may face noteworthy difficulty obtaining credit from conventional sources. The idea that in such times financially challenged small firms may turn to alternative sources such as TC, motivates this study and Turkish economy, as a developing country with a large number of financially dependent small firms, constitutes an ideal case study. Using stock market listing status (see Abdulla et al., 2017) and asset size (see Karakoç, 2019) as proxy for access to external funding, changes in TC financing are studied in times of high financial liquidity. Private firms are separated into groups (small, medium and large) based on size to distinguish financing patterns of potentially financially constrained and unconstrained firms as a response to rising foreign

² This study is produced from author's PhD thesis at Boğaziçi University.

capital inflow³ and accompanying monetary policy. Additionally, important macroeconomic indicators such as GDP and inflation are also included in the analysis to account for the effect of general economic conditions. The data covers 21 years, from 1996 to 2016, and includes approximately 28.000, public and private non-financial firms, whose asset size vary from 500.000 TL to 500.000.000 TL, allowing accounting for the effect of such heterogeneity on decision making process.

1. RELATED LITERATURE

Previous studies document that trade credit is an important source of financing for small firms, it is further claimed to be an alternative to bank loans (Abdulla et al., 2017; Garcia-Appendini & Montoriol-Garriga, 2011), particularly in cases where a firm has to deal with financing constraints (Meltzer, 1960; Petersen & Rajan, 1997; Nilsen, 2002; Love et al., 2007). Some of the stylized facts about TC are that it is largely utilized by small firms, which are usually described as financially weak, and bank dependent, and it is mostly provided by large firms, which usually have access to capital markets, highly profitable and larger in asset size (Ng et al., 1999; Nilsen, 2002; Petersen & Rajan, 1997). These facts suggest that small firms may be inclined to take advantage of TC relatively more because of a weaker access to other sources. By the same logic, large firms have stronger access to other financing channels and able to generate significant

³In a similar study Karakoc (2019) provides related literature illustrating why size could be used as a valid indicator of potential constraints in external financing.

amount of internal cash flow to finance their operations, thus, they have the capacity to offer it.

Empirical studies have shown that trade credit is one of the major elements in corporate financing. In a comprehensive study Karakoç (2020a), using data from 17 (9 developed and 8 emerging) largest economies, shows that TC to total funds ratios are approximately 12% and 11% for developed and emerging economies, respectively. According to the data from Central Bank of Republic of Turkey (CBRT) it is around 20% of assets, and historically it has been 40% of total liabilities. While Karakoç (2020a) examines publicly listed firm data, i.e. larger firms, this study uses mostly privately owned small firm data. Expectedly, historical average ratio of TC to total assets has large swings and seems to follow a counter cyclical pattern; that is, during difficult times of the economy, for example early 2000s, the ratio of payables rose as high as 29% and declined to 17% in good times. A 12-percentage point difference is large enough of a gap to motivate this investigation.

Existing research offers explanations to justify offering TC in such difficult times. To briefly explain: It allows informational asymmetry between the lender and the borrower to diminish significantly. By only keeping track of the frequency and the volume of orders, supplier would gain valuable insight into the financial conditions of the buyer. As a result, the supplier is in more adequate position to judge the buyers' ability to repay (Bastos & Pindado, 2008; Nilsen, 2002; Mateut et al., 2006). The supplier can always repossess the inventory, previously sold

to the buyer and recover her cost in case of distress, which would be a more costly practice for banks since the seller knows the product and may efficiently liquidate it (Bilasio, 2003; and Bougheas et al., 2008). Furthermore, the seller knows that denying the buyer TC would mean losing future business with her. This issue becomes more pressing if the supplier is a fast growing firm with notable market power (Werner & Nielen, 2011; Karakoç, 2020b) or the sector is associated with strong competition, as a result it is supplier's interest to provide liquidity by allowing the buyer to make the late payment (Bougheas et al., 2008; Casey & O'Toole, 2014). As briefly explained above, the supplier's willingness to provide TC grants the buyer access to an alternative financing. In accordance with the demand of the receiving end, it is also suggested that large firms, mostly as the supplying end, are willing to provide TC needed by their customers (Nilsen, 2002; Meltzer, 1960; Petersen & Rajan, 1997). The sensitivity of small and medium sized firms (SMEs) to monetary conditions may drive them towards most viable options depending on the current state of the economy, displaying that sensitivity in favor of TC in times of contraction.

Accordingly, the findings of present study indicate that TC is largely benefitted by financially constrained SMEs during difficult times of the economy, as proposed in (Nilsen, 2002; Meltzer, 1960; Petersen & Rajan, 1997). However, during monetary expansion, its function as financing instrument mostly evolves into a sales promoting tool as suggested in (Cuñat & Garcia-Appendini, 2011; Fabbri & Klapper, 2016; Garcia-Appendini & Montoriol-Garriga, 2011).

2. CREDIT SUPPLY RISE AND POTENTIAL IMPACT ON TC

As is the case with financial debt, TC financing channel is also subject to monetary cycle. Studies point to an important result that monetary tightening renders financial debt sources less accessible, driving financially constrained firms toward the supplier's financing. Therefore, documenting financial aspect of TC financing requires the issue to be assessed together with availability of financial debt. Central bank monetary policy works through balance sheet of small firms (Bernanke et al., 1994; Kasyap et al., 1993). When central banks initiate's policies aiming at monetary tightening, interest rates go up and credit supply declines, causing a reduction in economic activity. Once the interest rates are up, and loanable funds are in short supply, banks would further reduce the credit extended to SMEs (Bernanke & Blinder 1992; Bernanke et al., 1994; Kasyap & Stein, 1994). Gertler & Gilchrist (1993) examine firms' financing decisions under different monetary policies. They identify distinct patterns that small firms reduce fraction of bank loans while large firms on the other hand increase debt ratios. Kasyap et al. (1994) further document that it is the bank lending channel that is in force because large firms, too, decrease percentage of bank loans but they shift toward commercial papers and money markets instruments. It is evident that drastic changes in monetary policy lead to reshaping capital structure of firms.

The substitution hypothesis implies that when monetary policy tightening begins financially constrained firms' reliance on TC may intensify. High level of informational asymmetry may not allow

financial intermediary to adequately judge the fair value of a small business, and create a wedge in the cost of external financing or completely cut off firms' access to it. The lack of collateral to secure a loan, illiquidity of assets or less profitability; they all indicate financial weaknesses and when the credit supply is reduced in financial system, this wedge grows, forcing firms to go with an allegedly more expensive option, which is trade credit (Guariglia & Mateut, 2002; Ng et al., 1999; Petersen & Rajan, 1997).

Karakoç (2019) demonstrates that foreign capital inflow to an emerging economy, such as Turkey, is likely to result in a significant rise in credit supply, accompanied by softened lending conditions and lowered cost of financing, enhancing firms' borrowing activity. Accordingly, the recent trend of capital inflow has provided liquidity in credit markets, and softened credit conditions (Başkaya et al., 2017; Orhangazi, 2014). These improvements in credit channel may allow bank-dependent small firms to be able to obtain more financial credit. TC is argued to be more expensive than bank financing (Ng et al., 1999; Petersen & Rajan, 1997), thus, a rise in the supply of bank loans fed by foreign capital inflow should drive firms away from TC. Particularly, those small, financially weak firms may desire to take advantage of favorable credit conditions and accordingly reduce the amount of TC because, as the economic expansion continues, firms' balance sheets strengthen through increased sales, hence, the need for supplier financing diminishes. Although, significant reduction in the level of TC demanded by SMEs is expected, larger firms are less sensitive to changing economic conditions and may display opposite or no

significant reaction at all, and the patterns in aggregate data are in agreement with this statement.

CBRT data set coverage is the most extensive available to the use of academics and includes approximately 28.000 firms, of which only 343 are public, and 2.574 are defined as large, i.e. the rest may have binding financing limitations, therefore, the subject matter is paramount importance to Turkish economy. Expansion in credit supply through foreign capital inflow can yield significant influence on the capital structure of SMEs, impacting their preferences toward alternative options. Furthermore, during the estimation period drastic fluctuations in monetary conditions constitute an ideal case study. First of all, the economy has received large amount of foreign capital very recently, which boosted the credit markets with cheap liquidity (Karakoç, 2019). Secondly, multiple financial crises, including 2001 currency crisis and 2008 mortgage crisis have had profound effect on the real sector. Finally, starting from mid 2000s the economy has experienced significant improvements in economic indicators such as drastic decline in interest rates and inflation, high growth in GDP. Hence, a large number of SMEs should carry the marks of prevailing monetary conditions on their capital structure. Hence there is a need for a study investigating, particularly the impact of foreign capital flow on TC financing channel. The results may provide insight into how TC channel works when whole economy is boosted with foreign capital. They can also be used in designing monetary policy measures in hosting future waves of foreign capital. They may be particularly useful to managers

in determining optimal financing strategies during expansionary/contractionary periods.

3.1. Aggregate Patterns in Trade Credit Financing

CBRT data indicates that TC has been an important source of funding for Turkish firms. Figure 1 presents historical average of TC, classifying firms based on asset size and ownership. Particularly small firms were heavily financed with TC from 1996 to 2008, and it has been decreasing since then. On the other hand, large firms display relatively more stable trend. The amount of TC has been around 17% in given time period. It may be argued that because those firms had to experience little difficulty in obtaining funding, they did not turn to TC for financing as much as small firms did, resulting in an optimal level of TC maintained overtime. A similar conclusion can be drawn for public firms as well. The average TC ratio is around 10%, highly stable and slightly fluctuates in early 2000s, during one of the worst financial crises in the history of Turkish economy. Clearly, as firms grow in size, the pattern becomes more stable. This is possibly due to the financial strength positively correlated with the size.

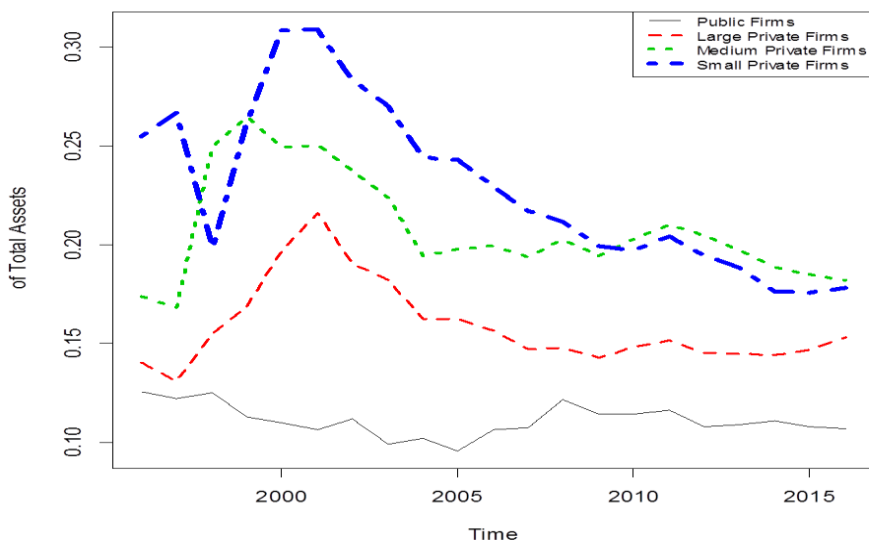


Figure 1. Trade Credit Received - Accounts Payable

Around 2001 and 2002, TC ratios reach to the peak, 33% and starting from 2004 they decline to 20%. In general, SMEs seem to follow a counter-cyclical trend but financially strong larger firms appear to be less sensitive to monetary cycle. During this time period, improvements in the economy, such as lowered inflation and interest rates, high growth in GDP must have contributed to firms' access to conventional financing since they gradually reduce supplier's financing.

Under the assumption that firms maintain an optimal level of liabilities, composed of trade credit, financial debt and other debt instruments, there is a clear pattern that trade credit becomes very important when financial debt becomes relatively scarcer. This pattern is more distinguished for SMEs. As shown in Figure 2, the portion of TC in

total debt has gone up as high as 63% and then starts decreasing as the access to bank credit improves.

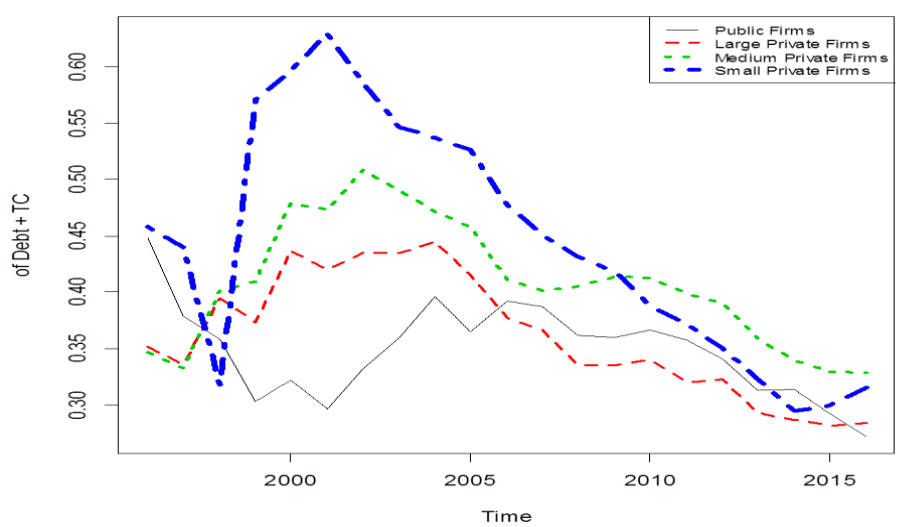


Figure 2. Ratio of Trade Credit to External Debt

Small firms' interest in TC is highly distinguishable whereas large and medium firms follow a similar pattern with less drastic fluctuations. Cyclicity in the choice of financing is highly noticeable; between late 1990s and early 2000s, firms are heavily financed with financial debt and seem to disregard trade credit, in early 2000s however, the pattern reverses and they increase portion of TC, possibly due to the crisis. After 2006, firms return back to financing mostly through financial debt and again reduce trade credit. Thus, the general pattern appears to be consistent with substitution hypothesis.

3. DATA AND METHODOLOGY

The study uses the unique data set of CBRT, which includes balance sheets and income statements of more than 30.000 firms. After eliminating implausible values such as negative total assets, negative sales, negative tangible assets the data left available has 151.072 observations belonging to 27.522 firms. The data are collected from firms via voluntarily submitted annual surveys. Privately owned firms are split into groups based on asset size (large, medium and small), to account for their access to credit, as suggested in (Bernanke & Blinder, 1992; Gertler & Gilchrist, 1994; Hadlock & Pierce, 2010). Given that most of the data belongs to SMEs, in any given year firms falling into top ten percentile of total assets is treated to be the large and the rest is divided equally: the middle 45 percentile constitutes the medium and the rest is small⁴.

Table 1. Descriptive Statistics

Variables	Minimum	Maximum	Mean	Median	St. Deviation
Cash-like assets	0.000	.9802	.0951	.0417	.1269
Inventory	0.000	.9925	.2312	.1888	.193
Short Loan	0.000	.8868	.1807	.1340	.174
Accounts Payable	0.000	.999	.199	.150	.176
Accounts Receivable	0.000	.994	.244	.207	.193
Tangible Assets	0.000	.999	.271	.214	.228
Log(size)	5.87	24.82	16.68	16.66	1.54
Own fund	-.229	.996	.325	.297	.253
ROA	-.219	2.56	.056	.047	.110
GDP growth	-0.06	0.11	0.05	0.06	.047
Inflation	0.06	1.06	.38	0.17	0.34
Foreign Capital	.325	.726	.597	.622	.114

⁴ CBRT's own classification of firm size considers firms which have more than 500 workers as the large firm, between 250-500 medium and less than 250 small. A comparison reveals that its classification of large firms is about 10% of the total, too.

Table 1 presents descriptive statistics of the data used in the analysis. Standard deviations illustrate the changes in preferences toward certain balance sheet items. The estimation period covers between 1996-2016 and is long enough to allow to document the effect of macro level variables and to draw reliable conclusions. Starting from 2004 till 2014 expansionary monetary policy was effective, through decreasing interest rates and increasing money supply, which is accounted for via a dummy variable. Periods subsequent to crisis are important because those are the times CBRT adopted loose monetary policy to empower recovery. Clearly the trends in aggregate capital structure suggest a high level of dependence on prevailing economic conditions. Documenting such dependence next to the effect of other variables is essential goal of this study. With this objective in mind, the hypothesis presented in this study will be tested via unit fixed effect panel data analysis, which is also the common methodology in previous studies⁵. Three models of panel data have been estimated (see Appendix Table A.1.) and Langrange Multiplier and Hausman (see Appendix, Table A.2 for details) test results indicate that the model which better fits the data is fixed effect. Initially, Langrange multiplier test rejects no heterogeneity across firms and therefore pooled OLS is eliminated. Finally, Hausman test is used to determine whether fixed or random effect better describes the data, i.e. determines if the firm-specific errors (u_i) correlated any of

⁵ To account for possible endogeneity issues GMM model is suitable, however due to large gaps in our data set we are unable to conduct GMM estimation with efficiency. It can be seen in Table 3.4.1 that average firm-year observation is five for private firms. Furthermore, 21 year sufficiently reduces the effect of endogeneity introduced by the fixed effect analysis.

the explanatory variables (Green, 2008). Hausman test result also rejects null of no systematic differences across firms and we proceed with fixed effect model, which is also stated to be more efficient in capital structure studies (Bougheas et al., 2006).

$$TC_{it}^D = \alpha + \beta X_{it} + \delta Y_t + \Phi D_t + \mu_i + \varepsilon_{it} \quad (1)$$

Dependent variable in Equation 1 TC_{it}^D , is short plus long-term TC demanded (accounts payable) to total assets ratio. Firm specific variables represented by X_{it} . Macroeconomic variables are represented by Y_{it} , and D_t is the monetary policy dummy variable. μ_i stands for time-invariant firm-specific error term, ε_{it} represents identically and independently distributed error term. All macro variables are retrieved from Federal Reserve Bank of St. Louis and CBRT data bases. The variables and their importance in earlier studies briefly explained below. Particularly firm specific variables are determined following prior studies in trade credit literature such as Love et al. (2007); Nilsen (2002); Petersen & Rajan (1995).

4.1. Firm Specific Variables

Cash-like assets: The sum of cash and short-term investments divided by total assets. Large amount of cash and marketable securities mean high level of liquidity which may influence firms' TC policies (Nilsen, 2002; Petersen & Rajan, 1995).

Tangibility: Ratio of fixed asset to total assets. It is suggested to provide collateral in borrowing contracts. If tangibility, as collateral, provides access to conventional credit, it may have opposite effect on TC.

ROA: Operating profit divided by total assets. Profitability of a firm is a sign for solvency which may be interest to suppliers. Highly profitable firms may rely more on internal resources and less on TC (Ng et al., 1999; Petersen & Rajan, 1997).

Size: Logarithm of total assets; general view is that the larger a firm is the more business it can handle. Being able to take advantage of TC may require a history with business partners. Overtime a trustworthy business relation will allow the supplier to offer more TC to the buyer (Nilsen, 2002; Petersen & Rajan, 1997). However, academic literature generally presents large firms as TC provider and small firms as the receiver (Fabbri & Klapper, 2008). Size is also found to be an influential variable in financial debt decisions and it provides capacity to handle debt without increasing probability of bankruptcy. Therefore, it may have negative relation with TC.

Inventory: Total inventory scaled by total assets. Bougheas et al. (2008) find that inventory level is a highly relevant because the intention to avoid the cost of carrying high level of inventory may encourage firms to provide more TC.

Short term bank loans: Short term bank loans and interest-bearing debt securities divided by total assets. Substitutionary role of TC is tested by including it as one of the explanatory variables (see Abdulla et al., 2017; Cuñat, 2007; Fisman & Love, 2003; Petersen & Rajan, 1997).

Monetary policy dummy variable is constructed as following.

$D_t = 0$, if $t = 1996-2004, 2008-2009$ and $2015-2016$; $D_t = 1$ if $t = 2005-2014$

2005 marks the beginning of expansionary monetary regime however, accounting for the mortgage crisis in 2008-09 is necessary. In 2014 CBRT started increasing interest rates as well, which would end the expansionary period.

GDP growth: It represents the overall growth in the economy and can provide indications regarding the economic situation. Annual real GDP growth rate is used in the analysis as one of the explanatory variables.

Inflation: Consumer price index is used to include the effect of increases in prices. Monetary economics literature underlines the importance of macro level indicators to the operations of financially constrained firms. Bernanke and Blinder (1992); Gertler and Gilchrist (1994) argue that financially constrained small firms are highly vulnerable to changing economic conditions. Spending and investing activities of those firms rise and decline with monetary policy cycle. Therefore, it is necessary to include them in the analysis.

Foreign capital inflow: As the main variable of interest to the present study, it is included in the model as it is scaled by GDP. Trade credit borrowings, listed under “other investment”, which is the trade credit obtained by non-financial firms, provided from foreign business partners, has been excluded from the analysis. Thus, the variable is constructed as following: $(\text{Foreign Direct Investment} + \text{Foreign Portfolio Investment} + \text{Other Investment} - \text{Trade Credit}) / \text{GDP}$. Foreign capital data is obtained from CBRT data base listed under international investment position data.

4.2. Empirical Findings

The first set of analysis aims at documenting the effect of foreign capital on TC decision before and after 2000s. The findings are presented in Tables 2 through 4. In all estimations, heteroscedasticity and autocorrelation robust standard errors are calculated and P values are displayed in parentheses. The first column of Table 2 shows the results for full period. Since foreign capital rises early 2000s, separate estimations are conducted before and after 2002, as shown in second and third columns of Table 2. In the 5th column of Table 2, one year-lag of foreign capital is also included. In the 4th column foreign capital is excluded to make sure that monetary policy dummy variable is able to provide valid results. Left (right) hand side of Table 2 shows the results for medium (small) sized firms, both of which demonstrate that foreign capital inflow is negatively and statistically significantly related to demand for financing from suppliers, i.e., as credit conditions improve, they reduce the amount of TC. The coefficients for both lagged and present foreign capital are highly significant in case of small firms. As for medium firms, on the left-hand side of Table 2, although, the coefficient is negative for all periods, only the estimation with lagged foreign capital seems to have statistically significant effect. The results are complementary to previous literature built upon the work of Meltzer (1960), which emphasizes the financial aspect of TC and shows that in contractionary times TC can be an alternative source of financing for firms with limited access to external funding (Choi & Kim, 2003; Huang et al., 2011; Mateut et al., 2006).

The significant effect obtained with medium firms is intuitive, considering that as the firms grow in size, they may become less sensitive to monetary conditions. Smaller firms may react to the rise in credit supply in a timely manner; whereas it may take some time for larger firms to display similar reaction. Increased credit liquidity and downward trend in the cost of financing supported by foreign capital inflow must provide them with better access to conventional financing hence, they eliminate the need for trade credit financing. In a period of high financial liquidity, firms gradually decrease level of TC and instead increase portion of bank financing (Karakoç, 2019). However, this result may vary by firm size. SMEs significantly and negatively react to rising liquidity, whereas larger firms, which are less likely to have financing limitations, positively respond to it (see the left-hand side of Table 4 and the results in Table 3). Since these firms financially more flexible, the results may be related to the rise in general liquidity and to the competition between firms to market their product, resulting in a surge in the amount of TC larger firms obtain from suppliers. Similarly, monetary policy dummy variable has positive coefficient in all estimations with SMEs but significant impact is obtained in case of medium firms, left hand side of Table 2, and in estimation with private firm data, left hand side of Table 4.

Table 2. Fixed Effect Analysis on TC Demand - Small and Medium Firms

Dependent Variable	Total Trade Credit Demanded					
	Medium Firms			Small Firms		
	Full Period	1996-2002	2003-2016	2003-2016	2003-2016	2003-2016
Time Period						
Cash-like Assets	-.0279*** (0.000)	.0270 (0.652)	-.029*** (0.000)	-.032*** (0.000)	-.045*** (0.000)	-.045*** (0.000)
ROA	.0089 (0.270)	-.0087 (0.898)	.0095 (0.262)	.0081 (0.469)	.0253 (0.200)	.047** (0.040)
Size	-.026*** (0.000)	-.0342** (0.033)	-.023*** (0.000)	-.023*** (0.000)	-.017*** (0.000)	-.010*** (0.000)
Tangible Assets	-.057*** (0.000)	-.0207 (0.783)	-.057*** (0.000)	-.069*** (0.000)	-.112*** (0.000)	-.112*** (0.000)
Own fund	-.249*** (0.000)	-.468*** (0.000)	.034*** (0.000)	-.238*** (0.000)	-.208*** (0.000)	-.233*** (0.000)
Inventory	.035*** (0.000)	.0707 (0.322)	.034*** (0.000)	.031*** (0.000)	.0105 (0.120)	.020*** (0.009)
Short Term Loans	-.262*** (0.000)	-.293*** (0.000)	-.258*** (0.000)	-.247*** (0.000)	-.252*** (0.000)	-.251*** (0.000)
Foreign Capital	-.0006 (0.465)	-.0054 (0.974)	-.005 (0.265)	-.018** (0.020)	-.045*** (0.000)	-.054*** (0.000)
Foreign Capital Lagged				-.0293*** (0.000)	(0.116)	-.0615*** (0.000)
Inflation	-.00008 (0.466)	-.0026* (0.066)	.0002 (0.180)	.0003 (0.359)	.0006*** (0.000)	.0007*** (0.077)
GDP Growth	.0004*** (0.000)	-.0007 (0.675)	.004*** (0.000)	.0008*** (0.000)	.0003*** (0.000)	.0009*** (0.000)
Monetary Policy Dummy	.002** (0.044)	.002** (0.022)	.002** (0.026)	.003*** (0.006)	.001 (0.102)	.001 (0.339)
R ²	0.19	0.39	0.18	0.17	0.17	0.17
Observation Count	69,180	2,023	67,171	47,689	62,876	42,182
Number of Firms	11,832	1,528	11,788	10,780	13,102	10,770

P-values are in parentheses and ***, **, * represent significance levels at 1%, 5%, and 10%, respectively. All standard errors are robust to heteroscedasticity and autocorrelation.

Table 3. Fixed Effect Analysis on TC Demand - Large Firms

Dependent Variable	Total Trade Credit Demanded				
	Full Period		Large Firms		
	1996-2002		2003-2016		
Time Period	1996-2002		2003-2016		
Cash-like Assets	-0.0119 (0.432)	.1358 (0.237)	-0.0139 (0.359)	-0.0025 (0.883)	-0.0026 (0.877)
ROA	-0.006 (0.667)	-.1002 (0.256)	-0.0005 (0.967)	.0048 (0.776)	.0060 (0.722)
Size	-0.017*** (0.000)	-0.02 (0.811)	-0.015*** (0.000)	-.0153*** (0.000)	-.016*** (0.000)
Tangible Assets	-0.043*** (0.000)	-.027 (0.738)	-.038*** (0.004)	-.049*** (0.002)	-.048*** (0.002)
Own fund	-.1842*** (0.000)	-.372*** (0.000)	-0.175*** (0.000)	-0.185*** (0.000)	-0.186*** (0.000)
Inventory	.0705*** (0.000)	.372*** (0.000)	.062*** (0.000)	.053*** (0.010)	.053*** (0.010)
Short Term Loans	-.204*** (0.000)	-.340*** (0.000)	-.190*** (0.000)	-.202*** (0.000)	-.202*** (0.000)
Foreign Capital	.0316*** (0.003)	.0424 (0.708)	.017* (0.084)		.0183 (0.158)
Foreign Capital Lagged					.0162 (0.350)
Inflation	-.0002 (0.132)	.0001 (0.900)	.0001 (0.521)	.0007 (0.253)	.0004 (0.424)
GDP Growth	.0006*** (0.000)	-.0002 (0.813)	.0006*** (0.000)	.0004* (0.051)	.0004* (0.051)
Monetary Policy Dummy	-.006*** (0.001)		-.005*** (0.002)	-.005*** (0.003)	-.003 (0.127)
R ²	0.18	0.34	0.22	0.22	0.2
Observations	15,404	851	14,553	14,553	10,765
Number of Firms	2,239	547	2,231	1,927	1,927

P-values are in parentheses and ***, **, * represent significance levels at 1%, 5%, and 10%, respectively. All standard errors are robust to heteroscedasticity and autocorrelation.

Table 4. Fixed Effect Analysis on TC Demand - Private and Public Firms

Dependent Variable Classification	Total Trade Credit Demanded					
	Privately Firms			Public Firms		
	Full Period	1996-2002	2003-2016	2003-2016	1996-2016	2003-2016
Time Period						
Cash-like Assets	-.0341*** (0.000)	-.0409*** (0.281)	-.0344*** (0.000)	-.034*** (0.000)	-.0402** (0.018)	-.0401** (0.038)
ROA	.0224*** (0.009)	.019 (0.808)	.034* (0.162)	.033* (0.061)	-.0077 (0.704)	-.0080 (0.742)
Size	-.0195*** (0.000)	.017*** (0.000)	-.018*** (0.000)	-.017*** (0.000)	-.0156*** (0.001)	-.0166*** (0.003)
Tangible Assets	-.0853*** (0.000)	-.097*** (0.012)	-.085*** (0.000)	-.085*** (0.000)	-.0396*** (0.006)	-.0396*** (0.005)
Own fund	-.2327*** (0.000)	-.273*** (0.000)	-.231*** (0.000)	-.230*** (0.000)	.0026 (0.608)	.0036 (0.577)
Inventory	.0212*** (0.000)	.0005 (0.987)	.028*** (0.000)	.028*** (0.000)	.1622*** (0.000)	.1878*** (0.000)
Short Term Loans	-.2633*** (0.000)	-.353*** (0.000)	-.245*** (0.000)	-.245*** (0.000)	-.0189 (0.209)	-.0228 (0.137)
Foreign Capital	-.0183*** (0.000)	-.0551 (0.540)	-.021*** (0.000)	-.024*** (0.000)	.0372 (0.106)	.0658 (0.382)
Foreign Capital Lagged				-.047*** (0.000)		.0790*** (0.000)
Inflation	.0001*** (0.142)	.0009 (0.178)	.0004*** (0.000)	.0004* (0.097)	-.003** (0.017)	-.0004** (0.038)
GDP Growth	.0003*** (0.000)	-.0001*** (0.875)	.0008*** (0.000)	.0008*** (0.000)	.0003 (0.488)	.0001* (0.073)
Monetary Policy Dummy	.001** (0.017)	.001** (0.021)	.0001* (0.059)	.002** (0.021)	-.0386 (0.167)	.0152 (0.424)
R ²	0.18	0.19	0.18	0.17	0.08	0.08
Observation Count	151,072	7,703	144,597	100,634	3,708	3,299
Number of Firms	27,522	5,633	27,120	23,476	349	343

P-values are in parentheses and ***, **, * represent significance levels at 1%, 5%, and 10%, respectively. All standard errors are robust to heteroscedasticity and autocorrelation.

Probably, increasing trade activity accompanying expansionary monetary regime and the rise in general liquidity are responsible for the positive coefficient. On the other hand, monetary policy dummy has negative coefficient in case of larger firms, implying a reduction in TC demanded from suppliers. Particularly, the coefficient with large private firms is highly significant. We suspect that the negative influence that the monetary regime has on TC is the result of improvements in credit conditions, causing firms to reduce their reliance on it as a source of funding. Since the substitutionary effect is milder on larger firms its disappearance is also mildly felt, hence, the coefficient mostly indicates the direction of the influence.

Overall, econometric exercise leads to a conclusion that as the credit conditions improve, firms with the lack of access to conventional financing, tend to reduce their reliance on TC. On the other hand, large private and public firms tend to increase TC with the effect of foreign capital. Finally, expansionary monetary policy seems to have opposite effect on larger firms. The findings are complementary to existing studies such as (Meltzer (1960); Nilsen (2002); Petersen & Rajan (1997), who argue that access to external funds are effective on TC decision. However, positive reaction to expansionary state of the economy suggests that, its function as financing instrument mostly turns into sales promoting instrument as suggested in (Cuñat & Garcia-Appendini, 2011; Fabbri & Klapper, 2008; Garcia-Appendini & Montoriol-Garriga, 2011).

4.3. Robustness Analysis

To confirm the validity of the results two sets of robustness analyses are conducted. Firstly, the dependent variable is restructured to account for the balance between TC received and supplied. Measuring the changes in TC demand, simultaneously with consideration to TC supply, may lead to valuable insight into TC policies. Given such high correlation between TC demand and supply it is also necessary, hence, we start with restructuring dependent variable as following.

$$TC_{it}^N = \alpha + \beta X_{it} + \delta Y_t + \Phi D_t + \mu_i + \varepsilon_{it} \quad (2)$$

TC_{it}^N denotes short plus long-term TC demanded minus short plus long-term TC offered, scaled by total assets. Firm specific and macro variables are as specified earlier in Eq. 1. Since detailed review of the variables is already provided, we avoid repetition and focus on the effect of monetary policy and capital flow.

As shown in Table 5 foreign capital has negative effect on the net TC balance of SMEs. This result is consistent with earlier findings that they gradually decrease the demand for TC and must have increased the supply, leading firms to increase negative net TC balance. The coefficient for SMEs is the largest in magnitude and highly significant. No significant relationship is found for large private firms but negative coefficient suggests that they, too, supply more than they receive with the effect of foreign capital.

Table 5. Fixed Effect Analysis on Net TC - Small and Medium Firms

Dependent Variable Classification	Net Trade Credit (Demanded-Extended)					Net Trade Credit (Demanded-Extended)				
	Medium Firms					Small Firms				
Time Period	1996-2016	1996-2002	2003-2016	2003-2016	2003-2016	1996-2016	1996-2002	2003-2016	2003-2016	2003-2016
Cash-like Assets	.607*** (0.000)	.568*** (0.000)	.610*** (0.000)	.630*** (0.000)	.310*** (0.000)	.608*** (0.000)	.656*** (0.000)	.601*** (0.000)	.625*** (0.000)	.625*** (0.000)
ROA	-.114*** (0.000)	.002 (0.893)	-.117*** (0.000)	-.106*** (0.000)	-.107*** (0.000)	-.040 (0.133)	-.0259 (0.525)	-.043 (0.167)	-.012 (0.724)	-.014 (0.683)
Size	-.012*** (0.000)	-.017 (0.347)	-.011*** (0.000)	-.008*** (0.000)	-.007*** (0.000)	-.006*** (0.000)	.031** (0.029)	-.007*** (0.000)	.0001 (0.942)	.0002 (0.283)
Tangible Assets	.428*** (0.000)	.512*** (0.000)	.430*** (0.000)	.430*** (0.000)	.42*** (0.000)	.477*** (0.000)	.560*** (0.000)	.473*** (0.000)	.483*** (0.000)	.482*** (0.000)
Own fund	-.257*** (0.000)	-.495*** (0.000)	-.252*** (0.000)	-.240*** (0.000)	-.239*** (0.000)	-.211*** (0.000)	-.232*** (0.000)	-.210*** (0.000)	-.230*** (0.000)	-.22*** (0.000)
Inventory	.585*** (0.000)	.658*** (0.000)	.585*** (0.000)	.595*** (0.000)	.594*** (0.000)	.651*** (0.000)	.713*** (0.000)	.642*** (0.000)	.660*** (0.000)	.659*** (0.000)
Short Term Loans	-.307*** (0.000)	-.291*** (0.000)	-.305*** (0.000)	-.289*** (0.000)	-.288*** (0.000)	-.282*** (0.000)	-.395*** (0.000)	-.272*** (0.000)	-.275*** (0.000)	-.274*** (0.000)
Foreign Capital	-.021*** (0.000)	-.283 (0.282)	-.0261*** (0.000)	(0.000)	(0.000)	-.0634*** (0.000)	.3577 (0.200)	-.0582*** (0.000)	(0.000)	(0.000)
Foreign Capital Lagged					-.0259** (0.044)					-.0899*** (0.000)
Inflation	-.0001 (0.106)	-.004** (0.012)	-.001 (0.683)	.001*** (0.009)	.001*** (0.032)	.0004*** (0.000)	.0056*** (0.008)	.0005*** (0.023)	.003*** (0.000)	.002*** (0.000)
GDP Growth	-.0001 (0.655)	-.0036 (0.109)	.0001 (0.936)	.0003 (0.711)	.001* (0.076)	-.0001 (0.907)	.005*** (0.039)	-.0002 (0.898)	.0006*** (0.002)	.0006*** (0.004)
Monetary Policy Dummy	.002** (0.046)		.002** (0.036)	.002* (0.073)	.001 (0.765)	.001 (0.332)		.001 (0.290)	.001 (0.746)	-.001 (0.489)
R ²	0.35	0.43	0.35	0.35	0.35	0.35	0.33	0.35	0.35	0.37
Observation Count	69,180	2,023	67,171	67,171	47,689	67,719	5,042	62,876	62,876	42,182
Number of Firms	11,832	1,528	11,788	11,788	10,780	13,495	3,680	13,102	13,102	10,770

P-values are in parentheses and ***, **, * represent significance levels at 1%, 5%, and 10%, respectively. All standard errors are robust to heteroscedasticity and autocorrelation.

Table 6. Fixed Effect Analysis on Net TC - Large Firms

Dependent Variable Classification	Net Trade Credit (Demanded-Extended)					
	Large Firms					
Time Period	1996-2016	1996-2002	2003-2016	2003-2016	2003-2016	2003-2016
Cash-like Assets	.397*** (0.000)	.537*** (0.000)	.397*** (0.000)	.429*** (0.000)	.429*** (0.000)	.429*** (0.000)
ROA	-.144*** (0.000)	-.10 (0.318)	-.135*** (0.000)	-.156*** (0.000)	-.156*** (0.000)	-.158*** (0.000)
Size	-.008*** (0.003)	.012 (0.371)	-.007** (0.012)	-.004** (0.262)	-.004** (0.398)	-.003** (0.249***)
Tangible Assets	.236*** (0.000)	.251** (0.020)	.238*** (0.000)	.250*** (0.000)	.250*** (0.000)	.249*** (0.000)
Own fund	-.166*** (0.000)	-.442*** (0.000)	-.159*** (0.000)	-.163*** (0.000)	-.162*** (0.000)	-.162*** (0.000)
Inventory	.354*** (0.000)	.728*** (0.000)	.349*** (0.000)	.371*** (0.000)	.371*** (0.000)	.370*** (0.000)
Short Term Loans	-.232*** (0.000)	-.431*** (0.000)	-.219*** (0.000)	.005*** (0.000)	.005*** (0.000)	-.230*** (0.000)
Foreign Capital	-.020 (0.133)	-.1534 (0.292)	-.032** (0.012)	(0.000)	(0.000)	-.022* (0.080)
Foreign Capital Lagged						-.005 (0.658)
Inflation	-.001** (0.041)	-.001 (0.352)	-.001 (0.380)	-.001* (0.080)	-.001* (0.117)	-.001 (0.117)
GDP Growth	-.001 (0.661)	-.001 (0.306)	-.001 (0.868)	-.001 (0.702)	-.001 (0.702)	-.001 (0.715)
Monetary Policy	0.005 (0.800)	0.005 (0.800)	0.001 (0.642)	0.001 (0.742)	0.007 (0.742)	0.004 (0.872)
R ²	0.20	0.40	0.21	0.20	0.20	0.22
Observation Count	15,404	851	14,553	14,553	14,553	10,765
Number of Firms	2,239	547	2,231	2,231	2,231	1,927

P-values are in parentheses and ***, **, * represent significance levels at 1%, 5%, and 10%, respectively. All standard errors are robust to heteroscedasticity and autocorrelation.

Table 7. Fixed Effect Analysis on Net TC - Public and Private Firms

Dependent Variable	Demanded-Extended										Net Trade Credit (Demanded-Extended)	
	Private Firms										Public Firms	
	1996-2016	1996-2002	2003-2016	2003-2016	2003-2016	2003-2016	2003-2016	2003-2016	2003-2016	2003-2016	1993-2016	2000-2016
Time Period												
Cash-like Assets	.591*** (0.000)	.653*** (0.000)	.584*** (0.000)	.607*** (0.000)	.606*** (0.000)	.606*** (0.000)	.606*** (0.000)	.606*** (0.000)	.606*** (0.000)	.606*** (0.000)	.415*** (0.000)	.423*** (0.000)
ROA	-.679*** (0.000)	-.016*** (0.000)	-.074*** (0.000)	-.048*** (0.000)	-.050*** (0.000)	-.050*** (0.000)	-.050*** (0.000)	-.050*** (0.000)	-.050*** (0.000)	-.050*** (0.000)	-.0729** (0.061)	-.0942** (0.011)
Size	-.008*** (0.000)	.022*** (0.000)	-.008*** (0.000)	-.003*** (0.000)	-.001*** (0.000)	-.001*** (0.000)	-.001*** (0.000)	-.001*** (0.000)	-.001*** (0.000)	-.001*** (0.000)	-.0106 (0.228)	-.0154 (0.121)
Tangible Assets	.436*** (0.000)	.513*** (0.000)	.430*** (0.000)	.433*** (0.000)	.432*** (0.000)	.432*** (0.000)	.432*** (0.000)	.432*** (0.000)	.432*** (0.000)	.432*** (0.000)	.3064*** (0.000)	.3188*** (0.000)
Own fund	-.235*** (0.000)	-.242*** (0.000)	-.220*** (0.000)	-.227*** (0.000)	-.225*** (0.000)	-.225*** (0.000)	-.225*** (0.000)	-.225*** (0.000)	-.225*** (0.000)	-.225*** (0.000)	.0036 (0.679)	.0126 (0.159)
Inventory	.605*** (0.000)	.720*** (0.000)	.597*** (0.000)	.610*** (0.000)	.609*** (0.000)	.609*** (0.000)	.609*** (0.000)	.609*** (0.000)	.609*** (0.000)	.609*** (0.000)	.481*** (0.000)	.507*** (0.000)
Short Term Loans	-.292*** (0.000)	-.333*** (0.000)	-.281*** (0.000)	-.276*** (0.000)	-.275*** (0.000)	-.275*** (0.000)	-.275*** (0.000)	-.275*** (0.000)	-.275*** (0.000)	-.275*** (0.000)	-.0903*** (0.007)	-.0813** (0.023)
Foreign Capital	-.033*** (0.000)	-.177 (0.110)	-.0389*** (0.000)		-.0435*** (0.000)	-.0435*** (0.000)	-.0435*** (0.000)	-.0435*** (0.000)	-.0435*** (0.000)	-.0435*** (0.000)	-.0028 (0.946)	-.0987*** (0.002)
Foreign Capital Lagged												
Inflation	-.00001 (0.994)	-.001 (0.877)	.001 (0.196)	.002*** (0.000)	.001*** (0.000)	.001*** (0.000)	.001*** (0.000)	.001*** (0.000)	.001*** (0.000)	.001*** (0.000)	.0003 (0.471)	.0003 (0.471)
GDP Growth	-.001 (0.820)	-.001071 (0.313)	.00001 (0.810)	.00004 (0.000)	.00004 (0.000)	.00004 (0.000)	.00004 (0.000)	.00004 (0.000)	.00004 (0.000)	.00004 (0.000)	-.0011** (0.000)	-.0011** (0.000)
Monetary Policy Dummy	0.001* (0.063)		.0001** (0.039)	.001 (0.167)	-.001 (0.695)	-.001 (0.695)	-.001 (0.695)	-.001 (0.695)	-.001 (0.695)	-.001 (0.695)	-.1346*** (0.000)	-.0675 (0.030)
R ²	0.35	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.20	0.21
Observation Count	151,072	7,703	144,597	144,597	144,597	144,597	144,597	144,597	144,597	144,597	3,708	3,299
Number of Firms	27,522	5,633	27,120	27,120	27,120	27,120	27,120	27,120	27,120	27,120	349	343

P-values are in parentheses and ***, **, * represent significance levels at 1%, 5%, and 10%, respectively. All standard errors are robust to heteroscedasticity and autocorrelation.

On the other hand, the coefficient for publicly held firms, compatible with their financially flexible nature, is positive thus, they receive more than they supply in response to foreign capital inflow. As for the monetary policy, the effect varies across groups. For example, private firms seem to be affected positively, shown in Table 5 and 6, meaning that they increase TC relative to the supply but public firms have significant negative reaction, presented in right hand side of Table 7, suggesting that they reduce TC financing relative to the supply.

In the second part of robustness check additional macro variables, which might have causal relationship with foreign capital; such as policy rate, currency growth and liquid liabilities to GDP ratio are added to the model. The data includes all firms and the period covers from 2003 to 2016, it is because capital flow actually rose after 2003. The model is the same as the Equation 1 therefore, only the new variables are briefly described. Annual policy rate is included as is, in percentage form. Currency growth rate, which is calculated using currency basket, consists of 50% USD and 50% EUR exchange rates. Liquid liabilities to GDP ratio is added to control for the effect of monetary expansion. As explained earlier large volume of foreign capital flow can influence interest rates, exchange rates and credit supply, all of which are included in the analysis to make sure that the coefficient of interest does not act as proxy for any of these variables.

Results show that as each variable is added, the magnitude of the capital flow coefficient declines, particularly with the effect of policy rate, but it is still significant at 1% level and the sign of the coefficient does not

change. Policy rate seems to be particularly relevant in TC financing decision which may be explained by the financial aspect of TC. On the other hand, the coefficient for M3 is negative and consistent, suggesting that as money supply grows firms' interest in TC drops, possibly shifting toward conventional financing. Finally, exchange rate has no significant impact on TC decision but the coefficient is negative. In summary, capital flow variable survives the analysis and results show that it is robust to adding these variables. Nevertheless, high correlation amongst these macro level variables makes it challenging to document individual effects of each variable, hence, the reader is advised to be cautious with interpretation of their potential influence on TC policy especially when they are included in the analysis together.

CONCLUSION

Failing to account for financial limitations of firms in obtaining funding can lead to fallacious interpretations. Clearly, studies on corporate financing show that adverse changes in monetary policy can weaken firms' access to conventional financing and cause them to steer toward other options. Accordingly, our findings indicate that the more foreign capital enters into the economy the more credit is supplied toward real sector, causing firms to shift away from TC. This influence is highly distinguished with SMEs. The analysis also reveals significant effect that large firms increase their TC demand, possibly the surge in general liquidity allow them to acquire TC at favorable terms. It is very likely that enhancements in access to bank loans and increased competition are mainly responsible for the increase. Consistent with prior literature, monetary policy is more influential on trade credit policy choices of financially constrained SMEs; than it is on financially flexible larger firms.

APPENDIX

P-values are in parentheses and ***, **, * represent significance levels at 1, 5 and

Table A.1. General Results on Trade Credit Demand

Dependent variable	Total Trade Credit Demanded (Accounts Payable)		
Classification	All Firms (1996-2016)		
Model	Pooled OLS	Random Effect	Fixed Effect
Cash-like Assets	-.0396*** (0.000)	-.03665*** (0.000)	-.0341*** (0.000)
ROA	.1015*** (0.000)	.0291*** (0.000)	.0224*** (0.009)
Size	-.0068*** (0.000)	-.0159*** (0.000)	-.0195*** (0.000)
Tangible Assets	-.1791*** (0.000)	-.1179*** (0.000)	-.0853*** (0.000)
Own fund	-.2327*** (0.000)	-.2307*** (0.000)	-.2327*** (0.000)
Inventory	.0545*** (0.000)	.0302*** (0.000)	.0212*** (0.000)
Short Term Loans	-.2068*** (0.000)	-.2547*** (0.000)	-.2633*** (0.000)
Foreign Capital	-.2627*** (0.000)	-.0338*** (0.000)	-.0183*** (0.000)
Inflation	.0006*** (0.000)	.0003*** (0.000)	.0001*** 0.142
GDP Growth	.00026 (0.558)	.0003*** (0.000)	.0003*** (0.000)
Monetary Policy Dummy	.013*** (0.000)	.001* (0.056)	.001** (0.017)
R ²	0.23	0.18	0.18
Observation Count	151072	151072	151,072
Number of Firms	27,522	27,522	27,522

10 percent, respectively.

Table A.2. Langrange and Hausman Tests on Trade Credit Demand

Langrange Multiplier test for		Hausman test for random effect vs Fixed	
H0: No Significant		H0: Model is consistent	
H1: Significant Variance		H1: Model is inconsistent	
Chisq	10534	Chisq	2567.9
p-value	0.000	p-value	0.000
Conclusion: Pooling is not		Conclusion: Fixed Effect	

REFERENCES

- Abdulla, Y., Dang, V. A., & Arif, K. (2017). Stock market listing and the use of trade credit: Evidence from public and private firms. *Journal of Corporate Finance*, 46(3), 391-410.
- Başkaya Y. S., Giovanni, J. D., Kalemli-Özcan, Ş., Peydro, J., & Ulu, M. F. (2017). Capital flows and the international credit channel. *Journal of International Economics*, 108, 15-22.
- Bastos. R. & Pindado, J. (2007). An agency model to explain trade credit policy and empirical evidence. *Applied Economics*, 39(20), 2631-2642.
- Bernanke, B. & Blinder, A. (1992). The federal funds rate and the channel of monetary transmission. *American Economic Review*, 82(4), 901-921.
- Bernanke, B. & Gertler, G. (1995). Inside the black Box: The credit channel of monetary policy transmission. *The Journal of Economic Perspectives*, 9 (4), 27-48.
- Bernanke, B., Gertler, M., & Gilchrist, S. (1996). The financial accelerator and the flight to quality. *The Review of Economics and Statistics*, 78(1), 1-15.
- Casey, E. & O'Toole, C. M. (2014). Bank-lending constraints, trade credit and alternative financing during the financial crisis: Evidence from European SMEs, *Journal of Corporate Finance*, DOI: 10.1016/J.jcorpfin.2014.05.001.
- Choi, W. G. & Kim, Y. (2005). Trade credit and effects of macro-financial shocks: Evidence from US panel data. *Journal of Finance and Quantitative Analysis*, 40(4), 897-925.
- Chui, M., Kuruc, E., & Philip, T. (2016). *A new dimension to currency mismatches in the emerging markets: Nonfinancial companies* (BIS Working Paper No. 550).

Retrieved from <https://www.bis.org/publ/work550.htm>

- Cuñat, V. (2007). Trade credit: Suppliers as debt collector and insurance providers. *Review of Financial Studies*, 20(2), 491–527.
- Cuñat, V. & Garcia-Appendini, E. (2012). *Trade credit and its role in entrepreneurial finance. Oxford Handbook of Entrepreneurial Finance*, Oxford University Press, New York, pp. 526-557.
- Fabri, D. & Klapper, L. F. (2016). Bargaining power and trade credit. *Journal of Corporate Finance*, 41(2), 66–80
- Fisman, R. & Love, I. (2003). Trade credit, financial intermediary development, and industry growth. *Journal of Finance*, 58(1), 353–374.
- Garcia-Appendini, E. & Montoriol-Garriga, J. (2013). Firms as liquidity providers: Evidence from the 2007–2008 financial crisis. *Journal of Financial Economics*, 109(1), 272–291.
- Gertler, M. & Gilchrist, S. (1994). Monetary policy, business cycles, and the behavior of small manufacturing firms. *The Quarterly Journal of Economics* 109(2), 309–340.
- Guariglia, A. & Mateut, S. (2004). Credit channel, trade credit channel, and inventory investment: Evidence from a panel of UK firms. *Journal of Banking & Finance*, 30(10), 2835–2856.
- Hadlock, C. J. & Pierce, J. R. (2010). New evidence on measuring financial constraints: Moving beyond the KZ index. *The Review of Financial Studies*, 23(5), 1909–1940.
- Huang, H., Shi, X., & Zhang, Z. (2011). Counter-cyclical substitution between trade credit and bank credit. *Journal of Banking & Finance*, 35(8), 1859–1878.

- Karakoç, B. (2019). Foreign capital, real sector financing and excessive leverage in Turkey: What went wrong? Muş Alparslan Üniversitesi, 2019.
- Karakoç, B. (2020a). Trade credit and bank financing: A substitute or a complement? Academic studies in economics and administrative sciences, IVPE Publishing. March-2020, pp: 115-140. ISBN: 978-9940-46-008-2.
- Karakoç, B. (2020b). An examination of corporate growth and trade credit relationship: Evidence from panel of countries. Muş Alparslan Üniversitesi, 2020.
- Kashyap, A., & Stein, J. (1994). *Monetary policy and bank lending in monetary policy* (NBER Working Paper No. 4317). Retrieved from <https://www.nber.org/papers/w4317>
- Kashyap, A., K., Stein, J., & Wilcox, D. W. (1993). Monetary policy and credit conditions: evidence from the composition of external finance. *The American Economic Review*, 83(1), 78-98.
- Love, I., Preve, L., & Sarria-Allende, V. (2007). Trade credit and bank credit: evidence from recent financial crises. *Journal of Financial Economics*, 83(2), 453–469.
- Mateut, S., Bougheas, S., & Mizén, P. (2006). Trade credit, bank lending and monetary policy transmission. *European Economic Review*, 50(3), 603-629.
- Meltzer, A. (1960). Mercantile credit, monetary policy, and size of firms. *Review of Economics and Statistics*, 42(4), 429–437.
- Ng, C., Smith, J., & Smith, R. (1999). Evidence on the determinants of credit terms used in interfirm trade. *Journal of Finance*, 54(3), 1109–1129.
- Nilsen, J. (2002). Trade credit and the bank lending channel. *Journal of Money, Credit, and Banking*, 34(1), 226–253.

Orhangazi, Ö. (2014). Capital flows and credit expansions in Turkey. *Review of Radical Political Economics*, 46(4), 509– 516.

Petersen, M. & Rajan, R. (1997). Trade credit: Theories and evidence. *Review of Financial Studies* 10(3), 661–691.

CHAPTER 7

ANALYZING UZBEKISTAN FOREIGN POLICY: PRINCIPLES AND PRIORITIES

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INTRODUCTION

After the collapse of the Union Soviet Socialist Republics (USSR), five countries in the Central Asia region (Uzbekistan, Kazakhstan, Turkmenistan, Kyrgyzstan and Tajikistan) have declared independence. Those newly-independent states have experienced a developmental process in accordance with their political, economic and cultural structures. The leaders and political elites in that Central Asian countries have built a foreign policy formation shaped by their objective perceptions. The formation behind the foreign policy behavior, was not originated merely from external factors or cannot be evaluated strictly in the context of the political influence of the great powers. The specific domestic political dynamics of the Central Asian countries and the perceptions of the leaders in this context have a direct effect on the foreign policy formation. The ideology represented by political figures coincided with the worldview of the surrounding elites and political groups. Therefore long-term strategies and short-term tactics of foreign policy making can be seen as the sum of external and internal causes. The internal political dynamics in which the Soviet tradition and the post-Soviet realities whether conflict or overlap, determine the nature of relations with the external world.

Uzbekistan, which is a remarkable country of Central Asia together with Kazakhstan, has tried to build a foreign policy behavior with the perspective of external / internal integrity based on the opportunities and challenges presented by its geopolitics. Islam Karimov and his political elites, who ruled Uzbekistan for many years, felt compelled

to draw a foreign policy profile through taking into account the domestic political configuration and the challenges and opportunities of the international system. Under the leadership of Karimov, the priority of the foreign policy was determined within the framework of the security concerns of Uzbekistan regarding sociopolitical problems. Therefore, Karimov's foreign policy did not ignore the great power desires and developed on the basis of domestic political dynamics together with geopolitical concerns. Shavkat Mirziyoyev, who came to power in 2016, has also continued Karimov's perceptions and concerns. Although Mirziyoyev has a reformist profile, he pursues a foreign policy that prioritizes the perception and political arguments of the political elites that continue to have an influence after Karimov. The possibilities and capacities of the new elites emerged as of the period will determine the fundamental mobility and limits of the fundamental change in foreign policy. But it is important that the political elites of the states maintain continuity. In this respect, Uzbekistan is no exception. Mirziyoyev pursues a reform program in foreign policy although not radical. The reaction of the political elites who maintained their influence in post-Karimov era to these reforms seems positive. In this context, Karimov's foreign policy priorities and behaviors represent continuity in Uzbek political life.

The main purpose of this research is to discuss the Karimov and Mirziyoyev periods separately and to reveal the priorities and behavior of Uzbekistan foreign policy. At the same time, the current structure of the international system and the geopolitical position of

Uzbekistan in the context of the policies of the great powers is another important consideration. The geopolitical position of the Central Asian region in the international system is also taken into consideration. The research is structured on three parts. In the first part, the structure of the current international relations system is discussed in the context of Uzbekistan. In this context (Deutsch, 1964 Waltz 2000: Putten et al. 2016, Brown 2012) views of the system have been utilized. In the second part, the foreign policy priorities of Karimov, the first President of Uzbekistan, were investigated. In the third part, foreign policy discourses, activities and priorities of Mirziyoyev, who was elected President after Karimov's death, were analyzed.

1. UZBEKISTAN'S POSITION IN THE CURRENT INTERNATIONAL SYSTEM

The question of the system is a key discussion matter of the international relations discipline. The system concept builds a level of analysis that is directly related to the distribution of power capacity. In this context, the position of the actors in the international system is directly related to the distribution parameters of power among state-actors. The determinants of the system constitute an abstract and concrete cluster that is subjected to a new analysis through conceptual and theoretical instruments. Conceptual and theoretical instruments, in a concrete combination, provide an analysis framework for the systemic structure of international relations, and thus question whether the distribution of power in the system builds turmoil / stability,

hegemony / power balance, uncertainty / predictability. Stability and balance of power are the prominent concepts in the system analysis discussion. The main problematic of current international relations is that the current balance between the great powers creates a stabilizing and / or uncertain power distribution. It seems inevitable that multipolar, bipolar and yet unipolar systems, although rarely seen in the history of international relations, should be evaluated in coordination with the concepts of stability and conflict.

Thus, according to Deutsch, who made important studies on system theory, stability can be considered from the perspective of both the whole system and the individual states (Deutsch, et al., 1964: 390).

The number of views that explain current international relations with the multipolar power balance is increasing rapidly. The bipolar system, which existed during the Cold War years, was replaced by the United States (US) hegemony since the 1990s. Although the US hegemony cannot build a unipolar system, it will not be wrong to say that it creates unilateralism in international politics. From the 2000s onwards, it is possible to see the signs of a system that carries the traces of the multipolar power balance. It turned out that the “unlimited power” of the US, which acted as a post-Cold War superpower, did not achieve stability or peace-building as Waltz pointed out (Waltz, 2000). According to Waltz, “Unbalanced power is a potential danger to others. The strong state, the US, may think that it acts for peace, justice and well-being in the world” (Waltz 2000: 28). In fact, it is possible to say that the power capacity of the US brings

with it the problem of feasibility / predictability. In the end, the thought that the balance of power in the US will solve international problems more interactive began to emerge. It is also controversial that the multipolar system emerges in balance of power situation brings stability. If the threat perception of the great powers constituting the balance of power overlaps, a clear and predictable international system emerges. On the other hand, a more permanent and stable system can emerge with the participation of the rising powers besides the traditional great powers.

In the words of Putten; at the end of the Cold War, Western dominance, in the form of US hyper-superiority, decreased. After World War II, the transatlantic axis that shapes the liberal-international order loses its capacity to influence the world order (Putten et al. 2016: 8). According to Brown, today's international system does not show a definite unipolar superpower configuration, and in fact, the international system is transforming from the unipolar global hegemony of the US to a bipolar system in which China moves to settle on the other pole (Brown 2012: 11).

The actors consisting the international system clearly feel the necessity to keep up with the recent balance of power. The balance between the great powers shapes the foreign policy directions of these actors and determines their position in the system. The political strategies of the great powers that determine the balance of power in the current multipolar system not only determine the foreign policy configuration of the remaining actors but also determine their position

within the system. Their geostrategical position of regional actors reveal the potential and extent of their cooperation with great powers. Therefore the regional actors preferably pursue a balanced and rarely one-dimensional foreign policy.

In terms of its geostrategic position, Uzbekistan is among the countries that are significantly affected by the mechanisms of competition or cooperation between the great powers within the framework of the above-mentioned political configuration. Therefore evaluating Uzbekistan's position in the international system requires considering the geopolitical developments in the Central Asian region. According to geopolitical theorists, Central Asia, the most strategic region in the world, is one of the areas of historical, sociopolitical, economical and geopolitical competition among the great powers. Noting that, Duarte states that Central Asia is located in a strategic region with strong ties with neighboring regions in the new energy map. He stated that this importance of the region stems primarily from its access to the rest of the world and stated that Central Asia is an important part of world politics and has its own economic system (Duarte 2014: 13).

The interest of the great powers such as Russia, the US and China in Central Asia is based on the desire to gain geographical influence and the desire to be effective on geopolitical transportation / energy routes. According to Krasnopolsky, Russia and China were the two main forces in Central Asia. The US, India and the European Union (EU) have shown interest in the region, but their participation is arguably

indistinguishable from Russia and China (Krasnopol'sky 2013: 2). At the heart of Russia's Central Asian policy lies the question of security. This is largely achieved within the framework of the Collective Security Organization (CSTO) and the Shanghai Cooperation Organization (SCO). Russia is also developing bilateral relations with the countries of the region and thus increasing its influence in the region. (https://russiancouncil.ru/common/upload/RIAC_Central_Asia.pdf).

In addition to achieving geographical influence there are also certain security concerns in Russia's Central Asian policy. The basis of these concerns is the prevention of extremist groups from gaining positions in the region. Central Asian countries, including Uzbekistan, share the aforementioned security concerns. Even in this context, it is possible to observe the development of Russian-US cooperation in Central Asia after 9/11.

An important factor determining China's interest in Central Asia, the economic superpower, is the energy resources available in the region.

Uzbekistan in particular has also a significant part of China's Central Asia transport strategy. As the transportation hub of the Central Asia, Uzbekistan will play an important role within the One Belt, One Road Initiative. (<http://www.chinagoabroad.com/en/article/uzbekistan-the-central-asian-hub-of-the-original-silk-road>).

While analyzing the Central Asia policy of the US, which is the other great power, it is possible to say that this country is following a strategic-tactical synthesis based on conjunctural changes. Highlights

of Russia and China policies can also be apply to the US. Regional factors relating with global security such as energy geopolitics, strategic transportation network and threats are also affecting the regulation US policy in Central Asia.

After the September 11, 2001, terrorist attacks on the United States, the former Bush Administration established bases and other military access in the region to support U.S.-led coalition operations in Afghanistan. The Obama Administration has highlighted U.S. interests in such continued access as well as the long-term security and stability of the region. (<https://fas.org/sgp/crs/row/RL30294.pdf>)

It is possible to observe that Uzbekistan is also gaining importance in terms of security axis in the regional policies of the USA in the post 9/11 period.

The US is actively using certain universal discourses in terms of regional interests. The US makes these concepts an instrument of foreign policy and considers them as a means of repression. The United States is seriously interested in the natural resources of the Central Asian region and exists in the region through transnational corporations.

It is worth noting that in the context of the current international politics, the geopolitical capabilities of the US are limited in terms of responding to China's One Belt One Road strategy. Therefore, it will

not be wrong to say that the US is lagging behind China in the New Great Game of Central Asia.

As a leading country in Central Asia in terms of demographic superiority, geopolitical position and natural resources, Uzbekistan's relationship with the great powers is based on balance policies in the historical context. On the security front, Uzbekistan's serious concerns stemming from its unstable neighbor, the Afghan border, is maintaining. Moreover, the presence of extremist groups in the context of their internal dynamics makes it necessary to cooperate with Russia and the US in particular. Although the US seems to have reinforced its presence in the region after the invasion of Afghanistan, it has not achieved a certain stability. Collaboration with Russia in the context of the Afghanistan-based security threat and the fight against extremist groups in the interior has pushed Uzbekistan to balance policies. On the other hand, China's economic growth and the increase in Chinese investments within the framework of strategic transportation projects led Uzbekistan to establish good relations with China.

2. PARAMETERS OF UZBEKISTAN POST-INDEPENDENCE FOREIGN POLICY

2.1. Foreign Policy Principles

The principles governing Uzbekistan's foreign policy after independence have been shaped around the mechanisms of stability and regional cooperation. The concept of national interest is central to foreign policy. One of the other prominent issues is the security

issues. The problems stemming from the internal dynamics of Uzbekistan have made foreign policy principles certain and reactionary. The perceptions of the decision makers and the variability of the domestic political structure are the main outputs that determine Uzbekistan's foreign policy and its principles. In this context, systemic transformations and constraints have shaped the character of foreign policy. The political conjuncture and the existing instability in the neighboring countries affected the foreign policy configuration of Uzbekistan. The principle of preventing extremist groups that receive external support from affecting Uzbek political life has turned into a general foreign policy character. The extremist and radicalist structures arised and tried to settle in the social life of Uzbekistan in post-communist period have been the main problematic of both domestic politics and foreign policy character of that country since independence.

In the case of Uzbekistan, the interaction between domestic factors and foreign policy is an important subject of analysis. For example, Kazemi stresses that sub-systemic factors have significance in explaining these relations in the foreign policy of Uzbekistan since 1991 along with systemic theories, which often serve as a starting point for studying inter-state relations. Accordingly, internal forces have deeply affected the development of Uzbek foreign policy in the last decade (Kazemi 2003: 205).

In addition, the official explanation of the aims of Uzbekistan's foreign policy is as follows:

The principle position of the Republic's foreign policy is adherence to the policy of non-alignment with any military-political bloc, preventing the deployment of foreign military bases and facilities on its territory and the non-participation of the country's servicemen in peacekeeping operations abroad, and resolving all contradictions and conflicts only with peaceful means. By maintaining non-aligned status, Uzbekistan is open to dialogue and is interested in expanding cooperation with all partners for peace, progress and prosperity. (<https://mfa.uz/en/cooperation/>).

During the first years of its independence, Uzbekistan's foreign policy principles are formulated as follows (Petrov 2004: 10):

- 1) Strengthening independence and sovereignty and precisely preventing external actors from having interference on internal affairs
- 2) Effective use of existing resources and obtaining inadequate resources from other countries
- 3) Establishing and obtaining external security guarantee in the context of protection of independence
- 4) Regional-based priorities for Uzbekistan's access to external resources

The factors determining the foreign policy principles of Uzbekistan are not only related to the functioning of the great powers system. Regional political structure and the perceptions of the decision-makers / political elites also have an important role in the formation of these principles. Sociopolitical arguments and the ideological frameworks

of political elites and their reflexes towards international system, which shape foreign policy since independence, are influential in the principles of Uzbekistan's foreign policy. The parameter determining the sociopolitical arguments is the policies of the great powers, the regional problems and the activities of the religious / ethnic / social clans existing in domestic political life. The struggle of the extremist groups against the secular ideological structure, the ethnic issues stemming from the Fergana case and the regional instability have shaped the behavior of Uzbekistan's foreign policy. It should be emphasized that the domestic political structure and sociopolitical problems are as decisive as the relations with the great powers. In this context, the first foreign policy priorities of the first President of Uzbekistan, Karimov, were constructed with the perspective of the mentioned issues.

2.2. Foreign Policy Priorities of Karimov

Islam Karimov, the former president of Uzbekistan, died on Friday, September 2, 2016, a day after the 25th anniversary of his country's independence. Karimov was the oldest ruler of any country in the post-Soviet space that ruled the republic since his appointment as secretary of the Uzbek Communist Party in mid-1989 (Fazendeiro 2017: 409).

It is possible to define the main characteristic of Karimov's foreign policy as "preventive diplomacy". This preventive diplomacy envisaged the simultaneous elimination of the problem or potential tension (Faramani et al. 2014: 70). Karimov's foreign policy priorities were

based on the pursuit of a balance between the problems stemming from domestic political dynamics and the geopolitics of major forces caused by regional competition. According to Karimov, "any problem does not remain within national boundaries for a long time and sooner or later it becomes a common problem for neighboring countries." The problem that arises in this context has first regional, then international character (Karimov 1997: 24).

Karimov particularly stresses that the problems of Uzbekistan's neighbors (the military crisis in Afghanistan and the instability of Tajikistan) constitute a security matter for Uzbekistan (Karimov 1997: 25). It draws attention to the fact that regional political problems may cause international crises and in this context the situation in Afghanistan and Tajikistan (Karimov 1997: 32). Karimov stresses that extremist and radical groups are another factor that threatens Uzbekistan and the regional security umbrella (Karimov 1997: 44). The extremist groups that were strengthened by using the instability in Uzbekistan's southern borders were a serious threat. It is useful to evaluate the extremist threat in the context of the policies of the great powers as well as the sociopolitical dynamics of Uzbekistan. In this context, Karimov pointed out that extremist groups were used by the great powers to gain strength (Karimov 1997: 46-47).

Since 2000, there were three important internal political equations that influenced Karimov's behavior in foreign policy: (Fedorov 2012: 96).

1) The separatist activities of the “Islamist Movement of Uzbekistan” (IMU), originating in Afghanistan, which aims to overthrow Karimov, and the “Hizbut Tahrir” organization, which has extremist views within the country. Hizbut Tahrir's political methods (infiltration of government and educational institutions) and the IMU were creating security question through terror and violence. The terrorist attacks in Tashkent in 2004 were undertaken by the IMU. (Fedorov 2012: 96).

2) The social struggle between the Tashkent and Samarkand clans was another issue affecting the Uzbek internal political configuration. Competition between the two clans could have different consequences, both in domestic and foreign policy. Among the Fergana, Karakalpak, Harezmi and Surkhandarya clans, especially the Tashkent and Samarkand clans attract attention due to their influence and positions in the administration (Malashenko 2012: 2).

3) The Andijan events in 2005 revealed the third sociopolitical equation. Andijan events that directly affect Uzbekistan - US relations have caused problems between the two countries. The US accused the Uzbek government of using disproportionate force in the events. The protests, which started with the referral of 23 Uzbek businessmen on the grounds that they were acting against the government, aroused international repercussions. It was stated by the Uzbek government that these Uzbek businessmen collaborated with the fundamentalist "Ekremiye" organization, which was founded by Ekrem Yuldashev, who was imprisoned in 1999 and carried out activities to eliminate the constitutional order (https://expert.ru/kazakhstan/2005/10/10ka-ktema_56957/)

Andijan events brought about changes in the foreign policy of Uzbekistan. In 1999, Uzbekistan, which left the Russian-led Collective Security Treaty Organization (CSTO), joined the GUAM under the US initiative. Uzbekistan also provided the Hanabad base to the US in 2001 and thus became a key player in US Central Asian policy (Popov 2015: 75). In contrast to the general view of the Shanghai Cooperation Organization (SCO), of which Uzbekistan is a founding member, it supported the US military intervention in Iraq (Troickiy 2009: 181). In this way, Uzbekistan has gained a favorable position in its regional leadership with Kazakhstan. Karimov, who did not follow the model of Kazakhstan's balanced foreign policy practice, had adopted relations with the US as a priority until the Andijan crisis.

At this point, the US's sympathy for the extremist Ekremiye organization and its supply of weapons from the neighboring Kyrgyzstan, where the US-supported "colorful revolution" took place, is important (Popov 2015: 76).

After the Andijan incidents, Karimov asked the US to leave the base in Hanabad and left the GUAM at the same time. In 2006 he returned to the CSTO again (Popov 2015: 76). In 2004, Russia became a member of the Central Asian Cooperation Organization. In 2005, the organization joined the Eurasian Economic Union (EEU) (Ionova 2018: 81).

In the years 2008 - 2014, relations with the US proceeded in the Obama era. The change in the Obama administration's strategy in Afghanistan and the increasing role of neighboring countries in the

reconstruction of this country have made Uzbekistan an important regional actor (Popov 2015: 77). Simultaneously, Karimov ended Uzbekistan's participation in the EEU. Uzbekistan left the CSTO in 2012 (Ionova 2018: 81). Karimov tried to establish contacts with the United States during the Obama era through Jews of Bukhara origin. Kamilov, the US Ambassador to Uzbekistan, who was in good relations with Bukhara Jews, was appointed Deputy Minister of Foreign Affairs in 2010 and the Minister of Foreign Affairs in 2012 (Popov 2015: 77).

After the victory in the elections held on 29 March 2015, Karimov pursued a more balanced foreign policy and tried to utilize the conflict in the regional policies of the US and Russia (Ionova, 2015: 101).

Since 2013-2014, Karimov has seen China as a balancing actor in the region. Within the scope of the modern Silk Road, Uzbekistan-China relations initially developed as an economy-based relationship. With the emergence of a multipolar international system, the relationship in question began to carry strategic character. Within this framework, China has started to define Uzbekistan as a key country due to the geopolitical importance of the Silk Road project. China has sought to integrate Uzbekistan into regional projects, particularly in the context of the development of transport corridors (Azimov 2016: 2). Compared to other Central Asian countries, Russia's influence on Karimov was partly limited, and China made Uzbekistan a target country for strategic investments (Azimov 2016: 3). Uzbekistan's relations with China between 2001-2005 developed in the perspective of the Afghanistan issue, the economy and the political partnership in the

SCO (Danilovich, 2013: 35). After 2012, the relations between Uzbekistan and China deepened to include the energy field and gained strategic character.

It is observed through the Andijan events that the domestic sociopolitical developments became turning point in the parameters that shape Karimov's foreign policy behaviors. After 2005, the desire to establish a balance between Russia and the US was further strengthened, especially through perceptions in domestic politics. After 2012, it is seen that the third great power alongside Russia and the US - China - has gained a special place in Uzbek foreign policy not only based on the economy but also with political arguments. In Karimov's perceptions and domestic political atmosphere, China was considered as an alternative only to overcome the pressures stem from relations with Russia and the US. After 2013, Uzbekistan had the opportunity to get more investment with China's One Belt One Road project (Borisov 2019: 131).

Another parameter affecting Karimov's foreign policy priorities was border issues. It is useful to address the problems in the Fergana valley through their reflections on Central Asia at the regional level. The economic attractiveness of the region and the existence of trade routes and a special social environment passing through the valley have importance at regional geopolitics. Due to natural obstacles, the valley is relatively pacific compared to neighboring areas. The standard of living in the region is slightly higher than in other regions and this has been the decisive cause of migration processes (Vlaskina

2017: 14). It is possible to observe that Uzbekistan has brought hydropolitical arguments to the agenda in the Fergana issue. As Tajikistan built the Rogun hydroelectric power plant, Uzbekistan was displeased with the idea that a significant part of the region's water resources would be under the control of its neighbor. Uzbekistan gave a similar reaction to hydroelectric projects in Kyrgyzstan (Vlaskina 2017: 15).

In addition to economic reasons, the issue of Fergana gained geopolitical content due to the post-independence Karimov-led Uzbekistan's regional hegemony competition in Central Asia. Increased border issues in the late 1990s brought socio-ethnic problems. According to Rahimov, national and territorial problems have produced new problems in the newly established independent Central Asian Republics, which also concern the internal borders of the country (Rahimov et al. 2005: 20).

In the relations of Uzbekistan with Tajikistan and Kyrgyzstan, socio-ethnic issues and border problems were felt more clearly. There is a struggle on the status of borders among Kyrgyzstan, Tajikistan and Uzbekistan since 1991. It is important to note that after 1991, Central Asian countries gradually lost the former interconnected road, rail, air, energy and water infrastructure (Baizakova 2017: 223). Tajikistan was concerned about the autonomy demands of Uzbeks, who make up 25% of the Tajikistan population. On the other hand, Uzbekistan was concerned that Tajikistan would embrace terrorists who acted with

extremist reflexes trying to overthrow the Uzbek administration (Faramani 2014: 72).

The border dispute was the main discussion matter in relations between Uzbekistan and Kyrgyzstan. Uzbekistan and Kyrgyzstan have a common border of 800 kilometers and some parts are still undefined (Zozulia 2016: 3). The border between these two countries has rarely been calm since the late 1990s, but the latest problem is important for bilateral relations. The situation has reached a dangerous level, especially when both sides have deployed troops and military equipment in the disputed area (Toktogulov 2018: 89).

In 2010, undesirable events occurred between the Uzbeks and the Kyrgyz in the Osh region of the Fergana valley. Under the conditions of high politicization of society, internal conflicts and fights between Kyrgyz and Uzbeks began to gain a political character (Kozyulin 2010: 4). During the four days of armed conflict, 447 people were killed. 75 thousand Uzbeks were displaced and emigrated to Uzbekistan (Ibragimova 2015: 1). The domestic political conflicts that began with the “colorful revolution” in Kyrgyzstan in 2010 further aggravated the Osh crises. Overturned Kyrgyz leader Bakiyev tried to turn Osh events in his favor (Kozyulin 2010: 3). In September 2010, Karimov, addressing the United Nations General Assembly, stated that the situation in Osh and Kyrgyzstan posed a threat not only to Uzbekistan but also to Central Asian regional security (http://www.ng.ru/cis/2010-09-22/1_osh.html).

Both the 2005 Andijan events and the sociopolitical problems in Osh had a serious impact on the foreign policy that Karimov was trying to implement. Karimov had a foreign policy perception that differentiated Uzbekistan from the early years of independence from other Central Asian countries. It was clearly in a regional leadership competition with Kazakhstan. Karimov skillfully exploited the disagreements between the great powers and thus opened up space for himself. With its sociopolitical and social structure, Uzbekistan has a multi-layered political configuration in comparison to other neighboring Central Asian countries. Therefore Karimov's foreign policy behavior and priorities became not predictable and more tactical. The difficult domestic political dynamics and the lack of constant balances of the international system were the main reasons for the variability of Karimov's perceptions of foreign policy. Although Karimov's foreign policy legacy was modernized by Shavkat Mirziyoyev, pragmatic content continued to shape Uzbekistan's foreign policy.

3. FOREIGN POLICY OF UZBEKISTAN IN THE MIRZOYEYEV PERIOD

The death of the President Karimov on 2 September 2016 brought new changes in Uzbek political life. Liberal - Democratic Party candidate Mirziyoyev won 88.61% of the vote in the Presidential elections held on 4 December 2016 (<https://ria.ru/20170724/1498848834.html>). Between 2001 and 2003, Mirziyoyev served as the *hokim* (governor) of Samarkand, and from 2003 to 2016 he served as

Prime Minister of Uzbekistan. Together with Mirziyoyev, significant changes have begun in every aspect of society in Uzbekistan. According to Mirziyoyev, a new era has begun in the country and in all changes, the factor constituting the system is a new level of reform (<https://kun.uz/ru/93702169>).

After the election victory of Mirziyoyev, there was no major sociopolitical problem in the transition of power, which enabled the new Uzbek leader to focus on solving the problems of the country's economic development (Borisov 2019: 131).

Mirziyoyev, in his first address to Parliament (*Oliy Majlis*) in May 2017 after being elected president of Uzbekistan, stated that Uzbekistan needs a "modern" foreign policy. This was the first indication that the incumbent president desired a pragmatic and dynamic vision of foreign policy (Saud 2018: 2). The new Uzbekistan leader made official visits to Kyrgyzstan, Turkmenistan, Kazakhstan, Russia, China and the US in 2016 and 2017. Mirziyoyev stated that the main priority of Uzbekistan's foreign policy is the Central Asian region to which the national interests of the country depend on. In the president's words "Uzbekistan is determined to pursue an open, sincere and pragmatic policy towards our closest neighbors, Turkmenistan, Kazakhstan, Kyrgyzstan and Tajikistan" (<https://tengrinews.kz/sng/shavkat-mirzиеev-nazval-prioritetyi-vneshney-politike-301901/>).

In March 2017, Mirziyoyev made his first official visit to Turkmenistan. In the same month, he visited Kazakhstan and

prioritized steps to repair Uzbek-Kazakh relations, which had problems during the Karimov era (Borisov 2019: 133). Visits to Turkmenistan and Kazakhstan revealed clues how Mirziyoyev's foreign policy priorities and perceptions directed towards Central Asia and Eurasia. In his speech at Oliy Majlis on 22 December 2017, Mirziyoyev stated that the Central Asian region was the main priority of Uzbekistan's foreign policy, that a completely new political atmosphere emerged in the Central Asian region and that relations based on mutual trust and good neighborhood would be strengthened (<https://president.uz/ru/lists/view/1371>).

The Uzbek president did not make his first visit to Russia, but to his politically neutral neighbor Turkmenistan. This symbolized the importance of good neighborhood policy for Uzbekistan in the post-Karimov period (Dadabaev 2018: 9).

Mirziyoyev managed to repair relations with neighboring Central Asian countries in a relatively short time, which had deteriorated during the Karimov era. New horizons have been opened especially in the relations among Tashkent - Astana - Ashgabat (Kazantsev et al 2018: 294-295). In this context, the practical reflection of Mirziyoyev's foreign policy tasks was seen in Uzbekistan's economic diplomacy with neighboring countries (Borisov 2019: 134).

An overview of Uzbekistan's regional interaction illustrates several key aspects. Above all, Uzbekistan shows its willingness to discuss and solve maintaining issues such as the limitation of bilateral relations and the water-energy problem. Second, Tashkent is pushing

for greater transport and economic connectivity in the region by facilitating trade and cross-border interaction (Isabaev 2017: 103).

In March 2018 President of Uzbekistan had a visit to Tajikistan, as the first time in 27 years. That visit had a historical meaning inasmuch as most of the problems accumulated between the two countries throughout the post-Soviet period were negotiated. With the visit, the visa regime was canceled and eventually air and rail connections started to be established (Ionova 2018: 90).

Another important issue of the security pillar of Mirziyoyev's foreign policy was the question of Afghanistan. It is underlined that the Afghanistan problem has been a serious challenge to regional security. The reality that the problem threatens the regional security of Central Asia continues. Foreign Minister Kamilov is leading the maneuvers directed by the Uzbek Taliban. Kamilov made his first official visit to Kabul on January 23, 2017, just one month after Mirziyoyev took office. Shortly thereafter, interactions between Afghan and Uzbek diplomats became regular. The other Uzbek official dealing with Afghanistan is Ismatulla Irgashev, who was appointed in May 2017 (<https://thediplomat.com/2019/03/what-is-uzbekistans-role-in-the-afghan-peace-process>).

In March 2018 an international conference on Afghanistan was held in Tashkent, on the initiative of Mirziyoyev. The Uzbek leader worked hard to position Uzbekistan as an effective mediator in the conflict in Afghanistan. If Tashkent continues to strike a balance between rival international actors and internal groups in Afghanistan, Uzbekistan

can support its international status and reliability in Central Asia (<https://thediplomat.com/2018/07/can-uzbekistan-help-mediate-the-afghan-conflict/>).

The first diplomatic steps of Mirziyoyev, who visited Russia and China in the context of relations with the global powers, showed Uzbekistan's intention to restore the dynamic balance in the Moscow-Tashkent-Beijing triangle.

Mirziyoyev's foreign policy influences the dynamics of trade and economic relations between Uzbekistan and the Eurasian Economic Union (EEU). As a matter of fact, the share of Russian Federation and Kazakhstan in Uzbekistan's exports increased to 23.3% in 2017 and to 27.4% according to 2018 nine-month results. Thus, EEU, as the leading foreign trade partner of Uzbekistan, eliminated the negative tendencies in recent years and changed China's leading position in Uzbekistan's economy in its favor (Borisov 2019: 134). However, even under Mirziyoyev, Uzbekistan continues to maintain its position of not joining the EEU (Ionova 2018: 93).

Developing bilateral relations with Tashkent, even if not within the framework of the EEU, Moscow prioritizes the prevention of the US influence on Uzbekistan. Russia aims to turn Uzbekistan into the main pillar of its influence in the region and also aims to build a balance against the key country in the region, Kazakhstan (<https://eurasia.expert/chto-stoit-za-sblizheniem-rossii-i-uzbekistana/>). Russia is particularly interested in defense cooperation with Uzbekistan in the context of Central Asian security. The agreement between Russia and

Uzbekistan on the development of military technology cooperation has been approved (Ionova 2018: 93).

In the context of reforms in Uzbekistan's foreign policy during the Mirziyoyev era, the intention of improving relations with Turkey, an important geopolitical actor in Central Asia due to common historical and cultural ties, was also put forward. Relations between Uzbekistan and Turkey has entered a new phase through the meeting of Mirziyoyev and President Recep Tayyip Erdogan in Samarkand in 2016. Mirziyoyev has become the first president to visit Turkey for 21 years. During his visit to Turkey on 25-27 October 2017 Mirziyoyev met with President Erdogan and has joined Uzbek-Turkish Business Forum attended by a number of Turkish businessmen ([https://www.aa.com.tr/tr/dunya/turki-uzbekistan-relations-strengthening / 1060872](https://www.aa.com.tr/tr/dunya/turki-uzbekistan-relations-strengthening/1060872)).

Another priority in Mirziyoyev's foreign policy was a significant improvement in relations with Western countries. Mirziyoyev, in his United Nations (UN) General Assembly speech on 20 September 2017, stressed that the reforms in Uzbekistan provided a suitable basis for relations with Western countries (Kazantsev et al. 2018: 299).

At first glance, Mirziyoyev's foreign policy shows that the development of Uzbekistan is based on economy. However, when the issue is examined further, it is clear that the priority is to ensure the national security of Uzbekistan. Economic projects are not successfully developed without national security. In this context, a balance is established between national security and the economy (Yuldashev 2018: 1).

After taking office, Mirziyoyev became a reformist President. It has made it a priority strategy to make Uzbekistan an important part of international system. Paying attention to the sociopolitical balances existing in Uzbekistan, Mirziyoyev follows an economy-oriented political program. The new Uzbek leader, who tried to solve the internal political problems inherited after Karimov with a different political discourse, has remained loyal to the program implemented since 2012 in foreign policy. The newly-developed foreign policy concept has a visionary perspective that only meets the new demands of the international system. Mirziyoyev's foreign policy mentality acknowledged that regional security directly affects the domestic political ground and therefore considers relations with Central Asian countries as the main priority. In the context of border issues, it has cooperated with countries that previously had problems in a more proactive foreign policy framework. In the purpose of fighting against extremist forces, Uzbekistan is trying to build strategic cooperation mechanisms with both regional and global actors. The dynamic balance considered between Russia and China has come to the fore along with the new equation emerged in the Central Asian region. In the case of Afghanistan, it is seen that the priority is to build a security net, including the US as well as Russia.

CONCLUSION

With its geopolitical position, dynamic domestic political balance and sociopolitical structure, Uzbekistan is a special country not only in terms of Central Asian studies, but also in terms of the general thought

adventure of international relations. Since its independence, it has exhibited a relatively different foreign policy behavior than other countries in the region due to various domestic political perceptions. The leadership characteristics and political perceptions of Karimov, who ruled the country for a long time, had a significant impact on the structure of foreign policy. Although the foreign policy configuration of Karimov period between 1991-2016 was continuous in itself due to the socio-political structure and perceptions mentioned above, it also included serious breaks. It is possible to establish a chronological framework in the context of Karimov's foreign policy priorities. The foreign policy pursued between 1991-1999 developed in the context of Uzbek nationalism and nation-building. The context is manifested in all Central Asian countries. What makes Uzbekistan different is the specialities of demographic dynamism, multi-actor sociopolitical structure and the presence of Uzbek population abroad. Karimov also had a different profile in terms of his relationship with global actors. Uzbekistan-US relations has reached serious momentum in 2000-2005 due to the increase of US effectiveness in the region with the US invasion of Afghanistan. Karimov, who presented the strategic base in Hanabad to the US, set a different position in foreign policy after the Andijan events.

The “colorful revolutions” in post-Soviet geography and the US's perception of domination have pushed Karimov into seeking alternative foreign policies. Karimov initiated tactical cooperation with Russia after the Andijan events and pursued a more pragmatic

policy in 2012-2016. The increasing regional claims of China have led Karimov to build a dynamic balance between Russia, the US and China. Karimov supported the US policy on Afghanistan by predicting that stability in Afghanistan would contribute positively to developments in domestic policy and the security problem. However, the US's attitude towards the Andijan events and the Afghan problem as a result of increasing regional turmoil as an alternative to the relations with Russia. Karimov, with a cautious approach to the Eurasian Economic Union, a concrete integration initiative pioneered by Russia in Eurasia after 2012, has established economic and security-oriented cooperation with China both within the framework of the SCO and in the context of bilateral relations. He also improved relations with the United States during the Obama era. In this context, Karimov's perceptions and behaviors in foreign policy coincided with the nature of sociopolitical developments in Uzbekistan.

After the death of Karimov in 2016, Mirziyoyev's priority was given to the economic opening. Mirziyoyev, trying to make the country suitable for foreign investments, remained loyal to the framework Karimov has implemented since 2012 in foreign policy. But he also put his own program into practice. Mirziyoyev, who put the Central Asian region at the center of its foreign policy, is trying to build regional cooperation. In this context, he made his first foreign trips to Turkmenistan and Kazakhstan and showed his foreign policy priority. Mirziyoyev prioritizes developing relations with Russia to include economic cooperation compared to Karimov. Mirziyoyev, who sees

the economy as an important part of foreign policy behavior, not only with security-oriented policies, seems determined to bring relations with China to a strategic level. Uzbekistan, which cooperates with the US in the context of solving the Afghan problem, constitutes a constructive approach to the problem. Mirziyoyev, trying to build a balance between economy-security politics as going beyond Karimov's mere security perceptions, tries to maximize the opportunities offered by geopolitics in the general framework.

REFERENCES

- Abdulkerimov, B. (2018). “Türkiye-Özbekistan İlişkileri Güçleniyor” Anadolu Ajansı, <https://www.aa.com.tr/tr/dunya/turkiye-ozbekistan-iliskileri-gucleniyor/1060872> (Accessed: 14.12.2019).
- Baizakova, Z. (2017). “Border Issues in Central Asia: Current Conflicts, Controversies and Compromises”, *Revista UNISCI / UNISCI Journal*, № 45, 221-234.
- Borisov, D. (2019). “Vneshnaya Politika pri S. Mirziyoyeva: Strategia i Praktika”, *Izvestia Uralskogo Federalnogo Universiteta Obshestvennie Nauki*, No. 2, Vol. 2/188, 130-139.
- Brown, R. (2012). “*From Unipolarity to Bipolarity: “The Global System in Transition”* From Unipolar to Multipolar The Remaking Of Global Hegemony, Boxill, I, (Ed.), Kingston, Arawak Publications.
- Dadabaev, T. (2018). “Uzbekistan as Central Asian game changer? Uzbekistan’s foreign policy construction in the post-Karimov era” *Asian Journal of Comparative Politics* X(XX), 1–14
- Danilovich, M, (2013). “Evolutsiya Kitaysko – Uzbekskikh Otnosheniy v 2001-2012”, *Aktualnie problemi Mejdunarodnih Otnosheniy i globalnogo razvitiya*, Vol.1, 25-39.
- Deutsch, K. & Singer, D. (1964). “Multipolar Power Systems and International Stability”, *World Politics*, Vol. 16, No. 3, 390-406.
- Faramani, R. Moradi. H. (2014). “Uzbekistan: A Regional Power in Central Asia? Reality or Dilemma?”, *Central Asia and Caucasus*, Vol. 15, Issue 2, 59-72.
- Fazendeiro, B.T. (2017). “Uzbekistan’s defensive self-reliance: Karimov’s foreign policy legacy”, *International Affairs* 93: 2, 409–427.

- Fedorov, Y. (2012). "Uzbekistan: Nestabilniy Faktor Stabilnosti", *Indeks Bezopasnosti*, No: 3-4, Vol. 18, 85-106.
- Glumskov, D. (2005). "Uzbekskiy Retsidiv", https://expert.ru/kazakhstan/2005/10/10ka-ktema_56957/ (Accessed: 18.12.2019).
- Ionova, E. (2018). "Vneshnepolitieskie Prioriteti Uzbekistana", *Rossiya i novie gosudarstva Evrazii*, No.2, 80-96.
- Ionova, Elena (2015) "Geopolitieskie Aspekti Prezidentskih Viborov v Uzbekistane" *Rossiya i novie gosudarstva Evrazii*, No.2, 101-107.
- Isabaev, A. (2017). Uzbekistan after the Transfer of Power, OSCE Yearbook 2017, 91-108.
- Izimov, R. (2016). "Roly i Mesto Uzbekistana v chentralnoaziatskoy politike Kitaya", *Cabar Asia*, 1-10.
- Ibragimova, G. (2015). "Vse boyatsa povterenia teh sobitii", <https://lenta.ru/articles/2015/06/11/osh/> (Accessed: 20.12.2019).
- Juraev, S. (2017). "Uzbekistan god spustya: v preddverii bolshogo strategiceskogo rivka" <https://kun.uz/ru/93702169> (Accessed: 20.12.2019).
- Kak menaetsa vneshnaya politika Uzbekistana, Intervyu s Guli Yuldashevoy (2018) <https://caa-network.org/archives/13178> (Accessed: 29.12.2019).
- Karimov, İ. (1997). *Uzbekistan Na Poroge XXI Veka*, Tashkent, İzdatelstvo Uzbekiston.
- Kazantsev, A. Gusev, L. (2018). "Reformi vneshney politike Uzbekistana: osnovnie dostijenia i scenarii razvitiya" *Vestnik RUDN. Mejdunarodnie Otnoshenii*, No. 2, Vol. 18, 292-303.
- Kazemi, L. (2003). "Domestic Sources of Uzbekistan's Foreign Policy, 1991 to the Present", *Journal of International Affairs*, Vol. 56, No. 2, 205-216.

- Kozyulin, V. (2010). “Oshskiy Konflikt: Drama s Prodoljeniem”
http://www.pircenter.org/kosdata/page_doc/p2232_1.pdf (Accessed: 20.12.2019).
 Malashenko, A. (2012). “Uzbekistan: “Kakih Peremen Jdat?””, Moscow Carnegie Center, No. 5, Vol. 14, 1-8.
- Mihaylov, G. (2010). “Reznaya v Osh ne daet spat uzbekam”
http://www.ng.ru/cis/2010-09-22/1_osh.html (Accessed: 20.12.2019).
- Official website President of Uzbekistan “Poslanie Prezidenta Respubliki Uzbekistan Shavkat Mirziyoyeva Oliy Majlisu”,
<https://president.uz/ru/lists/view/1371> (Accessed: 06.12.2019).
- Petrov, S. (1997). “Stanovlenie Vneshney Politiki Respubliki Uzbekistan”, PHD thesis, Moscow, MGIMO.
- Popov, D. (2015). “Mesto Uzbekistana v chentrarnoaziatskoy politike SSHA”, Problemi Natsionalnoy Strategii, No. 1, Vol. 28, 74-90.
- Rahimov, M. & Urazaeva, G. (2005). “Central Asian Nations&Border Issues”, *Central Asian Series*, 05/10, 1-23.
- Ramani, S. (2018). “Can Uzbekistan Help Mediate the Afghan Conflict?”
<https://thediplomat.com/2018/07/can-uzbekistan-help-mediate-the-afghan-conflict/> (Accessed: 09.12.2019).
- Results of the official visit of the President of Uzbekistan to the USA,
<http://www.uzbekembassy.in/results-of-the-official-visit-of-the-president-of-uzbekistan-to-the-usa/> (Accessed: 29.12.2019).
- RIA Novosti “Biografiya Shavkata Mirziyoyeva” <https://ria.ru/20170724/1498848834.html> (Accessed: 20.12.2019).
- Saud, Adam. (2018). “Changing Dynamics of Uzbekistan’s Foreign Policy under Shavkat Mirziyoyev: Prospects for Central Asian Regional Economic Integration”, *Central Asia Journal* No. 82, 1-32.

Shavkat Mirziyoyev nazval prioriteti vo vneshney politike Uzbekistana, <https://tengrinews.kz/sng/shavkat-mirzieev-nazval-prioritetyi-vneshney-politike-301901/> (Accessed: 06.12.2019).

Shustov, A. (2019). “Osi Moskva – Tashkent. Chto stoit za sblieniem Rossii i Uzbekistana” <https://eurasia.expert/chto-stoit-za-sblizheniem-rossii-i-uzbekistana/>

Toktogulov, B. (2018). “The Failure of Settlement on Kyrgyz-Uzbek Border Issues: a Lack of Diplomacy?”, *Bilge Strateji*, No. 19, Vol. 19, 85-106.

Troicky, E. (2009). “Stanovlenia i Razvitie Shangaiskoy Organizatsii Sotrudnicehsvo” 2000-2007)”, *Istoria*, 180-182.

Vlaskina, A. (2017). “Etnicheskie Konflikty Postsovetskogo Prostranstva na Primere Chentralnoy Azii”, *Vipusknaya rabota*, Sankt Petersburg, Sankt Petersburg State University, 7-26.

Waltz, Kenneth. (2000). “Structural Realism after the Cold War”, *International Security*, Vol. 25, No. 1, 5–41.

CHAPTER 8

EFFECTS ON RESEARCH AND DEVELOPMENT (R&D) EXPENDITURES ON ECONOMIC GROWTH AND EXPORT: CASES FOR DEVELOPED AND DEVELOPING COUNTRIES ¹

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INTRODUCTION

R&D expenditure is an important factor in developing technology. For evaluations; new ideas and technological outputs cause the productivity to be increased, costs to be reduced, employment opportunities and profits rates to be sustained by developing these outputs and adapting them to the current system. Developing countries need to be in a state of flux for almost every minute to decrease developmental differences between themselves and developed countries; technologically and economically continue their existence and keep their competitiveness based on rapid improvements in technology and science. This becomes possible only by R&D activities that take the lead for technological development and innovation. Besides being at the top for intercountry development levels by the rapid changes in technology; the need for exploring new production methods and products by new technologies has caused R&D activities to be regarded more.

This study, first of all, submitted the literature review related to some of the studies that analyze the relationships between R&D activities with economic growth and exports. After the literature review, there can be seen various statistical and econometric analyses by panel data analysis method regarding data of economic growth and export with R&D expenditures and the ratio of R&D expenditures to the national income (R&D intensity) by considering the discrimination for developed and developing countries.

1. LITERATURE REVIEW

R&D activities are the crucial factors that pave the way for emerging innovation concept that is accepted as the driving factor of economic growth. R&D activities that were conducted for defence in the Second World War caused technological innovations that provide equipment which service to the defence industry in the beginning and after then other industrial sectors to emerge. Innovation and added-value arising from R&D activities have created a positively directed effect for all the sectors. Thus, countries or firms which are aware of this situation prefer to increase their R&D investments to grow.

We can say that the pilot work that reviews the relationship between R&D activities and economic performance belongs to Solow (1957). Solow who researched concerning the data of the USA economy concluded that economic growth results from technological progress. Table 1 shows some of the studies that are about the effects of R&D expenditures on economic growth; Table 2 shows some of the studies that are about the effects of R&D expenditures on export.

Table 1. Literature Summary on Economic Growth by R&D

Studies on Economic Growth by R&D				
Authors	Year	Period	Country	Result
Lichtenberg	1992	1964-1989	74 Countries	R&D expenditures positively affect economic growth.
Goal and Ram	1994	1960-1985	18 Developed 34 Developing Countries	There is a significant relationship between R&D expenditures and economic growth
Luh and Chang	1997	1980-1991	Taiwan	The R&D expenditure is a determinant that is effective in economic growth.
Lee ve Yu	1998	1975-1997	South Korea	R&D expenditures positively affect economic growth
Freire-Serén	1999	1965-1990	21 OECD Countries	R&D expenditures positively affect economic growth.
Sylwester	2001	1981-1996	G-7 and 20 OECD Countries	R&D expenditures positively affect economic growth.
Zachariadis	2004	1971-1995	10 OECD Countries	R&D expenditures positively affect economic growth.
Wu, Zhou and LI	2007	1953-2004	China	There is a two-way and high causality relation between R&D expenditures and economic growth in the long term.
Akıncı and Sevinç	2013	1990-2011	Turkey	There is a one-way causality relation from R&D expenditures to economic growth.
Bozkurt	2015	1998-2013	Turkey	R&D expenditures positively affect economic growth.
Sokolov-Mladenović et al.	2016	2002-2012	28 EU Countries	R&D expenditures positively affect economic growth.
Dam and Yıldız	2016	2002-2012	BRICS, Turkey, Mexico	R&D expenditures positively affect economic growth.
Taş et al.	2017	2005-2015	Turkey	There is a one-way causality relation from economic growth to R&D expenditures.
Uçak et al.	2018	1990-2016	Turkey	R&D expenditures positively affect economic growth.
Dereli and Salğar	2019	1990-2015	Turkey	There is a two-way causality relation between R&D expenditures and economic growth.

Table 2. Literature Summary on Export by R&D

Studies on Export by R&D				
Authors	Year	Period	Country	Result
Wakelin	1998	1988-1992	England	R&D expenditures have a negative effect on export
Rodríguez and Rodríguez	2005	1998-1999	Spain	R&D expenditures positively affect export
Arnold and Hussinger	2005	1992-2000	Germany	R&D expenditures positively affect export.
Braunerhjelm and Thulin	2006	1981-1999	19 OECD Countries	R&D expenditures increase high-tech export
Özer and Çiftçi	2009	1990-2005	30 OECD Countries	R&D expenditures positively affect export.
Bojnec and Ferto	2011	1995-2003	18 OECD Countries	R&D expenditures positively affect export.
Kılıç et al.	2014	1996-2011	G-8 Countries	R&D expenditures increase high-tech export.
Yüksel	2017	1996-2014	28 EU Countries	There is a causality relation from export to R&D expenditures.
Canbay	2020	2004-2017	Turkey	R&D expenditures positively affect export.

As is seen in Table 1 and Table 2, there are different results on the effect of R&D on economic growth and export. The key reason for this difference is the different periods, method and country groups selected by the authors. Much as there has been observed different results, R&D activities have created positive effects on economic growth and export in general.

2. ECONOMETRIC ANALYSIS

2.1. Dataset and Methodology

This study performed a panel data analysis to determine the effects of R&D activities of 7 developed countries including USA, Germany, France, South Korea, England, Israel and Japan and 3 developing countries including China, Russia, and Turkey on the economic growth and export regarding economic growth and export data of these related countries covering the period 1990-2014. R&D expenditures and R&D intensity were accepted as the dependent variable. We tested the effects of dependent variables on economic growth and export. Table 3 shows the variables in models.

Table 3. Variables in Models

Series	Explanation	Source
LRD	R&D Expenditures	OECD
RDY	R&D Intensity (R&D Expenditures/GDP)	OECD
LGDP	GDP	The World Bank
LEXP	Export	IMF

Effect of R&D expenditures and R&D intensities of developing and developed countries on economic growth and export was estimated by considering the development level of countries by using panel data analysis technique to evaluate the macroeconomic effects of R&D activities. Analyses were performed by taking R&D expenditures from variables; natural logarithms of export figures and GDP representing economic growth.

In this study , relations among variables were tried to be reached via the static panel data methods. After introducing theoretical information on tests and methods that can be used with the panel data technique in this part of the study, analyses were performed.

2.2. Panel Data Analysis

Panel data can be defined as the data set, including time series of more than one section or the sectional data with time dimension (Greene, 2003:612). Panel data consists of both cross-section and observations for each period. In other words, Panel data consists of a time dimension and cross-section dimension (Yıldırım and Tosuner, 2014: 56). Simple, functional display of panel data regression model can be seen (1) numbered equation below;

$$Y_{it} = \alpha + \beta_{lit}X_{lit} + \dots + \beta_{kit}X_{kit} + e_{it} , (1)$$

$$i = 1,2, \dots, N, t = 1,2, \dots, N$$

In (1) numbered equation, Y is the dependent variable, X is explanatory variable; e is error term with zero mean and constant variance; i shows the sections and t is time. There is an individual effect that includes characteristics peculiar to sections; cannot be observed by independent variables; does not vary by time. Different features that belong to units are in the error term (Baltagi 2005: 11-12).

There are two methods to estimate panel data model; fixed effects and random effects.

2.2.1. Fixed Effects Model

The fixed-effects model generates a different constant value for each cross-section units. It is assumed in the fixed effects model that the slope coefficient that is represented by “ β ” does not change; however, constants only change among sectional data or time data or in both. We accept in this model that individual effects are associated with explanatory variables in the model (Greene, 2003: 285). These kinds of models are called a one-way temporal fixed effects model if differentiation occurs based on time only. If there is a differentiation based on both time and section in panel data, these models are called two-way fixed effects models. Since the sectional effect is researched more than time effect in panel data analyses, panel data models are one-way models in general (Hsiao, 2003: 30).

One-way fixed effects model is shown in (2) numbered equation; a two-way fixed effects model is shown in (3) numbered equation;

$$Y_{it} = (\alpha_{it} + \mu_{it}) + \beta_{lit}X_{lit} + \cdots + \beta_{kit}X_{kit} + e_{it} , (2)$$

$$Y_{it} = (\alpha_{it} + \mu_{it} + \lambda_{it}) + \beta_{lit}X_{lit} + \cdots + \beta_{kit}X_{kit} + e_{it} , (3)$$

It is accepted above equation that variances of error terms disperse as independent and identical to provide zero (Baltagi, 2005: 12). A fixed-effects estimator estimates different constants for each of the units and causes constant to be different for sectional units.

2.2.2. Random Effects Model

The change arising from differences based on units or units with time can be tested by the random-effects model as well. If the individual effects in the random-effects model are not about explanatory variables in the model, it is to the point to assume that terms peculiar to units randomly disperse; make modelling based on this style is preferred (Greene, 2003: 293). For this model, changes based on units or time and units are inserted in the model as a component of the error term. The goal here is to want to avoid the loss of a degree of freedom that is seen in the fixed effects model (Baltagi, 1995; 13). Just because the important thing in the random-effects model is that there are no coefficients peculiar to unit or unit and time; there are special error components peculiar to unit or unit and time. Moreover, the random-effects model does not only consider differences arising from units and time but also effects except the sample (Greene, 2003:293-294).

One-way random effects model is shown in (4) numbered equation; a two-way random effects model is shown in (5) numbered model;

$$Y_{it} = \alpha_{it} + \beta_{lit}X_{lit} + \cdots + \beta_{kit}X_{kit} + (\mu_{it} + \lambda_{it}) \quad (4)$$

$$Y_{it} = \alpha_{it} + \beta_{lit}X_{lit} + \cdots + \beta_{kit}X_{kit} + (\mu_{it} + \lambda_{it} + v_{it}) \quad (5)$$

The advantage of the random effects model compared to the fixed effects model is that the loss of a degree of freedom is removed in such models. Moreover, the random-effects model enables effects except the sample to be inserted in the model.

2.3. Findings

Under this title, determines the effect of R&D expenditures on economic growth and export was commented through regressions based on fixed effects and random effects.

It is evaluated in the model that the random-effects model can give more reliable results in the study. Table 4 shows the results of regression that is established to find the relationship between R&D expenditures with R&D intensity and economic growth with export based on fixed and random effects model.

Table 4. Fixed and Random Effects Model Results

Dependent Variable	Independent Variable	Fixed Effects Model	Prob.	Random Effects Model	Prob.
LGDP	LRD	0.0143	0.2548	0.0379	0.0081*
LGDP	RDY	-0.0065	0.5277	-74079.7	0.1082
LGDP(1)	LRD	-0.0058	0.6881	-0.006	0.668
LGDP(1)	RDY	-0.0043	0.6022	-0.0045	0.5824
LGDP(2)	LRD	0.0219	0.4832	0.0565	0.0851***
LGDP(2)	RDY	-0.0088	0.7035	-0.0069	0.7806
LEXP	LRD	0.0196	0.1813	0.0264	0.0645***
LEXP	RDY	0.0487	0.0007*	0.0488	0.0142**
LEXP (1)	LRD	0.0651	0.0138**	0.0641	0.0131**
LEXP (1)	RDY	0.0509	0.0002*	0.0507	0.0002*
LEXP (2)	LRD	-0.0065	0.5277	-74079.7	0.1082
LEXP (2)	RDY	0.0217	0.535	0.0226	0.5072

*, **, *** Respectively show the relationship for 1%, 5% and 10% significance level.

Note: (1) Developed countries, (2) Developing Countries

For conclusions, the relationship between LGDP and LRD is statistically insignificant in regression that is established to find the relations between LGDP and LRD of countries based on the fixed-effects model. 1% increase in R&D expenditures at 1% significance

increases LGDP by 0.038% in the regression based on the random-effects model. However, it is confirmed that the relationship between LGDP and RDY is statistically insignificant in regression that is established to find the relation between LGDP and RDY based on fixed and random effects models.

About the regression that is established to find the relation between LGDP and LRD with RDY based on fixed and random effects model, the relationships between variables are statistically insignificant. However, it is also mentioned in the regression based on the fixed effects model between LGDP and LRD of developed countries; there is a relationship between LGDP and LRD at a 10% significance level; a 1% increase in LRD increases LGDP by 0.056%. Moreover, there is no statistically significant relationship between LGDP and RDY in regression that is created to determine the relation between LGDP and RDY of developing countries based on fixed and random effects model

For another finding, the relationship between LEXP and LRD is statistically insignificant in regression that determines the relation between LEXP and LRD based on the fixed-effects model. However, a 1% increase in LRD at a 10% significance level in the regression based on the random-effects model increases LEXP by 0.026%.

There is estimated a relationship at a 1% significance level in regression that is based on the fixed-effects model and performed to determine the relationship between LEXP and RDY; for another finding, a 1% increase in RDY increases LEXP by 0.048%. Again, there is found a

relationship between LEXP and RDY at a 1% significance level in the regression based on a random-effects model; a 1% increase in RDY increases LEXP by 0.048%.

There is observed a relationship between variables at a 5% significance level in regression that is established to determine the relationship between LEXP and LRD of developed countries; a 1% increase in LRD increases LEXP by 0.065%; this increase actualized by 0.064% unit in a random-effects model.

It is estimated that there is a relationship between LEXP and RDY variables of developed countries at a 1% significance level based on regression in the random-effects model. We see at the end of regressions that a 1% increase in RDY of developed countries increases export by 0.05%. It is concluded that the relations between variables are statistically insignificant in regressions that are created to find the relation between LEXP and LRD with RDY of developed countries.

CONCLUSION

According, Fixed and Random Effects Model Results estimation results, a 1% increase in R&D expenditures increases the economic growth of all the countries in the sample by 0.037%; economic growth of developing countries within all the countries in the sample by 0.05%. Effects of R&D intensity on economic growth has not statistically significant effect for all the countries and developing countries at the same time. Regarding developed countries group, R&D expenditures and R&D intensity have no statistically significant effect on economic growth. We can say in the last instance that R&D expenditures make a

statistically significant and positive contribution to the economic growth of country groups in the sample and developing countries in this group. Although this positive and statistically significant relationship between R&D expenditures and economic growth is an expected result, this effect is insignificant for developed countries, significant for developing countries.

On the other hand, R&D expenditures and R&D intensity positively affect the export of all the countries in analysis and developed countries in this group while the R&D activities have no impact on the export of developing countries. For regression that was conducted for all the country group, a 1% increase in R&D expenditures increases export by 0.026%; a 1% increase in R&D intensity increases export by 0.048%. We can say at the end of regression for developed countries that a 1% increase in R&D expenditures increases export by 0.064%; a 1% increase in R&D intensity increases export 0.05%. R&D expenditures and R&D intensity have no statistically significant effect on the export of developing countries. In conclusion, it is estimated that the relationship between R&D expenditures with R&D intensity and export of countries is significant and positive as it is expected. We see when we compare the development level of countries that this effect is statistically significant and positive for developed countries; there is no statistically significant effect for developing countries.

There can be made an evaluation, such as R&D expenditures and R&D intensity can affect the macroeconomic indicators of countries in different manners in terms of the development levels of related

countries. The effect of R&D expenditures on economic growth is statistically insignificant for developed countries while the same effect is positive and statistically significant for developing countries. For analyses results, the relationship with R&D activities and export is different from expected for economic growth. That is to say, R&D is affected as positive and statistically significant for developed countries while there is no statistically significant effect for developing countries. The insignificant relationship that is between R&D and the economic growth of developed countries is statistically significant and positive for export.

R&D has no direct effect on the economic growth of countries; however, there can be seen an effect of R&D on economic growth through export increase. R&D investments increase as the result of the effect of R&D on the economic growth of countries; developing new product and production methods arising related investments provides productivity growth by lowering the costs and triggering internal dynamics. Such a turn proves the possibility of being positively affected by economic growth by R&D expenditures in developing countries.

The effect of R&D on developing countries is statistically insignificant, while the same effect on developed countries is positive and statistically significant. This difference can be explained as follows; the amount of diversity of export goods of developing economies is not so much as well as they mostly are agricultural products. Production and export of goods that are based on high technology and R&D cannot be at sufficient levels because of the lack of source and infrastructure; this

explanation may be to the point to understand the absence of any significant relationship between export and R&D expenditures for developing countries. Continuously developing new technologies as the result of intense R&D activities of both public and private sectors brings along the exportation of new high-tech products to underdeveloped countries. Thus, we can clarify the presence of a positive and significant relationship between R&D expenditures and export in terms of developed countries. The positive and statistically significant effect of R&D on developed countries can be possible for developing countries by reaching R&D infrastructure to the level of developed countries.

It is an accepted determination that R&D investments contribute to economic growth and export by increasing the technological development level of companies and countries. The positive effect of R&D on export is a status that accelerates the economic growth of a country. R&D activities and developing new technologies provide developing countries to continue their existence in an international competition for reaching the level of developed countries; regarding developed countries, R&D activities and developing new technologies provide to maintain sustainable economic growth trend by an increase in welfare. Accordingly, governments must increase such investments of the public to continue R&D activities that provide economic growth and increase in welfare that are the primary concerns of states today; the private sector needs to be encouraged to continue the same activities as well.

The quality and quantity of R&D personnel that is accepted as one of the inputs of R&D activities is an issue that must not be neglected. Developing and developed countries need to have more qualified human capital to catch an advantage and have a voice in the globalized world market. There is a need for studies toward increasing quality in all the educational areas from primary education to technical education when we think that R&D expenditures give more effective results by qualified human capital. Developing countries, in such a situation, can quickly reach the level of developed countries.

R&D investments in Turkey are not so strong compared to the national income and within the context of public and private sectors. Moreover, Turkey has no forceful technology policy at present. Thus, it is a reasonable cause of R&D expenditures not to positively affect national income and export because of being in minimum amounts. However, it can be possible to see the effects of R&D expenditures in countries with more investment need and sectors such as the Turkish economy with high-added value by improving these sectors. In conclusion, it should not be forgotten that it is not easy to see this effect in countries with poor sectoral expansion share of R&D expenditures and technological developments. The use of technology in all the sectors is more common in countries such as the USA, Japan, and South Korea which can produce and export technology; give enough importance and support to R&D; have a high share of R&D in national income. So, it will be more possible to see the positive effects of technological development and R&D expenditures on national income and export.

REFERENCES

- Akıncı, M. and Sevinç, H. (2013). The Relationship Between R&D Expenditures and Economic Growth: The Case of Turkey. 1990 – 2011. *The Journal of International Social Research*, 6(27), 7-17.
- Arnold, J. M. and Hussinger, K. (2005). Export Behavior and Firm Productivity in German Manufacturing: A Firm-Level Analysis. *Review of World Economics*, 141(2), 219-243.
- Bojnec, Š. and Ferto, I. (2011). Impacts of Research and Development on Manufacturing Trade. *Proceedings of Rijeka Faculty of Economics*, 29(1), 65–88.
- Bozkurt, C. (2015). R&D Expenditures and Economic Growth Relationship in Turkey. *International Journal of Economics and Financial Issues*, 5(1), 188-198.
- Braunerhjelm, P. and Thulin, P. (2006). Can Countries Create Comparative Advantages? R&D Expenditures, High-Tech Exports And Country Size In 19 OECD Countries, 1981-1999. *International Economic Journal*, 22(1), 95-111.
- CANBAY, Ş. (2020). The Effects Of Research And Development (R&D) Expenditures On Exports In Turkey. *Dumlupınar University Journal of Social Science*, (63), 131-140.
- Dam, M. M. and Yıldız, B. (2016). Impact Of R&D and Innovation on Economic Growth at BRICS-TM Countries: An Econometric Analysis. *Akdeniz Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 16(33), 220-236.
- Dereli, D. D. and Salgar, U. (2019). Relationship Between R&D Expenditures and Economic Growth: An Evaluation on Turkey. *Journal of Life Economics*, 6(3), 345-360.

- Freire-Serén, M^a. J. (1999). Aggregate R&D Expenditure and Endogenous Economic Growth. *UFAE and IAE Working Papers*, 436(99), 1-31.
- Goel, R. K. and Ram, R. (1994). Research and Development Expenditures and Economic Growth: A Cross-Country Study. *Economic Development and Cultural Change*, 42(2), 403-11.
- Hobikoğlu, E. H. (2014). *Yeni Ekonomide İnovasyon*. 1. Baskı. İstanbul: İktisadi Araştırmalar Vakfı.
- Kılıç, C., Bayar, Y. and Özekicioğlu, H. (2014). Effect of Research and Development Expenditures on High Technology Exports: A Panel Data Analysis for G8 Countries. *Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 44, 115-130.
- Lee, J. W. and Yu, B. G. (2002). An Endogenous Growth Model Approach to the Korean Economic Growth Factors. *The Journal of Productivity*, 8, 1-13.
- Lichtenberg, F. R. (1992). *R&D Investment and International Productivity Differences*. National Bureau of Economic Research Working Paper Series, 4161, 1-39.
- Luh, Y. H. and Chang, S. K. (1997). Building The Dynamic Linkages Between R&D and Productivity Growth. *Journal of Asian Economics*, 8(4), 525-545.
- Özer, M. and Çiftçi, N. (2009). Relationship between R&D Expenditures and Exports: A Panel Data Analysis for OECD Countries. *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, 23, 39-49.
- Rodriguez, J. L. and Rodriguez, R. M. G. (2005). Technology and Export Behaviour: A Resource-Based View Approach. *International Business Review*, 14(5), 539-557.

- Sokolov-Mladenović, S., Cvetanović, S. and Mladenović, I. (2016). R&D Expenditure and Economic Growth: EU28 Evidence for the Period 2002–2012. *Economic research-Ekonomska istraživanja*, 29(1), 1005-1020.
- Solow, R. M. (1957). Technical Change and the Aggregate Production Function. *The Review of Economics and Statistics*, 39(3), 312-320.
- Sylwester, K. (2001). R&D and Economic Growth. *Knowledge, Technology, &*
- Taş, Ş., Taşar, İ and Açı, Y. (2017). Relationship Between R&D Expenditures and Economic Growth: Example of Turkey. *Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 10(2), 197-206.
- Trott, P. (2005). *Innovation Management and New Product Development*. 3. Baskı. New York: Prentice Hall.
- Uçak, S., Kuvat, Ö. and Aytekin, A. (2018). The Relationship between R&D Expenditures and Growth in Turkey: ARDL Approach. *Manisa Celal Bayar Üniversitesi Sosyal Bilimler Dergisi*, 16(2), 129-160.
- Wakelin, K. (1998). Innovation and Export Behavior at the Firm Level. *Research Policy*, 26(7), 829–841.
- Wu, Y. M., Zhou, L. ve Li, J. X. (2007). Co-integration and Causality between R&D Expenditure and Economic Growth in China: 1953-2004. *International Conference on Public Administration*, 869-876.
- Yıldırım, D. Ç. and Tosuner, O. (2014). The Effects of FDI on Human Capital Stock in Central Asian Turkic Republics. *Eurasian Journal of Business and Economics*, 7(14), 51-60.
- Yıldırım, D. Ç. (2014). An Empirical Analysis of the Relationship between Economic Integration and Access to Education. *The Journal of Knowledge Economy & Knowledge Management*, 9(1), 101-113.

Yüksel, S. (2017). The Impacts of Research and Development Expenses on Export and Economic Growth. *International Business and Accounting Research Journal*, 1(1), 1-8.

Zachariadis, M. (2004). R&D-Induced Growth in the OECD?. *Review of Development Economics*, 8(3), 423-439.

BÖLÜM 9

SUPERVISOR UNDERMINING AS THE ANTECEDENT OF EMPLOYEE SILENCE

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INTRODUCTION

Establishing and maintaining positive relations with employees under the organization is the basis for achieving success in today's competitive world. At this point, leaders and managers fulfill many more responsibilities such as creating a moderate, ethical and shared culture and climate within the organization, providing justice and trust, motivating and supporting employees, etc. While interpersonal relationships are important in fulfilling these responsibilities (Duffy, Ganster & Pagon, 2002), relations between managers and employees are of capital importance (Eisenberger, Stinglhamber, Vandenberghe, Sucharski & Rhoades, 2002; Shanock & Eisenberger, 2006). Negative behaviors that emerge in different ways within organizations with a psycho-social structure and constitute a serious cost factor have been investigated in the literature for a long time. As Hershcovis (2011) points out, workplace undermining conceptually differs from the other concepts of workplace incivility (Andersson & Pearson, 1999), workplace bullying (Rayner, 1997; Einarsen, 2000), mobbing (Leymann, 1996) and abusive management (Tepper, 2000) that express workplace violence at the point of intent and focus of behaviors.

An effective manager-employee interaction and harmony is needed for the long-term success of organizations. From the perspective of the employee, especially the supervisor support contributes to the increase in job satisfaction (Dirks & Ferrin, 2002), motivation and performance (Shanock & Eisenberger, 2006). Again, the supervisor support

contributes positively to the organizational commitment, trust and psychological well-being of the employees (Dirks & Ferrin, 2002). However, many aspects of relations with the supervisor in organizations (e.g, power inequality and poor performance) may lead the supervisor to negative attitudes and behaviors towards employees (Tepper, 2007; Tepper, Moss & Duffy, 2011). At this point, the supervisor undermining is defined as the manager's negative behavior, criticism, and behaviors that negatively affect employees ability to achieve their instrumental goals (Vinokur & Van Ryn, 1993). Although we know that the supervisor undermining may negatively affect employee health, well-being and organizational commitment (Duffy, Ganster & Pagon, 2002, Nahum-Shani, Henderson, Lim & Vinokur, 2014), still, little is known about how this undermining behavior affects the behavior of subordinates in the organization (Eissa, Wyland & In the Group, 2018). Empirical findings in the literature show that while the employees, who are exposed to undermining behavior rather than support from their manager, intention to quit (Duffy, Ganster, Shaw, Johnson & Pagon, 2006; Telli, Ünsar & Oğuzhan, 2012; Karagonlar & Öztürk, 2015; Greenbaum, Mawritz & Piccolo, 2015), emotional exhaustion, depression and work stress (Hershcovis & Barling, 2010; Ülbeği, İpek & Yalçın, 2019) increase, their health, well-being and performance will decrease (Duffy et al., 2002, Duffy et al. 2006, Hershcovis & Barling, 2010; Ülbeği et al., 2019). Again, the studies have revealed that while the supervisor undermining is negatively (Duffy et al., 2002; Kammeyer-Mueller, Wanberg, Rubenstein, & Song, 2013;

Greenbaum et al., 2015) related to job satisfaction and organizational commitment, it is positively related to anti-productivity behaviors.

Employees tend to perceive their managers both as a representative of the organization (Tokgöz & Seymen, 2013) and as a model. This tendency brings to mind the idea that supervisors have an important share in the spread of social undermining within the organization. Within the framework of social learning theory (Bandura, 1977), which states that individuals typically develop certain behaviors by observing and imitating the behavior of strong and reliable role models (e.g. leaders), subordinates who take the undermining behaviors of their supervisors tend to undermine their colleagues, whom they think are more inoffensive and risk-free (Eissa et al., 2018). In this sense, the undermining behavior that spreads throughout the organization causes an increase in the intention of the members to quit by disrupting the organization-member harmony (Hershcovis & Barling, 2007; Greenbaum et al., 2015). Again, with increasing undermining behavior, employees tend to avoid expressing their thoughts about organizational problems or benefits, and their tendency to hide information and thoughts towards the solution of problems increases (Zahed, 2015). Silence, which is defined as the employees - who are the intellectual capital of the organizations- hiding any of their contributive or beneficial thoughts and ideas from their organizations (Morrison & Milliken, 2000), prevents the effective use of this unique resource. Employees failure to talk about important institutional problems cause deterioration in information flow and

organizational performance (Bagheri, Zarei & Aeen, 2012: 48). Employee silence, which can be counted among anti-productivity business behaviors (Duffy et al., 2002; Duffy et al., 2006; Reynolds, 2009), prevents the organization from achieving its goals and objectives due to its passive but destructive nature. There are also empirical studies that demonstrate that employee silence, which negatively affects many organizational processes and output, is effective on loyalty, job satisfaction and motivation (Morrison & Milliken, 2000; Özdemir & Sarıoğlu Uğur, 2013). However, there is a limited number of studies in the literature on the subject of undermining behavior and employee silence (Zadeh 2015; Jung & Yoon, 2019).

1. THEORETICAL FRAMEWORK

1.1. Supervisor Undermining

Although the concept of social undermining was first described by Vinokur and Van Ryn (1993), the concept is based on the work of Rook (1984) (Ülbeği et al., 2019). Undermining which is formed by direct behaviors to the target person includes behaviors such as anger, hate and criticism that make it difficult or hinder achieving instrumental goals (Vinokur & Van Ryn, 1993: 350). The first research that dealt with the concept in an organizational context was made by Duffy et al. (2002). The concept is defined by researchers as behaviors aimed at weakening someone else's positive reputation, delaying their work, and blocking their positive relationship ability (Duffy et al., 2002). Compared to other forms of maltreatment, such

as bullying, harassment, and physical aggression, undermining behaviors are low-intensity forms of aggression, often with unclear consequences (Duffy, Scott, Shaw, Tepper & Aquino, 2012). In this sense, it refers to an insidious process that slowly or gradually weakens the victim with certain behaviors (Duffy, 1998; 15).

Social undermining behavior can be seen both physically and verbally within the organization (Duffy et al., 2002). While it may develop in the physical sense as preventing the delivery of the materials required by the job or deliberately delaying the job, in the verbal sense, it may emerge as passive behavior such as making humiliating discourses, sarcastic comments, or keeping quiet without sharing important information (Duffy, 1998; 15; Reynolds, 2009). Again, deliberately making someone feel inadequate in the workplace, hiding important or necessary information, maltreating him/her quietly, talking behind his/her back and spreading rumours are also examples of undermining behavior (Sabeen & Arshad, 2019).

The undermining behavior that prevents the development of social relations within the organization manifests itself in two ways (Duffy et al., 2002). The first of these is that colleagues have undermined the employee; the most important driving force of which is jealousy (Cohen-Charash & Mueller, 2007; Duffy et al., 2006; Duffy et al., 2012; Duffy & Shaw, 2000) and competition. While employees can more easily tolerate these efforts from their colleagues to prevent their success (Levinson, 1965), they are more severely affected by the undermining behavior caused by their supervisors (Hershcovis &

Barling, 2007). The supervisors (Zohar & Luria, 2005) who are known to serve primarily in the working environment also play a key role in the formation of climate perceptions between groups (Zohar, 2000; Zohar & Luria, 2005). As mentioned earlier, Eissa et al. (2018) state that the supervisors play an important role in occurring and spreading the undermining behavior within the organization. The undermining behavior of the supervisors with official powers and authorization applied to their subordinates causes subordinates to perceive these behaviors as acceptable (Mawritz, Mayer, Hoobler, Wayne & Marinova, 2012). Thus, subordinates, who are the victims of supervisors' undermining behavior, often turn to their colleagues who are less powerful targets and direct the undermining experience they see and experience to them. As previous research has indicated, subordinates typically avoid directing negative behaviors to their superiors. The reason for this is that in employees negative behaviors, the management authority has a formal power over subordinates, as well as the possibility of encountering disciplinary punishment, organizational incentives or losing rewards (Eissa et al., 2018).

Researches show that undermining behavior at workplace has devastating effects on an individual and organizational level. Victims of social undermining experience problems such as loneliness, boredom, aimlessness, depression, decreased self-esteem, anger and low quality of life (Abbey, 1985; Vinokur & Van Ryn, 1993; Beheshtifar, 2014), as well as loss of self-confidence, and deterioration of psychological and physical health (Duffy, 1998; Fang,

2010). Again, while these employees intention to leave, stress and burnout levels increase, their organizational commitment levels, job satisfaction and performances decrease (Duffy et al., 2002; Duffy et al., 2006; Kammeyer-Mueller et al., 2013; Duffy et al., 2002, Nahum-Shani et al., 2014).

1.2. Organizational Silence

The concept of organizational silence was first described in the literature by Hirschman (1970). Then, Noelle-Neumann (1974) examined the concept as silence spiral, Miceli and Near (1992) as whistleblowing, Morrison and Milliken (2000) as organizational silence, Dyne, Ang & Botero (2003) as employee silence and voice (Brinsfield, Edwads & Greenberg, 2009). The concept, which was initially perceived as an indicator of commitment, has been included in the category of negative behaviors, on the grounds that it prevents the use of human resources correctly and effectively (Çakıcı, 2010). The concept was defined by Morrison and Milliken (2000) as employees avoiding expressing their thoughts about organizational problems and/or benefits, hiding their knowledge and thoughts about solving problems. According to Harlos and Pinder (2001), silence behavior manifests itself in the form of restricting the expressions, thoughts and opinions of the individual in any situation.

There are some theories for employees preferring silence. Among them, according to the Expectancy Theory developed by Vroom (1964), if the employee believes that his/her voice will not have positive results, s/he will not be willing to speak, so s/he will become

silent (Premeaux, 2001). One of the theories thought to be effective in employees becoming silence within the organization is the Spiral of Silence developed by Noelle-Neumann (1974). The basis of this theory is the idea that “if individuals do not comply with the majority, society pushes them out” (Çakıcı, 2007). This spiral, which is clearly seen to be based on fear, was interpreted by Çobanoğlu (2007) as “people take on organizational silence with the fear that they will be ignored and their ideas will not be listened”. Individuals need to love and be loved, belonged and accepted. For this reason, when s/he meets a group that thinks in a different way, s/he may show silence behavior. This is called “fear of conflict” (Schachter, 1951) and caused by the fact that the individual does not want to stay out of the group and this is an important factor in the employee’s becoming silence (Gönüllü, 2001: 199).

Organizational silence has three dimensions: defensive, acquiescent and prosocial (Dyne et al., 2003). In acquiescent silence, employees do not want to express their opinions as they accept the current situation within the organization (Karadal, 2011; Akan & Orhan, 2017). This passive behavior, expressed as submission or acceptance, may cause the employee to move away from the organization. It manifests itself in the employee’s negligence and ignorance in the organization’s development and process improvements (Dyne et al., 2003). Defensive silence, is defined by Dyne et al. (2003) as the employees do not want to express their opinions, information and thoughts with the aim self-defence because they are afraid of the

reaction they will receive (Acaray & Şevik, 2016). In the emergence of this type of silence, the employee's psychologically feeling that s/he is not safe, and his/her fears and concerns have an important share (Edmondson, 1999). Prosocial silence, which is the last dimension of silence, is that the individual hides his/her opinions and thoughts about the work in order to contribute to the goals of the organization or a group of people in the organization (Balkan & Oran, 2017). In this dimension, the individual is not afraid for himself, as in the defensive dimension, but worries about the organization and its members, and if necessary, does not hesitate to say his/her ideas for the interests of the organization or his/her colleagues (Dyne et al., 2003).

When the literature is examined, Gül and Özcan (2011) found significant and positive relationships between mobbing, one of the bullying behaviors at work, and organizational silence and its sub-dimensions. In their studies, Zehir and Erdoğan (2011) examined the relationship between ethical leadership, organizational silence and employee performance. As a result of the research, ethical leadership has a significant effect on employee silence. Again, while employee performance is positively affected by the by prosocial silence, it is negatively affected by acquiescence silence. No relation was found between defensive silence and employee performance. Again, according to another study that examines the effect of ethical values on organizational silence behavior (Meydan et al., 2015), it was determined that ethical values are a predictor of organizational silence.

Again in the same study, it was determined that the perception of justice mediates this relationship. It is also among the results of this study that silence behavior constitutes an obstacle to organizational success (Meydan et al., 2015). In the study of Eroğlu and Erselcan (2017), where they examined the effect of organizational justice perception and burnout level on employee silence, the sub-dimensions of organizational justice negatively affected employee silence. Alvani et al. (2016) determined negative relationships between variables in their study to determine the relationship between positive organizational behavior and organizational silence.

2. METHOD

2.1. Universe and Sampling

The sample of this research, which was carried out to determine the effect of the supervisor undermining on employee silence, consists of 255 employees over the age of 18 using WhatsApp. In the study, snowball sampling method was preferred in order to reach the resource workers. The snowball sampling method allows the new subjects to be reached by using the social network connections of the subjects when the potential subjects are not known much (Gürbüz & Şahin, 2006: 135). For the purposes of the research, a questionnaire was sent to people who can participate in the questionnaire via WhatsApp, and the employees who completed the questionnaire were asked to send the questionnaire to the people who are on their WhatsApp list and interested in the matter. The questionnaire was tried to be delivered to different people employed in different sectors

and fields of study. According to TSI's January 2020 data, the number of employed individuals over the age of 15 is 27,266. However, this study aimed to reach employees over the age of 18. Again, due to the lack of data on how many of these employees can actively use WhatsApp, the population variance cannot be estimated. A total of 255 people contributed to the questionnaire that remained in the system between the dates 06.02.2020 and 24.04.2020.

2.2. Research Hypotheses and Model

Silence refers to common perceptions shared among employees working in the organization that speaking is useless and / or dangerous in the face of problems or events (Gök, 2016: 104). There are many organizational and managerial reasons that push employees to silence behavior. For example, the worry that an employee will be labeled negatively by his/her manager or experience various fears may cause him/her to become silent in the organization (Milliken, Morrison & Hewlin, 2003). As reported from Dyne et al. (2003), reasons such as the belief that speaking will not change anything, not wanting to be evaluated in a negative way, not disturbing relationships among individuals, and fear of getting punished or losing the opportunity to be promoted may push the employee to become silent (Milliken et al., 2003).

In silence, as with the undermining behavior, the intention of the performer is apparent at the very beginning. Looking at the literature, in the studies that include these two concepts, the negative behaviors of the supervisor were considered as a predictor of the voice. In the

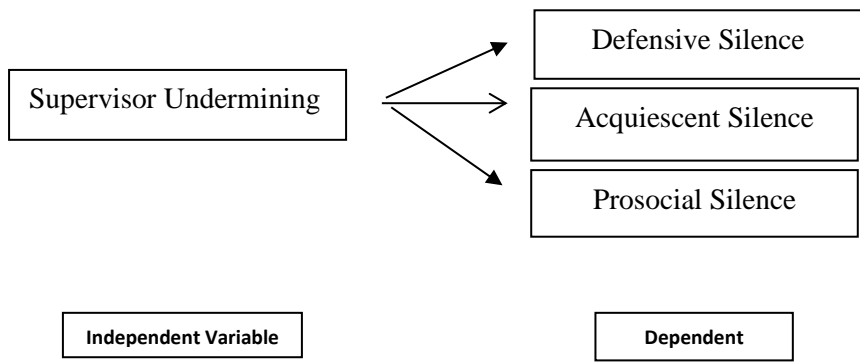
study by Burris, Detert & Chiaburu (2008), the aggressive attitudes of the supervisor are considered as a clear signal that employees are not welcome to speak. The supervisor undermining is also in a structure that explains this behavior (Frazier & Bowler, 2012). In parallel, Uğur (2017) states that the communication and attitude of the supervisor is another variable that pushes the employee to silence. Again, Zahed (2015) in his study to determine the mediating role of social undermining in the relationship between organizational justice and organizational silence, also identifies negative relationships between organizational justice and organizational silence, and significant and positive relationships between social undermining and organizational silence. Again, the researcher states that social undermining plays an intermediary role in this relationship. Accordingly, employees prefer to remain silent and not participate in the organization when they are undermined by their colleagues or managers. Another study on the subject was done by Jung and Yoon (2019). According to the results of the study carried out to determine the voice or silence of the employees who experienced undermining by the customer, it was observed that customer undermining had negative effects on employee voice and positive effects on employee silence. Again, when the employee encounters an undermining behavior by his/her manager or colleague, it was determined that undermining has negative effects on the employees' voice, while positive effects on the his/her silence (Jung & Yoon, 2019).

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the employees’ voice, while positive effects on the his/her silence (Jung & Yoon, 2019).

Frazier and Bowler (2012) state that more research is needed to understand the role of the supervisor’s negative behavior in shaping employee’s voice or silence. In this context, the effects of the supervisor undermining on the employee’s, who is the most important source of organizations, silence were tried to be examined through the model created within the scope of SEM. The models and hypotheses created within the scope of the research are as in Figure 1:

- H1: Supervisor undermining has a positive effect on defensive silence.
- H2: Supervisor undermining has a positive effect on acquiescent silence.
- H3: Supervisor undermining has a negative effect on prosocial silence.



In the research model, while the supervisor undermining was considered as the independent, organizational silence and its sub-dimensions (defensive, acquiescent and prosocial silence) were considered as dependent variables.

2.3. Data Collection Tool

In the research, “Social Undermining Scale” developed by Duffy et al. (2002) was used as data collection tool. The scale was translated into Turkish by Ülbeği et al (2014). As another data collection tool, “Organizational Silence Scale” developed by Dyne et al. (2003) and of which reliability and validity studies were conducted by İşcan (2013). The scale consists of 15 expressions with three sub-dimensions as defensive, acquiescent and prosocial silence. Both scales are 5-point Likert type.

The Cronbach Alpha coefficient calculated for the supervisor undermining scale is $\alpha = 0.93$, and $\alpha = 0.78$ for the organizational silence scale. Again, as a result of the explanatory factor analysis (EFA) conducted for the supervisor undermining scale and organizational silence scale used in the study, it was observed that the factor loads of the two expressions included in the supervisor undermining scale were below .30. By removing the mentioned statements, the analysis was repeated and it showed that 11 statements were collected in one factor and explained 62.03% of the total variance, while all factors of the organizational silence scale explained 54.11% of the total variance. Again, a first level confirmatory factor model has been created within the scope of SEM to determine the

relationship of the used scales with their structures and items. In the first stage, two statements were excluded from the analysis as they distorted the fit index values. As a result of repeated confirmatory factor analysis, the minimum chi-square value ($\chi^2 = 122,847$ df = 27, $p = 0.00$) was found to be significant. Furthermore, the fit index values were found as RMSEA = 0.07, GFI = 0.90, CFI = 0.93, AGFI = 0.90. According to these values, 9 expressions with the aim of measuring the supervisor undermining were modeled in one dimension. The fit indices of the model obtained from the first level confirmatory factor analysis conducted to determine the relation of the organizational silence scale, which is another variable of the research, with its items were examined. Two statements from the sub-dimensions of employee silence (defensive and acquiescent silence) were removed from the analysis on the grounds that they disrupted the goodness of fit of the model and the analysis was repeated. As a result of the analysis, the minimum chi-square value ($\chi^2 = 17,612$, df = 5, $p = 0.00$) was found to be significant. The fit index values were found as RMSEA = 0.06, GFI = 0.97, CFI = 0.95, AGFI = 0.91. These values show that the three-factor model is acceptable.

3. RESEARCH FINDINGS

The data obtained in the study were analyzed using the appropriate statistical programs. In this sense, the findings related to the demographic characteristics of the employees participating in the research were examined at the first stage. Accordingly, 51.1% of the employees participating in the research are male, 57.9% are married,

44.6% are between the ages of 31-40, 61.4% have over 6-10 years of experience, and 47.2% are undergraduate graduates.

In the next part of the research, the mean, standard deviations and correlations between the supervisor undermining and the sub-dimensions of employee silence were examined. The data related to this analysis is given in table 1.

Table 1: Results of Correlation Analysis Between Supervisor Undermining and Defensive Silence

Variables	Arithmetic Mean	Standard Deviation	SU	DefSil	AcqSil	ProSil
SU	1,96	,82	1			
DefSil	2,26	,81	,458**	1		
AcqSil	2,24	,73	,524**	,520**		
ProSil	3,90	,77	-,161**	-,134**	-,146**	1

il=Defensive Silence, AcqSil=Acquiescent Silence, ProSil=Prosocial Silence

** shows that the relationship is significant at 1% level ($p < 0.01$).

When Table 1 is analyzed, it is seen that the coefficients related to the sub-dimensions of organizational silence and supervisor undermining are statistically significant ($p < 0.01$). Accordingly, a positive and high correlation ($r = .52$ and $p = 0.01$) was found between the supervisor undermining and the defensive ($r = .45$ and $p = 0.01$) and acquiescent silence which are the sub-dimensions of organizational silence. However, there is a negative and statistically significant relationship between the supervisor undermining and prosocial silence ($r = -, 161$ and $p > 0.01$).

3.1. Findings Related to SEM Analysis

In the second stage, path analysis was made regarding the model established with SEM. With SEM, while testing the hypotheses of the study, it was also aimed to determine the most appropriate model that explains the existing relationships. Analysis results for the model are given in Figure 2.

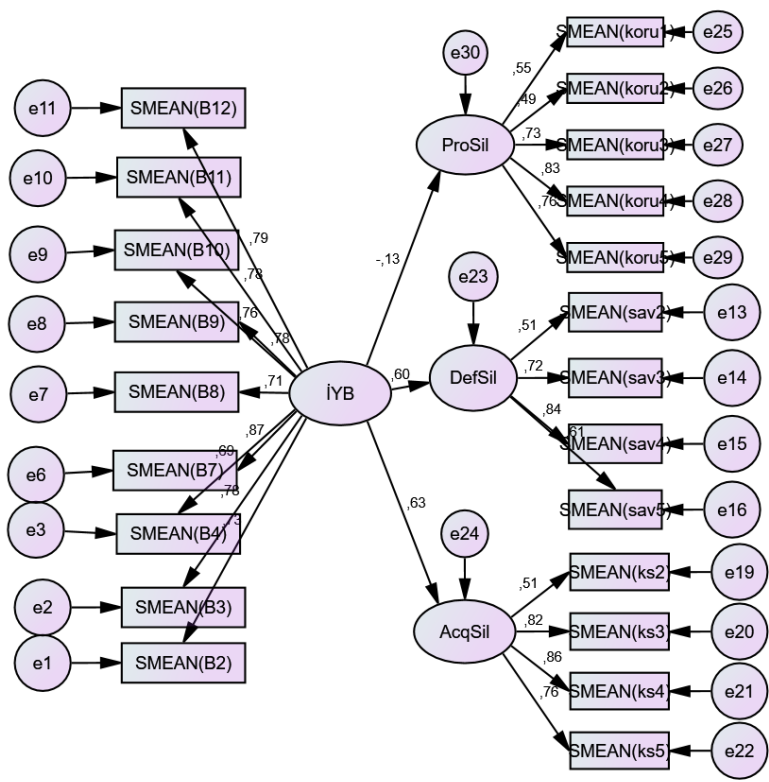


Figure 2: Structural model and analysis results

Considering Figure 2, which shows the result of the analysis, the effect of the supervisor undermining on defensive silence, acquiescent silence and prosocial silence was determined. According to the analysis, the supervisor undermining has a positively significant effect on defensive silence ($\gamma = .21, t = 5.793$) and acquiescent silence ($\gamma = .63, t = 6.107$) while it has a negatively significant effect on prosocial silence ($\gamma = -.13, t = 3.21$). Accordingly, H1, H2 and H3 hypotheses were supported. Goodness of fit values for the model are given in table 2.

Table 2: Structural Model Goodness of Fit Values

Scale/Indexes	χ^2	df	p	χ^2/df	CFI	GFI	AGFI	IFI	RMSEA
Structural Model	430,160	206	.00	2.088	.91	.90	0,90	0,91	0.068

As it can be seen in Table 2, the goodness of fit values for the structural equation model are at the expected level. It can be said that the model is acceptable because the results obtained from the analysis of the created structural equation model give decent and acceptable goodness of fit values (Browne & Gudeck, 1993; MacCallum, Browne & Sugawara, 1996; Hu & Bentler, 1999).

CONCLUSION

In the globalizing world, the existence and competitive capabilities of organizations depend on the ever changing environmental conditions and their ability to respond in the most proper way to customers' diverging demands and expectations. Making a difference through

human resources requires effective and proper use of human resources. At this point, organizations should stop seeing human resources as a cost factor and evaluate it as one of the main resources of the organization. Considering its physical, mental and psychological contributions in the process from organizational goals and objectives to the realization of these goals and objectives, the relationship between the organization-manager and employees will increase inevitably. The disappearance of employees' desire to use their ideas and opinions related to organizational practices and processes, and different and unique perspectives for their organizations is called "employee silence". It has been demonstrated through researches that employees adopt silence behavior for various organizational and managerial reasons. In this study, it is aimed to determine the effect of undermining behavior on employee silence, which is caused by the supervisor who has intense relation and interaction in fulfilling organizational goals and objectives. Again in this way, determining whether the supervisor undermining is a antecedent of employee silence or not, and developing proper suggestions constitutes the starting point of the research.

As a result of the research, the averages related to the answers given to the variables were examined firstly. Accordingly, while the values regarding exposure to the supervisor undermining, acquiescent silence and defensive silence were below the average value of 2,5, values regarding prosocial silence are above this average. According to this, it can be said that the level of employees', who participated in the

research, being exposed to the supervisor undermining and (similarly) becoming silent with a view to defense and protect themselves was very low. As a result of the research, again, while it was observed that there is a positively significant relationship between the defensive and acquiescent silence, which are the sub-dimensions of organizational silence, and supervisor undermining, a negatively significant relationship between the prosocial silence and supervisor undermining was determined. Accordingly, it is possible to say that employees become silent in order to protect themselves as a result of the undermining behavior to which they are exposed by their managers. Again, the belief that these employees cannot change anything is another reason why they remain silent. However, the silence behavior adopted by employees, who are exposed to undermining behavior in different ways, to protect their organizations, managers and colleagues has been decreasing. Supervisor's undermining behavior negatively affects prosocial silence. When the literature is examined, it has been observed that negative emotional disorders such as anger, boredom, and depression (etc.) may occur in the employees exposed to the supervisor undermining (Abbey, 1985; Vinokur & Van Ryn, 1993; Beheshtifar, 2014). As a result of this destructive and negative affect, the desire of the "victim" employees to protect their organizations has been considered extremely normal.

As a result of the analyzes that were made to test the model, it was observed that the supervisor undermining affects defensive and acquiescent silence positively while it affects prosocial silence in a

negative way. It can be said that the model is acceptable as the results obtained from the analysis of the created structural equation model gave values of goodness of fit at a decent and acceptable level. According to this, the hypotheses of “H1: Supervisor undermining has a positive effect on defensive silence”, “H2: Supervisor undermining has a positive effect on acquiescent silence” and “H3: Supervisor undermining has a negative effect on prosocial silence” were confirmed.

Individuals naturally tend to protect themselves physically and mentally. In line with this need, systematic and aggressive behaviors to which individuals are exposed affect employees’ tendency to protect themselves in the long run. In the silence adopted for defense, employees are afraid to share their feelings, thoughts and knowledge as they are afraid of possible reactions. This result of the research, as stated by Burris et al. (2008), may be due to the correct perception of the “unpleasant speech” signal deployed to the aggressive attitudes of the supervisor. Again, the power that the supervisors have and may use on their subordinates in various ways may prevent the employees from expressing their opinions, suggestions and thoughts. As stated by Eissa et al. (2018), facing with disciplinary punishment, not being able to benefit from incentives and rewards, and the possibility of being exposed to biased attitude in the course of performance evaluation may lead employees to defensive silence.

Again, the results of the research have showed that supervisor undermining affects the acquiescent silence in a positive way. The fact that social undermining behavior is long lasting and extended over a period of time is the basis of this result of the research. It is possible to say that with insidious and repeated maltreatment over a certain period of time, the voice behaviors of the employees evolve towards silence. It is thought that the employees who shared their ideas, thoughts and perhaps their feelings with their managers at first, will give up this behavior over time as they do not see any change and are sometimes insulted and humiliated. This behavior, expressed as “extinction” in Skinner’s (1938) Theory of Operant Behaviorism, is weakened over time and eventually disappears. Acquiescent silence behavior emerges at the point where employees believe that they can no longer change anything. Employees who are undermined in various ways by their supervisors over time also give up responsibility for the organization when they lose their faith in the organization’s goals and objectives. At this point, these individuals, who are trying to fulfill the duties expressed only in the job descriptions or given by the manager, avoid extra effort for the benefit of the organization. The inability of these employees to fully utilize their capacities may result in the leaving behavior when they find an appropriate job opportunity.

Finally, the results of the research show that the employees who are exposed to supervisor undermining, minimize their efforts to protect the objectives of the organization or the employees within the organization. Employees will be in the need of responding to

criticism, humiliation and blocking behaviors they face in the organization over time. In this sense, the perception of the manager, who behaves in an undermining manner, as a representative of the organization, may lead the employee to disclose some important information that should be protected in the organizational sense. In her study, Hershcovis (2011) states that the self-efficacy of the employees faced with the undermining behavior has weakened and there has been an increase in their psychological discomfort. The intense feelings of these employees whose mental health is damaged manifest themselves in the form of anger, frustration and sometimes inadequacy. It can be said that, under these circumstances, employees prefer to get rid of this emotional condition by acting in a voice manner that harms the organization and the manager instead of giving a physical or visible response.

Relationships between supervisors and employees are an important determinant of organizational performance. In this context, it is important to adopt the organizational policies and principles that will prevent the undermining tendency of the supervisors, who set an example for the employees with their behaviors within the organization, and embed them in the organization. In line with the strategic goals and objectives set by senior management, all employees must work, think and produce with dedication for the benefit of the organization. At this point, the fact that supervisors are the strongest group that will motivate the employees with their support makes them more important for the organization. However, if the

uncertainty caused by undermining and supporting behavior simultaneously coming from the same managers is not managed properly (Karagonlar & Öztürk, 2017), as Nahum-Shani et al (2014) quoted, (a) this may threaten the employee's self-evaluation consistency and damage the welfare of him/her (Lind & Van den Bos, 2002; Swann, Rentfrow & Guinn, 2003), (b) jeopardize his/her ability to control and predict the work environment, and (c) make him/her stop his/her membership in the organization by causing him/her believe that s/he cannot maintain a good relationship with his/her supervisor (Eberly, Holley, Johnson and Mitchell, 2011). In this sense, the supervisors' behaviors and results of these behaviors are vital for organizations.

Again, it is thought that the supervisor may tend to undermine his/her employees to cover up his/her weak and inadequate performance (Tepper, 2007). Ignoring their own inadequacy by abusing their environment and those working under their command, the supervisors eliminate the tendency of the employees to question, evaluate and exchange ideas within the environment of fear and hate they create. At this point, it is very possible that employees who will contribute to the benefit of the organization give up sharing their ideas, thoughts and suggestions. In solving this problem, the human resources department of the organization has important duties. First of all, it is recommended that employees whose knowledge and expertise are not suspected are employed as supervisors. It is also important to provide these managers with the necessary support and training on how to

support employees and motivate them. Again, senior managers' determination of a shared vision and their feedback on the role of all organization members in reaching this vision will make the business more meaningful and valuable. However, the employee's extreme ownership of a job that attributes meaning and value may lead him/her to perform beyond role. Again, with a supportive and moderate organizational culture that all employees share and contribute to its creation, destructive and negative behaviors such as undermining can be prevented. Defining the ethical codes related to the organization, the existence of certain rules, deterrent practices and sanctions can remove the managers and employees from such behavior.

This study was conducted on 255 workers over the age of 18 using WhatsApp in Turkey. Repeating the research, including a wider sample and sectoral comparisons, will help obtain more enlightening information on both concepts. It is thought that there are other variables that affect the relationships between social undermining and employee silence. For future researches, it is suggested that this research should be repeated by taking these variables into consideration.

REFERENCES

- Abbey, A., Abramis, D. J., & Caplan, R. D. (1985). Effects of different sources of social support and social conflict on emotional well-being. *Basic and Applied Social Psychology*, 6(2): 111-129.
- Acaray, A., & Şevik, N. (2016). Kültürel boyutların örgütsel sessizliğe etkisi üzerine bir araştırma. *Hacettepe University Journal of Faculty of Economics and Administrative Sciences*, 34(4): 1-18.
- Akan, B. B., & Oran, F. Ç. (2017). Akademisyenlerin örgütsel sessizlik algıları: konuya ilişkin bir uygulama. *Kırklareli University Journal of Faculty of Economics and Administrative Sciences*, 6(5): 72-90.
- Andersson, L. M., & Pearson, C. M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *The Academy of Management Review*, 24: 452–471.
- Bagheri, G., Zarei, R., & Aeen, M. N. (2012). Organizational silence (basic concepts and its development factors). *Ideal Type of Management*, 1(1): 47-58.
- Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Englewood Cliffs, NJ: Prentice-hall.
- Beheshtifar, M. (2014). Problems of social undermining in the organizations, *Applied Mathematics in Engineering, Management and Technology*, 2(1): 219-222.
- Brinsfield, C. T., Edwards, M. S., & Greenberg, J. (2009). Voice and silence in organizations: historical review and current conceptualizations. *Voice and silence in organizations*, Chapter 1.
- Browne, M. W., & Gudeck, R. (1993). Alternative ways of assessing model fit. *Testing structure equation models*.

- Burris, E. R., Detert, J. R., & Chiaburu, D. S. (2008). Quitting before leaving: the mediating effects of psychological attachment and detachment on voice. *Journal of Applied Psychology*, 93(4): 912-922.
- Cohen-Charash, Y., & Mueller, J. S. (2007). Does perceived unfairness exacerbate or mitigate interpersonal counterproductive work behaviors related to envy?. *Journal of Applied Psychology*, 92(3): 666-680.
- Çakıcı, A. (2007). Örgütlerde sessizlik: Sessizliğin teorik temelleri ve dinamikleri. *Çukurova University Journal of the Institute of Social Sciences*, 16(1): 145-162.
- Çakıcı, A. (2010). Örgütlerde işgören sessizliği: Neden sessiz kalmayı tercih ediyoruz?. Detay Publishing.
- Çobanoğlu, Ş. (2007). Suskunluk sarmalı ve siyasal iletişim. Fide Publications.
- Dirks, K. T., & Ferrin, D. L. (2002). Trust in Leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87(4): 611-628.
- Duffy, M. K. (1998). Social undermining at work: A conceptual framework and empirical test. (Unpublished Ph.D. dissertation), University of Arkansas.
- Duffy, M. K., & Shaw, J. D. (2000). The salieri syndrome: consequences of envy in groups. *Small Group Research*, 31(1): 3-23.
- Duffy, M. K., Ganster, D. C. & Pagon, M. (2002). Social undermining in the workplace, *Academy of Management Journal*, 45: 331-351.
- Duffy, M. K., Ganster, D. C., Shaw, J. D., Johnson, J. L., & Pagon, M. (2006). The social context of undermining behavior at work. *Organizational Behavior and Human Decision Processes*, 101(1): 105-126.

- Duffy, M. K., Scott, K. L., Shaw, J. D., Tepper, B. J., & Aquino, K. (2012). A social context model of envy and social undermining. *Academy of Management Journal*, 55(3): 643-666.
- Dyne, L. V., Ang, S., & Botero, I. C. (2003). Conceptualizing employee silence and employee voice as multidimensional constructs. *Journal of Management Studies*, 40(6): 1359-1392.
- Eberly, M. B., Holley, E. C., Johnson, M. D., & Mitchell, T. R. (2011). Beyond internal and external: A dyadic theory of relational attributions. *Academy of Management Review*, 36(4): 731-753.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2): 350-383.
- Einarsen, S. (2000). Harassment and bullying at work: A review of the scandinavian approach. *Aggression & Violent Behavior*, 5(4): 379-401.
- Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention, *Journal of Applied Psychology*, 87(3): 565-573.
- Eissa, G., Wyland, R., & Gupta, R. (2018). Supervisor to coworker social undermining: The moderating roles of bottom-line mentality and self-efficacy. *Journal of Management & Organization*, September, 1-18.
- Frazier, M. L., & Bowler, W. M. (2012). Voice climate, supervisor undermining, and work outcomes: A group-level examination. *Journal of Management*, 41(3): 841-863.
- Gök, G. A. (2016). Bir bağlılık pratiği olarak örgütsel sessizlik. *Journal of Management and Economic Research*, 14(1): 104-124.
- Gönüllü, M. (2001). Grup ve grup yapısı. *Journal of CU Economic and Administrative Sciences*, 2(1): 191-201.

- Gürbüz, S & Şahin, F. (2006). Sosyal bilimlerde araştırma yöntemleri, (3. Baskı), Seçkin Publishing: Ankara.
- Hasan, G. Ü. L., & Özcan, N. (2011). Mobbing ve örgütsel sessizlik arasındaki ilişkiler: Karaman il özel idaresinde görgül bir çalışma. Kahramanmaraş Sütçü İmam University Journal of Faculty of Economics and Administrative Sciences, 1(2), 107-134.
- Greenbaum, R. L., Mawritz, M. B., & Piccolo, R. F. (2015). When leaders fail to “walk the talk” supervisor undermining and perceptions of leader hypocrisy. *Journal of Management*, 41(3): 929-956.
- Herscovis, M. S. (2011). Incivility, social undermining, bullying...oh my!: A call to reconcile constructs within workplace aggression research. *Journal of Organizational Behavior*, 32(3): 499–519.
- Herscovis, M. S., & Barling, J. (2007). 16 Towards a relational model of workplace aggression. *Research Companion to the Dysfunctional Workplace*, (268), Edward Elgar Publishing,
- Herscovis, M. S., & Barling, J. (2010). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. *Journal of Organizational Behavior*, 31(1): 24-44.
- Hirschman, A. O. (1970). Exit, voice, and loyalty: responses to decline in firms, organizations, and states (Vol. 25). Harvard University Press.
- Hu, L. T., & Bentler, P. M. (1999). Cut off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling. A Multidisciplinary Journal*, 6(1): 1-55.
- İşcan, Ö. F. (2013). Dönüştürücü ve etkileşimci liderlik anlayışları ile örgütsel sessizlik arasındaki ilişkide örgütsel güvenin rolü. Ph.D. Thesis, Atatürk University, Erzurum.

- Jung, H. & Yoon, H. (2019), The effects of social undermining on employee voice and silence and on organizational deviant behaviors in the hotel industry, *Journal of Service Theory and Practice*, 29(2): 213-231.
- Kammeyer-Mueller, J., Wanberg, C., Rubenstein, A., & Song, Z. (2013). Support, undermining, and newcomer socialization: Fitting in during the first 90 days. *Academy of Management Journal*, 56(4): 1104-1124.
- Karadal, H. (2011). Örgütsel sessizlik davranışı: Etkenleri ve etkileri, yönetimde birey ve örgüt odaklı davranışlar. *Yönetimde Birey ve Örgüt Odaklı Davranışları*, (Ed), Bursa: Ekin Publishing, 365-386.
- Karagonlar, G., & Öztürk, E. B. (2015). İlk yöneticinin çalışanı baltalamasının öz yeterlilik ve işten ayrılma niyeti ile ilişkisinde yönetici yetkinliğinin zararlı etkisi. *İstanbul University Faculty of Business Administration Business Economics Institute Journal of Management*, 26(79): 156-179.
- Levinson, H. (1965), Reciprocation: The relationship between man and organization, *Administrative Science Quarterly*, 9: 370-390.
- Leymann, H. (1996). The content and development of mobbing at work. *European Journal of Work Organizational & Psychology*, 5(2): 165-184.
- Lind, E. A., & Van den Bos, K. (2002). When Fairness works: Toward a general theory of uncertainty management. *Research in Organizational Behavior*, 24: 181-224.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1(2): 130-149.
- Mawritz, M. B., Mayer, D. M., Hoobler, J. M., Wayne, S. J., & Marinova, S. V. (2012). A Trickle-down model of abusive supervision. *Personnel Psychology*, 65(2): 325-357.

- Miceli, M. P., & Near, J. P. (1992). *Blowing the whistle: The organizational and legal implications for companies and employees*. Lexington Books.
- Milliken, F. J., Morrison, E. W., & Hewlin, P. F. (2003). An exploratory study of employee silence: Issues that employees don't communicate upward and why. *Journal of Management Studies*, 40(6): 1453-1476.
- Morrison, E. W., & Milliken, F. J. (2000). Organizational silence: A barrier to change and development in a pluralistic world. *Academy of Management Review*, 25(4): 706-72.
- Nahum-Shani, I., Henderson, M. M., Lim, S., & Vinokur, A. D. (2014). Supervisor support: Does supervisor support buffer or exacerbate the adverse effects of supervisor undermining?. *Journal of Applied Psychology*, 99(3): 484-503.
- Noelle-Neumann, E. (1974). The spiral of silence a theory of public opinion. *Journal of Communication*, 24(2): 43-51.
- Ozdemir, L., & Sarioğlu Ugur, S. (2013). The evaluation employees organizational voice and silence perceptions in terms of demographic characteristics: A study in public and private sector. *Journal Of Economics And Administrative Sciences*, 27(1): 257-281.
- Öztürk, E. B., & Karagonlar, G. (2017). İlk yönetici baltalaması ile desteği arasındaki etkileşim: Ölleme odağının biçimlendirici rolü. *Istanbul University Journal of the School of Business Administration*, 46(1): 34-46.
- Pinder, C. C., & Harlos, K. P. (2001). Employee silence: Quiescence and acquiescence as responses to perceived injustice. *Research in Personnel and Human Resources Management*, 20: 331-370.
- Premeaux, S. F. (2001). *Breaking the silence: Toward an understanding of speaking up in the workplace*, (Historical Dissertations and Theses), Baton Rouge.
- Rayner, C. (1997). The incidence of workplace bullying. *Journal of Community & Applied Social Psychology*, 7: 199-208.

- Reynolds, K. D. (2009). The effects of abusive supervision and social support on workplace aggression, department of psychology college of liberal arts and sciences, DePaul University, Chicago, Illinois.
- Rook, K. S. (1984). The negative side of social interaction: Impact on psychological well-being, *Journal of Personality and Social Psychology*, 4(5): 1097-1108.
- Sabeen, Z. &Arshad, F. (2019). Social undermining in academia: Experiences and effects. *Journal of Applied Research in Higher Education*, 11(4): 653-663.
- Schachter, S. (1951). Deviation, rejection, and communication. *The Journal of Abnormal and Social Psychology*, 46(2): 190-207.
- Shanock, L. R., & Eisenberger, R. (2006). When supervisors feel supported: Relationships with Subordinates perceived supervisor support, perceived organizational support, and performance. *Journal of Applied Psychology*, 91(3): 689-695.
- Skinner, B. F. (1938). *The behavior of organisms*. Englewood cliffs, NJ: Prentice-Hall.
- Swann Jr, W. B., Rentfrow, P. J., & Guinn, J. S. (2003). Self-verification: The search for coherence. *Handbook of Self and Identity*, 367-383.
- Telli, E., Ünsar, A. S., & Oğuzhan, A. (2012). Liderlik davranış tarzlarının çalışanların örgütsel tükenmişlik ve işten ayrılma eğilimleri üzerine etkisi: Konuyla ilgili bir uygulama. *Ejovoc (Electronic Journal of Vocational Colleges)*, 2(2): 135-150.
- Tepper, B. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43: 178-190.
- Tepper, B. J. (2007). Abusive supervision in work organizations: Review, synthesis, and research agenda. *Journal of Management*, 33(3): 261-289.

- Tepper, B. J., Moss, S. E., & Duffy, M. K. (2011). Predictors of abusive supervision: Supervisor perceptions of deep-level dissimilarity, relationship conflict, and subordinate performance. *Academy of Management Journal*, 54(2): 279-294.
- Tokgöz, E., & Seymen, A. (2013). Örgütsel güven, örgütsel özdeşleşme ve örgütsel vatandaşlık davranışı arasındaki ilişki: Bir devlet hastanesinde araştırma Öneri Publishings, 10(39), 61-76.
- Uğur, E. D. (2017). Örgütsel sessizlik iklimi ve çalışan sessizlik davranışlarına ilişkin bir araştırma. (Unpublished Master's thesis). İstanbul Kültür University Institute of Social Sciences, İstanbul.
- Ülbeği, İ. D., Iplik, E., & Yalçın, A. (2019). Sosyal baltalama ve çalışan performansı ilişkisinde iş stresi ve duygusal tükenmişliğin rolü. *Selçuk University Journal of Institute of Social Sciences*, (41): 1-15.
- Vinokur, A. D. & Van Ryn, M. (1993). Social support and undermining in close relationships: Their independent effects on the mental health of unemployed persons, *Journal of Personality and Social Psychology*, 65(2): 350-359.
- Vroom, V. H. (1964). *Work and motivation*, New York, Wiley.
- Zahed, R. K. (2015). The mediating effect of social undermining on the relationship between organizational justice and organizational silence (The Case Study: Tax Organization of Fars Province). *European Online Journal of Natural and Social Sciences*, 4(4): 752-760.
- Zehir, C., & Erdogan, E. (2011). The association between organizational silence and ethical leadership through employee performance. *Procedia-Social and Behavioral Sciences*, 24, 1389-1404.
- Zohar, D. (2000). A group-level model of safety climate: Testing the effect of group climate on microaccidents in manufacturing jobs. *Journal of Applied Psychology*, 85(4): 587-596.

Zohar, D., & Luria, G. (2005). A multilevel model of safety climate: Cross-level relationships between organization and group-level climates. *Journal of Applied Psychology*, 90(4): 616-628.

CHAPTER 10

WHAT WE KNOW ABOUT TOXIC LEADERSHIP AND TOXIC TRIANGLE?

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INTRODUCTION

Leadership is considered as one of the most significant concepts not only in the workplace but also in all communities. The influential role of leaders on followers, triggers the importance of the concept. For this reason, scholars have been analyzing “leadership” and its impacts on people. Besides, antecedents and consequences of leadership have also studied detailed in the literature. In this process, it was generated many leadership models. Accordance to the related literature leadership models are classified under three main perspective: Trait Theory of Leadership, Behavioral Approach and Contingency Approach (Bakan & Büyükebeşe, 2010; Colbert et al, 2012; Eagly & Johannesen-Schmidt, 2001)

Trait theory of leadership focuses on leaders’ individual features to identify the leadership. In this model, it was tried to determine the main specialties that generate leadership. In the beginning of 19th and 20th centuries, leaders’ characteristics were evaluated as valuable for being a leader. But later, it was understood that leadership could not be restricted in some characteristics due to these features were non-functional in all leaders and were not universal. On the other side, behavioral leadership models attracted the scholars to the topic. In this model, it was approached to leaders’ behaviors while implementing leadership. Communication style of leader, leader-member relations, transfer of authority, control areas of leaders were determining factors of leadership. In some universities, behavioral leadership approaches were also analyzed detailed. However, economic circumstances,

competition in the industries, sectoral differences showed that it was hard to state a common model that fits in every organization according to leaders' behaviors. Finally, it was accepted that every situation or organizational position may create a different leadership model (Bickes & Yılmaz, 2020). In this perspective, contingency approaches emphasized that there is not a general leadership behavior that is suitable for all organizations. Accordance with the model, it was stated that every situation and case may have the power to exist its own leadership styles. Later, it was studied on postmodern leadership styles to reveal out the relationship between leader and the followers. Moreover, impact of leadership on employees or leadership related organizational outcomes were frequently investigated in the academic research. Despite all the developments about leadership, it was generally concentrated on the positive perspective of leadership. However, leadership also has a dark side in its existence. For this reason, in this chapter, it was aimed to focus on the dark side of leadership. Reference to this purpose, toxic leadership, a popular concept in leadership related studies, conceptually discussed detailed.

1. TOXIC LEADERSHIP

It is possible to say that leadership is the art of influencing people who will achieve the aims both organizations and communities. In the literature, leadership models are designed to state that leaders have a power to increase individual and organizational productivity. From this point of view, different types of leadership theories were created. Most of these models focus on the positive side of the leadership without

touching backyard (Hogan & Kaiser, 2005). However, unlike the positivist approaches, in the literature, a concept that has a similarity with the negative, abusive, destructive, abrasive leadership have been fed from the dark leadership type, has emerged in recent years. Later, this type of leadership is announced as toxic leadership. According to this concept; leadership and leader characteristics poison employees, followers, and subordinates with negative, destructive, and abrasive behaviors. These types of behaviors also considered as toxic behaviors in organizations.

The term toxicity means poison in Latin and Greek. Whicker (1996) scientifically addressed the concept and associated it with negative leadership approaches. In this context, contrary to the philosophy of emergence of leadership concept, toxic leadership toxify employees with behavior and thoughts coming from the dark leadership structure. However, it is expected to force employees to maintain organizational aims, toxic leader's behaviors may create the opposite impact on subordinates' job outcomes. Even if these leaders achieve positive work outcomes with their unethical actions in the short term, they generally harm the organization in the long term (Hogan & Hogan, 2001; Hogan & Kaiser, 2005) Furthermore, Reed (2004) describes toxic leadership as a syndrome. The most prominent feature of toxic leadership is the risk of poisoning the organization by eventually spreading over the toxic behaviors. Lipman - Blumen (2005a) also argues that for a person to be accepted as a toxic leader, his/her bad and poisonous behaviors must be extended to the organization and other employees for a long

time. In addition, toxic leaders damage the innovative and creative culture within the organization by spreading toxicity and dark behaviors (Wilson –Starks, 2003: 2).

Toxic leaders have high egos (Hitchcock, 2015). Kırbaç (2013) states that the most important power of toxic leaders comes from i)to show themselves as an indispensable element for the organization and ii)to ensure that this situation is believed by their subordinates. It is also emphasized that toxic leaders do not accept criticism and they introduce themselves as if they have the opposite of their criticism by employees (Yalçınsoy & Işık, 2018: 1018). Leaders in this structure see subordinates as a machine and use subordinates and other employees to increase their own success and recognition (Yalçınsoy & Işık, 2018: 1018). Besides, toxic leaders are supervisors who can show shouting, humiliating, stretching the environment, which may suddenly spoil the morale and motivation of the employees (Flynn, 1999: 1).

Finally, Bacal (2000) defined toxic leaders as; type of leader who is inconsistent in his/her expressions and behaviors. In addition to that, toxic leaders also fight with most of other things. For this reason, toxic leaders are not able to be satisfied with the most of things in the organizations.

1.1. Toxic Behaviors of Leaders

Toxic leaders are managers who are unfair in the workplace. In this viewpoint, toxic leaders' behaviors are considered as; verbally harassing employees, telling lies, making fun of employees, putting

their own mistakes on subordinates, threatening employees with dismissal, protecting relatives for their interests and isolating others outside the group (Pelletier, 2010). Reyhanoğlu and Akin (2016:448) also determined the specific features of toxic leaders as listed below:

- Toxic leaders have a structure that humiliates and mocks them by insulting the employees.
- Toxic leaders are managers who harm the success, innovation, and productivity of the employees.
- Toxic leaders force the employees to control and operate in the direction they want by using the power of toxicity.
- Toxic leaders demoralize the employees by using toxic power and authority.
- Toxic leaders act poisonously by creating an environment that contains negativity within the organization.
- Toxic leaders are selfish individuals and their own interests are strong.
- Toxic leaders are not sensitive to others and do not empathize.

In addition, Schmidt (2008, 2014) stated that toxic leaders are being away from human values. Reference to Williams (2018) toxic behaviors are comprised of; passive hostility, blame and embarrassment, pinning and sarcastic speech, humiliation, not to trust others' experiences and thoughts, using moral power to punish others, intervention in team activities to ensure control-sabotage, having negative communication structure among individuals and personal attacks.

On the other side, Işııkay (2019: 41-42) examined the characteristics of toxic leadership and listed the toxic behaviors that Lipman-Blumen (2005b: 2-4) dealt with as follows.

- Toxic leaders can lie easily.
- Toxic leaders violate employee rights.
- Toxic leaders try to be fed over the important needs or fears of employees.
- Toxic leaders perform corrupt and unethical activities and behaviors.
- Toxic leaders can adopt the totalistic regime that can harm legal processes.
- Toxic leaders expect complete obedience from employees.

Williams (2005) approached toxic leadership in the perspective of Psychologist Abraham Maslow's hierarchy of needs. Maslow classified human needs into five level by demonstrating in a pyramid and identified that people move upward as needs at a specific level are met. Pyramid levels start with physical needs and climb with basic physiological needs. Then, needs pick up to safety, love and belonging, esteem, and finally, self-actualization. Reference to the Maslow's Pyramid, an individual cannot progress next level, without maintaining needs and desires in the previous level. While positive and trustworthy leaders generally actualize at level four or five, destructive, or toxic leaders are still tried to meet their safety and belonging needs at level two or three. Due to the negative and dark characteristics of toxic leaders, they get stuck in the first, second or third level of needs

pyramids. They have not begun to address their own esteem needs. For this reason, they have not aim to reach fourth level (Lipman-Blumen, 2005:116; Whicker, 1996). In this perspective, Williams (2005) determined individual features of toxic leaders and types of toxic leaders as in Table-1.

Table 1: Features and Types of Toxic Leaders

Individual Features of Toxic Leaders	Types of Toxic Leaders
Incompetence	Absentee Leader
Malfunctioning	Incompetent Leader
Maladjusted	Codependent Leader
Sense of Inadequacy	Passive-Aggressive Leader
Malcontent	Busy-Body leader
Irresponsible	Paranoid Leader
Amoral	Rigid Leader
Cowardice	Controller Leader
Insatiable Ambition	Compulsive Leader
Egoist	Intemperate Leader
Arrogance	Enforcer Leader
Selfish Values	Narcissistic Leader
Avarice and Greed	Callous Leader
Lack of Integrity	Streetfighter Leader
Deception	Corrupt Leader
Malevolent	Insular Leader
Malfeasance	Bully Leader
Malicious	Evil Leader

Source: Williams (2005)

In addition to upper explanations, Kasalak and Aksu (2016) also explained toxic behaviors as; inadequate in ensuring justice, discrimination, keeping individual interests in the foreground, prevent participation in decisions, using sarcastic words, gossiping, demonstrating jealous behavior, unnecessary control, preventing the exercise of personal rights, ignore comments and ideas, being

insensitive, demonstrating hypocritical behavior, threat and increasing the workload unfairly.

Moreover, Webster, Brough and Daly (2016: 348) examined toxic leader behaviors in six categories in their study. Manipulating behaviors, bullying behaviors, abusive and emotionally variable behaviors, narcissistic behaviors, micromanagement behaviors (control), passive-aggressive behaviors are among the categorical behaviors that create regarding toxic leadership.

1.2. Dimensions of Toxic Leadership

Schmidt (2008, 2014), investigated toxic leadership in his master and doctoral thesis and classified toxic leadership in five dimensions as; self-promotion, abusive supervision, unpredictability, narcissism, and authoritarianism.

Self-Promotion: The leader tries to prove that he/she is ahead of others. Moreover, leader prevents the revealing of the skills of others and subordinates, and constantly make tactics to keep himself/herself in the foreground (Reyhanoğlu & Akin, 2016: 448).

Unpredictability: Unpredictability emphasizes that there may be dramatic changes in the mood of the leader (Reyhanoğlu & Akin, 2016: 448). Toxic leaders have unpredictable mood. A moment of toxic leaders does not hold a moment. For this reason, sometimes, they refuse most of things that they confirmed before. Moreover, toxic leaders do not tend to accept their own mistakes. They generally aim to blame on others (Appelbaum & Roy-Girard, 2007). Manipulating employees,

denying previous conversations are examples of the unpredictable behavior of the toxic leader (Neuman & Baron, 2005).

Abusive Supervision: Leaders constantly remind the mistakes made by subordinates in the previous times. Furthermore, toxic leaders humiliate subordinates among other employees. In addition, toxic leaders communicate weakly and negatively to his/her subordinates in the workplace (Schmidt, 2008).

Narcissism: Narcissist one; is defined as people who fall in love with themselves and who see themselves more than they are. In this perspective, narcissist leaders believe that other people should also admire themselves and prioritize their own needs (Korkmaz et al. 2015). Narcissism is also associated with seeing himself/herself superior, expecting everyone to admire himself/herself, domination, arrogance, greatness, pursuit of pleasures (Padilla, Hogan & Kaiser, 2007). Besides, narcissistic people have personality traits that ignore the talents and superiorities of others and constantly praise their own qualities, hold themselves superior and are not in favor of empathy with others (Reyhanoğlu & Akin, 2016: 447).

Authoritarianism: Authoritarian leaders are leaders who expect completely obedience from employees without questions and believe that all control should be in their own hands (Reyhanoğlu & Akin, 2016: 447). This type of leaders also controls every processes in the workplace and want check everything that have done by employees (Schmidt, 2008; Schmidt, 2014).

Table 2: Dimensions of Toxic Leadership (Schmidt, 2008; 2014)

Dimension	Definition
Self-Promotion	<ul style="list-style-type: none"> ✓ In the case of top-ranking executives coming, toxic supervisors changes their states and actions. ✓ Toxic leaders do not accept errors in his/her unit. ✓ Toxic leaders only help employees who can influence their own success. ✓ Toxic leaders accept successes that do not belong to him/her like his/her own. ✓ Toxic leader usually works towards interests that will promote him/her.
Unpredictability	<ul style="list-style-type: none"> ✓ Toxic leaders have sudden flashes that cause violent discussions. ✓ Toxic leaders change the workplace atmosphere according to his/her own mode. ✓ Toxic leaders may get angry with subordinates for unknown reasons. ✓ Toxic leaders are not at the same level of accessibility for every employee. ✓ Toxic leaders affect the emotions of the employees negatively.
Abusive Supervision	<ul style="list-style-type: none"> ✓ Toxic leaders tell subordinates that they are incompetent. ✓ Toxic leaders constantly remind the mistakes made by the subordinates in the previous times. ✓ Toxic leaders humiliate subordinates among others. ✓ Toxic leaders talk weakly and negatively about his/her subordinates against other people in the workplace.
Narcissism	<ul style="list-style-type: none"> ✓ Toxic leader sees himself/herself as an extraordinary person. ✓ Toxic leader considers himself/herself more competent and capable than others. ✓ Toxic leader believes himself/herself as the most important person in the institution and thinks that the existence of the institution gains meaning thanks to him/her. ✓ Toxic leader evaluate himself/herself as the rightful owner of everything.
Authoritarianism	<ul style="list-style-type: none"> ✓ Toxic leaders want to make all decisions in the department, whether significant or not. ✓ Toxic leaders control how subordinates carry out their duties. ✓ Toxic leaders violate the rules regarding the situation of subordinates regarding their private lives. ✓ Toxic leaders reject subordinates' views on achieving goals in new ways. ✓ Toxic leaders do not care about other ideas that are against his/her own opinion.

2. TOXIC TRIANGLE

The concept of toxic triangle argues that subordinates can also be effective in the formation of toxic leadership. According to the model, it is stated that followers and the environment are influential in the creation of leader's toxic behaviors (Padilla, Hogan & Kaiser, 2007: 180). The mix of leader, follower, and environmental features makes toxic and destructive leadership (Padilla, Hogan & Kaiser, 2007: 176). Reference to the model, toxic triangle is comprised of destructive leaders, susceptible followers, and conducive environments.

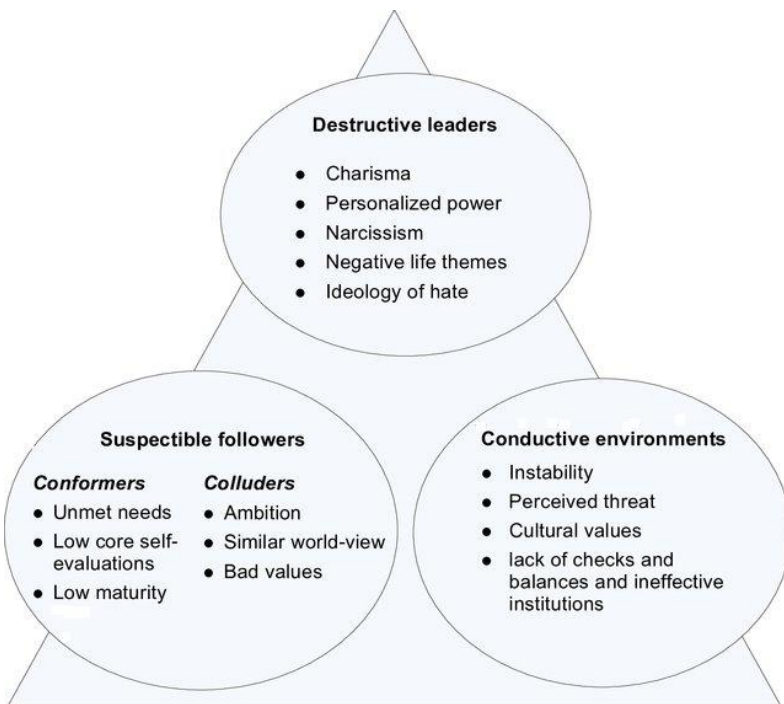


Figure 1: Toxic Triangle

Source: (Padilla, Hogan & Kaiser, 2007; Bogdanović & Cingula, 2015)

Destructive Leadership: It consists of charisma, personal power, narcissism, negative life themes and ideology of hate.

Charisma: According to many thoughts, charisma is accepted in abrasive and destructive leadership models as well as positive leadership models. Padilla and colleagues (2007) express that charismatic leaders also make mistakes and wrong decisions or have devastating effects on their employees and followers. There are similar features in the leadership type, which is considered as a toxic leader. These leaders can even declare employees who are on their side for their own interests guilty and move them away. Padilla et al. (2007) state that three characteristics of charisma have an impact on destructive leadership. These are evaluated as vision, personal energy, and the ability to introduce oneself. Besides, it is emphasized that charismatic leaders can easily sell a desired vision due to these features (Gardner & Avolio, 1998).

Personalized Power: Ethical leaders use the power they gain from the authority to serve others. On the other side, unethical leaders use this power for personal gain and their own advancement (Conger, 1990). While destructive leaders strive to lose value and isolate competitors and those who oppose it, they promote their close employees (Padilla, Hogan & Kaiser, 2007:181). In this context, usage of the power required for leadership for individuals' purposes rather than leadership purposes prepares the toxicity environment.

Narcissism: Domination, selfishness, magnificence, self-esteem, boasting, competence, and selfish pursuits are considered as

components of narcissism feelings (Rosenthal & Pittinsky, 2006). In this perspective, narcissistic leaders are selfish, enthusiastic, and able to act in ways that disturb others' opinions and well-being (Conger & Kanungo, 1998).

Negative Life Themes: When the speeches of leaders and executives, who are not loved by their employees or exhibit negative behaviors in their organization, poisoning certain groups of employees, are analyzed, it is seen that they had negative experiences by going through difficult processes. It would not be correct to say that all people with negative life experiences will be destructive leaders, but most people who are perceived as destructive leaders certainly have negative life experiences.

Individuals who think that the negativities and practices experienced in childhood occurred due to weakness, begin to act more brutally when they gain power (Padilla, Hogan & Kaiser, 2007: 182). So, this situation affects the formation of toxic leadership.

Hate Ideology: The speeches, perspectives, worldviews, and visions of destructive leaders are hateful to defeat opponents or overcome what they see as enemies (Padilla, Hogan & Kaiser, 2007: 182). For whatever reason, hate is a major element in the worldviews of destructive leaders, and they use it to gain power to punish people and take revenge (Padilla, Hogan & Kaiser, 2007: 182).

Susceptible Followers: Susceptible followers are comprised of conformers and colluders. In her study, Kellerman (2004: 26-27) divided the followers who faced destructive leadership into two: true believers and spectators. It was stated that some followers behave silently in the face of bad leadership, and some followers act in full compliance with these behaviors. Padilla and colleagues (2007) also classified followers as conformers and colluders in the face of destructive leadership. Although the interests of each are different, they are generally motivated by their individual benefits. Conformers who turn a blind eye to destructive and negative leader behaviors tend to keep quiet to provide personal gain (Higgins, 1997). Unmet needs, negative personal assessments and psychological immaturity are considered as the weakness of these followers. Nevertheless, colluders are also close their ears to destructive leaders' evil tongues and aim not to see their awful behaviors. Colluders generally share similar world view with destructive leaders and are observed as ambitious, selfish, and toxic (Padilla, Hogan & Kaiser, 2007: 183).

Negative basic self-evaluation also draws attention as a feature that affects the followers who remain in the audience in the face of destructive leadership behaviors. Therefore, it is point out that people with low self-esteem, low self-efficacy and limited control focus are silent and unresponsive to destructive leadership. Moreover, being psychologically immature also influences being able not to react against negative leadership types. For this reason, toxic and negative leaders usually keep psychologically immature employees with them (Padilla,

Hogan & Kaiser, 2007: 184). In addition, individually ambitious people are close to the dark leader and do not react to the implementations of destructive or toxic leaders to achieve their own ambitions.

Conducive Environments: General characteristics of environments which are shaped with dark and destructive leadership are instability, perceived threat, cultural values, weakness of separation of powers and ineffective institutionalization (Padilla, Hogan & Kaiser, 2007: 185). Leaders use authority in an unstable environment and make decisions with the expectation that they will benefit from the irregular environment and get quick answers and returns. Organizational and structural instability is also a possible threat perception for people. If there is a threat perception in individuals, they can remain silent in the face of toxic and destructive leader behaviors. In addition, it is possible to say that culture and cultural characteristics are determinative on the employee reaction to the leader behaviors (Hofstede & Milosevic, 2011). It is expressed that individuals with low levels of education and welfare cannot react to tyranny and despotism, especially in societies with high power distances (Padilla, Hogan & Kaiser, 2007). Finally, it should be noted that the discretionary power of managers is also effective in the formation of destructive leadership behaviors in some cases.

CONCLUSION

Toxic leadership includes behaviors that damage employees' creativity, enthusiasm, and innovation. Yılmaz and Bakan (2019) also states that employees are disturbed by harmful behaviors caused by toxic leaders.

In addition, it is emphasized that toxic leadership also has negative impacts on organization, organizational culture and working conditions (Izgüden, Eroymak & Erdem, 2016). Due to negative effects on both employees and organizations, toxic leadership has attracted the attention of researchers in recent years (Uzunbacak, Yıldız & Uzun, 2019, Malik et al., 2019; Zengin, 2019).

In literature, scholars have been studying toxic leadership and its antecedents and consequences. Besides, it is generally aimed to reveal out the impact of toxic leadership on employees work outcomes. In these studies, toxic leader behaviors or perception of toxic leadership is used an independent variable. For instance, Işıkkay (2019) discussed the effects of toxic leadership under two headings as individual effects and organizational effects. Physical health problems, mental symptoms can be evaluated within the scope of individual effects, intention to quit, absenteeism, alienation are classified under organizational effects. Webster and colleagues (2016) also revealed that the effects of toxic leadership on subordinates can be addressed under three dimensions as, psychological effects, emotional effects and physical effects.

As seen from the upper paragraphs, toxic leadership gets popular day by day because of its increased negative impacts on individuals. Evolution of societies from agricultural to knowledge, develops the significance of human relations in the work environment. For that reason, leader, manager or supervisor behavior, approach or style has a major role for employees' perceptions about the job and organization.

In this study it is aimed to mention about toxic leaders and toxic leader behaviors. Moreover, toxic triangle, emphasizes that destructive leadership is not only comprised of bad leaders but also related with susceptible followers and conductive environments, is discussed.

Eliminating toxic leadership in organizations is almost impossible in the world of individual interest. Even so, it is advised to share common values to minimize the negative impacts of toxic leadership (Bhandarker & Rai, 2019).

Write or draw as much as desired certainly, some leaders will discriminate, bully, and poison some people in some organizations and these behaviors reminds toxic leadership forever

REFERENCES

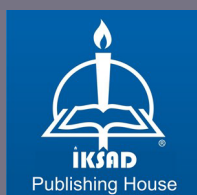
- Appelbaum, S. H., & Roy-Girard, D. (2007). Toxins in the workplace: affect on organizations and employees. *Corporate Governance*, Vol. 7 No. 1, pp. 17-28.
- Bacal, R. (2000). ‘Toxic organizations–welcome to the fire of an unhealthy workplace.
- Bakan, İ., & Büyükbeşe, T. (2010). Liderlik “türleri” ve “güç kaynakları” na ilişkin mevcut-gelecek durum karşılaştırması. *Karamanoğlu Mehmetbey Üniversitesi Sosyal ve Ekonomik Araştırmalar Dergisi*, 2010(2), 73-84.
- Bhandarker, A., & Rai, S. (2019). Toxic leadership: emotional distress and coping strategy. *International Journal of Organization Theory & Behavior*, Vol. 22 No. 1, pp. 65-78.
- Bickes, D. M., & Yilmaz, C. (2020). Leadership Theories, (Ed:Ö.Demirtaş and M.Karaca) in *A Handbook of Leadership Styles*, Cambridge Scholars Publisher.
- Bogdanovic, M., & Cingula, D. (2015). Dark triad of croatian management students. *Central European Business Review*, 4(4), 30-47.
- Colbert, A. E., Judge, T. A., Choi, D., & Wang, G. (2012). Assessing the trait theory of leadership using self and observer ratings of personality: The mediating role of contributions to group success. *The Leadership Quarterly*, 23(4), 670-685.
- Conger, J. A. (1990). The dark side of leadership. *Organizational dynamics*, 19(2), 44-55.
- Conger, J. A., & Kanungo, R. N. (1998). *Charismatic leadership in organizations*. Sage Publications.
- Eagly, A. H., & Johannesen-Schmidt, M. C. (2001). The leadership styles of women and men. *Journal of social issues*, 57(4), 781-797.
- Flynn, J. (1999) Searching for justice. *American Psychologist* 54(1), 5–20.

- Gardner, W. L., & Avolio, B. J. (1998). The charismatic relationship: A dramaturgical perspective. *Academy of management review*, 23(1), 32-58.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American psychologist*, 52(12), 1280-1300.
- Hitchcock, M. J. (2015). The Relationship between toxic leadership, organizational citizenship, and turnover behaviors among San Diego nonprofit paid staff. Doctoral Dissertation, University of San Diego.
- Hofstede, G. & Milosevic, D. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2(1), 1-17.
- Hogan, R., & Hogan, J. (2001). Assessing leadership: A view from the dark side. *International Journal of Selection and assessment*, 9(1-2), 40-51.
- Hogan, R., & Kaiser, R. B. (2005). What we know about leadership. *Review of general psychology*, 9(2), 169-180.
- Işıkay, Ç. (2019). Toxic Leadership. In *Social, Human And Administrative Sciences*, IVPE Publications.
- İzgüden, D., Eroymak, S., & Erdem, R. (2016). Sağlık kurumlarında görülen toksik liderlik davranışları: Bir üniversite hastanesi örneği. *Balkan Sosyal Bilimler Dergisi*, 2016, 262-276.
- Kasalak, G., Aksu, M. B. (2016), "How Do Organizations Intoxicate? Faculty's Perceptions on Organizational Toxicity at University", *Hacettepe University Journal of Education*, 31(4), 676-694.
- Kellerman, B. (2004). *Bad leadership: What it is, how it happens, why it matters*. Harvard Business Press.
- Kılıç, M., & Günsel, A. (2019). The Dark Side of the Leadership: The Effects of Toxic Leaders on Employees. *European Journal of Social Sciences*, 2(2), 51-56.

- Kırbaç, M. (2013). Eğitim örgütlerinde toksik liderlik, İnönü Üniversitesi Sosyal Bilimler Enstitüsü Yüksek Lisans Tezi.
- Korkmaz, M., Çelebi, N., Yücel, A. S., Şahbudak, E., Karta, N., & Şen, E. (2015). Eğitim kurumlarında yönetim ve liderlik. Ankara: Nobel Akademik Yayıncılık.
- Lipman-Blumen, J. (2005). The allure of toxic leaders: Why followers rarely escape their clutches. *Ivey Business Journal*, 69(3), 1-40.
- Lipman-Blumen, J. (2005b). Toxic Leadership: A Conceptual Framework *Encyclopedia of Executive Governance*.
- Malik, M. S., Sattar, S., Younas, S., & Nawaz, M. K. (2019). The workplace deviance perspective of employee responses to workplace bullying: the moderating effect of Toxic Leadership and mediating effect of emotional exhaustion. *Review of Integrative Business and Economics Research*, 8(1), 33-50.
- Neuman, J. H., & Baron, R. A. (2005). Aggression in the Workplace: A Social-Psychological Perspective. In S. Fox & P. E. Spector (Eds.), *Counterproductive work behavior: Investigations of actors and targets* (p. 13–40). American Psychological Association.
- Padilla, A., Hogan, R., & Kaiser, R. B. (2007). The toxic triangle: Destructive leaders, susceptible followers, and conducive environments. *The Leadership Quarterly*, 18(3), 176-194.
- Pelletier, K. L. (2010). Leader toxicity: An empirical investigation of toxic behavior and rhetoric. *Leadership*, 6(4), 373-389.
- Reed, G. E. (2004). Toxic leadership. *Military review*, 84(4), 67-71.
- Reyhanoğlu, M., & Akın, Ö. (2016). Toksik liderlik örgütsel sağlığı olumsuz yönde tetikler mi?. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, 5(3), 442-459.

- Rosenthal, S. A., & Pittinsky, T. L. (2006). Narcissistic leadership. *The leadership quarterly*, 17(6), 617-633.
- Schmidt, A. A. (2008). Development and validation of the toxic leadership scale (Master's thesis). Maryland University: Maryland.
- Schmidt, A. A. (2014). An examination of toxic leadership, job outcomes, and the impact of military deployment (Doctoral dissertation). Maryland University: Maryland.
- Smith, N., & Fredricks-Lowman, I. (2019). Conflict in the workplace: a 10-year review of toxic leadership in higher education. *International Journal of Leadership in Education*, 1-14.
- Uzunbacak, H. H., Yıldız, A., & Uzun, S. (2019). Toksik Liderliğin Çalışanların Tükenmişlik Düzeylerine Etkisi. *Anemon Muş Alparslan Üniversitesi Sosyal Bilimler Dergisi*, 7(1), 211-219.
- Webster, V., Brough, P., & Daly, K. (2016). Fight, flight or freeze: Common responses for follower coping with toxic leadership. *Stress and Health*, 32(4), 346-354.
- Whicker, M. L. (1996). *Toxic leaders: When organizations go bad*. Praeger Publishers.
- Williams, D. F. (2005). Toxic leadership in the us army (Master's thesis). US Army War College, USA.
- Williams, K. R. (2018). Toxic leadership in defense and federal workplaces: sabotaging the mission and innovation. *International Journal of Public Leadership*. *International Journal of PublicLeadership*, 14(3), 179-198.
- Wilson-Starks, K. Y. (2003). Toxic leadership. *Transleadership, Inc*, 1.

- Yalçınsoy, A., & Işık, M. (2018). Toksik Liderlik ile Örgütsel Bağlılık ve İşten Ayrılma Niyeti İlişkisine Yönelik Bir Araştırma. *Gaziantep University Journal of Social Sciences*, 17(3).1016-1025.
- Yılmaz, S., & Bakan, İ. (2019). Toksik Liderliğin Tükenmişliğe Etkisi: Bir Alan Araştırması. *Kahramanmaraş Sütçü İmam Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 9(2), 1-12.
- Zengin, M. (2019). Toksik Liderlik: Kavramsal Bir Çözümleme. *İnsan ve Toplum Bilimleri Araştırmaları Dergisi*, 8(4), 2754-2766.



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