ECONOMIC AND BUSINESS ISSUES IN RETROSPECT AND PROSPECT

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Economic and Business Issues in Retrospect and Prospect

(Edited by: Marcel Meciar, Kerem Gökten, Ahmet Arif Eren)

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PART I

INTERNATIONAL ECONOMICS
NEW DEVELOPMENT BANK: IS IT A THREAT TO GLOBAL WEST?

Yeliz SARIÖZ GÖKTEN

1. Introduction

The BRICS bloc is one of the most evident formations of the 21st century world order. The rapid political and economic transformation of these countries, their increasing impact on world politics and their role in global economic growth are noteworthy. BRICS countries have also drawn attention in the popular and academic literature due to the New Development Bank’s (NDB) claim to be a global organization. Following the accession of South Africa, the so-called BRICS group has been a political and economic challenge to the international system dominated by the West in some circles. After the 2008 global financial crisis, there has been a growing debate about whether BRICS can be the new hegemon of the world order.

The surface area of BRICS countries constitutes 29 percent of the world and is home to 41 percent of the world’s population. Despite the increase in protectionism after the 2008 crisis and the risks arising from some developed economies, these countries contributed 45 percent of global economic growth and became the driving force of the world economy. While the total gross domestic product (GDP) of the five countries in 2005 accounted for 11 percent of the world GDP, in 2017, this ratio corresponded to approximately 23 percent. As of 2017, BRICS’s GDP in terms of purchasing power parity is 40.61 trillion higher than the GDP of the G7 countries (38.87 trillion). BRICS countries have a share of 23% in world exports and 20% in imports (NDB, 2017, p. 32; The World Bank, 2019).

![Figure 1. Annual GDP Growth of BRICS Countries (%)](https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG (Accessed 05.01.2019)).

1 Asst. Prof., Nigde Omer Halisdemir University, FEAS, Department of Economics, yelizsarioz@ohu.edu.tr
2 BRIC was first used by O’Neill (2001) to refer to Brazil, Russia, India and China. Due to their high growth rate, the BRIC countries were the leading group for the developing economies of the South. See. O’Neill (2001), “Building Better Global Economic BRICs”, Global Economic Paper No: 66, Goldman Sachs, p: 3. With the addition of South Africa, this group of countries was named BRICS.
BRICS countries are increasing their economic weight as a result of high growth rates. These countries, which are willing to use their economic potential to strengthen their position in the system, do not have a significant influence in the World Bank (WB) and International Monetary Fund (IMF), which form the basis of United States (US) hegemony. As is known, all BRICS countries are members of the WB and the IMF, which are important pillars of the US-based world order. All members of the WB and IMF are assigned a quota, determined by their relative power in a global economy. A member country’s voting power is determined by the quota. For example, from the WB, the US has (15.98%), Japan has (6.89%), Germany has (4.03%), France has (3.78%) and the United Kingdom has (3.78%) voting power. The five most important developed countries control 34.46% of the voting power. In addition, these countries have the right to appoint an executive director. The voting power of BRICS countries is 13.19%. This means that the BRICS countries have a limited impact on WB’s credit and project approval processes.

For this reason, BRICS countries set up NDB to expand their regional impact and strengthen their position in the current system. BRICS countries aim to be able to determine their own rules in the system through NDB, to become a global power in commercial, financial and industrial fields and to get comparative advantages in resource allocation. With the evolution of NDB, BRICS’ role in global financial architecture is expected to increase. In this study, first the process of establishment of NDB will be discussed. After that, power and weakness of the NDB and its possible position in the system will be revealed.
2. A New Global Development Bank is Born

BRICS, which has gained an important place in the academic literature in the recent period, took the first seeds of NDB in 2006. This group of countries aim to create a consensus in areas such as economic growth, regional leadership, and development potential. Establishing diplomatic balance against developed countries and increasing bargaining powers are other important goals (Rinaldi, 2017, p. 102).

In the wake of the 2008 crisis, the financial bottleneck in advanced capitalist countries has sped up, while BRICS countries have taken a step forward to strengthen South-South cooperation. They declared that they would adopt a more centrist approach to international development and reject market fundamentalism (Abdenur and Folly, 2015, pp. 76-77).

Between 2009 and 2012, meetings were held under the Chinese leadership on trade facilitation, science and technology, finance, security, environment, health and development. The necessity of taking a collective position against developed countries is emphasized. It is stated that this cooperation will increase the power of BRICS countries globally (Liu, 2016, pp. 444-445).

In 2011, BRICS countries signed a memorandum of understanding that strengthened their institutional ties and encouraged technical and financial cooperation. With the participation of South Africa in 2012, this cooperation has become BRICS, aiming to establish a new development bank to mobilize resources for infrastructure and to carry out projects for sustainable development. Through the Bank, it is aimed to support existing multinational and regional financial institutions in the development of emerging economies and developing countries (Chin, 2014, p. 366; Prado and Salles, 2014, pp.156-157). Article 8 of the Delhi Declaration states: “We recognize the importance of the global financial architecture in maintaining the stability and integrity of the global monetary and financial system. We therefore call for a more representative international financial architecture, with an increase in the voice and representation of developing countries and the establishment and improvement of a just international monetary system that can serve the interests of all countries and support the development of emerging and developing economies” (BRICS, 2012).

In South Africa, where the next summit was held, establishment of NDB was announced. At sixth summit in 2014 the Bank was formally established (BRICS, 2013; Duggan, 2015, pp. 19-20). According to the agreement: “The Bank shall mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging economies and developing countries, complementing the existing efforts of multilateral and regional financial institutions for global growth and development.” The objectives of the Bank are speeding up the development of the member countries, promoting economic growth, encouraging competitiveness and increasing the opportunities for job creation, creating an information sharing platform between developing countries (BRICS, 2014).

NDB was established on July 15, 2015 with a $50 billion initial capital. It is targeted to increase the capital to $100 billion in the following years. It was decided that China would contribute 41 billion dollars, Brazil, India and Russia would make 18 billion dollars each and South Africa would contribute 5 billion dollars. Unlike the World Bank, equality is considered among the members in terms of capital contributions and task sharing (Charlton, 2014, p. 16).

The Bank, which was fully operational on February 27, 2016, approved twenty-seven project loans in line with the sustainability and efficiency standards. As planned, infrastructure and sustainability were the top priority of
NDB. Six of the seven approved credit projects in 2016 are focused on renewable energy, which is estimated to reduce CO2 emissions by 4.8 million tons. In the period 2016-2017, the Bank’s Board of Directors approved loans worth over $3.4 billion for projects in renewable energy, transportation, water treatment, irrigation and other areas. Since 2018, the Bank has approved 20 new projects amounting to $6.7 billion, and it has been decided to start lending activities to the private sector. The current president of the Bank, K.V. Kamath, states that 60 percent of the projects supported by the NDB are on renewable energy. It is suggested that the Bank is focused on infrastructure and sustainable development unlike other international financial institutions (NDB, 2017; NDB, 2019).

3. BRICS Potential

Considering the position and missions of multinational financial institutions in the global economic system, the establishment of NDB has highly influenced the global financial architecture. After the establishment of NDB, BRICS’s role in the global order has started to increase and an important opportunity has emerged in the financing of these countries’ development. In this process, the Bank has focused human capital, agriculture, infrastructure, public administration, environment, energy efficiency and innovation on. The projects were implemented in line with the requirements of BRICS countries (Morozkina, 2018, pp. 68-69).

Through the NDB, it is aimed to support projects that will respond to the needs of the five countries faster and more accurately. BRICS is not only a political force, but it is also important to respond to the infrastructure and sustainable development needs of these countries. As the BRICS block strengthens and becomes institutionalized, it will affect the norms that underpin the wider global governance system. It will undertake a different mission than the global governance approach of neoliberal developmentalism (Duggan, 2015, pp. 20-21).

The infrastructure requirements of emerging markets and low-income countries are quite large in the development process. It is estimated that two billion people will migrate to cities in the next quarter. Investments and the protection of the environment must be sustainable to meet the infrastructure requirements. The private sector is unlikely to meet the infrastructure needs, given the risky nature of infrastructure projects, the high costs and the high cyclical sensitivity of the global financial markets. Therefore, the establishment of a development bank that will provide public resources to the financing of development is of vital importance. A development bank that focuses on developing countries in the real sense, can be a catalyst in determining and eliminating the deficiencies of countries. NDB will not only be a driving force for sustainable growth in developing economies but will also provide a general benefit to developing and developed countries by promoting reform in existing and multifaceted financial institutions (Stern et. al., 2013).

The growth potential of emerging markets and developing countries is high. These countries, which provide their economic growth from the service and industry sectors, require significant infrastructure investments to achieve their potential growth rates. In addition, the importance of infrastructure investments in the process of climate change and environmental constraints cannot be denied. Through the Bank, the political and institutional strengthening of South-South cooperation could be supported. The organization will have a more flexible structure with the support of regional, national stakeholders through a good governance. The requirements of these countries will be determined more accurately and the allocation of resources to the required projects will be provided quickly (Bhattacharya and Romani, 2013).
Infrastructure investments, which are the most important requirements of BRICS countries, generally take place in the private sector and state partnership. A new international bank equipped with instruments suitable for the size and structure of the projects can create mutual trust between the host country and the investor by sharing the risks. Like the support provided by the existing international financial institutions, NDB can play a role in investments to be made by emerging markets and developing economies. Coordination with existing Bretton Woods institutions will enhance the success of the Bank. Moreover, such a bank can play a role in the evolution of a more harmonized structure in the world economy by directing the savings of emerging markets and developing countries to the right areas. It can build confidence of investors in developed countries to emerging markets (Romani, Stern and Stiglitz, 2012).

The most important criticism for BRICS formation and NDB is the differences between member states. Each member country carried out economic and political reforms. China’s economic reforms, which began in 1978, continued in the 1990s. The country has suffered little from the Asian crisis and has become the growth engine of the region and the world. In the early 1990s, India started strong economic reforms. At the end of the 1980s, Brazil introduced a serious economic stability plan to reverse hyperinflation and speed up privatization. Likewise, in the late 1990s, Russia made structural reforms to rebuild its economy. South Africa’s participation in the group is political rather than economic. South Africa’s GDP is only one third of the GDP of Brazil and Russia. This rate is 13% for India and about 3% for China. The goal of creating a common BRICS identity has become more complex with South Africa’s participation. Although each BRICS country has implemented substantial structural reforms, these reforms have significant differences in terms of both basic principles and policy implementation. Besides different economic and political systems, it is not possible to talk about a common cultural identity among BRICS communities (Duggan, 2015, pp. 15-18; The World Bank, 2019).

While there are criticisms that there are not common values among BRICS countries, the political objectives pursued by these countries are ignored. It is an important common denominator that BRICS governments are against Western dominance in international institutions. These countries have a common goal of becoming a regional power. The other important common goal of the BRICS countries, which have significant cultural, demographic and politically differences, is their will to turn into a rule-maker in the global order (Qobo and Soko, 2015, p. 278).

Despite the differences between countries, someone can say it that Brazil, India and South Africa are closer to each other in terms of democratic values and political structures. These three countries carried out the IBSA (India, Brazil, South Africa) Forum in 2003 to bolster international cooperation. It is aimed to bolster South-South cooperation with IBSA and to create a consensus on issues of international importance. These include health, education, human rights, environmental protection, trade, poverty reduction, intellectual property rights, social development, agriculture, climate change, culture, security, education, energy, tourism, transportation (Liu, 2016, pp. 447-448).

Although the NDB has been established to support the infrastructure programs needed in developing countries, some argue the capital of the Bank cannot be enough to make a considerable difference. According to Manning (2014), the biggest challenge for five countries would be to overcome internal differences and disputes. This difficulty may make it difficult to reach consensus in the process of using NDB funds. Furthermore, according to Liu, it is not clear how the five countries will integrate their infrastructures in a distant geography and provide the necessary support for the development of other developing countries. How to resolve competition in the distribution of credits among BRICS members is another important problem (2016, pp. 448-449).
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The biggest expectation from NDB is that it can successfully carry out infrastructure and sustainable development processes. However, it is intended to increase the bargaining power of member countries against the Western world and to reach other developing countries (Qobo and Soko, 2015: 281). The existence and effectiveness of NDB will not only make sense for BRICS countries. The Bank may play a role in supporting developing and emerging markets simultaneously with other international development banks. NDB has a great importance in changing the balance of power in the world order. A well-institutionalized NDB will become a driving force for the growth of the country groups (Romani, Stern and Stiglitz, 2012).

However, for the NDB to be successful, it should take certain issues into consideration. First, the NDB should lend not only to BRICS countries with many potential sources of income but also to the poor countries of the world. Second, NDB should not concentrate on specific sectors. Instead, it should finance projects that countries consider indispensable in the process of industrialization and development. Third, besides financing projects, NDB should offer technical expertise and explore various development experiences. The NDB should be an equilibrant in the global economy and should act together with developing countries that may seek assistance in implementing economic transformation strategies (Dossani, 2014).

4. Concluding Remarks: Can NDB be an Alternative to the WB?

Just as the World Bank and the IMF support the US power, the NDB has the potential to be a tool for strengthening BRICS countries’ positions in the global system. Beyond this, there are analysts who argue that the next hegemonic power of the global order will be BRICS. The NDB has been designed as an institution to meet the development needs of developing economies.

The organization and modus operandi of NDB, which can be seen as a kind of challenge to the neoliberal vision of governance, varies from the institutions of the existing order. It is controlled by emerging economies and that development financing practices differ from conventional examples (Prado and Salles, 2014: 151-152). The main reason for the creation of this union is the perception that economic development obstacles and crises cannot be solved by the orthodox policies proposed by the western-dominated institutions.

NDB is an institution with the sufficient savings and reserves to finance infrastructure investments in developing economies. BRICS has created an important option by establishing a new development bank for financing the infrastructure and sustainable development. NDB is not a rival of existing global financial institutions, but complementary to them. The founding countries, notably China, do not pursue a revisionist policy. However, the establishment of a bank is a significant step in the announcement of the voice of developing economies in the system.

The purpose of the NDB is to defeat the shortcomings in infrastructure investments and their financing. The diligent diplomatic language chosen by the Bank aims not to pose a threat to the existing multinational development banks, especially the World Bank. With its current structure, it has no potential to realize this. Keeping this in mind, with the NDB, BRICS countries, which have no power to affect decision mechanisms in the WB and the IMF, have taken an important step to exist in the global order. NDB can play a role in generating the world order multilateral in terms of international development and stability. The NDB can support the activities of the

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Some successful developing economies did not follow neoliberal policy prescriptions, but instead introduced supportive industrial policy instruments such as trade protection, export subsidies, tax and credit incentives. See. Rodrik “The Future of Economic Convergence”, NBER Working Paper Series, p: 38.
IMF and the WB, and in some cases may offer alternatives. While the NDB has no mission to compete with the IMF and the WB, it may be a shelter against the standard neoliberal prescriptions offered by these institutions to developing countries (Epstein, 2015, p. 13).

Because of cooperation between the BRICS countries, member states will strengthen their position in the established world order. In the following period, BRICS countries may become a rule-maker on a global scale. BRICS countries will take their place in the international order as a powerhouse if they can operate in the common interest of the union.

However, there are critical developments that may affect the future of BRICS. Regional rivalry and confidence issues between China and India would continue to create fragility. In particular, “Belt and Road” initiative has the potential to trigger regional competition although it creates many opportunities. In addition, the proximity of the far-rightist Jair Bolsonaro, who won the presidential election in Brazil recently, to the US may adversely affect the destiny of BRICS.

References


2

THE FOREIGN DEPENDENCY IN TRADE AND ITS ECONOMIC EFFECTS IN DEVELOPED AND DEVELOPING COUNTRIES

Ali KONAK

1. Introduction

Foreign trade, which is one of the most important economic activities in terms of national economy nowadays, has intensively been affected from technological developments. The developments in the technology field play an active role for unveiling the differences of development among the countries by causing changes in the production structure. Meanwhile, the developments in means of transport contribute for the convergence of countries to each other, and the development of international trade, hence, the acceleration of globalization. This process has been made countries, which do not have the required advanced technology or educated labor force for high-class production and its exports, and do not execute the necessary investments, dependent to developed countries. In this regard, it is possible to argue that one of the encountered major problems especially in the national economies of developing countries is the dependency to the import entries based on foreign trade activities. The transnational differences of production cost in the production process affect the course and volume of foreign trade. While a product can be produced cheaply in one country thanks to technology, labor force and having production resources, it can also be produced expensively in another country which does not have required production resources. Therefore, the domestic production and exports of specific products cannot be made enough to supply domestic demand, or they cannot be produced. When the countries, which have the domestic production deficit, have encountered such problems, they must make imports from countries which have a surplus in the production, to satisfy the demands in the domestic market. However, this condition also makes them dependent to import entries for both consuming these products in domestic market and making imports.

Countries have begun to adopt industrialization and liberalization policies by opening their national economies to foreign countries under the influence of intensifying globalization activities after 1980. The experienced developments in the world economy with globalization cause to have changes in the production processes. Turkish economy takes its share from this change in the structure of production which have experienced globally, and it has tried to adapt these liberal policies with introducing economic regulations since 1980s. The process to open the national economy to the foreign countries has especially begun with the decisions of January 24, 1980. In this process, the rapid progress in both economic and industrial fields has been aimed. The increase in the export volume and hence the increase in export revenues have been aimed with the liberal policies and industrialization strategies. Moreover, it has also been aimed to achieve the economic development levels of developed countries by using the export revenues for the national industrial investments with these policies as well. Various incentive policies have been implemented to increase exports, the national economy has been tried to open itself to the

1 This study has been derived from “The Dependency of Foreign Trade and Its Effects on Turkey: 1980-2010 Economic Analysis” name of doctoral thesis which was completed in 2012 by Ali KONAK from The Institute of Social Sciences at Sakarya University under the advisorship of Asst. Assoc. Dr. Selim İNANÇLI.

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foreign countries, and a stable economic development has been desired in accordance with planned targets for this purpose. However, when the structure of foreign trade in Turkey is examined, it is seen that the unsolved structural problems still exist. The primary problem of these problems is the dependency of export to import entries, and the foreign trade deficit based on this condition. Although the increases in exports have importance for national economy and the decrease of foreign trade deficit, decreasing the dependency to the import entries have also great importance for the country as well.

2. Literature Review

Şenesen and Güllük-Şenesen (2003:2), By using the input-output flow tables prepared by the Turkish Statistical Institute for the years 1973, 1985 and 1996, they examined the effects of the change that occurred in the economic structure in the period after 1980 and analysed the dependence of country production on imports. As a result of the analysis, in the post-1980 period, especially in the energy sector and in the field of technology production has found that the external dependence has reached higher dimensions, textile and food that is considered as the locomotive sectors of Turkey Increasingly increasing dependence on imports, even in the sector.

Ersungur and Kızıltan (2007:267), By using the input-output tables, which were prepared and published by the State Statistical Institute (Die) in 1973, 1979, 1985, 1990, 1996 and 1998, Turkey analysed the dependence levels of the imports of the operating sectors. As a result of the analysis of the sectors involved in the manufacturing industry, which is key in the economy, both in the period before 1980 and since the period after 1980 the import dependence rates are high and the high rate of promise the dependence on the subject was continued to fluctuate.

Eşiyok (2008:152-153), By using the Leontief input-output current tables of 1973, 1979, 1985, 1990 1996 and 1998, prepared by the Turkish Statistical Institute, the import Inverse matrix method analyzed the imported input dependence. Because of the analysis, the Turkish economy has been determined to be increasingly dependent on imported inputs in the sectors of exports.

Çalışkan (2009), In terms of energy production and consumption in Turkey, foreign dependence on energy supply and energy security study that examined the issue, Turkey’s per capita consumption of energy is very low compared to developed countries that the energy consumption increased rapidly due to population growth, economic growth and changes in consumption patterns, as the increasing energy demand is mainly met by imported energy sources, it has been determined that foreign dependency in energy is increasing gradually.

Ersungur et al. (2011), In the study of the sector in Turkey which aims to measure the degree of dependence on imports, obtained from the Turkey Statistical Institute has benefited from the 2002 Input-Output Flow Statements and he did an input-output analysis. The sectors with the highest backward linkage effect because of the analysis; without examination and search, “crude oil and natural gas extraction and related service activities”, “Office, accounting and data processing machinery manufacturing” and “forestry, logging and related service activities”. Also, the sectors with the highest forward linkage effect as a result of the analysis, “Manufacture of chemicals and products”, “Main metal industry” and “manufacture of machinery and equipment nec”.

Duman and Özgüzer (2012), In 1998 and 2002, Input-Output Current prepared by the Turkey Statistical Institute(TUIK) made using the Table Input-Output Analysis of import dependency ratio has been calculated for the 12 sectors and as a result of the calculation, they found that the dependency levels of “the wholesale and
“repair of motor vehicles and household goods” sectors were higher than the dependency level of the manufacturing sector.

Akbaş and Şentürk (2013), Turkey’s, in the period of 1990:M01 – 2012:M08, In this study, which is prepared to determine whether the import and export transactions with France, Germany, Netherlands, Italy, Spain, Great Britain, Belgium, Luxembourg, Denmark, Russian Federation, USA, Iran, Saudi Arabia, China, BAE and Iraq are dependent on each other, analysis was performed using the Hatemi-J test. The analysis result of this has been realized in Turkey’s export and import transactions which are subject to the 16 countries where the study concluded that the situation of dependence in question has been reached.

Şişman and Bağcı (2014), Dependence on imports of textile and apparel sector in Turkey and the reasons for this addiction has examined the methods of analysis of the survey data, as a result of review, Turkey’s textile and apparel industry become more dependent on imports, they were concluded that low exchange rate, high SSI premiums, inadequate raw material and semi-finished product production in the country, high tax rates and Asian countries were effective.

Çelik and İlkay (2016), With the opening of the Turkish economy in the period after 1980, the changes in the production and consumption structure have led to the formation of the country’s exports to be less than the continuous importation and the creation of a continuous current open pressure. Therefore, in the study prepared to reveal the long-term relationship between exports and imports during the period 1989-2015, the relationship was made using the quarterly foreign trade data obtained from the Turkish Statistical Institute (TÜİK) and vector error correction Model. According to the analysis result in the period examined, imports and exports in Turkey between positive and statistically significant relationship in which an increase in imports and increase in exports of the one-way Granger has been found to be the cause.

Sönmezler et al. (2017), The effects of the real exchange rate on the foreign trade balance in Turkey for the period of 2003-2015 and the dependence on exports to imports, the work they examined in terms of consumption and raw materials, the relations between the variables, Johansen the co-integration approach, the Vector bug correction model and the Granger causality test were analysed. The real exchange rate because of the analysis; It has been determined that the export and import of intermediate goods, export and import of consumption goods, and finally total exports and imports affect the long term.

Kundak and Aydoğuş (2018), Long-term, short-term and unit effects of factors affecting the import dependence of the manufacturing industry sector and the manufacturing industry sub-sectors in Turkey, have analysed the dynamic Panel data analysis method prepared by utilizing the Turkish Statistical Institute (TÜİK). In the long term as a result of analysis; Increases in imports, fixed capital investments and increases in GDP increased import dependency, the increase in wages also reduced the import dependency. In the short term; It was determined that the increases in the exchange rate and GDP decreased import dependency.

Bayraç and Doğan (2018), He used the extended average group (AMG) estimator in the study, which was prepared to predict what the determiners of imports on sectoral basis in Turkey were for the period 2003:1 to 2012:12. According to the results of the resulting estimate, the use of imported inputs in Turkey has been found to be the most “motorized land transport”, “machinery and equipment”, “other means of transportation”, “Office, accounting and information processing machinery” and “main metal industry” sectors, therefore, the increase in production
and exports in the specified sectors is expressed as a result of the importation of raw materials, intermediate goods, technology, etc.

3. The Foreign Dependency in the Foreign Trade and the Reasons of This Dependency

The foreign dependency in terms of the realization of commercial activities presents one of the most basic and mutual problems in various developing countries. Due to their dependent structure to import entries and the exports of labour-intensive goods, the transition to the exports of industrial goods, scientific studies, technological advancements and advanced tools of industry become possible for the developing countries thanks to foreign trade. Although some of the developing countries are successful for the exports of intense manufacturing industry products which gain importance for the technology field in recent years, it is not quite possible to argue that this is a valid argument for most of the countries in this group. Developing countries cannot make progress about the fabrication of products which require the use of technology, and the increase of their exports after the termination of determinative regulations in international trade, technological developments and liberalization of imports rapidly, and their dependency to import entries has continuously increased (Bayraca and Doğan, 2018, p. 20). There are several factors for the dependency of exports to the imports in the developing countries except the issue of not keeping up with technological developments. One of the most important factors from these factors is the usage of import entries in the production process of products which have been produced with purpose to export. Therefore, the export-directed sectors in the manufacturing industry in the developing countries become dependent for import entries and imports themselves ever-increasingly. Apart from that, the appreciation of national currency can also cause the increase of dependency of exports to the import entries. While the decreases in the foreign exchange rates cause the appreciation of national currency, the prices of imported raw materials and intermediary goods recede in type of national currency. Therefore, these conditions make the usage of import entries attractive. However, this condition causes the increase of dependency to imports, the realization of important capital transfers to the abroad, and the increase of balance of payments deficits naturally (Ng’eno, 2000, p. 147). In addition to these, the decreases in the foreign exchange rates make exports difficult as well. Thus, it is possible to argue that the producers must make their products with good quality to make exports.

The size of R & D expenditures and the level of R & D activities are determinant for the imports of developing countries and hence the dependency of their foreign trade to import entries as well. The condition that the expenditures towards R & D activities in the developing countries is quite low in comparison with developed countries cause the increases on the dependency of import entries in these countries. In this regard, it is possible to argue that having innovations which are developed and constituted in the technological field in terms of foreign trade is vitally important. Thanks to having technological innovations, producers can both make productions with lower costs and higher productivity and thus, the competitive and production power of producers increase. Yet, technological innovations can be achieved with active R & D activities (Şahbaz et al., 2014, p. 48). Therefore, several developed countries, which prioritize R & D activities and produce technological products, have been positively affected the process of commercial liberalization while the dependency of other countries to the import entries have been rapidly increased (Çelik and İlkay, 2016, p. 962). In other words, the countries, which did not make enough R & D investments and did not operate in R & D activities in sufficient levels towards production process, remain behind in terms of production techniques and become dependent to the technologically developed countries. While the required products in the production process have been produced in the developed foreign countries cheaper, technological and quality, this condition leave domestic producers without a solution.
trade in international area cause to notice both consumers and exporters for imports as well (Bahar and Baldemir, 2008, p. 102). Due to these reasons, the insufficient level of R & D investments causes the increase of foreign dependency and also the continuous increases in foreign trade deficits based on this condition. Apart from these factors, the qualities of products in trade between developed countries and developing countries is one of other reasons to cause dependency in foreign trade as well. Since underdeveloped and developing countries do not possess export-oriented production infrastructure, they predominantly export raw materials with low added value and labour-intensive goods. On the other hand, the developed countries, which have already been completed their technological developments by establishing their industrial infrastructure, export technology intensive capital products to underdeveloped or developing countries while they import labour intensive goods from them as well (Kara and Erkan, 2011, p. 83). At this point, it is possible to argue that developed countries are also dependent to developing countries in terms of the imports of labour-intensive goods. Yet, the prices of labour-intensive goods and services are cheaper than the prices of technology intensive capital products. Therefore, although developing countries generate an income from the exports of labour-intensive products, since they import technology intensive capital goods as intermediate goods and final goods, they transfer more than their obtained export revenues to abroad as well. Thus, the trade between underdeveloped, and developing countries and developed countries is mostly like the export of labor intensive goods and the import of technology intensive capital goods cause terms of trade for developing to the detriment of developing countries.

4. The Effects of the Foreign Trade Dependency on National Economies

The foreign trade dependency has significant economic effects on economy. The realization of foreign trade especially like the dependency of export to the import entries cause the rapid increase of foreign trade deficits, the non-development of domestic industries, decrease of employment, and decrease of national incomes levels. On the other hand, the realization production with import entries which includes technology enable the production of goods and services with good quality, decrease on the production costs, and the actualization of economic growth as well. One of the most significant factors which cause the increases of foreign trade deficits in underdeveloped and developing countries is the dependency to import entries. The inefficacy of industrial infrastructure in developing countries obliges the procurement of raw materials and intermediate goods that have not been produced domestically but they have been required in the production process as well. This condition paves the way for a production structure which is dependent to import entries. Meanwhile, the inefficacy of industrial infrastructure in developing countries causes the low export volumes and the low levels of export incomes as well. On the other hand, the increase of the demands of import entries during the production process in developing countries generates the increases in import volumes and expenditures, and it is concluded with foreign trade deficit (Özen, 2002, p. 35). Besides that, the increase in production activities towards exports in developing countries causes demand growth for technology, foreign capital, raw materials, intermediary goods and energy. Therefore, the aforementioned countries must import intermediary and capital goods in order to increase their production, exports and economic growth (Bayraç and Doğan, 2018, p. 17-18). In other words, it is possible to argue that the production increases towards exports rapidly increase exports and this condition causes the foreign trade deficits. Moreover, the paramount reason for the increases of current deficits within GDP is the amounts of imports because of dependency to imported intermediary goods (Karagöl and Karahan, 2014, p. 30). The imports in this process are mostly the imports of machinery and equipment, and intermediary goods. This condition causes current deficits by creating capital transfers to abroad. However, the usage of imported machinery and equipment, not only causes
the increase of current deficits because of capital transfers, but also the underdevelopment of national industry. Since national industry has not been developed enough in the developing countries and the specialization of the production of intermediary goods has not been occurred, the mass production of machinery and equipment, and necessary inputs during production process has not been actualized. Hence, since the costs cannot be reduced, the procurement of cheap inputs become inevitable from the developed country which have already been completed their development in the industry field. Videlicet, national firms have been oriented to imports by using investment and intermediary goods for a cheap price to reduce costs of production (Saygılı et al. 2010, p. 123). Moreover, since importer countries provide inputs and the procurement of machinery and equipment cheaply, they do not need to develop the national industry. This condition causes the delay of investments towards national industry, the underdevelopment of national industry and the increases of dependency towards import entries. In addition to this, there are various problems sometimes in the procurement of required machinery, tools and materials, and raw materials and intermediary goods from abroad to maintain the sustainability of production and exports (Batmaz, 2004, p. 95). Due to these kinds of problems, the deceleration and flows during the production process can be a matter. While the increases in the foreign exchange rates cause to increase exports, the increases of exports generate the increases in demands of intermediary goods and the dependency to import entries. In addition to this, while the increases in the foreign exchange rates cause the increases in the production costs, the increases in the production costs cause the reductions of current output and the deceleration of production process. Since a possible decrease in the foreign exchange rates will cause the appreciation of national currency, the demand growth in the goods and services as both final and intermediary goods will increase as well. Thus, the decreases in the foreign exchange rates cause the real appreciation of national currency, and they make imports as both intermediary and final goods attractive (Genç et al. 2017, p. 118). This condition naturally causes the increase of dependency to import inputs. The decrease of production causes to emerge the problem of unemployment on any ground. The continuous increase of unemployment problem in long term causes further deepening in income distribution gap which means that a general shrinkage and recession will emerge in economic activities (Yücel, 2006, p. 52). Furthermore, these conditions cause the imports of several inputs, notably energy, in the production of manufacturing industry, and the rise of intermediary goods imports in the developing countries which are dependant to import entries to a large extent for their production and exports. Due to such reasons, the %70 of foreign trade volume is import entries in these countries (Genç, 2016, p. 17).

Nevertheless, it is possible to argue that there are certain positive results in the dependent production to the import entries. One of these positive results is the improvements in the production quality. The quality of production by importing technology intensive intermediary goods rise to a certain level. Moreover, the procurement of raw materials and intermediary goods which cannot be supplied domestically contributes to increase the production volume. The exports of these products enable the certain inflows of foreign currency into the country and then, they contribute income growth and the actualization of economic growth. In his recent academic studies, Sönmez (2004) has revealed that the imports of intermediary and investments goods increase during the economic growth periods in the developing countries, but this also increases the foreign trade deficit as well. The dependency of developing countries to the imports in terms of the inputs of manufacturing industry causes the decrease of the numbers of employees in the manufacturing industry, the decrease of total demand, and the deceleration of production process and current output, and in the end, these developments cause economic recession. In conclusion, the dependency of underdeveloped and developing countries to foreign countries in the context of raw materials and intermediary goods for making exports have several economic effects on several issues such as the foreign trade
deficits, employment, industrial development, growth, level of income, the development of national industry, costs of production, and the quality of products.

5. The Foreign Trade Structure of Developed and Developing Countries, and the Foreign Dependency in Trade

The foreign trade activities of the countries have been affected from several factors, and this condition causes to emerge the differences of development among the countries. It is possible to organize these factors like the amount of expenditures towards R & D, the insufficiency of natural resources, and besides that, the ineffective use of natural resources, high population growth, the insufficiency of raw materials and intermediary goods, undercapitalization, the flows in the foreign exchange rates and political factors. Analyse of the effects of these factors on the foreign trade of developed and developing countries separately will be to the point.

5.1. The Foreign Trade Structure of Developed Countries and Their Foreign Dependency in Trade

The approaches towards clarifying economic growth have rapidly made progress since 1980s. The reasons that some countries have high growth rates, while some of them has low growth rates in this process have always been questioned. The terms such as the labour force structure of the country, direct foreign capital investments, R & D activities and the technological infrastructure levels are the determining factors for the differences of development and growth among the countries. When the structure of trade in the developed countries has been examined, it is seen that the major part of trade between aforementioned countries is intra-industry trade, and trade activities is made by "monopole" producers who have been produced these products. It is possible to express the intra-industry trade like both to export and to import the differentiated products which have close substitution from certain sectors as well (Şahin, 2016, p. 175). The increase of intra-industry trade assists the rapid increase of imports. In the beginning, intra-industry trade was made between the countries which have similar level of development levels economically. The different opinions have been propounded in time with the emergence of “vertical differentiation” term. In the foreign trade literature, while the vertical intra-industry trade generally expresses the trade between developed and developing countries, horizontal intra-industry trade mostly means the trade of developed countries between each other (Şahin, 2015, p. 172). According to this kind of trade, producers’ firms pay attention to domestic demand without checking forthcoming demands from international markets, and these firms plan their production activities for that scheme (Bayraktutan, 2003, p. 181). The possible foreign market of a product, which have been produced with high R & D share and have based on the needs of the people of developed countries, is another developed country. The needs of individuals who live in the countries with similar development levels have similarities indeed, and the trade of countries with similar development levels between each other gains importance in order to meet these needs. Hence, the import entries, which will be required to the production and exports for the developed countries, have been provided from the countries with similar development levels. In other words, a developed country will generally be dependent to another developed country in terms of the supply of import entries. It is possible to argue that the dependency herein can be originated from the insufficiency of natural resources.

Another important factor in terms of the foreign trade of developed countries is the quality and structure of labour force. The high education and skill levels of labour force positively affect the quality of product. The important
investments and expenditures towards human capital are made in the developed countries in order to make labor force more qualified. However, the high quality of labour force in the developed industrial countries causes wage increases, vicelike, the wage increases of labour force. Therefore, the businesses which desire to gain advantage in the developed countries, have been directed their investments to the underdeveloped countries with less educated labour force and hence, the relatively low costs of labour force (Candemir, 2009, p. 664). In this regard, it is possible to argue that the developed countries are dependent to underdeveloped and developing countries in terms of the supply of cheap labour force.

One of the factors which causes the differences of developments among countries in terms of foreign trade is the level of technological development. The developed countries mostly have already been made the important investments towards R & D activities and therefore, they have the technological power. The developed countries with technological power export knowledge intensive products while they import labor intensive goods from other countries, and this condition causes to emerge the differences of developments among the countries (Aghion et al., 1999, p. 1653). Due to the increase of the merchandise and capital movements during the economic globalization process, cross-border transactions increase by diversifying, and technology rapidly spread all around the world. The global firms play a crucial role in this process, and technology spread from the developed countries to developing countries thanks to these firms (Aktan and Şen, 2001, p. 105). However, the grand markets are required for the realization of this spread and the sale of technologies which are produced by developed countries. In particular, the large-scale expenditures for R & D expenditures by developed countries can only be met by bulky sales in global markets (Tağraf, 2002, p. 41). Therefore, developed countries have intensified their R & D activities on attractive products and designs for a lot more consumers in global markets. In this regard, it is possible to argue that developed countries are dependent to underdeveloped and especially developing countries in terms of the exports of the technology intensive products. Yet, it is good to state that the dependency herein is actually a necessity rather than a dependency, and even if this is a dependency, it is a dependency to the exports rather than a dependency to import entries.

5.2 The Foreign Trade Structure of Developing Countries and Their Foreign Dependency in Trade

When the structure of trade in the developing countries has been examined, it is observed that they are under the pressure of protectionist theorists in the beginning, and only outward oriented industrialization policies can be applied in those countries as well. The developing countries mostly have low income levels, and they usually produce for a narrow market with primitive technology. They also aim to achieve industrialization by developing their socio-economic structure. One of the significant strategies for these countries, which aim an economically rapid development, is industrialization strategy based on import substitution (Egeli, 2001, p. 150). Import substitution is grounded on production towards domestic market, is based on intensive protectionism. Moreover, it is a prescriptive model with intensive state interventionism which will involve all segments of the economy. Import substitution aims to manufacture imported goods domestically in order to decrease imports, and therefore, it will allow to ensure the foreign exchange savings in the balance of payments with the decrease of imports (Eroğlu, 2002, p. 259). The countries with import substitution policy are abstracted from the outside world, and therefore, the connection of domestic prices with world prices will be broken. The results of the lack of foreign competition are tried to be eliminated with the direct determination of domestic prices by the state. However, this condition causes to emerge an intensive bureaucratic mechanism, and the decay of economic balances. Thus, the developing
countries mostly begin to adopt export-oriented industrialization rather than the production strategy of import substitution. The export increases with the export-oriented industrialization strategy have provided the expansion in production and employment volume thanks to foreign trade multiplier (Ramos, 2001, p. 613). Furthermore, the acquired foreign exchange from exports has been used in the imports of capital assets, and it also contributes economic growth as well (Moosa and Choe, 1998, p. 237-238). Due to these reasons, it is possible to claim that the increase of exports is one of the primary reasons for the increase of production and employment.

It is possible to argue that there are various obstacles for the developing countries to find solutions for the foreign trade. One of the most significant obstacles is the deficiency of financial resources, and foreign exchange bottleneck. The imports of investment goods are required for the developing countries in order to increase real investments. Import entries, basic industrial goods, and intermediary goods are used in these countries for the industrial production. If the required foreign exchange for the planned imports is not provided with import incomes, then, the foreign borrowings will be applied by these countries as well. This condition, however, causes the reduction imports for not to increase the foreign payments deficit, and the decrease of investment volume, videlicet, the decrease of current outputs (Eroğlu, 2002, p. 260). Another obstacle on the foreign trade and development of developing countries is the high population growth, and the increase of domestic demands due to high population growth rate. Moreover, the domestic demands against production increase due to the increase in the amounts of income per capita. These increases cause the decrease of export potential since the domestic demand is excluded from the production. Therefore, the newly founded industries should be supported with fiscal measures such as tax refund and export subsidy to encourage them for more production. At this point, certain facilities and encouragements especially for tax loads should be provided to required raw materials and intermediary goods for producing the intended goods to export with Inward Processing Regime (IPR) to encourage exports (Atayeter and Erol, 2011, p. 17). This condition, however, is a burden on government budget which has limited income sources. Furthermore, developing countries has structural problems to be solved for increasing export quantities. The national producers, who have followed outward oriented and export-based industrialization policy, have to compete with strong competitors in the foreign markets. The quality of goods from the national producers of developing countries is usually poor in comparison with the goods of competitive producers due to relatively outdated technology, and it is difficult to standardize in this issue for national producers. Therefore, developing countries must overcome the obstacles in terms of the marketing of their industrial products to foreign markets.

6. The Effects of Foreign Dependency on Turkish Economy

The foreign dependency in trade is one of the prominent economic problems for the developing countries just like Turkey. The imports have been predominantly made in Turkey for the procurement of raw materials and intermediary goods to use them in the production process (Duran, 2016, p. 97). Turkey was adopted the import substitution growth strategy before the period of 1980 like most of the developing countries. However, she began to apply export-oriented growth strategy after 1980. Export-oriented growth strategy, however, causes to emerge certain significant problems upon national economy of Turkey as well. One of these problems is the dependency to import entries which are required for both domestic oriented and export-oriented production. The production structure based on import substitution and the exclusive production to domestic lands cause that R & D expenditures and technological investments cannot be made in time. However, R & D expenditures effect economy positively by mobilizing technology and have importance for the realization of economic growth (Taş et al. 2017, p. 199). Furthermore, Turkey does not have some certain raw materials and intermediary goods which are used during
the production process, and this condition causes Turkish production structure to become dependent to import entries during export-oriented production process. Yet, the important part of the production of prominent sectors cannot be made without import entries (Hisarcıklıoğlu, 2011, p. 27). The dependency to import entries causes to emerge certain economic problems. The production cost increases based on the increases in foreign exchange rates due to political and economic crises especially are one of the most significant economic problems in Turkey because of the dependency to import entries. The increases in foreign exchange rates cause the rise in the prices of directly imported intermediary goods and raw materials, and the increases of input costs increase the production cost. The production cost increases have two crucial economic effects on Turkish economy. The first one is its effect on inflation. The production cost increases cause to increase the rise in the prices of domestic consumptive final goods and services, in other words, they cause to increase the inflation rate. Therefore, the purchasing power of domestic consumers have been decreasing as well. Another negative effect of the production cost increases is its effect on competitive power. The production structure based on import entries and the increases of input costs connected with the increases of input prices due to the increases of foreign exchange rate cause the increases of the prices of final goods and services which are produced in Turkey. Furthermore, the increases in the prices affect the competitive power of national goods and services in the international markets negatively. Therefore, it is possible to argue that the applicable foreign exchange policies have a strategic significance as an economic policy tool in terms of the protection of the international competitive power of the country (Bozdağlıoğlu and Yılmaz, 2017, p. 17). Besides, the enormous increase of foreign exchange rates cause that the intermediary goods and raw materials cannot be provided from abroad and the production volume affects negatively.

Another effect of the dependency of exports to imports in Turkish foreign trade emerges on the foreign trade deficits. Certain amounts of export incomes have been acquired from the exported goods and services which are produced in Turkey. However, there are substantial amounts of outflow of the foreign currency due to the import entries which have been used during the production process. Hence, the significant part of the acquired incomes from exports is again transferred to the importer countries by Turkish producers (Özlale and Karakurt, 2012, p. 13). This, however, causes limited foreign trade incomes. Moreover, certain final goods and services cannot be produced domestically due to the technological inadequacy, and they must be imported by developed countries. These imports, however, mean another capital transfer to abroad and they cause to emerge the foreign trade deficits. Another negative effect of the dependency of exports and foreign trade to imports in Turkey emerges on industrial structure. The intermediary goods to produce the planned exports can be easily provided from abroad thanks to specialization, division of labour, and the realization of serial production depend on them, and this condition prevents national industry to develop itself. The non-development of national industry causes to emerge the unemployment problem, and to increase the numbers of unemployed as well. It is possible to argue that the dependency of Turkish economy to imports is a structural problem. The reasons such as the national resource structure of Turkey, the insufficient investments for the raw materials and the production of intermediary goods, the problems for the procurement of intermediary goods, and the nonproduction of the products with high added value due to technological inadequacies cause the high rates of the dependency to imports in Turkey (Saygılı et al., 2009, p. 18). At this stage in Turkey, products with a lot more added value can be produced in comparison with previous periods, but there are still problems in the sectors, which use advanced and medium high technology for the production, about creating added value (Özenç and Düşündere, 2017, p. 3) Furthermore, the occasional encountered difficulties for the procurement of intermediary goods from abroad due to political and strategic reasons can cause the decrease of current outputs. The decrease of current outputs, on the other hand, cause to affect the economic growth negatively.
7. Conclusion and Suggestions

The dependency to import entries during production process shows an increase with the development of technology, communication and transportation network. The underdeveloped and developing countries, which adopted and used intensive protectionist policies before commercial liberalization, have especially encountered with an intensive competition in the international markets in terms of exports and production after the commercial liberalization, and therefore, they have changed their production structure to export oriented system. During the transition period of export oriented production system, the reasons such as the insufficiency of natural resources, the unmade investments towards raw materials and the production of intermediary goods, the encountered problems for the procurement of intermediary goods with good quality, the instabilities of foreign exchange rates, the underestimation of R & D activities, the inadequate keeping pace with the technological developments, and not having the sufficient technological infrastructure for the production of value added products especially cause the developing countries to become dependent to import entries, and to show an increase the existing dependency. In other words, export oriented production structure in the underdeveloped and developing countries requires the usage of import entries for an export-oriented production, and this condition causes the dependency to import entries show an increase. Although there are differences about the dependency to import entries in both developed and developing countries, it has several economic effects. Turkey, which is one of the developing countries, have been significantly affected from the dependency to import entries. Turkey has not been allocated sufficient resources to R & D investments, and depend on this condition, technological development is in limited levels. This condition, however, causes that several raw materials and intermediary goods cannot be provided from the country, the domestic production of intermediary goods have been followed a fluctuating course due to economic and political risks, and the dependency to import entries have been increased. As for the dependency to import entries, it means the capital transfers to abroad for the imported final and intermediary goods, and this causes to emerge the foreign trade deficits. Furthermore, the dependency to import entries causes cost inflation based on the increases in the foreign exchange rates, the insufficient development of national industry due to the procurement of inputs from abroad, the continuous increase of unemployment problem, and to affect negatively Turkish economy. Therefore, keeping the significant part of acquired export incomes in the country has an importance thereby increasing the usage of national inputs during the production process.

In parallel with this purpose, the allocation of funds should be increased for the development of technology, especially for R & D expenditures, the regulations and initiatives for the development of national industry should be put in practice, and in this direction, governmental incentives and supports should be increased as well. In addition to them, state should be focused to the regulations and practices, which will bring competitive power to national producers in the international markets, and the planned funds for the usage of R & D expenditures should be allocated by taking into the consideration of this fact. Moreover, the state should be concentrated on the production of technology intensive products with high added value to increase exports, and besides that, product diversification should be made. Finally, necessary initiatives should be made for the training of the skilled labour as well in order to use the developed technologies which are made to be freed from the dependency to import entries, and to develop manufacturing industry.
References


THE EFFECT OF FOREIGN TRADE ON REAL WAGES

Ekrem GÜL, Ahmet KAMACI

1. Introduction

Real wages express the amount of goods and services that can be bought with total income of one person through the current prices of the country. Real wages are calculated with the division of nominal wage to the price and they are demonstrated with “w” in the literature of economics.

In literature, real wages are defined as the real consumption wages that nominal wages are deflated with CPI or they defined as the real production wages that nominal wages are deflated with PPI (Wakeford, 2004:1). Based on this definition, real wages can be described as the nominal wages without inflation.

Layard and Nickell have argued that the level of real wages is determined with the approach of firms to minimize the costs and to maximize the profits, and as a result of considering the role of syndicates and the process of bargaining (Layard and Nickell, 1986:164-166). In short, the basic factor that determines wealth level of employees is real wages. Yet, if the increase in prices is much, real wages will decrease (Metin and Üçdoğruk, 1998:279). If the rate of nominal wages and rate of inflation are in the same level, then, the level of real wages will remain same.

In this study, the effect of foreign trade to real wages has been examined with the panel data analysis in 12 developed countries for the period of 1980-2016. Within this context, theoretical information about the topic has been given firstly and then, the literature survey of this topic has been included in the search. Moreover, the general view of real wages in Turkey has been given as well. Due to cross sectional dependency in the series, panel unit root tests of second generation have been used. After that, panel regression analysis has been made by determining proper regression estimator.

2. Conceptual Framework and Literature Search

The concept of real wages was and has still been discussed since the period of classical economics, and it took place in several economic schools. When the theoretical framework of real wages is examined, this view emerges:

In classical theory, while the increase in the real wages decreases labor demand, it increases labor supply because the increase in the real wages increases the cost of employers, and this causes the welfare loss (Cengiz and Şahin, 2011:138). In neo-classical theory, the activities of syndicates and the executions of minimum wage cause the real wages to follow the trend above the normal levels, and they also increase the unemployment. The way to decrease unemployment is to reduce the wages. Keynesians, on the other hand, imply that the decreased prices during stagnation will make economy even worse (Özata and Esen, 2010:56-57).

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1 This study has been derived from “The Effect of Foreign Trade on Growth, Employment and Real Wages” name of doctoral thesis which was completed in 2012 by Ahmet KAMACI from The Institute of Social Sciences at Sakarya University under the advisor ship of Assoc. Dr. Ekrem GÜL.
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Hecksher – Ohlin (HO) Model is the most widespread model to clarify the connection between trade and the wages. HO Model indicates that the changes in the relative prices of goods affect the prices by changing trade policy. Stolper-Samuelson theory which created within the influence of HO Theory expresses that if the domestic price of one goods increases, the production factor which was intensively used during the production of that product will increase the real wages. Since this process requires high tariffs and additional protection, the increase of protectionism will pave the way to increase the real wages, and the decrease of protectionism will lead to decrease the real wages (Gül and Ekinci, 2006:207-208; Robertson, 2001:1-3; Wood, 1997:34). The contribution of Stolper – Samuelson Theory is in the direction that the increase of factor income will increase the wages of developed countries.

Since the data of real wages cannot be reached so easily, there are no several conducted studies on real wages in both Turkey and other countries. However, studies about the wages are countless. Therefore, mostly the wages are included in the literature survey.

Foreign trade and openness usually decrease the real wages, while it can be seen that they also increase the real wages in some studies as well. The literature survey about the effect of foreign trade and openness on wages has been given in Table 1.

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>YEARS</th>
<th>RESULT</th>
</tr>
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<tbody>
<tr>
<td>Revenga (1995)</td>
<td>(Mexico 1984 – 1990)</td>
<td>The abolition of quotas has no effect on average wages; but, the decrease of tariffs increased the average wages.</td>
</tr>
<tr>
<td>Milner and Wright (1998)</td>
<td>(Mauritius)</td>
<td>Foreign trade increases the wages in long term.</td>
</tr>
<tr>
<td>Krishna et al. (2001)</td>
<td>(Turkey 1983 – 1986)</td>
<td>There is no significant relationship between labor demand and openness.</td>
</tr>
<tr>
<td>Goldberg and Pavcnik (2003)</td>
<td>(Colombia 1984 – 1998)</td>
<td>If the tariff discounts are high, then, the wages will decrease so much more.</td>
</tr>
</tbody>
</table>
As it is be seen in Table 1, generally there is a negative relationship between openness and the wages (Arbache et al., 2004; Devadason, 2004; Pavcnik et al., 2004; Emirhan and Konyali, 2010; Oransay, 2016).

2.1. The Development of Real Wages in Turkey

While the index value of real wages in Turkey was at the level of 1998 in 2009, the decreases in the real wages have been observed after 2009.

When the progress of real wages in Turkey have been examined, this below figure has appeared:

*Figure 1: The Progress of Real Wages in Turkey (1993-2016)*

As it is seen in Figure 1, the value of real wages has an up-and-down progress after 1993. The real wages especially decrease in the periods of crisis like in 1993 and they have been in a recovery period after the crisis as well. In fact, real wages increased until 2000 and decreased with the effect of 2001 crisis. Then, another recover period occurred for real wages, but they decreased again with the reflections of mortgage crisis. Nowadays, the purchase power of employees is still quite below of 1993-94 period in terms of studied periods.
The peak years of Turkish manufacturing industry are the period between 1977 and 1993. Especially a considerable increase in the real wages was observed in the years that import substitution industrialization was executed before 1980 and in the years that income distributions were not in favour of agricultural sector (1989-91) (Yılmaz, 2006:40). When the progress of real wages in the Turkish manufacturing industry in the period between 1970 and 2001 have been examined, the Figure 2 has appeared in accordance with the conducted analyses.

As it is seen in Figure 2, there is a decrease in the real wages in the period of 1980-88 and the period after 1994 crisis. A crisis in Turkish economy has been observed in every period after the peak point of real wages in manufacturing industry. Therefore, it can be argued that real wages have reached their peak in the previous periods before the crisis. 1977 was the year that the real wages of manufacturing industry reached their peak.

As it is seen in Figure 3, real wages have an up-and-down progress since 1980s.

Real wages decreased during 2002 and 2003. The real incomes per workers in production decreased %4.6 in private sector and %2.6 in public sector in 2002. In the same year, the real wages decreased %1.3 in private manufacturing industries, while they increase in the public sector %3.8. However, there is a downward tendency
in real wages in long-term perspectives (Yeldan, 2004:2). While there was a positive relationship between real wages and employment in Turkey for the period before 1980, a negative-oriented relationship emerged between them from 1980 to 2002. After 2002, there is no net relationship between real wages and employment (Cengiz and Şahin, 2011:141).

3. Empirical Approach and Data

3.1. Research Method

In this study, the effect of foreign trade to real wages has been analysed by using the data of 1980-2016 for 12 developed countries. In the study, the data of real wage is determined as 2005=100. In addition to this, it is demonstrated in the analysis as “wage” and this shows the index value. Moreover, in the analysis, export data demonstrates the conducted exports of countries in sort of 1000 $ and it is demonstrated as “exp” in the analysis. The series in the study have been taken from the web address of “imf.statistics.org”. This site contains the database of IMF as well.

The estimated model in this study has been demonstrated in number (1) equation.

\[ \text{wage}_{it} = \alpha_0 + \beta_1 \text{exp}_{it} + \beta_2 \text{imp}_{it} + \epsilon_{it} \quad (1) \]

The independent variables of the model are exports and imports, and the dependent variable of it is the real wages.

3.2. Empirical Results

The condition whether there is cross sectional dependency or not has been checked before conducting unit root tests in the study. For this, cross sectional dependency should be checked by using CDLM test.

To prevent the biased or contradictory results that will be obtained from the analysis, it should be determined what generation will be used as unit root tests by checking cross sectional dependency (Koçbulut and Altıntaş, 2016:152). If there is a cross sectional dependency in the series, second generation panel unit root tests should be used. CDLM test has been made in order to detect cross sectional dependency. The results of cross-sectional dependency have been given in Table 2.

4 USA, Germany, Australia, South Korea, Netherlands, United Kingdom, Ireland, Spain, Switzerland, Italy, Japan and Canada
Table 2: Cross Sectional Dependency (CD$_{LM}$) Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>CD Test</th>
<th>Test stat.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>wage</td>
<td>CD$_{LM1}$ (Breusch-Pagan LM)</td>
<td>2327.971</td>
<td>0.0000</td>
</tr>
<tr>
<td>wage</td>
<td>CD$_{LM2}$ (Pesaran scaled LM)</td>
<td>196.8793</td>
<td>0.0000</td>
</tr>
<tr>
<td>wage</td>
<td>Bias-corrected scaled LM</td>
<td>196.7127</td>
<td>0.0000</td>
</tr>
<tr>
<td>wage</td>
<td>Pesaran CD</td>
<td>48.22953</td>
<td>0.0000</td>
</tr>
<tr>
<td>exp</td>
<td>CD$_{LM1}$ (Breusch-Pagan LM)</td>
<td>2375.066</td>
<td>0.0000</td>
</tr>
<tr>
<td>exp</td>
<td>CD$_{LM2}$ (Pesaran scaled LM)</td>
<td>200.9784</td>
<td>0.0000</td>
</tr>
<tr>
<td>exp</td>
<td>Bias-corrected scaled LM</td>
<td>200.8117</td>
<td>0.0000</td>
</tr>
<tr>
<td>exp</td>
<td>Pesaran CD</td>
<td>48.73288</td>
<td>0.0000</td>
</tr>
<tr>
<td>imp</td>
<td>CD$_{LM1}$ (Breusch-Pagan LM)</td>
<td>2383.781</td>
<td>0.0000</td>
</tr>
<tr>
<td>imp</td>
<td>CD$_{LM2}$ (Pesaran scaled LM)</td>
<td>201.7370</td>
<td>0.0000</td>
</tr>
<tr>
<td>imp</td>
<td>Bias-corrected scaled LM</td>
<td>201.5703</td>
<td>0.0000</td>
</tr>
<tr>
<td>imp</td>
<td>Pesaran CD</td>
<td>48.82182</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

According to Table 2, since the results of possibility values in the CD tests of all variables is lower than %5, it is concluded that there is a cross sectional dependency between the units in the panel. Therefore, the decision makers in the examined 12 countries should consider the effecting shocks to these variables in their determined policies. After this step, second generation panel unit root tests will be used. The reason to continue with these tests is that they will take cross sectional dependency into consideration. Therefore, panel unit root tests have been applied for the overall panel with the aid of one of the second-generation unit root tests, CADF test. CADF test was developed by Pesaran (2006) and the results of CADF test have been given in Table 3.

Table 3: CADF Unit Root Test Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>t-bar</th>
<th>Z[t-bar]</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>wage</td>
<td>-1.979</td>
<td>-0.770</td>
<td>0.221</td>
</tr>
<tr>
<td>exp</td>
<td>-2.523</td>
<td>-2.776</td>
<td>0.003</td>
</tr>
<tr>
<td>imp</td>
<td>-2.358</td>
<td>-2.166</td>
<td>0.015</td>
</tr>
<tr>
<td>Δwage</td>
<td>-4.236</td>
<td>-9.086</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: Lag length was determined according to SIC criterion, and the value of lag length was found as 1. The number of total observations is 432. Critical values have been analysed in fixed model.

According to the result of Table 3, when the first difference of real wages data was taken, it became stable and it is stable just as the level of other variables. Interdivisional correlation, changing variance (heteroscedasticity) and autocorrelation have been detected in the model as well.

If there are interdivisional correlation, heteroscedasticity, and autocorrelation in the model, Parks-Kmenta, Beck-Katz and Driscoll-Kraay estimators will give more resistive results. While Driscoll-Karay estimator is more resistive in case of N>T, Parks-Kmenta estimator have given more valid results in case of T>N (Tatoğlu, 2013:277). Since this study is a T>N case, Parks-Kmenta estimator have been selected because there are interdivisional correlation,
heteroscedasticity and autocorrelation and selected estimator is giving more resistive estimations. These results have been given in Table 4.

Table 4: The Results of Park-Kmenta Estimator

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>Std. Err.</th>
<th>z</th>
<th>Prob.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>exp</td>
<td>0.00008</td>
<td>0.00001</td>
<td>7.81</td>
<td>0.000</td>
<td>0.00006 0.000001</td>
</tr>
<tr>
<td>imp</td>
<td>-0.00002</td>
<td>8.23e-06</td>
<td>-2.51</td>
<td>0.012</td>
<td>-0.00003 -0.000003</td>
</tr>
<tr>
<td>_cons</td>
<td>62.36423</td>
<td>1.772878</td>
<td>35.18</td>
<td>0.000</td>
<td>58.88946 65.82901</td>
</tr>
</tbody>
</table>

Heteroscedasticity 302.1792 0.000
Autocorrelation 38.5869 0.000

When the results of estimation in Table 4 have been analyzed, it is detected that the export and import variables are significant with %95 confidence level. In these estimations, the data between the period 1980 and 2016 in the examined 12 countries has been used to generate the model for analyzing the export and import variables. According to these results, 1 unite increase in exports have also increased the real wages 0.00008 unit. In the same time, 1 unite increase in imports have decreased the real wages 0.00002 unit as well. In short, there is a positive relationship between exports and real wages, while there is a negative relationship between imports and real wages. Yet, the coefficient values are low.

4. Conclusion

Real wages define the state that nominal wages have been purified from inflation, and they indicate wealth level of citizens in the country as well. If the increase in nominal wages are more than the rate of inflation, real wages will increase; if this condition is the opposite of the above, then, the real wages will decrease.

The real wages had serious decreases with the 2001 crisis in Turkey. The highest level of them, on the other hand, occurred in 1993. The real wages reached the same index value of 1998 in 2009, but they decreased again because of Mortgage crisis. This paved the way to decrease the wealth level of residents in Turkey.

While the classical and neo-classical theories did not lean towards the increase of real wages; Keynes especially advocated that the decreases of wages in stagnation period would affect economy more negatively. The relationship between foreign trade and real wages has been widely explained with HO model and the other models that have been generated with this model. According to Stolper-Samuelson theory, which was generated from HO model, the increase of protectionism will increase the real wages, while liberal policies will decrease the real wages. The conducted literature survey will also support the theory of Stolper-Samuelson model. According to this, if openness increases, real wages will decrease. Yet, export and import variables have been used in this study instead of openness.

In this study, the effect of foreign trade on real wages for the period of 1980-2016 in 12 developed countries has been tested with panel regression analysis. The dependent variable is real wages (wage); while the independent variables are export (exp) and import (imp) in the created model. Since the cross-sectional dependency has been found in the examined series of the study, one of the second-generation panel unit root tests, CADF test, has been made. Heteroscedasticity and autocorrelation tests have been made as well to determine what estimators will be used for choosing parameter coefficients in the model. Since the case is T>N in this study and interdivisional
correlations, changing variance and autocorrelation have been found in the model, Parks-Kmenta estimator has been used because this estimator is more resistive against these kinds of problems.

According to the result of this study, 1 unit increase in exports increases the real wages 0.00008 unit and 1 unit increase in export decreases the real wages 0.00002 unit. In other words, exports and real wages have a positive relationship, while a negative-oriented relationship occurred between imports and real wages, but coefficient values are quite low as well.

References


4

THE EFFECT OF DIRECT FOREIGN INVESTMENTS AND GREENFIELD INVESTMENTS ON GOVERNMENT SIZE: THE TESTING OF THE RODRIK HYPOTHESIS FOR LATIN AMERICAN COUNTRIES

Havanur ERGÜN TATAR

Introduction

With booming trade, the effect of economic openness on public expenditures has become an important issue in recent studies. Especially, countries are facing more risks while they open out more to the world markets. In this point, it is presumed that open economies have higher economic insecurity (Rodrik, 1998:1011).

While the individuals’ insecurity for the future rises, depending on this situation the perception of economic risks rises as well. In the manner of wage and employment, labour force markets represent the transmission channels where the external risks are transmitted to the internal market. (Osberg, 2015). Government shouldn’t be oblivious to the mentioned external risks and also should increase the public spending’s against to issues such as unemployment and decrease in income (Rodrik, 1998:1011).

The main objective of this study is to analyse the effect of FDI and Greenfield FDI on public expenditures. Latin American countries group between the years of 2003-2017 is examined in this manner. In the study, the predicts are run by panel data analysis method by using government size, the ratio of the foreign direct investments to the gross domestic products (FDI/GDP), the ratio of greenfield investments to the gross domestic products (GFI/GDP), unemployment and growth variables.

In the first stage of the three-stage study, theoretic explanations are made. In the second stage empirical studies related to the subject are mentioned. And at the last stage, after giving information about the method and data set, empirical analysis is stated.

1. Theoretical Framework

Rodrik (1997, 1998) and Garleff (1998), assert a relation between the public expenditures and an increasing economic insecurity with international economic integration. The countries which are more open to the FDI face more economical insecurity. In addition, increase in foreign investment openness causes higher public expenditures in countries. Greenfield FDI has stronger effect on the demand of public expenditures. The industries which are intended to the world markets are much more affected from the foreign investment inflows.

For the countries which are in the transition process to the free market economy, the decrease in the government size is expected. But in this process the countries are obliged to take some precautions due to the competition in international markets. In this point, the expectations towards to the governments’ regulatory impact increase.

1 Bartın University, Faculty of Economics and Administrative Sciences, Department of Economics.
The parts which are affected by the costs of international integration will start to put pressure on politicians and bureaucrats. These politicians and bureaucrats who are afraid of the negative effects of the situation to their career will prefer to compensate the loss of the parts affected by the liberalization. In other words, with commercial liberalization public expenditure will increase (Erdoğan, 2003:32). According to the Blomström and Kokko (2003), policy makers in the countries are like in a race for the Greenfield FDI’s by offering incentives and subventions.

The effect of FDI’s on host country’s government size depends on the way of foreign investments entrance. Greenfield FDI’s contribute more to the local production capacity by creating new assets. Especially by increasing the competition ability, greenfield FDI’s contribute more comparing to the M&As. Greenfield FDIs’ will cause higher demand to compensate the public expenditures by increasing the risk of local workers being replaced. In this point comparing to the M&As, Greenfield FDI’s expose the local workers to the higher labour force market volatility (Ashraf, Herzer and Nunnepkamp, 2017:570).

2. Empirical Literature

There are only limited numbers of studies which examine the effect of FDI’s and Greenfield FDI’s on government size by using Rodrik hypothesis. These studies and the studies which are examining the relation between public expenditure and external openness as one of the other indications of commercial liberalization are approached in literature scan. Literature scan is divided in to two groups where Rodrik hypothesis verified and not verified. These studies are as follows:

The studies in the first group indicate that commercial openness and foreign investments increase the government size. These studies are as follows:

In the study of Quinn (1997), the effect of commercial openness on public expenditures is researched by using the data between the years of 1974-1989 for 38 developing and developed countries. As the result of the study it is concluded that openness has a positive effect on public sector size and social welfare spending’s.

Bernauer and Achini (2000) analysed the relation between the external openness and government size for 23 OECD and 89 non-OECD countries by using the data between the years of 1960-1994. As the result of the study it is concluded that external openness increases the public expenditures and tax incomes.

Bretschger and Hettich (2002) analysed the effect of globalization on government size for 13 OECD countries by using the data between the years of 1980-1995. As the result of the study it is concluded that globalization increases the government size.

Ashraf, Herzer and Nunnepkamp (2017), analysed the relation between Greenfield FDI, cross-border M&As and government size for 130 countries by using the data between the years of 2003-2011 in their study. As the result of the study it is concluded that the effect of Greenfield FDI’s on government size is positive and statistically meaningful whereas M&As has no significant effect on government size.
The studies in the second group indicate that commercial openness and foreign investments decrease the government size. These studies are as follows:

In the study of Garret and Mitchell (2001), the relation between globalization, public expenditures and tax is researched for 18 OECD countries by using the data between the years of 1961-1994. As the result of the study it is concluded that commercial openness reduces the public expenditures, public consumption and social security spending. Rodrik indicates that the relation between commerce and expenditures is positive in developing countries. But this hypothesis is not confirmed for OECD countries. According to Garret and Mitchell (2001), this situation stems from the fact that in these countries’ commerce is less floating and individual’s compensation demands are less for open market operations. Also, it is concluded that capital movements don’t affect the public expenditures.

Molona, Catia and Mara (2004) analysed the relation between external openness and government size for 23 OECD countries by using the data between the years 1948-1998. As the result of their study no positive relation is attained between public sector size and external openness.

Kittel and Winner (2005) analysed the relation between external openness and government size for 17 OECD countries by using the data between the years 1961-1993. As the result of their study, it is concluded that FDI’s decrease the size of public sector.

Liberati (2007) studied 18 OECD countries to analyse the relation between financial openness and government size by using the data between the years of 1950-2001. In the study dynamic panel data method is preferred. As the result of study, it is concluded that the relation between financial openness and government size has a negative direction.

Benarroch and Pandey (2012) analysed the relation between public sector size and external openness with panel data method by using the data between the years of 1970-2000. As the result of the study where 96 countries are examined, it is concluded that the relation between financial openness and government size has a negative direction.

3. Econometric Analysis

In this chapter after giving information about the method, unit root tests and analysis results are mentioned.

a. Methods and Data

Two different models are created to analyse the effect of FDI’s and Greenfield FDI’s on government size. With the aid of the models created, the effect of foreign investments’ and Greenfield investments on government size is tried to be analysed. The models created are as follows:

\[
\text{Government}_{it} = \alpha_i + \beta_1 FDI_{it} + \beta_2 Unemployment_{it} + \beta_3 Growth_{it} + \varepsilon_{it}
\]

\[
\text{Government}_{it} = \alpha_i + \beta_1 GFI_{it} + \beta_2 Unemployment_{it} + \beta_3 Growth_{it} + \varepsilon_{it}
\]

The studies utilized to create the model are as follows:

FDI: In the study of Gemmell, Kneller and Sanz (2008), the relation between foreign investment, international commerce and public expenditures is researched. The data between the years of 1980-1997 are analysed for 25 OECD
countries. As the result of their study it is concluded that FDI’s support compensation hypothesis by changing its spending composition towards to the social spending. Hence, in the model created, FDI is a descriptive variable.

**GFI and Unemployment:** In the study of Ashraf, Herzer and Nunnekpamp (2017), the relation between Greenfield FDI, cross-border M&As and government size is researched. The data between the years of 2003-2011 are analysed for 130 countries. As the result of their study it is concluded that the effect of Greenfield FDI on government size is positive and statistically meaningful. Hence, in the model created FDI and GFI are descriptive variables.

**Growth:** In the study of Garrett and Mitchell (2001), the relation between globalization, public expenditures and tax is researched by using the data between the years of 1961-1994 for 18 OECD countries. As the result of their study it is concluded that growth has a negative and significant effect on public expenditures. Hence, in the model created Growth is a descriptive variable.

In the study, the effect of FDI’s and Greenfield FDI’s on government size is expected to be positive. The relative abbreviations used in the study are as follows:

- Government \(_{it}\) = General government final consumption expenditure (% of GDP)
- FDI \(_{it}\) = Foreign direct investment, net inflows (% of GDP)
- GFI \(_{it}\) = Greenfield FDI/GDP
- Unemployment \(_{it}\) = Unemployment, total (% of total labour force)
- Growth \(_{it}\) = GDP growth (annual %)

The time and section dimensions used in the model are \(t=14\) and \(i=14\) (\(t=1,...,T;\ i=1,...,N\)) in sequence.

Latin American countries are examined to analyse the effect of FDI’s and Greenfield FDI’s on government size. These Latin American countries are as follows: Brazil, Chile, Columbia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, El Salvador, Guatemala, Mexico, Panama, Dominican Republic and Fiji.

In the study the data of sampling countries between the years of 2003-2017 are used. The data are obtained from the data base of The World Bank World Development Indicators and World Investment Report published by UNCTAD.

### b. Unit Root Tests

While empty hypothesis is testing the existence of a common unit root in the panel unit root test of Levin-Lin-Chu (2002), in the test of Im-Peseran and Shin (2003), the existence of individual unit root is tested. Finally, in the test of Hadri (2000) the non-existence of a common unit root is tested. (Abdioğlu and Uysal, 2013:135). By developing the test of Levin-Lin-Chu (2002), the test of Im-Peseran and Shin (2003) is based on the average of individual \(t\) statistics of each section unit.

In this study, panel unit root tests of Levin-Lin-Chu (2002), Hadri (2000), Im-Peseran and Shin (2003) are utilized to test the stability. Test results are shown in Table 1. According to the test results variables don’t contain unit root. Hence, model predictions are achieved by using the level values of variables.
Table 1: Unit Root Test Results

<table>
<thead>
<tr>
<th></th>
<th>Level</th>
<th>Constant</th>
<th>Constant + Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>-1.92 (0.02)**</td>
<td>-2.95 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>FDI</td>
<td>-3.52 (0.00)*</td>
<td>-4.23 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>GFI</td>
<td>-4.20 (0.00)*</td>
<td>-4.24 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>-4.65 (0.00)*</td>
<td>-2.87 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>-5.57 (0.00)*</td>
<td>-6.43 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>Hadri LM Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>23.60 (0.00)*</td>
<td>8.78 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>FDI</td>
<td>0.89 (0.18)</td>
<td>4.83 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>GFI</td>
<td>3.36 (0.00)*</td>
<td>4.03 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>2.91 (0.00)*</td>
<td>5.27 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>2.01 (0.02)**</td>
<td>-0.44 (0.67)</td>
<td></td>
</tr>
<tr>
<td>IPS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>2.98 (0.99)</td>
<td>-2.67 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>FDI</td>
<td>-5.37 (0.00)*</td>
<td>-5.19 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>GFI</td>
<td>-4.39 (0.00)*</td>
<td>-5.12 (0.00)*</td>
<td></td>
</tr>
<tr>
<td>Unemployment</td>
<td>-1.60 (0.05)**</td>
<td>0.57 (0.71)</td>
<td></td>
</tr>
<tr>
<td>Growth</td>
<td>-4.92 (0.00)*</td>
<td>-6.11 (0.00)*</td>
<td></td>
</tr>
</tbody>
</table>

* indicates that the statistic is meaningful at the importance level of 1%, ** indicates that the statistic is meaningful at the importance level of at least 5%, *** indicates that the statistic is meaningful at the importance level of at least 10%.

c. Arellano- Bover /Blundell - Bond’s Two-Stage System Generalized Moments Prediction Results

In this study, Arellano- Bover/ Blundell- Bond’s Two-Stage System Generalized Moments method is preferred because of its not giving sided results and taking the time dimension of the data into consideration. (İskenderoğlu, Karadeniz and Atioğlu, 2012:301-302).

According to the results of analysis, in the 1st model unemployment and growth variables are statistically meaningful at the significance level of %1. FDI variable is statistically meaningless. In the 2nd model growth variable is statistically meaningful at the significance level of %1. GFI and unemployment variables are statistically meaningful at the significance level of %5. No positive relation between Public sector size and GFI is reached. So, Rodrik hypothesis is not confirmed between Public sector size and GFI variable.

Wald test is utilized to test the general meaningfulness of the models in Two-Stage SGMM (Hüsnüoğlu, 2017:28). According to the test results models are meaningful. According to the Sargan test (Gujaratı, 2004, s.713) which tests whether tool variables are chosen correctly or not, tool variables are chosen correctly. According to the Arellano and Bond’s autocorrelation (AR1) and (AR2) test results, while there is autocorrelation in the first level, there is
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no autocorrelation indication in the second level. The obtained results are in compliance with the expectation of insignificant autocorrelation in the second level (Arellano, 2003, 121). According to the results of the analysis, necessary conditions are met related to the general meaningfulness of the model, autocorrelation and the right selection of the tool variables.

### Table 2: Arellano-Bover/Blundell-Bond’s Two-Stage System Generalized Moments Prediction Results

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government (-1)</td>
<td>1.082</td>
<td>0.916</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>FDI</td>
<td>0.018</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.585)</td>
<td></td>
</tr>
<tr>
<td>GFI</td>
<td></td>
<td>-0.462</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.031)**</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.009</td>
<td>-0.114</td>
</tr>
<tr>
<td></td>
<td>(0.000)*</td>
<td>(0.018)**</td>
</tr>
<tr>
<td>Growth</td>
<td>-0.109</td>
<td>-0.116</td>
</tr>
<tr>
<td></td>
<td>(0.000)*</td>
<td>(0.000)*</td>
</tr>
<tr>
<td>Wald Statistic</td>
<td>2216.45</td>
<td>2545.47</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Sargan Test</td>
<td>12.569</td>
<td>8.192</td>
</tr>
<tr>
<td></td>
<td>(1.000)</td>
<td>(1.000)</td>
</tr>
<tr>
<td>AR (1) Test</td>
<td>-1.790</td>
<td>-1.688</td>
</tr>
<tr>
<td></td>
<td>(0.073)</td>
<td>(0.091)</td>
</tr>
<tr>
<td>AR (2) Test</td>
<td>-1.244</td>
<td>-1.237</td>
</tr>
<tr>
<td></td>
<td>(0.213)</td>
<td>(0.216)</td>
</tr>
<tr>
<td>Number of observations</td>
<td>196</td>
<td>196</td>
</tr>
</tbody>
</table>

Note: * indicates that the statistic is meaningful at the importance level of 1%, ** indicates that the statistic is meaningful at the importance level of at least 5%, *** indicates that the statistic is meaningful at the importance level of at least 10%

4. Conclusion

The effect of FDI’s and Greenfield FDI’s on government size is approached according to the Rodrik hypothesis. Latin American countries group is examined to test the hypothesis. Analyses are performed by using FDI, GFI, Unemployment and Growth variables. After performing the unit root analyses, Arellano-Bover/Blundell-Bond’s Two-Stage System Generalized Moments prediction results are examined.

According to the prediction results, while FDI variable is statistically meaningless, GFI variable is statistically meaningful. But theoretically, the effect of the growing Greenfield FDI’s on public expenditure is negative but not positive as expected. This situation can be related to the fact that mentioned countries have fewer risks caused by liberalization and individuals have less compensation demand. Garret and Mitchell (2001) achieved similar results in their study. As the result of their study they determined that commercial openness reduced the public expenditure, public consumption and social security expenditures. According to them, this situation stems from
the fact that in these countries' commerce are less floating and individual's compensation demands are less for open market operations.

In this study, analyses are made by taking the public consumption expenditures into consideration. In the following studies Rodrik hypothesis can be approached by taking the social security and welfare expenditures into consideration.

References


THE EFFECT OF DIRECT FOREIGN INVESTMENTS AND GREENFIELD INVESTMENTS ON GOVERNMENT SIZE:
THE TESTING OF THE RODRIK HYPOTHESIS FOR LATIN AMERICAN COUNTRIES

Havanur ERGÜN TATAR


1. Introduction

Turkey annulled every kind of supervision on the capital movements with the decision dated 1989 and numbered 32. While “the inflation targeting”, which became a current issue in 2000s, was concluded with appreciation of currency, this process has also caused the growth of current deficit, and the erosion of interior savings with foreign trade deficits. One of the basic developments, which have caused the growth of current deficit with the way of foreign trade deficits, was the Customs Union Agreement in 1996. As a result of Customs Union Agreement, while Turkey has to implement the common tariffs of the customs union of EU against third countries, the rivals of Turkey, such as Eastern Asia countries like China and India, for several sectors have increased their competitive powers against Turkey by taking the advantage of being exempted from these tariffs as well. This development was concluded with the dramatic growth of foreign trade deficits in Turkey against Asian countries (Şenok, 2012:63).

The issue of current deficit, which have already begun in 1990s, has been viewed as one of the important reasons for the economic crises of developing countries. The discussions about accepting the current deficit as a signal of crisis have been started in these years as well. Dornbusch and Fischer (1990), have argued that if the rate of current deficit to GDP became %4, it would be considered as a signal of crises. Freund (2000), on the other hand, have accepted their main argument, yet, the rate should be %5 for him. According to Labonte (2005); grand current deficits are the most important indicator for the finance, and foreign exchange crises in developing countries such as Mexico, Turkey, East Asian Countries, Brazil and Argentina. The condition of current accounts is quite important for the sustainability of economic stability in these countries (Göçer, 2013:214).

2. Balance of Payments and The Term of Current Deficit

In addition to the realization of high budget deficits, the condition of current deficits, which occurred with the emergence of foreign trade deficits in several countries in 1980s, have begun to be mentioned as twin deficits hypothesis. The national economies, which require imports against budget deficits and their lack of resources, have to have “foreign trade deficits” in the budget or more clearly, current deficits. Current deficit has not only developed with net export deficits, but also with the inclusion of international resources of finance to the required resources to the national economy (İdikut Özpençe & Ergen, 2017:48). The economic relationships of one country with outside world have been indicated in the budget called as balance of payments. This budget reveals whether the revenues of country through the operations such as goods, services, and capital flows are equal to the payments to outside world or not, and to reflect the decays or improvements in the solvency of country. It is also interpreted as the indicator of the economic and financial prestige of one country in the international field as a consequence. Balance of payments have comprised of the four main parts, which are balance of current accounts,
capital account balance, reserve movements, and net errors and omissions (Erdil Şahin, 2011:48). The net balance of these four accounts is zero. In case of balance of current accounts, it comprised of the components of the balance of merchandise exports and imports, balance of incomes, and balance of current transfers. To comprehend the term of current deficit better, balance of payments should be apprehended firstly.

Balance of payments is a statistical report which have been prepared to obtain the systematic records of the economic operations of influential persons in an economy with other influential persons in different economies for specific periods. The international standards about gathering the statistics of balance of payments have appeared in both the manuals of “Balance of Payments”, and “International Investment Position”, which are made by IMF to be a loadstar for member states. This document also allows to compare the statistics of balance of payments based on countries (www.tcmb.gov.tr). The economic operations in balance of payments have been recorded in accordance with accounting records, and double entry. In other words, balance of payments will be recorded in compliance with the basic rules of accounting, and double entry, and the amount of active and passive will be equal. As an example, in this system, after an indebted operation have been registered next to the indebted side of related account, it will be registered to the claimant side of another account. A claimant operation has been demonstrated in the claimant side of related account, and the indebted side of another account. Therefore, the register of same operation in the reverse sides of same account has been generated the adjustment of them. According to this system, the basic rule is that every operation should have two separate entries within the same value. One of the relevant entries should be positive sign (+), other one should be negative sign (-). The sum of all positive values and all negative values should be equal to each other; therefore, the net sum of all entries should be zero as well (Ordu, 2008:7). Balance of payments have comprised of current accounts, capital account, finance account, net errors and omissions, and reserve assets. The formulation of balance of payments can be demonstrated as follows (Eğilmez, 2014):

\[ \text{Balance of Payments} = \text{Current Accounts} + \text{Capital Account} + \text{Finance Account} + \text{Net Errors and Omissions} + \text{Reserve Assets} = 0 \]

The accounts, which have balance of payments, and the lower level components of these accounts are in Figure 1 as indicated.

**Schema 1: The Accounts of Balance of Payments**
2.1. Current Accounts

Current accounts have comprised of the sum of **Balance of Foreign Trade** (merchandise exports and imports), **Balance of Service** (tourism, transportation, communication, the construction business, insurance services etc.), **Balance of Net Revenues (Primary Incomes)** (the wages of employees, the incomes and expenses of direct and portfolio investments, the bonuses from stocks, the revenues about bonds or similar debt instruments, and interests) and **Balance of Current Transfers (Secondary Incomes)** (the unrequited foreign incomes and expenses) (Doğan, 2014:9).

2.2. The Capital and Finance Accounts

The capital and finance accounts are the second main account, and they include the asset transactions of countries with other countries within the title of finance account. If there was a deficit of the balance of current accounts, these accounts would show how this deficit has been financed. The short- and long-term capital flows, which have been made by both public and private organizations, have been demonstrated in the finance account. The finance accounts have comprised of direct investments, portfolio investments, and other investments (Dinler, 2013:592). The duty of finance account is to provide the finance of current accounts deficit. If the finance account could not provide enough resources to close the deficit, then, it would be closed with the account of net errors and omissions and official reserves (Altunöz, 2014:116).

2.3. Net Errors and Omissions

Because the records cannot be kept in a form, which will contain all the foreign economic relationships of current accounts (like not fully containing unregistered import – export records, and the incomes and expenses in tourism), it is generally accepted that the component of net errors and omissions have been arisen (Yükseler, 1998:594). Net errors and omissions have a quality of equalizers for balance of payments. If this account is positive, there will be the inflows of unaccredited foreign exchanges into the country.

Table 1: The data of Net Errors and Omissions According to Years

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Errors and Omissions</td>
<td>-315</td>
<td>1.966</td>
<td>2.314</td>
<td>-464</td>
<td>8.295</td>
<td>-1.824</td>
<td>1.041</td>
<td>1.119</td>
<td>9.756</td>
<td>10.969</td>
<td>-</td>
</tr>
</tbody>
</table>


2.4. Reserve Assets

Reserve assets are the international means of payments which have been reserved by Central Bank in order to close the foreign exchange gap due to current accounts and capital transactions. The reserves of one country have comprised of gold reserves, foreign exchange reserves, and special drawing rights (SDR) (Dinler, 2013:594). The reserve amounts of Central Bank have become 86.183.000.000 $ since October 2018. These amounts have comprised of 66 billion $ foreign exchanges reserves, 18.5 billion gold reserves, and the rest which is SDR (www.
The currency of IMF is special drawing rights (SDR), and it is translated into Turkish as “Özel Çekme Hakları”. SDR was founded by IMF in 1969 in order to increase international liquidity. The value of SDR have consisted of the currencies of five countries which are USA, Great Britain, Germany, Japan and France. However, the weighted averages of these currencies are not equal, and different from each other.

3. The Reasons of Current Accounts Deficit in Turkey

Despite the positive developments of national economy in Turkey such as the stability, which has been ensured with the macroeconomic policies since 2001, political stability, providing the autonomy of Central Bank, the improvement of public debts and budget indicators, and the structural reforms in banking sector, the continuation of this process have become reverse for the balance of current accounts. While balance of current accounts had a deficit, which was %2 higher than GDP, in 2001 with recession, it will have a deficit since 2002 as one of the most important economic problems in Turkey, and it makes its presence felt in every passing year (Aras, Öztürk ve Erdoğan, 2012:93).

In the studies about the causal relation of current deficit, it is discovered that growth, overvalued domestic currency, low savings rate, and the decrease of competitive power in international markets come into presence as root causes (Aras, Öztürk ve Erdoğan, 2012:95). Yet, the most important reason for the current deficits in developing countries, foreign trade deficit, foreign dependency on energy resources, foreign debt levels, and the profit transfers of foreign investors are considered as important factors for the emergence of current accounts deficit.

As it can be seen from Table 2, the most important reason of current deficit in Turkey is the negative difference in merchandise trade. In addition to this reason, another reason is that direct investments are formed from profit transfers. Although the positive difference in revenues from services reduces the current deficit a little bit, it is not in enough level.

<table>
<thead>
<tr>
<th>Years</th>
<th>Export (Million $)</th>
<th>Import (-)</th>
<th>Revenues from Services</th>
<th>Service Charges (-)</th>
<th>Primary Incomes</th>
<th>Primary Expenses (-)</th>
<th>Secondary Incomes</th>
<th>Balance of Current Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>120.992</td>
<td>177.317</td>
<td>36.192</td>
<td>19.443</td>
<td>5.197</td>
<td>11.712</td>
<td>1.475</td>
<td>-44.616</td>
</tr>
<tr>
<td>2012</td>
<td>161.948</td>
<td>227.315</td>
<td>43.225</td>
<td>20.684</td>
<td>5.762</td>
<td>12.350</td>
<td>1.451</td>
<td>-47.963</td>
</tr>
<tr>
<td>2016</td>
<td>150.161</td>
<td>191.053</td>
<td>37.391</td>
<td>22.128</td>
<td>5.311</td>
<td>14.492</td>
<td>1.673</td>
<td>-33.137</td>
</tr>
<tr>
<td>2017</td>
<td>166.159</td>
<td>225.114</td>
<td>43.667</td>
<td>23.729</td>
<td>4.937</td>
<td>15.991</td>
<td>2.714</td>
<td>-47.357</td>
</tr>
</tbody>
</table>

The sum of Turkey’s imports is 225 billion $ at the same time, and the intermediate goods comprise of 171 billion $ of them as well. The dependency of intermediate goods in import is an important structural problem which hinders to decrease the numbers of intermediate goods import to a lower levels. Nevertheless, Turkey made 73 billion $ import of intermediate goods in 2017 (TÜİK, 2017).

The deficit, which have emerged due to the negative result of current account, is attempted to compensate with the capital and finance accounts. The accounts, which cannot become equal in consequence of Current Accounts + Capital Movements + Finance Movements, are equalized with the aid of net errors and omissions, and official reserves. The sum of these accounts is zero in the last analysis.

3.1. Foreign Trade Deficit
The most important lower component in the balance of current accounts is balance of foreign trade, which is called as merchandise trade (merchandise exports and imports). The most important part of shaping current balance is the foreign trade. Merchandises exports and imports have an importance for the international economic processes of several countries. Furthermore, merchandise trade is the most tangible indicator of developments in real economy because it can be considered as a result of long-termed developments in the fields, such as production, technology, productivity etc. (Kaya, 2016:61). The decisions of January 24, 1980 paved the way for the free trade with outside world in Turkey, and the export-oriented economic growth model was introduced. However, this process has concluded with foreign trade deficits, and more imports than exports due to its introduction without making necessary legal and structural regulations (Göçer, 2013:215).

As it can be seen from Table 3, the highest exports of Turkey by country are Germany, United Kingdom, United Arab Emirates (UAE), Iraq, USA, Italy, France, Spain, Netherlands and Israel. The highest imports of Turkey by country are China, Germany, Russia, USA, Italy, France, Iran, Switzerland, South Korea and United Kingdom. The highest foreign deficit of Turkey is from her trade with Russia and China.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>15.119</td>
<td>China</td>
<td>23.798</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>9.603</td>
<td>Germany</td>
<td>21.302</td>
</tr>
<tr>
<td>UAE</td>
<td>9.184</td>
<td>Russia</td>
<td>19.514</td>
</tr>
<tr>
<td>Iraq</td>
<td>9.055</td>
<td>USA</td>
<td>11.945</td>
</tr>
<tr>
<td>USA</td>
<td>8.654</td>
<td>Italy</td>
<td>11.305</td>
</tr>
<tr>
<td>Italy</td>
<td>8.474</td>
<td>France</td>
<td>8.071</td>
</tr>
<tr>
<td>France</td>
<td>6.584</td>
<td>Iran</td>
<td>7.492</td>
</tr>
<tr>
<td>Spain</td>
<td>6.302</td>
<td>Switzerland</td>
<td>6.900</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3.865</td>
<td>South Korea</td>
<td>6.609</td>
</tr>
<tr>
<td>Israel</td>
<td>3.408</td>
<td>United Kingdom</td>
<td>6.549</td>
</tr>
<tr>
<td>Others</td>
<td>76.748</td>
<td>Others</td>
<td>110.740</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>156.996</strong></td>
<td><strong>Sum</strong></td>
<td><strong>233.798</strong></td>
</tr>
</tbody>
</table>

*Source: TÜİK, İstatistiklerle Türkiye 2017 Raporu, p.118*
3.2. The Deficiency of Saving Rates

Saving can be expressed as the unconsumed part of income. Since the savings are not enough for the investments, it is considered as one of the triggering factors for the current deficit. This deficiency causes increase in the interest rates; therefore, it also causes the financial increases of investments and R & D activities, the proliferation of dollarization, which triggers the usage of foreign exchange rather than domestic currency, and the rise of foreign exchange rate. On that sense, it affects to emerge the expensive imports, the overpriced immediate goods and energy imports, and cost-push inflation (Akın and Peker, 2018:73).

One of the equations, which can define GDP, is \( Y = C + I + G + X - M \). In other words, it is possible to express national incomes as \( Y = C + S + T \) in terms of macroeconomic theories. Since both of these equations expresses national incomes, these two equations can be equalized. From the point of \( C + S + T = C + I + G + X - M \) equation, \( X - M = (S - I) + (T - G) \), videlicet, the left side of equation expresses the current balance. It is found that the current balance is comprised of the difference of private savings and private investments, and the difference and sum of tax incomes (İlhan, 2017:6). The increase of savings will positively contribute for the decrease of current deficit which is an indicator of the deficiency of interior savings. Thus, a sustainable growth can be realized with the decrease of foreign dependency by reducing the level of current deficits (Şengür and Taban, 2016:51).

As it can be seen from Table 4, although the rate of net saving numbers to GDP have increased by comparison with the beginning of 2000s, it became %9,893 in 2014, %10.137 in 2015, and %9.138. Yet, it cannot achieve the enough levels.

<table>
<thead>
<tr>
<th>Years</th>
<th>Net Saving Numbers ($)</th>
<th>Gross Saving Numbers ($)</th>
<th>GDP ($)</th>
<th>Gross Saving / GDP (%)</th>
<th>Net Savings / GDP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>9,477,242.374</td>
<td>38,902,104.016</td>
<td>189,834,649.111</td>
<td>20,492</td>
<td>4,992</td>
</tr>
<tr>
<td>1999</td>
<td>14,535,279.069</td>
<td>55,324,938.157</td>
<td>255,884,300.382</td>
<td>21,621</td>
<td>5,680</td>
</tr>
<tr>
<td>2000</td>
<td>14,709,550.694</td>
<td>57,260,722.969</td>
<td>272,979,390.595</td>
<td>20,976</td>
<td>5,389</td>
</tr>
<tr>
<td>2002</td>
<td>9,862,656.571</td>
<td>52,011,661.624</td>
<td>238,428,126.327</td>
<td>21,814</td>
<td>4,137</td>
</tr>
<tr>
<td>2003</td>
<td>10,247,088.884</td>
<td>62,063,173.030</td>
<td>311,823,003.531</td>
<td>19,903</td>
<td>3,286</td>
</tr>
<tr>
<td>2004</td>
<td>21,990,061.919</td>
<td>86,935,376.850</td>
<td>404,786,740.091</td>
<td>21,476</td>
<td>5,433</td>
</tr>
<tr>
<td>2005</td>
<td>36,622,792.032</td>
<td>114,578,612.608</td>
<td>501,416,301.727</td>
<td>22,850</td>
<td>7,304</td>
</tr>
<tr>
<td>2006</td>
<td>47,941,751.240</td>
<td>132,376,140.567</td>
<td>552,486,912.846</td>
<td>23,960</td>
<td>8,677</td>
</tr>
<tr>
<td>2007</td>
<td>53,852,973.656</td>
<td>157,062,663.366</td>
<td>675,770,112.825</td>
<td>23,242</td>
<td>7,969</td>
</tr>
<tr>
<td>2009</td>
<td>33,404,032.258</td>
<td>138,000,973.097</td>
<td>644,639,902.581</td>
<td>21,407</td>
<td>5,182</td>
</tr>
<tr>
<td>2010</td>
<td>48,806,398.922</td>
<td>164,555,584.975</td>
<td>771,901,768.698</td>
<td>21,318</td>
<td>6,323</td>
</tr>
<tr>
<td>2011</td>
<td>67,627,608.050</td>
<td>187,037,659.821</td>
<td>832,523,681.194</td>
<td>22,466</td>
<td>8,123</td>
</tr>
</tbody>
</table>
ECONOMIC AND BUSINESS ISSUES IN RETROSPECT AND PROSPECT

Marcel Meciar, Kerem Gökten, Ahmet Arif Eren

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP (Billions)</th>
<th>Exports (Billions)</th>
<th>Imports (Billions)</th>
<th>Net Saving (Billions)</th>
<th>Inflation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>72,572.069.878</td>
<td>199,318.657.851</td>
<td>873,982.246.102</td>
<td>22,805</td>
<td>8,304</td>
</tr>
<tr>
<td>2013</td>
<td>86,541.811.135</td>
<td>220,486.283.643</td>
<td>950,579.413.279</td>
<td>23,194</td>
<td>9,104</td>
</tr>
<tr>
<td>2014</td>
<td>92,419.581.348</td>
<td>228,202.367.740</td>
<td>934,185.915.467</td>
<td>24,427</td>
<td>9,893</td>
</tr>
<tr>
<td>2015</td>
<td>87,156.000.712</td>
<td>213,223.227.794</td>
<td>859,796.872.794</td>
<td>24,799</td>
<td>10,137</td>
</tr>
<tr>
<td>2016</td>
<td>78,925.408.942</td>
<td>211,368.965.432</td>
<td>863,721.647.959</td>
<td>24,471</td>
<td>9,138</td>
</tr>
<tr>
<td>2017</td>
<td>-</td>
<td>216,035.702.640</td>
<td>851,102.411.118</td>
<td>25,383</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: The table was taken from the address of https://data.worldbank.org/ and was edited by the author, Access: 27.12.2018

It has been argued that the introduction of the obligation of individual pension for the employees in the way of automatic enrollment in 2017 causes important increases in net saving rates. Hence, it can be stated that this policy, which is applied to increase the rates of interior savings, is positive.

3.3. Growth and Foreign Exchange Rate

The imports, and therefore, current accounts deficit have rapidly increased in the period which Turkish economy have rapidly grew (Özatay, 2006:2). This crystal-clear condition by comparison with previous years can definitively be followed when the years, that the growth rate have been rapid, is regarded (Özbek, 2008:6). Current deficits both affect from demand increase due to growth, and short-term capital flows with the characteristics of hot money which determines foreign exchange rate. In consideration of these results, it can be argued that Turkey should make plans to give acceleration for sustainable and stable growth rather than high but unstable growth, and should execute controlling policies for hot money flows which cause TL to become a overvalued currency. The political executives should bear in their minds the risks of vulnerability in Turkish economy by determining the macroeconomic policies (Erbaykal, 2007:87). While the imports increase due to excessive rise in the real exchange rates, the current account balance is degenerating, and has a deficit due to the exports have a tendency of decrease. In case of this condition, the options of Central Bank weaken against the speculative attacks towards to the country, and it increases the vulnerability of financial system. In short, the overvaluation of domestic currency results in the deficit of current account balance (Turgut, 2007:43).

3.4. Foreign Debt

The net debt stock of public expresses the sum of liabilities in relation to the debts which have been provided to the institutions and organizations within the classification of “public” (central government, social security institutions, extra budgetary funds, local administrations, and state economic enterprises) by a specified time (Özgün, 2018:848). These debts are treated in two categories which are national debts and foreign debts according to the provided sources. The nationality of borrowed person and market is important for the division of national and foreign debts. The domestic borrowing is a type of borrowing which has been made with domestic currency, intrastate persons and institutions. The purchasing power is passing into the hands between state and private sectors in the aforementioned borrowing. Although the new resource entrances have not occurred into the country with domestic borrowing, the resource utilization changes. Foreign borrowing, on the other hand, is a type of borrowing which has been borrowed from foreign markets due to domestic lack of resources. The reasons of foreign borrowing are the deficiency of savings in the countries, the impossibility of state to borrow debts from its own capital markets, the finance of development, the desire to protect the value of domestic currency, the finance of grand investments,
and the lower tax incidences of foreign borrowings. In addition to the effects of domestic and foreign borrowings to the resources, their effects on national incomes, and the intended use of them differ from each other as well. While the domestic borrowings have no effect on national incomes, the foreign borrowings have the increasing effects on national incomes due to the resource entrances into the country. However, there are resource exits when the interest and principal payments of foreign debts occurred (Yaraşır Tülümce&Yavuz, 2014:1035). Since the solvency of Turkey is low it can be said that this condition deepens the problem of current deficits in Turkey. While the principal payments of foreign debts are in balance of payments, the interest payments are recorded in the current accounts.

Table 5: The Foreign Debt Level in 2018 (Million $) *

<table>
<thead>
<tr>
<th></th>
<th>Short Term</th>
<th>Long Term</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector</td>
<td>24.129</td>
<td>115.064</td>
<td>139.193</td>
</tr>
<tr>
<td>TCMB</td>
<td>81</td>
<td>497</td>
<td>578</td>
</tr>
<tr>
<td>Private Sector</td>
<td>95.512</td>
<td>221.678</td>
<td>317.190</td>
</tr>
<tr>
<td>Sum</td>
<td>119.722</td>
<td>337.239</td>
<td>456.961</td>
</tr>
</tbody>
</table>

* 2018/the data of second quarter has been used.

The recent increases in the foreign debts play a significant role for the level of current deficits. As it can be seen from Table 5, the level of foreign debts is 456 billion $, and the important part of this is comprised of the foreign debts of private sector with 317 billion $. According to the table with the data of secretariat of treasury for the second quarter of 2018, while 119 billion $ of the total debt of 457 million $ is short term debts, 337 billion $ of it is long term debts.

3.5. The Profit Transfers of Foreigners

The profit transfers of direct foreign and portfolio investments occupy an important position for the increase of current deficit in Turkey. The sold public infrastructure investment to the foreigners, and the profit transfers of profitable private businesses to outside as foreign exchange negatively affect the current deficit in Turkey (Altınöz, 2014:123). On the other hand, one of another important topics in direct investments is whether the required raw materials and intermediate goods can be found in the country or not in the sectors which foreign investments have been made. Another important topic is whether the exports and imports are supplementary or substitute in the host country of investments. The supplementary trade is meant that the countries will complement the structure of trade in each other when they made bilateral trade. In other words, one country will close the production deficiency by trading a product which cannot be found in another country. The substitute trade, on the other hand, is meant that the structure of trade can partially be convertible due to the competition between two commercial countries (e.g. the competition between Germany and France in the automotive sector) (Yaman, 2012:4).

3.6. The Foreign Dependency on Energy

The foreign dependency on energy and increasing energy prices are the other reasons for the current deficit. The energy imports take an important place within the current deficit due to the effect of increasing energy prices in
recent years (Altınöz, 2014:121). The issue of energy has always been on the agenda as an important study field with its both direct and derivative effects on economic and social structures. Since energy is an important input in the process of production, it nearly always is an overemphasized variable within the cost functions. Energy has an important position, especially in developing countries, in terms of its cost, and effects on current account balance. The dependency on nonrenewable energy resources, the high costs of supply and usage of them, and the effects of these costs on budget deficits and current deficits, are encountered significant problems which determine the financial policies of countries (Demir, 2013:4). The current deficit of energy has a deepening effect on Turkey that her growth is depend on the energy imports. The total imports of Turkey have costed 233 billion $ in 2017, and in the same year, the energy imports have costed 37 billion $ (ekonomi.gov.tr). When the Table 6 is examined, although there are significant decreases in energy imports all the 5 years around since 2012, it can be observed that the energy imports have increased again in 2017. The stable decrease in the foreign dependency of energy imports will play a crucial role for the decrease of current deficit.

Table 6: The Energy Import Numbers of Turkey by Years

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Energy Imports</td>
<td>9.204</td>
<td>60.117</td>
<td>55.917</td>
<td>54.889</td>
<td>37.843</td>
<td>27.169</td>
<td>37.205</td>
</tr>
</tbody>
</table>


4. The Current Account Deficits of EU Countries

When the data of EU countries in 2017 is examined, they generally have deficits in the current. The number of countries in EU which have deficits in the current are 7 among 28 EU countries, and these are Greece, France, Cyprus, Romania, Slovenia, Slovakia, and United Kingdom. The countries with a rate of current account deficit to GDP with a critical threshold of more than 3% are Cyprus with %8,4, Romania with %3,2, and United Kingdom with %3,7 (Eurostat). The countries with current surplus of more than 3% in EU are Bulgaria with %6,7, Denmark with %8,1, Germany with %7,9, Ireland with %8,5, Croatia with %3,9, Luxembourg with %4,9, Malta with %13,8, Netherlands with %3,5, Slovenia with %7,2, and Sweden with %3,3.
In consideration of the data of Table 7, the current deficit of Bulgaria, % -23.9, have turned into %6.7 of current surplus when the ten-year current deficit/GDP performances of EU countries have examined. Along with Bulgaria, 14 EU Countries, Czech Republic, Estonia, Ireland, Spain, Croatia, Italy, Latvia, Lithuania, Hungary, Malta, Poland, Portugal and Slovenia have improved themselves to become the level of countries which have current deficit/GDP performances below 0.

**Table 7: The Current Deficits of EU Countries/ Their GDP Rates (%)**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>2</td>
<td>-1</td>
<td>-1.1</td>
<td>1.8</td>
<td>-1</td>
<td>-1.1</td>
<td>-0.1</td>
<td>-0.3</td>
<td>-0.9</td>
<td>-1</td>
<td>-0.6</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>-23.9</td>
<td>-22</td>
<td>-8.3</td>
<td>-1.7</td>
<td>0.3</td>
<td>-0.9</td>
<td>1.3</td>
<td>1.2</td>
<td>0</td>
<td>2.6</td>
<td>6.7</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>-4.6</td>
<td>-1.9</td>
<td>-2.3</td>
<td>-3.6</td>
<td>-2.1</td>
<td>-1.6</td>
<td>-0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>1.6</td>
<td>1.1</td>
</tr>
<tr>
<td>Denmark</td>
<td>1.4</td>
<td>2.9</td>
<td>3.5</td>
<td>6.6</td>
<td>6.6</td>
<td>6.3</td>
<td>7.8</td>
<td>8.9</td>
<td>8.3</td>
<td>8</td>
<td>8.1</td>
</tr>
<tr>
<td>Germany</td>
<td>6.7</td>
<td>5.6</td>
<td>5.7</td>
<td>5.6</td>
<td>6.1</td>
<td>7</td>
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<td>7.5</td>
<td>8.9</td>
<td>8.5</td>
<td>7.9</td>
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<tr>
<td>Estonia</td>
<td>-15</td>
<td>-8.7</td>
<td>2.5</td>
<td>1.8</td>
<td>1.3</td>
<td>-1.9</td>
<td>0.5</td>
<td>0.8</td>
<td>1.8</td>
<td>2</td>
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</tr>
<tr>
<td>Ireland</td>
<td>-6.5</td>
<td>-6.2</td>
<td>-4.7</td>
<td>-1.2</td>
<td>-1.6</td>
<td>-2.6</td>
<td>1.5</td>
<td>1.1</td>
<td>4.4</td>
<td>-4.2</td>
<td>8.5</td>
</tr>
<tr>
<td>Greece</td>
<td>-15.2</td>
<td>-15.1</td>
<td>-12.3</td>
<td>-11.4</td>
<td>-10</td>
<td>-3.8</td>
<td>-2</td>
<td>-1.6</td>
<td>-0.2</td>
<td>-1.3</td>
<td>-1</td>
</tr>
<tr>
<td>Spain</td>
<td>-9.6</td>
<td>-9.3</td>
<td>-4.3</td>
<td>-3.9</td>
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<td>-0.2</td>
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<td>1.8</td>
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<td>France</td>
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<td>-0.7</td>
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<td>-0.6</td>
<td>-0.9</td>
<td>-1</td>
<td>-0.5</td>
<td>-1</td>
<td>-0.4</td>
<td>-0.8</td>
<td>-0.6</td>
</tr>
<tr>
<td>Croatia</td>
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<td>-9</td>
<td>-5.3</td>
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<td>-0.2</td>
<td>0.9</td>
<td>1.9</td>
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<td>1.9</td>
<td>1.5</td>
<td>2.5</td>
<td>2.8</td>
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<td>-7.7</td>
<td>-11.3</td>
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<td>-6</td>
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<td>-3.6</td>
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<td>-1.7</td>
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<td>1.6</td>
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<td>-1.4</td>
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<td>3.2</td>
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<td>0.9</td>
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<tr>
<td>Luxembourg</td>
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<td>7.2</td>
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<td>5.6</td>
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<td>5.1</td>
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<td>10.2</td>
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<td>6.3</td>
<td>8.1</td>
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<td>1.5</td>
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<td>1.7</td>
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<tr>
<td>Poland</td>
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<td>-6.7</td>
<td>-4</td>
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<td>-3.7</td>
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<td>-0.6</td>
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<td>-4.8</td>
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<td>2.3</td>
<td>2.2</td>
<td>1.8</td>
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<td>-0.7</td>
<td>-0.7</td>
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<tr>
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<td>7.8</td>
<td>6</td>
<td>6</td>
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<td>5.6</td>
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<td>4.5</td>
<td>4.5</td>
<td>4.3</td>
<td>3.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>-3.8</td>
<td>-4.6</td>
<td>-3.9</td>
<td>-3.8</td>
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<td>-4.2</td>
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<td>-4.9</td>
<td>-4.9</td>
<td>-5.2</td>
<td>-3.7</td>
</tr>
</tbody>
</table>

surplus from the position of countries which have deficits in current by solving these problems. Especially Bulgaria (%-23,9), Estonia (%-15), Latvia (%-20,7) and Lithuania (%-15,5) have achieved the position of countries which have current surplus from the high level of current deficits within a decade.

5. The Sustainability of The Current Deficit

According to the studies about the sustainability of the current deficit, it just does not differ from country to country. The different results can even emerge in the different periods of one country. This condition reveals that the issue of the sustainability of the current deficit cannot be interpreted based on only one indicator. When the issue of sustainability is examined, the economic conjuncture of world should be considered as well as the current conditions of economy (the surplus or deficit of foreign trade, the process of growth, inflation, unemployment, the interest rates, the rates of savings, financial position etc.) (Ayla & Küçükkale, 2018:57).

The sustainability of the current deficit is an issue about the finance of the current deficit. The finance of the current deficits has been provided by direct foreign and portfolio investments, short term capital entrances and the other components, from the capital account of balance of payments. If these components will be divided into debt-creating and non-debt creating components; while the part of non-foreign debt creating will comprise of the direct foreign investments, and the lower component of the stock of portfolio investments; the debt-creating part will comprise of the lower component of the debt notes of portfolio investments, and other investments. It is regarded that the current deficits will be sustainable if they are financed with the aid of non-foreign debt creating sources, but if they are financed with the debt-creating foreign sources, then, its structure will be less sustainable (Çeştepe, Ursavaş and Güdenoğlu, 2014:101).

It is expected that the current deficits between %3 and %4,5 will be risky for the economy by checking the rates of previous years in the both domestic and foreign articles about the current deficits. On the other side, the current deficit/GDP rates of Turkey for the long-term sustainability of current deficits have been found as %1.9 in the study of Goldman Sachs which have been prepared with the data of 1997. Despite all these studies, the academic studies have shown that it is impossible to determine a specific threshold-rate for the sustainability of current account balance. Edwards stated that it is so difficult and misleading to estimate thresholds and rates for the current account balance which is constantly involved with macroeconomic variables. The same issue has been emphasized in the reports of international and financial organizations such as OECD and Goldman Sachs (Babaöğlu, 2005:2). The rate of current account deficit to GDP in Turkey have been found as %5.5 in 2017.

6. Conclusion

The most significant commercial partners of Turkey are mostly European countries, and the most important products for exports are firstly automotive, and secondly textiles in Turkey. Since the tendency of domestic savings are low in Turkey, it increases the dependency of foreign finance. Three out of four foreign finance, which has been provided by the private sector, has been supplied by the European countries. It can be argued that the finance of current deficit with high interests is only a short-term solution, and it is only useful for this problem to be grew more. Instead of these policies, the finance should be strengthened with direct investments, and the policies should be determined in this direction. Since the mobility of direct investments is low, it is also more important the portfolio investments because the portfolio investments cause the foreign exchange crises by
leaving the country immediately during the periods of economic instability. A nominal tax policy like a taxation on capital movements (known as Tobin tax in literature) can be applied in order to forestall the sudden entrances and exits of portfolio investments into the country. Such a tax can forestall or minimize these movements in the country.

While the entrances of foreign resources have a positive effect on economy in the first stage, these payments can cause economic crises in the national economy by paving the way for vulnerabilities in the national economies since there will be resource transfers to abroad during the payment periods of foreign debts. In other words, if the foreign debts are not used in the active and productive fields, the ever-increasing debt stock, and the payments of debts with debts will be on the cards. Monetary and financial policies with structural measures should be prioritized to decrease the debt stock and the current deficit in Turkey as well.

The decrease of current deficit and reaching a sustainable level for them are only possible with macroeconomic policies in Turkey. The required structural reforms for this improvement will undoubtedly succeed in both the medium and long terms. The high rates of import inputs in Turkish economy are considered as one of the important reasons for the high current deficit. The dependency of Turkey to foreign intermediary goods for her export have caused the numbers of exports and imports act jointly at the same time. Therefore, only export-enhancing or import-decreasing policies cannot be executed. Hence, production-increasing policies for the intermediary goods which have been used for the export can be applied in Turkey. In this manner, the exports of products which are not dependent to foreign markets can be increased, and the imports can be repressed indirectly.

Within this framework, the structural change for the dependency of imports, the increase of the exports and productions with high added value, leading foreign-provided funds to productive fields which can create added value, the incentive policies for the increase of fixed capital investments, the oriented policies for rolling merchandise exports from labor-intensive products to products with high added value, and the aimed-policies for increasing tourist receipts per capita can cure the chronic disease of current deficit in Turkey. In the meantime, Turkey should immediately materialize the 4th industrial revolution, and should start to use Industry 4.0 rather than saving the day with the technology in the level of industry 3.0. As a matter of fact, Japan have already begun to speculate about the Industry 5.0 which is expressed as society 5.0 as well. The production with high added value, and low costs in this manner can only be possible with using information technologies and industrial activities together and utilizing the new generation software and hardware.

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THE TERM OF CURRENT DEFICIT AND THE DETERMINANTS OF CURRENT DEFICIT IN TURKEY

Ismail İŞLER


TCMB İstatistikleri, http://www.tcmb.gov.tr/wps/wcm/connect/e79119b5-6feb-4104-a1d8-7f703143198d/RT201810T.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-e79119b5-6feb-4104-a1d8-7f703143198d-mtp7xtm


TÜİK İstatistikleri ile Türkiye 2017 Raporu, p.119

Yaman K., (2012), Cari Açık Probleminin Türkiye Ekonomisi Açısından Değerlendirilmesi, Riskler ve Sonuçlar, p.4, file:///C:/Users/MRT%B2L%C4%B0L%C4%B0%C5%9E%C4%B0M/Downloads/Scientific_Meetings_002.pdf, (20.12.2018)

CENTRAL BANK OF THE REPUBLIC OF TURKEY RESERVES AND THE EFFECTS OF SELECTED MACROECONOMIC VARIABLES RELATED TO RESERVES ON THE RESERVES

Emir Kaan CENGIZ¹

1. Introduction
Import substitution policies have been implemented in Turkey until the 1980s. Turkey came up to the rapidly growing globalization tendency of 1990s after the 24th January 1980 decisions, along with the international competition move. Turkey has started to deal with the current deficit problem in time, after being open to external shocks more without its insufficient domestic capital and with its newly passing to free market economy model. For this reason, the level of the international reserves and composition has gained importance so as not to be affected from the global crises, to refrain from easier borrowing and in support of a sustainable growth.

2. International Reserves
International reserves have been used until 1970s in which the fixed exchange rates were adopted so as to protect the currency values of the countries, while it was a tool for helping to find the necessary foreign exchange for the economies in the crisis times especially in the international trade; there was no more obligation for Central banks to keep foreign exchange after the countries’ passing to the flexible foreign exchange rate after the 1970s. Nevertheless, some changes have happened in the approaches explaining the foreign exchange rate, with the flexible foreign exchange rates in practice; modern and new approaches have substituted for the classical approaches. For that reason, the perception of the end of the need to keep foreign exchange reserves of Central banks after flexible exchange rates has gave its place to new Central bank concept keeping foreign exchange reserves to provide stability against sudden and severe fluctuations.

2.1. Definition of International Reserves
In the definition and classification of reserve assets, IMF’s literature is taken as a basis. Reserve assets are defined as a regulation of the foreign exchange markets’ substantial imbalances firstly, and interfering to foreign exchange markets or financing the imbalances in payments balance sheets directly, or providing trust for currency or economy, supporting external borrowing so as to use in direct interventions that money authorities easily access and control in foreign asset amount. (IMF; 2009; p.111). The most important feature of reserves is that they are real assets or foreign assets (potential assets are considered as out of reserve) and used and controlled by the monetary authorities.

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2.2. Composition of International Reserve

Regarding the classification of international reserves in the world, the basic international organization is the IMF institution, and its classification on its website is accepted. According to this classification, official reserves consist of convertible foreign exchange assets, IMF Reserve Position, Special Drawing Rights (SDR), International Standard Gold (99.5 purity bullion) and other reserve items. (Kester; 2001; p.2).

If the official reserves are briefly explained: Convertible foreign exchange assets form the biggest item of the reserves. It consists of foreign currency, foreign exchange depositories, debt securities and derivatives. US Dollar, Euro, British Pound, Japanese Yen and Swiss Frank are used as reserve currencies, usually. However, the weight of foreign exchange assets throughout the world is in the US Dollar. IMF Reserve Position consists of the assets of the member countries’ quotas within the IMF, reserve tranche used unconditionally and in a short period of time, and SDR total. SDRs are the international assets in order to complete IMF members’ reserves which formed according to IMF member countries’ quotas. (IMF; 2001; p.18).

2.3. Adequacy of International Reserves

In the literature, the adequacy of the central bank reserves are measured in two different ways. In the traditional measurements, meeting 20% of the broad money supply, meeting the short-term external debt and meeting the 3-month imports are used. Another measurement method is the International Monetary Fund (IMF)’s metric.

An important point here is the necessity of international reserves. Floating exchange rate system were used by the developed countries after the Bretton Woods system. The fact that these countries are developed economies with large scale makes it easier for them to benefit from the positive aspects of floating exchange rate. Moreover, the destructive effect of the international money circulation or the negative effects of overvalued exchange are not seen in developed countries. However, the same situation causes the opposite effects in the developing economies. Yet, developing countries’ motive of the export increase by keeping local currency worthless has caused these countries to stay away from the floating exchange regime.

As a rule, the adequacy of reserves are evaluated by preventing external shocks or mitigation capacities. However, according to the reserve substitution methods; it can be seen that countries can intervene without using current reserves from the international foreign exchange crises, by using state funds, protection transactions from asset price shocks, bank loans, international financial institution loans, interchanges between central banks. (IMF; 2011; p.11-12).

The reasons for the countries’ reserve retention are: Supporting applied money and exchange policies, minimizing the negative effects of the shocks during a time of crisis on the country’s economy, realizing the payments of foreign borrowings, aiding the country’s other foreign exchange needs, protecting from extraordinary situations, providing trust towards the country, having the foreign exchange liquidity for the balance of payments-related needs.

According to the study of Rodrik and Velasco (1999), the rate of short-term debt to reserves is one of the leading indicators of financial crises. Also, short-term debts are associated with the intensity of crises, high M2/GDP and high income per capita are proportional to the term structure of short-term debt. Therefore, keeping enough reserves to meet short-term debts of up to 1 year protects countries from crises. (Rodrik and Velasco; 1999; p. 1-44).
Again, according to the study of Garcia and Soto (2004), the relationship between reserves and speculative attacks have been analyzed. The short-term rate of reserves play a role in preventing foreign exchange crises in the countries. Reserves reduce the speculative attacks while the importance of reserves according to the other institutional features is dominant. (Garcia and Soto;2014;p.17-18)

Usually, keeping foreign money reserves above the short-term debt obligations reduces the frequency of financial crises. However, how much reserve should be kept above the short-term foreign debts varies from country to country. Macroeconomic conditions, capital inputs and outputs to the country, big and permanent deficits in the current account balance, foreign exchange rate valued to lead to a high level of short-term public debt, weak banking systems are effective on the reserve amount that should be kept. (Marion;2005;p.11)

IMF’s study in the year of 2000, indicators of the vulnerability of the countries are divided into 2. Reserve-related indicators: divided into three as the rate of short-term external debt of reserves, the rate of reserves to imports and the rate of reserves to broad money supply (M2). Again, debt-related indicators: divided into five as the rate of external debt to exports, the rate of external debt to GDP, the average interest rate of the external debts, the term of the average debt and rate of external debt to total external debt in foreign currency. (IMF;2000;p.6).

The criteria developed for the qualification criteria of the reserves are shown below.

2.3.1. Approach of the Broad Money Supply (M2/Reserves):

Economic agents during a time of financial crisis prefer to convert their investments to global currencies with the risk perception. For this reason, in a crisis environment, the residents in the country try to reduce the risk by directing their investment preferences to foreign currency assets. Therefore, it is expected that the international reserve level and M2-defined broad money supply would be at a certain rate, and it is also expected when necessary that the local currency would be converted into foreign currencies. The rate of reserves to money supply show the capital amount that can be deducted from the country residents during the times of crisis. Also, this rate shows how much of the liabilities in the banking sector is supported by the international reserves. Although there is no consensus about the level of this rate, it is accepted that the rate of country reserves to money supply should be between 10-20%. (Cinel; 2015;p.135). The opinion of the rate of monetary base to reserves was dominant before the World War II (Wijnholds and Kapyetn;2001). Today, the rate of reserves to monetary base indicator has been used in countries that implement more currency board (Ouanes and Subhash; 1997).

In the approach of money supply, regarding the countries in which the capital flight and money supply volatility are high and banking system is not developed enough; the potential of inland economic actors’ flight from national money is being measured. The shortcoming of this approach is that shocks encountered in international trade would not affect countries, while the broad money supply, which is a domestic indicator, is considered, and the foreign trade and external debt stocks of the countries are not addressed (Sümmeoğlu;2010;p.131).

2.3.2. Ratio of International Reserves to Import Rate Approach:

The reason for the use of the import approach to assess reserve adequacy is to measure the extent to which capital or foreign currency inflow from the outside world for any reason, and how long the countries can continue their current imports in case there is no capital outflow at home. (CBRT, 2010, p.4). For this reason, countries must
keep reserves to maintain their import for a period of time. There are three separate indicators for the rate of international reserves to meet import:

1) Reserves are expected to meet at least 35% of the annual imports. In this case, the reserves are also expected to meet the country’s imports for 4.2 months. (Triffin;1947;p.70-73).

2) The second suggestion, which was expected to meet the reserves 30%-50% of the country’s imports, was put forward by the IMF in 1958, saying that the reserves must meet the country’s imports between 4-6 months. (Williamson, 1973).

3) The third opinion that the reserves must meet imports for 3 months is still one of the reserve qualification opinions used by the IMF. (Ouanes and Subhash; 1997). It is enough that the reserve levels to meet 25% of annual imports. (Wijnholds and Kapteyn, 2001).

Although the generally accepted rule is to meet the three-month import; especially the developing countries keep reserves to meet imports in terms of terms longer than three months. Because, the rate of reserves to imported goods and services is at the same time showing the countries’ inputs that are needed and current financial resources and how long the supply would be. In addition, the high rate of reserves to imports and short-term external debts reduce the risk premiums in the international borrowings of countries with high external debt and decrease the borrowing costs. (Cinel; 2015; p.134).

2.3.3. Approach of the Rate of Short-term Debts to International Reserves:

This approach emerged after the globalization of capital in the 1990s and the understanding that reserve adequacy was not sufficient to only meet the imports after financial crises. It is not only related to the reserve adequacy, but at the same time a precursor of the crises, therefore, the rate of short-term debts to reserves has gained importance, in time. (Summeoglu;2010;p.134)

Even if the rate of short-term debts to reserves, countries’ foreign exchange inputs and outputs stop, it shows the capacity to pay debts of up to one year. Increasing international capital flows along with globalization have led to the indebtedness of countries and companies from abroad. Especially due to the low interest rates of developing countries, the problem of borrowing in base currencies from other countries such as US Dollar, Euro, Pound, Japanese Yen, Swiss Frank raised the issue of borrowers undertaking currency risk. Especially in times of crisis, where international liquidity has declined or global risk perceptions have changed, these countries are deprived of appropriate borrowing possibilities and they are struggling to recover their debts. For this reason, countries with high international borrowing rates experience more severe economic shock and even crisis than other countries with the global fluctuations and higher volatility.

According to the Greenspan-Guidotti Rule, the fact that the rate of short-term debt to reserves not exceeding 100% has become one of the most important indicators of vulnerability in countries. (Cinel; 2015;p.135 and Greenspan, 1999). As suggested by the Minister of Finance of Argentina Guidotti, and then Greenspan, the average maturity of the foreign debts of the countries should be 3 years and the country’s external liquidity position is calculated with the possible scenarios, at least 1 year without the borrowing of all the debts to be available in the form of reserves. Thus, the rate of reserves to short-term debts being above 1 is an indication of the ability of countries to pay their debts with their reserves in times of crisis.
2.3.4. Method of Wijnholds-Kapteyn

Wijnholds and Kapteyn’s method was developed in 2001 focusing on combining the three major approaches before them and eliminating the deficits of these approaches. Firstly, reserves should be able to pay short-term external debt. In addition, when residents of the country want to convert their assets into foreign currency, they would need domestic currency in return for purchasing these assets. In this case, liquidity would be needed to convert some of the broad money supply into foreign currencies. In the case of increased international volatility or crises, the presence of fixed and managed exchange rate regimes requires a higher amount of foreign currency than being in a floating exchange rate regime. According to the experiences of 2000-2013 period, it was found that the rate of reserves to M2 defined money supply should be 10-20% in fixed and managed exchange rate regimes and 5-10% in floating exchange rate regimes. (Cinel; 2015; p 135). Thirdly, the country risk was involved. Country risk consists of the risk index produced by The Economist magazine for each country using 77 different indicators. The calculation of the country’s risk is determined by multiplying by the money supply determined by the exchange rate regime of this indicator reflecting the country risk and summing up with the value and short-term debts. (Wijnholds and Kapteyn, 2001).

2.3.5. IMF’s Metrics

The traditional approach for measuring reserve adequacy, the rate of import coverage, the short-term debt approach and the broad money supply approach only use certain data and make a limited measurement, and, capital inflows accelerated after 1990, and in the 2000s when global crises and crises were deepening, the measurement of foreign exchange reserves adequacy began to be insufficient. A two-stage metric was introduced by the IMF’s study in 2011. These metric traditional approaches cover the experiences of the past countries and produce scenarios and find regression analyzes and share these data with countries. First of all, studies on balance of payments problems and capital accounts are carried out based on foreign trade transactions, and risks are identified. Then the necessary reserves to meet these risks should be reviewed. (Moghadam, Ostry and Sheehy; 2011, p.7).

Considering the past experiences of developing countries, there are four risks on the balance of payments. The first one is related to the difficulties that can be experienced in the export channel. The pressure on the balance of payments has been tried to be measured due to losses in foreign demand. The import item is related to domestic demand and especially the crisis is originating from the local country, in the case of a global crisis, since the imports are decreasing and improving the balance of payments, the importance of the export channel is increasing. In relation to the second and third risk external liabilities, these are short-term external debt and other liabilities to non resident investors. Short term debt or the number of days until maturity are foreign liabilities up to one year. Other liabilities are calculated by subtracting short term liabilities from total portfolio investments of foreigners and other investment liabilities. These liabilities are medium and long-term stock certificate or bill of exchange investments that appear in the balance of payments balance sheet. The last risk channel is how much liquid money can be transformed into foreign assets, which is indicative of capital’s flight from the country with a broad money supply. (Eren, 2017, p.21).

Estimates were made by the data of the 47 countries between 1990 and 2008 in two-legged metric calculations developed by the IMF. Firstly, risk weights were found by estimating reserve demand by regression analysis and scenario analysis. In the scenario analysis, a metric has been created for capital outflows and pressures due to these risk areas. In the regression estimation, there are factors affecting reserve retention by using panel data method for these countries. Then the equation is obtained by using coefficients for these risk variables and then reserve
adequacy is examined. The results of the scenario study and the results of the metric exchange rate systems based on compliance in panel data are as follows: (Moghadam, Ostry and Sheehy; 2011p.29-36)

For floating exchange rate regime, \[ 0.30 \times \text{short term foreign debt according to the remaining term} + 0.05 \times \text{broad money supply} + 0.05 \times (\text{export fob} + \text{service revenues}) + 0.10 \times \text{other liabilities} \]

For fixed exchange rate regime, \[ 0.30 \times \text{short term foreign debt according to the remaining term} + 0.10 \times \text{broad money supply} + 0.10 \times (\text{export fob} + \text{service revenues}) + 0.15 \times \text{other liabilities} \]

In the IMF’s 2014 study, it was observed that other liabilities in the developing countries increased rapidly after the 2008 global crisis, and the fixed and floating exchange rate regime increased the multiplier of the other liabilities item in reserve adequacy metrics by 5%. In the last case, the metric has been as follows:

For floating exchange rate regime, \[ 0.30 \times \text{short term foreign debt according to the remaining term} + 0.05 \times \text{broad money supply} + 0.05 \times (\text{export fob} + \text{service revenues}) + 0.15 \times \text{other liabilities} \]

For fixed exchange rate regime, \[ 0.30 \times \text{short term foreign debt according to the remaining term} + 0.10 \times \text{broad money supply} + 0.10 \times (\text{export fob} + \text{service revenues}) + 0.20 \times \text{other liabilities} \]

In the next stage which is the second stage; estimates of the required reserve rates according to the external liabilities were calculated by using the risk weights of these four pressure channels on the balance of payments. Countries with a metric rate of 100-150 according to the calculated metrics have sufficient reserves. The results is:

The adequacy of the reserve: Formulated as \(100 < \text{Reserve / metric} < 150\). Over 150 level means excessive reserve, resulting in an opportunity cost problem. In case of the metric between 100-150 enables developing countries to take necessary measures in terms of risk perceptions, reserve costs and country risks.

The obtained metric 2009 data was applied to developing countries, 35% remained within the adequacy range, 40% above the range and 25% below the range. Due to the new metric data and calculation method, it is provided to keep lower reserves than classical methods. The conditions of the metric can be changed according to the conditions of the country and flexibility has been provided. (Moghadam, Ostry and Sheehy; 2011p.30-32).

Also about the IMF metric;

1. If capital controls are effective, the broad money supply can be removed or decreased from the metric,

2. In countries with high volatility and high exports, export channel risk weight can be increased,

3. Short-term liabilities can be increased by the risk factors of the short-term external debt channel in the metrics of the countries that are heavily funded, on the contrary, in countries with short-term debts of commercial loans, the coefficient of this rate may be reduced,

4. Countries with low macro indicators with a floating exchange rate regime application, but too small to be able to take the fluctuation, can set a wider and higher range in the second stage of the metric.

5. Reserve adequacy rates may change due to dollarization,

Countries with worker’s income have to add this item to their metrics have been stated. (Moghadam, Ostry and Sheehy; 2011, p.27-28).
2.3.6. Regression Analysis and Comparison with Other Countries Using Regression Analysis

Another way to compare the reserves between countries and to understand the reasons for the countries’ reserve holdings is to compare the countries by using regression analysis and panel data. Panel data analysis; show us that, how the countries differ according to kind of risks and the cost of reserve keeping. The models assume that the reserve is demanded and liquidity is kept by the prudential approach and that the data is used as a variable. Also, they assume that there is no other measure against to the risks in the balance of payments. Deviations between the estimation values obtained from the panel data analysis and the real values are compared and tabulated (Moghadam, Ostry ve Sheehy; 2011, s.28-29).

In his study in 2011, Bernard explored the reserve capabilities of developing countries in Central America with other developing countries using regression method for the period 1993-2008. As a result of the study, it was found that these countries have lower reserves than the other developing countries (Bernard; 2011).

2.4. Composition and Evaluation of Competence of Turkey’s Foreign Exchange Reserves

Composition of Turkey’s foreign exchange reserves are shown in the Graph.1 formed from the table data in Annex.1. Looking at the crisis periods in the 1980-2018 period, after the devaluation of the exchange rates in 1994, a significant increase was observed in official reserves in 1995. Again, after the 2001 crisis, reserves decreased by 3.5 billion dollars. With the rapid increase in the official reserves after 2002, this momentum of acceleration slowed down between 2008 and 2011 due to the impact of the global crisis. Foreign exchange assets in 2013, official reserves and total reserves were at the highest levels with 110.9 - 119.2 and 147.9 billion dollar levels, respectively. By the end of 2018, foreign exchange assets, official reserves and total reserves were 72.8 - 93 and 130.4 billion dollars, respectively.

[Graph 1: Composition of Turkey’s Gross International Reserves]
In the press release about Required Reserves that CBRT has announced on 12/09/2011, it was allowed that the required reserves to be kept as gold for the gold deposit accounts which has been increasing rapidly in recent years, and other required reserves to be kept as gold in other foreign currency liabilities. For this reason, the share of gold in the bank’s reserves increased from this date to 20.1 billion dollar level at the end of 2018.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Reserves (Mio USD)</th>
<th>Imports (Mio USD)</th>
<th>Reserves / Imports</th>
<th>Short-Term Debt (Mio USD)</th>
<th>Reserves / Short-Term Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>34.376</td>
<td>54.503</td>
<td>0.63</td>
<td>28.301</td>
<td>1.21</td>
</tr>
<tr>
<td>2001</td>
<td>30.353</td>
<td>41.399</td>
<td>0.73</td>
<td>16.403</td>
<td>1.85</td>
</tr>
<tr>
<td>2002</td>
<td>38.074</td>
<td>51.554</td>
<td>0.74</td>
<td>16.424</td>
<td>2.32</td>
</tr>
<tr>
<td>2003</td>
<td>44.964</td>
<td>69.340</td>
<td>0.65</td>
<td>23.013</td>
<td>1.95</td>
</tr>
<tr>
<td>2004</td>
<td>53.757</td>
<td>97.540</td>
<td>0.55</td>
<td>32.203</td>
<td>1.67</td>
</tr>
<tr>
<td>2005</td>
<td>69.994</td>
<td>116.774</td>
<td>0.60</td>
<td>38.914</td>
<td>1.80</td>
</tr>
<tr>
<td>2006</td>
<td>92.336</td>
<td>139.576</td>
<td>0.66</td>
<td>42.852</td>
<td>2.15</td>
</tr>
<tr>
<td>2007</td>
<td>110.993</td>
<td>170.063</td>
<td>0.65</td>
<td>43.142</td>
<td>2.57</td>
</tr>
<tr>
<td>2008</td>
<td>116.917</td>
<td>201.964</td>
<td>0.58</td>
<td>52.512</td>
<td>2.23</td>
</tr>
<tr>
<td>2009</td>
<td>112.226</td>
<td>140.928</td>
<td>0.80</td>
<td>48.977</td>
<td>2.29</td>
</tr>
<tr>
<td>2010</td>
<td>110.011</td>
<td>185.544</td>
<td>0.59</td>
<td>77.241</td>
<td>1.42</td>
</tr>
<tr>
<td>2011</td>
<td>110.504</td>
<td>240.842</td>
<td>0.46</td>
<td>83.116</td>
<td>1.33</td>
</tr>
<tr>
<td>2012</td>
<td>137.493</td>
<td>236.545</td>
<td>0.58</td>
<td>102.439</td>
<td>1.34</td>
</tr>
<tr>
<td>2013</td>
<td>147.881</td>
<td>251.661</td>
<td>0.59</td>
<td>133.273</td>
<td>1.11</td>
</tr>
<tr>
<td>2014</td>
<td>141.830</td>
<td>242.177</td>
<td>0.59</td>
<td>135.138</td>
<td>1.05</td>
</tr>
<tr>
<td>2015</td>
<td>128.052</td>
<td>207.234</td>
<td>0.62</td>
<td>105.370</td>
<td>1.22</td>
</tr>
<tr>
<td>2016</td>
<td>129.535</td>
<td>198.618</td>
<td>0.65</td>
<td>101.609</td>
<td>1.27</td>
</tr>
<tr>
<td>2017</td>
<td>136.170</td>
<td>233.800</td>
<td>0.58</td>
<td>119.698</td>
<td>1.14</td>
</tr>
<tr>
<td>2018</td>
<td>130.388</td>
<td>223.046</td>
<td>0.58</td>
<td>116.182</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Source: CBT - EDDS ve TSI.

In this section, Turkey’s foreign exchange reserves’ adequacy indicators is reviewed for the 2000-2018 period. Respectively, the rate of reserves to meet import, the rate of reserves to meet short-term debts and the rate of gross reserves to money supply has been analyzed as tables. In the following Table.1, import volumes and total gross reserve amount of Turkey has been given.

In Table.1, Turkey’s total gross international reserves, import data, the rate of short-term debt and reserves to import and the rate of reserves to short-term debts data have been shown. In the Graph.2 which is obtained from Table.1, there is the rate of gross reserves to import. As stated in the first part of the study, the reserves of countries should be able to meet imports for 3-4 months. However, the fact that this rate is above 1 is defined as the ideal level and shows that the risk in the countries is low. Referring to Turkey; the years of crisis in 2000, 2004, 2008
and 2011, it is observed that this rate decreased significantly to 0.63-0.55-0.58 and 0.46 levels, respectively. In this case, it can be said that the reserves remain weak, but it is seen that the reserve import rate corrected itself rapidly in the years following these crisis years.

As stated in the first part of the study, the reserves of countries should be able to meet imports for 3-4 months. However, the fact that this rate is above 1 is defined as the ideal level and shows that the risk in the countries is low. Referring to Turkey: the years of crisis in 2000, 2004, 2008 and 2011, it is observed that this rate decreased significantly to 0.63-0.55-0.58 and 0.46 levels, respectively. In this case, it can be said that the reserves remain weak, but it is observed that the reserve/import rate corrected itself rapidly in the years following these crisis years.

In the Graph.3 which is obtained from Table.1 data, there is the rate of reserves to short-term debts. This rate is accepted as the payment of short-term debt with reserves in the case of the foreign exchange cut from abroad and as an indicator of the crisis in general. For this reason, the rate of reserves/short-term debt with a value above 1 provides that the borrowing conditions and costs of countries remain low.

In Table 1, depending on the local crisis took place in Turkey: It is observed that the values decreased in 2000, 2004, 2011 respectively. From 2007 to 2009, rate of reserves to short-term debt remaining above the levels of 2 caused Turkey to be less affected by the global financial crisis in 2008. Moreover, due to the zero interest rate policy in the main currency rates in the world after the 2008 global crisis, reserve/short-term debt rate fell below 1.5, starting from 2010. In 2014, it saw the bottom level with a value of 1.05, but continued in the 2010-2018 period around 1.2 points. This case has led to the risk premium in Turkey’s external borrowing to remain low.
In Table 2, the rate of gross reserves to broad money supply between the years of 2000-2018 has been shown. As mentioned in the previous section, the rate of reserves / M2 to be in the levels of 10-20% is the value sought in the literature. With the increase in reserves during the year of 2003; reserves / M2 rate increased, then followed by a regression in 2008, being around 0.30 levels, horizontally.

**Table.2: Turkey’s Gross International Reserves / Broad Money Supply Rate**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Reserves (Mio TL)</th>
<th>M2 Money Supply (Mio TL)</th>
<th>Reserves / M2 Money Supply</th>
<th>Year</th>
<th>Total Reserves (Mio TL)</th>
<th>M2 Money Supply (Mio TL)</th>
<th>Reserves / M2 Money Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>21.440</td>
<td>47.613</td>
<td>0.45</td>
<td>2010</td>
<td>165.056</td>
<td>587.815</td>
<td>0.28</td>
</tr>
<tr>
<td>2001</td>
<td>37.195</td>
<td>83.926</td>
<td>0.44</td>
<td>2011</td>
<td>184.542</td>
<td>665.642</td>
<td>0.28</td>
</tr>
<tr>
<td>2002</td>
<td>57.334</td>
<td>115.315</td>
<td>0.50</td>
<td>2012</td>
<td>246.456</td>
<td>749.112</td>
<td>0.33</td>
</tr>
<tr>
<td>2003</td>
<td>67.134</td>
<td>136.230</td>
<td>0.49</td>
<td>2013</td>
<td>281.167</td>
<td>910.052</td>
<td>0.31</td>
</tr>
<tr>
<td>2004</td>
<td>76.461</td>
<td>167.429</td>
<td>0.46</td>
<td>2014</td>
<td>310.303</td>
<td>1.018.546</td>
<td>0.30</td>
</tr>
<tr>
<td>2005</td>
<td>93.848</td>
<td>237.949</td>
<td>0.39</td>
<td>2015</td>
<td>348.304</td>
<td>1.195.810</td>
<td>0.29</td>
</tr>
<tr>
<td>2006</td>
<td>132.143</td>
<td>297.481</td>
<td>0.44</td>
<td>2016</td>
<td>391.355</td>
<td>1.406.729</td>
<td>0.28</td>
</tr>
<tr>
<td>2007</td>
<td>144.458</td>
<td>345.028</td>
<td>0.42</td>
<td>2017</td>
<td>496.703</td>
<td>1.624.675</td>
<td>0.31</td>
</tr>
<tr>
<td>2008</td>
<td>151.163</td>
<td>434.205</td>
<td>0.35</td>
<td>2018</td>
<td>627.614</td>
<td>1.940.590</td>
<td>0.32</td>
</tr>
<tr>
<td>2009</td>
<td>173.621</td>
<td>494.024</td>
<td>0.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: CBT - EDDS.*
3. Conclusion

In the study, the variables affecting the international reserve adequacy and the levels of reserves for the Central Bank of the Republic of Turkey between the years of 2000-2018 were analyzed. Imports, short-term debts, and broad money supply, which had the highest impact on reserves, were at a sufficient level compared to reserves.

Balance of payments schedule is composed of the balance of foreign trade balance and service balance, which is mainly composed of goods balance. Balance of foreign trade consists of the export and import of goods, while the balance of services is also composed of services exports and imports of countries. According to the hypothesis of foreign trade flows, the factor determining the value of a country’s national currency is the export and import of goods of that country. The value of the national currency increases if the exports are larger than imports (i.e. excess in foreign trade balance) while national currency loses value if the imports are larger than exports (i.e. deficit a foreign trade balance). For this reason, all factors that affect the import and export of countries also affect the external balances of national currencies. Many factors such as the relative prices of domestic and foreign goods, real income increases in domestic and foreign economies, shifts in consumer preferences in domestic and foreign goods, developments in technology and changes in factor stocks affect exchange rates. (Seyidoglu; 2003; 156). Table 1 indicates that the bank has increased its reserves due to the increase in the current account deficit.

In the same table, it has been seen that short-term debts and reserves move in the same direction. According to Table 2, the increase in the money supply led to an increase in foreign exchange reserves.

The approach of quantity theory of the increase of money supply leads to the depreciation of the national currency due to the increase in imports of foreign goods and services and the export of capital. Thus, the interest rates rise and increase the capital inflows to the country. As a result, there is an increase in the reserves.

Considering the cost of extra reserve keeping, Central bank’s reserve level seems to be appropriate and private sector’s increasing external debt liability should be expected to pressure on reserves, in recent years. Therefore, except for the crisis times, reserves of the CBRT are gaining importance for the sustainable growth for a country as Turkey providing current deficit.

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### 4. Annex

*Ann. 1: Composition of the Central Bank of Republic of Turkey Reserves*

<table>
<thead>
<tr>
<th>Year</th>
<th>Foreign Currency Assets (Mio $)</th>
<th>Gold (Mio $)</th>
<th>Official Reserve Assets (Mio $)</th>
<th>Banks Correspondent and Effective Safes (Mio $)</th>
<th>Total Reserves (Mio $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>928.30</td>
<td>154.60</td>
<td>1.082.90</td>
<td>643.10</td>
<td>1.726.00</td>
</tr>
<tr>
<td>1982</td>
<td>1.079.50</td>
<td>154.60</td>
<td>1.234.10</td>
<td>792.90</td>
<td>2.027.00</td>
</tr>
<tr>
<td>1983</td>
<td>1.253.40</td>
<td>154.60</td>
<td>1.408.00</td>
<td>844.50</td>
<td>2.252.50</td>
</tr>
<tr>
<td>1984</td>
<td>1.239.00</td>
<td>800.40</td>
<td>2.039.40</td>
<td>1.859.60</td>
<td>3.899.00</td>
</tr>
<tr>
<td>1985</td>
<td>1.020.00</td>
<td>1.040.10</td>
<td>2.060.10</td>
<td>1.594.60</td>
<td>3.654.70</td>
</tr>
<tr>
<td>1986</td>
<td>1.367.90</td>
<td>1.236.80</td>
<td>2.604.70</td>
<td>1.818.80</td>
<td>4.423.50</td>
</tr>
<tr>
<td>1987</td>
<td>1.718.50</td>
<td>1.535.10</td>
<td>3.253.60</td>
<td>2.240.50</td>
<td>5.494.10</td>
</tr>
<tr>
<td>1988</td>
<td>2.307.30</td>
<td>1.367.50</td>
<td>3.674.80</td>
<td>2.921.20</td>
<td>6.596.00</td>
</tr>
<tr>
<td>1989</td>
<td>4.831.30</td>
<td>1.353.80</td>
<td>6.185.10</td>
<td>3.128.40</td>
<td>9.313.50</td>
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<tr>
<td>1990</td>
<td>5.972.30</td>
<td>1.468.20</td>
<td>7.440.50</td>
<td>3.970.60</td>
<td>11.411.10</td>
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<tr>
<td>1991</td>
<td>4.918.10</td>
<td>1.493.30</td>
<td>6.411.40</td>
<td>5.842.00</td>
<td>12.253.40</td>
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<tr>
<td>1992</td>
<td>6.116.00</td>
<td>1.493.70</td>
<td>7.609.70</td>
<td>7.644.00</td>
<td>15.253.70</td>
</tr>
<tr>
<td>1993</td>
<td>6.213.20</td>
<td>1.488.10</td>
<td>7.701.30</td>
<td>10.060.80</td>
<td>17.762.10</td>
</tr>
<tr>
<td>1994</td>
<td>7.112.10</td>
<td>1.410.00</td>
<td>8.522.10</td>
<td>7.997.00</td>
<td>16.519.10</td>
</tr>
<tr>
<td>1996</td>
<td>16.319.00</td>
<td>1.383.20</td>
<td>17.702.20</td>
<td>7.351.90</td>
<td>25.054.10</td>
</tr>
<tr>
<td>1997</td>
<td>18.463.00</td>
<td>1.124.40</td>
<td>19.587.40</td>
<td>7.625.10</td>
<td>27.212.50</td>
</tr>
<tr>
<td>1998</td>
<td>19.766.00</td>
<td>1.012.10</td>
<td>20.778.10</td>
<td>8.772.90</td>
<td>29.551.00</td>
</tr>
<tr>
<td>1999</td>
<td>23.332.00</td>
<td>1.011.00</td>
<td>24.343.00</td>
<td>9.568.80</td>
<td>33.911.80</td>
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<td>2000</td>
<td>22.343.00</td>
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<td>23.369.00</td>
<td>11.006.90</td>
<td>34.375.90</td>
</tr>
<tr>
<td>2001</td>
<td>18.927.00</td>
<td>1.034.00</td>
<td>19.961.00</td>
<td>10.392.40</td>
<td>30.353.40</td>
</tr>
<tr>
<td>2002</td>
<td>26.795.00</td>
<td>1.299.00</td>
<td>28.094.00</td>
<td>9.980.20</td>
<td>38.074.20</td>
</tr>
<tr>
<td>2003</td>
<td>33.616.50</td>
<td>1.552.60</td>
<td>35.169.10</td>
<td>9.794.50</td>
<td>44.963.60</td>
</tr>
<tr>
<td>2004</td>
<td>35.986.70</td>
<td>1.625.20</td>
<td>37.611.90</td>
<td>16.145.00</td>
<td>53.756.90</td>
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<tr>
<td>2005</td>
<td>50.456.00</td>
<td>1.922.40</td>
<td>52.378.40</td>
<td>17.616.00</td>
<td>69.994.40</td>
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<td>2006</td>
<td>60.832.00</td>
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<td>29.150.80</td>
<td>92.336.30</td>
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<td>2007</td>
<td>73.297.60</td>
<td>3.117.40</td>
<td>76.415.00</td>
<td>34.577.70</td>
<td>110.992.70</td>
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<tr>
<td>2008</td>
<td>71.016.10</td>
<td>3.237.80</td>
<td>74.253.90</td>
<td>42.662.90</td>
<td>116.916.80</td>
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<td>2009</td>
<td>70.707.90</td>
<td>4.121.00</td>
<td>74.828.90</td>
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<td>112.226.00</td>
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<td>2010</td>
<td>80.710.20</td>
<td>5.257.70</td>
<td>85.967.90</td>
<td>24.042.70</td>
<td>110.010.60</td>
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<td>2011</td>
<td>78.452.10</td>
<td>9.888.10</td>
<td>88.340.20</td>
<td>22.164.20</td>
<td>110.504.40</td>
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<td>2012</td>
<td>99.932.90</td>
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<td>119.167.50</td>
<td>18.325.50</td>
<td>137.493.00</td>
</tr>
<tr>
<td>Year</td>
<td>Foreign Currency Assets (Mio $)</td>
<td>Gold (Mio $)</td>
<td>Official Reserve Assets (Mio $)</td>
<td>Banks Correspondent and Effective Safes (Mio $)</td>
<td>Total Reserves (Mio $)</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------</td>
<td>-------------</td>
<td>-------------------------------</td>
<td>----------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>2013</td>
<td>110.957,70</td>
<td>20.077,00</td>
<td>131.034,70</td>
<td>16.845,90</td>
<td>147.880,60</td>
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<tr>
<td>2014</td>
<td>106.907,30</td>
<td>20.400,70</td>
<td>127.308,00</td>
<td>14.521,60</td>
<td>141.829,60</td>
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<td>2015</td>
<td>92.927,00</td>
<td>17.606,00</td>
<td>110.533,00</td>
<td>17.519,00</td>
<td>128.052,00</td>
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<tr>
<td>2016</td>
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<td>106.111,30</td>
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<td>129.534,50</td>
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<td>2017</td>
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<td>23.537,00</td>
<td>107.730,00</td>
<td>28.439,50</td>
<td>136.169,50</td>
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<tr>
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<td>72.898,00</td>
<td>20.130,00</td>
<td>93.028,00</td>
<td>37.359,60</td>
<td>130.387,60</td>
</tr>
</tbody>
</table>

Source: CBT - EDDS
AN EMPIRICAL NOTE ON PURCHASING POWER PARITY CONDITION: THE CASE OF TURKISH LIRA / U.S. DOLLAR

Levent KORAP¹, Ali KONAK²

1. Introduction

The long-run determination of exchange rates has been of a special issue of interest for the researchers when constructing theories and policies in new open economy macroeconomics. Such researches conducted to explore the motives behind the course of policies would reveal the extent to which applying to discretionary policy tools can be succeeded in attaining ex-ante policy targets. Of all these theoretical debates, Purchasing Power Parity (PPP) attracts a considerable attention especially for the post-1973 period following the collapse of the Bretton Woods system.

This paper tries to reconsider the PPP approach and test its validity by employing data from the Turkish economy. For this purpose, the rest of the study is organized as follows. The next section outlines some theoretical concepts for the PPP theory in different perspectives. Section III gives an empirical model estimated upon the Turkish economy. Finally, the last section summarizes the results and concludes.

2. A Model on Theoretical Bases

By considering the law of one price, let us express that for any good $i$:

\[ p^d_t = p^f_t + \epsilon_i \]  

(1)

where $p^d_t$ is the log of the domestic currency price of good $i$, $p^f_t$ is the analogous foreign-currency price, and $\epsilon_i$ is the log of the domestic currency price of foreign exchange, ensuring identical prices of unfettered trade in goods. Letting equation (1) hold for every individual good would lead to the assumption that it must hold for any identical basket of goods. Even if the law of one price fails for individual goods, it is possible that the deviations cancel out when averaged across a basket of goods (Froot and Rogoff, 1994). Moreover, adopting an international perspective generally allows the use of price indices from different countries with varying weights and mixes of goods across these countries, rather than using identical baskets, as hypothesized in the PPP theory. Finally, international price indices for identical baskets of goods can still be constructed for this purpose.

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2. 1. Relaxing the PPP Assumptions

Instead of using the absolute form of the PPP relationship in equation (1), a weak form of the PPP theory can also be developed. Following Salvatore (1998), the absolute PPP theory would give the exchange rate that equilibrates trade in goods and services while completely disregarding the capital account. A nation experiencing capital outflows would have a deficit in its balance of payments, while a nation receiving capital inflows would have a surplus if the exchange rate was the one that equilibrated international trade in goods and services. A second objection to the absolute PPP theorem comes from the assumption that this version of the PPP would not give the exchange rate that equilibrates trade in goods and services because of the existence of many non-traded goods and services whose prices in part depend on relative productivity levels (Jonsson, 2001).

Considering these deficiencies, the relative or weak form of PPP can be suggested to analyze the theory where the change in the exchange rate over a period of time would be proportional to the relative changes in the price levels in different countries over the same time period. In this sense, Taylor and Taylor (2004) express that the relative PPP would hold if the absolute PPP holds, but the absolute PPP does not necessarily hold when the relative PPP holds, since it is possible that common changes in nominal exchange rates may be happening at different levels of purchasing power of the currencies examined.

In addition, we can consider the pricing to market theory of Dornbusch (1987) and Krugman (1986) that examines why the import prices fail to fall in proportion to the exchange rate appreciation. The pricing to market theory emphasizes that, due to the imperfect competition problems, there is a price stickiness phenomenon in international trade. With constant elasticity of demand, producers who are monopolists or oligopolists working under imperfect competition conditions may charge different prices in different countries, while exchange rate changes would not cause fluctuations in relative prices charged (Obstfeld and Rogoff, 2000). This is possible because there are many industries that can supply separate licences for the sale of their goods at home and abroad (Sarno and Taylor, 2002). As a methodological problem to be considered, employing low frequency data and model misspecification can also lead to biased results in favour of the slow convergence of real exchange rates to the long run equilibrium (Taylor, 2001).

2. 2. Empirical Flaws in Prior Studies

Taylor (2001) considers methodological problems in prior studies such as employing low frequency data and linear model specification. As a result, such studies do not empirically support the PPP theory since such specification problems can lead to bias towards findings of slow convergence of real exchange rates to the long run equilibrium.

Thus, the existence of a long run equilibrium relationship between the domestic price level, nominal (spot price of) exchange rate, and the foreign price level, all expressed in logarithms and with statistically significant a priori signs, would give support to the absolute PPP theory. Froot and Rogoff (1994) and Taylor (1996) emphasize that an obvious problem with equation (1) above is that exchange rates and prices might reasonably be considered endogenous and are simultaneously determined, and so there is no compelling reason to put exchange rates on the left hand side, rather than vice versa. In this sense, single equation results may be seriously misleading due to a simultaneity bias and / or invalid conditioning (Gökcan and Özmen, 2001).
Testing the PPP hypothesis requires that real exchange rate should be a long run stationary / mean reverting process that is equal to a constant or that a linear combination of same order integrated variables in equation 1 should be satisfied significantly with *a priori* assumed signs. Taylor (1988) and Kim (1990) testing the long run PPP relationship for some major currencies against the US dollar (1990) can be considered among the pioneering studies that use cointegrating techniques to reveal both the long run stationary relationships leading to the PPP hypothesis and the deviations from this relationship. Furthermore, Sarno and Taylor (1998) and Taylor and Sarno (1998) in this sense are deserved to be examined in the contemporaneous economics literature.

Rather than imposing a linear specification of the PPP hypothesis, some contemporaneous recent literature dealing with mean reversion of real exchange rates also emphasize that the time series behaviour of the real exchange rates can be better approximated by a nonlinear adjustment process employing smooth transition autoregressive models. For a brief account of such a methodology, see some excellent papers yielded, e.g. Kilian and Taylor (2003) and Taylor (2006).

### 2. 3. Two Methods to Test for the PPP Relationship

If there is a cointegrating relationship such as equation (1) in which all the variables are integrated at order 1, their combinations constructing real exchange rate \( r_{e_t} \) in equation (2) below should not follow a random walk process. Instead, the relationship should be stationary or has a mean reverting process that is equal to a constant. Otherwise, the presence of unit roots in the real effective exchange rate series leads us to reject the validity of the PPP theory and determine that price stabilization programs will be ineffective at the macroeconomic level (Yıldırım, 2003).

Alternatively, following Cashin and McDermott (2003) and Civcir (2002), we can use the half life of real exchange rate shocks to test the validity of the PPP theory. Thus, rather than using conventional analyses testing whether the real exchange rate shocks are mean reverting or not, we now focus on measuring the duration of the shocks to the real exchange rate and characterize the extent of parity reversion in terms of estimates of half life of deviations from the PPP, where the half life is defined as the time required for half the magnitude of a unit shock to the level of a series to dissipate. If the real exchange rate shock dissipates with more than a 5 year half life, this would indicate a lack of PPP relationships and a low convergence speed in real exchange rates (Rogoff, 1996; Chen and Engel, 2004).

Thus, by concentrating on the contemporaneous cointegration analysis of testing the PPP theory using these two estimation methods, unitary coefficients resulting from the likelihood ratio (LR) tests would lead us to accept the evidence in favor of the strong form of the PPP relationships to hold in the long run. To compare the results of these two tests, we follow Froot and Rogoff (1994) and assume that the unit root testing procedure for the PPP relationships determines whether the real exchange rate in equation 2 below is stationary:

\[
    r_{e_t} = e_t - p_{t^d} + p_{t^f}
\]  

while the cointegration approach asks whether \( e_t - \mu^d p_{t^d} + \mu^f p_{t^f} \) is stationary for any constant \( \mu^d \) and \( \mu^f \). For the latter approach, we relax the symmetry and proportionality restrictions that \( \mu^d = \mu^f = 1 \). Alternatively, these special cases can be tested in a cointegration analysis with appropriate restrictions using LR tests.
3. Testing the PPP Relationship for the Turkish Economy

The theoretical PPP model constructed in the former section is tried to be estimated in a somewhat similar way to Korap and Aslan (2010). The model uses monthly frequency data over the period 2002M01 – 2017M12 with 192 observations which represent the implementation of flexible exchange rate system for the Turkish economy after the economic crisis year 2001. For the price variable, the consumer price index data for the Turkish and the US economy with the base year 2015: 100 are used. The spot exchange rate of TL / US dollar is taken into account for the exchange rate variable. We also add eleven centered seasonal dummies which sum to zero over a year as an exogenous variable. Thus, the linear term from the dummies disappears and is taken over completely by the constant term, and only the seasonally varying means remain (Johansen, 1995). All the data are in their natural logarithms and taken from the electronic data delivery system of the OECD Main Economic Indicators (https://stats.oecd.org/, date of access: 30.01.2019). Before estimating the model, the unit root knowledges of the variables have been investigated. For this purpose, unit root testing procedures suggested by Lee and Strazicich (2003) allowing endogenous breaks are used. Results based on the null hypothesis of unit root are reported in Table 1:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model: Crash</th>
<th>Model: Break</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>$e_t$</td>
<td>-1.58 (08M11, 15M07)</td>
<td>-5.87 (07M07, 13M09)</td>
<td>$I(1)$</td>
</tr>
<tr>
<td>$\Delta p_t$</td>
<td>-9.38 (08M04, 13M03)</td>
<td>-10.17 (07M05, 09M02)</td>
<td>$I(0)$</td>
</tr>
<tr>
<td>$p_{t,1}$</td>
<td>-1.12 (11M10, 12M10)</td>
<td>-3.86 (10M09, 15M12)</td>
<td>$I(1)$</td>
</tr>
<tr>
<td>$\Delta p_{t,1}$</td>
<td>-9.72 (03M10, 08M01)</td>
<td>-10.88 (11M03, 13M09)</td>
<td>$I(0)$</td>
</tr>
<tr>
<td>$p_{t,2}$</td>
<td>-2.89 (05M08, 14M11)</td>
<td>-5.31 (08M08, 11M04)</td>
<td>$I(1)$</td>
</tr>
<tr>
<td>$\Delta p_{t,2}$</td>
<td>-8.97 (08M06, 08M10)</td>
<td>-9.30 (08M03, 09M01)</td>
<td>$I(0)$</td>
</tr>
</tbody>
</table>

$\Delta$ is the difference operator. Table 1 indicates the Lee-Strazicich (2003) minimum test statistics (tau) under two endogenous breaks. Estimation procedure using the maximum lag 5 considers the structural breaks in parentheses at an unknown date for the sample. We see that the unit root null hypothesis cannot be rejected for all the variables, while differencing makes them stationary, which enable us to test for cointegration between the level form variables.

For model estimation purposes, the multivariate cointegration testing approach suggested by Johansen and Juselius (1990) and Johansen (1995) using two likelihood test statistics will be applied to the data. These tests determine the maximum eigenvalue for the null hypothesis of $r$ versus the alternative of $r + 1$ cointegrating relationships and trace for the null hypothesis of $r$ cointegrating relations against the alternative of $k$ cointegrating relations, for $r = 0, 1, \ldots, k - 1$ where $k$ is the number of endogenous variables. Table 2 reports the results of these test using max-eigen ($\hat{\lambda} - \max$) and trace ($\hat{\lambda} - \trace$) tests based on the critical values ($cv$) taken from Osterwald-Lenum (1992) and on more recent 0.05 $p$− values in parentheses from MacKinnon et al. (1999). Standard errors are given in parentheses.
We must note here that the cointegration model is estimated upon an unrestricted vector autoregressive (VAR) model using lag length 2 suggested by Akaike and Schwarz information criterions. For the cointegration test, the intercept and trend factors have been restricted into the long run variable space, assuming that the trend factor can include the effects of other factors which are not considered in the cointegration analysis. At this point, we follow Pantula (1989) principle also used by Johansen (1992) and Harris (1995) who suggest the need to test the joint hypothesis of both the rank order and the deterministic components. After normalizing the cointegrating vector using the domestic price level to give the variables economic meaning, both the $\lambda - \text{max}$ and $\lambda - \text{trace}$ statistics in Table 2 jointly indicate one cointegrating vector in the long run variable space. Equation (3) below describes the normalized cointegrating vector relationship between the domestic and foreign price level and the exchange rate (std. errors in parentheses):

$$p^f_i = -7.06 + 2.43 \times p^f_i + 0.24 \times e_i + 0.01 \times \text{trend}$$

(3)
All the signs match *a priori* expectations and have statistical significance. The model has a significant feedback process through the significance of adjustment coefficients. The deviations from equilibrium can be corrected by constructing vector error correction models transferring the long run knowledge from the cointegrating space to these variables. Although the model supports the symmetry restrictions, we cannot accept the homogeneity restrictions for the theory, thus, for the variable vector \((p_t', p_t, e_t')\), no support has been given to the coefficient restriction vector \((1–1–1)\). If homogeneity and symmetry restrictions cannot be rejected, the strong form of the PPP can be supported. But, in our case, weak form of such a relationship has been brought out since only the symmetry restrictions can be satisfied. In the model, no serial correlation problem occurs for the 1\(^{st}\) or 12\(^{th}\) degree estimates.


In the former section, we explore that it is possible to construct a theory consistent cointegrating relationship of the same order integrated variables. However, there may structural shifts in the estimated relationship. Let us apply to the methodology proposed by Gregory and Hansen (henceforth GH) (1996a, 1996b) which enable the researcher to test an endogenously determined break point chosen by the data structure of the model. GH test is an extension of the Engle and Granger (1987) cointegration methodology and proposes a residual based approach to statistically examine the presence of one unknown shift for the null hypothesis of no cointegration against the alternative of co-integration with a break. We will consider three alternative models which are Model C with a level shift, Models C/T with a level shift with trend, and Model C/S with a regime shift that allows the slope vector to shift:

- **Model C**: Level shift
  \[ y_t = \mu_0 + \mu_1 t + \mu_2 X_{t-1} + \epsilon_t \]

- **Model C/T**: Level shift with trend
  \[ y_t = \mu_0 + \mu_1 t + \mu_2 X_{t-1} + \epsilon_t \quad t = 1, \ldots, n \]

- **Model C/S**: Regime shift
  \[ y_t = \mu_0 + \mu_1 t + \mu_2 X_{t-1} + \mu_3 X_{t-1} + \epsilon_t \]

where \( \phi_{tt} = \begin{cases} 0 & \text{if } t \leq [n\tau] \\ 1 & \text{if } t > [n\tau] \end{cases} \) (5)

The unknown parameter \( \tau \in (0,1) \) represents the relative timing of the change point, and equals \( T_B / n \) where \( T_B \) is the break point. \([ ]\) denotes the integer part. \( \mu_0 \) is the intercept before the shift, \( \mu_1 \) the change in the intercept at the time of the shift, \( \beta \) the coefficient of the time trend, \( \alpha_1 \) the cointegrating slope coefficient before the regime shift and \( \alpha_2 \) the change in the slope coefficient. Following GH (1996a), the statistics in Eq. 15 is found for each break point \( (\tau \in T) \) in the interval \([0.15n, 0.85n]\) recursively, and the smallest value is chosen. Below, \( Z_a^* \) and \( Z_t^* \) give the minimum values of the relevant Phillips test statistics, and \( ADF^* \) is the minimum value of the ADF test. The results with the maximum lag 5 are in Table 3:

\[
\begin{align*}
Z_a^* &= \inf_{\tau \in T} Z_a(\tau) \\
Z_t^* &= \inf_{\tau \in T} Z_t(\tau) \\
ADF^* &= \inf_{\tau \in T} ADF(\tau)
\end{align*}
\]
Table 3. GH Test for Structural Shift in the Cointegrating Relationship

<table>
<thead>
<tr>
<th>Model</th>
<th>( ADF^* )</th>
<th>( cv )</th>
<th>( Z^* )</th>
<th>( cv )</th>
<th>( Z_t^* )</th>
<th>( cv )</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-4.12</td>
<td>-4.92</td>
<td>-30.36</td>
<td>-46.98</td>
<td>-4.18</td>
<td>-4.92</td>
</tr>
<tr>
<td>C/T</td>
<td>-4.93</td>
<td>-5.29</td>
<td>-26.98</td>
<td>-53.92</td>
<td>-4.66</td>
<td>-5.29</td>
</tr>
<tr>
<td>C/S</td>
<td>-4.92</td>
<td>-5.50</td>
<td>-46.20</td>
<td>-58.33</td>
<td>-4.95</td>
<td>-5.50</td>
</tr>
</tbody>
</table>

For the autoregressive lag structure of the ADF model, the Schwarz information criterion is used. 5% critical values (cv) assume two regressor case \((m = 2)\) and have been taken from Gregory and Hansen (1996a, Table 1). The results reveal that we cannot reject the null hypothesis of no cointegration relationship allowing a single break at the 5% significance level, thus, there exists no endogenous structural break subject to the long run variable space. Had there not been found evidence of stability in the cointegration analysis, we would have been obliged to estimate the long run equation for each sub-period considering pre- and post-break sample dates inclusive of related dummy variables. Fortunately, on no account do we have to interest in such an instability issue.

5. Concluding Remarks

This study tries to construct an empirical model to re-examine the empirical validity of the PPP theory for the Turkish economy. Using some contemporaneous estimation techniques such as multivariate cointegration, our estimation results give support to the validity of the PPP theory for the Turkish economy. In our case, weak form of such a relationship has been been brought out since only the symmetry restrictions can be satisfied. We found no endogenous structural break subject to the long run variable space. Thus, on no account do we have to interest in instability issue.

Future papers should be elaborately constructed to reveal whether the estimation results in this article can be confirmed and whether they are in fact of the stylized facts for the Turkish economy. Complementary papers should also consider nonlinearities in the real exchange rates to test the validity of the PPP theory.

References


Civcir, İ. (2002). Before the fall was the Turkish Lira overvalued?, *ERF Working Paper*, No. 200220.


THE RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND FOREIGN DIRECT INVESTMENT: EVIDENCE FROM TURKEY

Zerrin KILIÇARSLAN¹, Yasemin DUMRUL²

1. Introduction

Financial development, defined as the development of financial institutions, financial markets and financial instruments, has a significant impact on attracting foreign direct investment (FDI) to the host country (Afşar, 2007: 190). Multinational companies that perform foreign direct investments also prefer to invest in regions with a higher level of financial development (Chen et al., 2015: 370). Multinational companies use the financial system to facilitate the loan, debt or payment activities they will provide to intermediate goods suppliers and to benefit from insurance services to secure their monetary assets (Nkoa, 2018: 222). Financial development leads to the efficient allocation of resources, the mobilization of savings, the reduction of the information asymmetry problem, the ease of trade, the hedging, and the increased diversity against risk (Dutta and Roy, 2011: 304). On the other hand, foreign direct capital investments contribute to economic growth by creating new business opportunities, increasing capital accumulation and total factor productivity (Desbordes and Wei, 2017: 153).

The level of financial development of the host country increases the effects of foreign direct investments on economic growth (Nwosa and Emma Ebere, 2017: 183). According to Levine (2005), the financial system affects economic growth through five functions, namely mobilization and collection of savings, knowledge generation, operations facilitation, diversification and risk management, investment monitoring and control (Nkoa, 2018: 221). The financial system offers a variety of services to economic agents that contribute to growth. The increase in the quality and quantity of these services increases the rate of transfer of funds created in the financial sector to the real sector (Özgür and Demirtaş, 2015: 77).

Financial development may affect FDI through the channels of liquidity channel, allocation channel, financial sanctioning contract channel and reduction of transaction costs (Shah, 2016: 6). Financial development may positively affect foreign direct investments after reaching a certain threshold level. Better financial institutions cause the host country to attract more foreign direct investments. However, for countries with significantly higher levels of financial development, the impact may be negative. This is because, when countries reach higher levels of financial development, they need less foreign investment to stimulate the economy. For these countries, domestic investment is sufficient to sustain and / or increase the current growth rate (Dutta and Roy, 2011: 306).

The aim of this study is to investigate the relationship between financial development and foreign direct investments theoretically and empirically. In the following section of the study, the theoretical framework of the relationship between financial development and foreign direct investment will be introduced. In the third section, empirical

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literature related to the subject will be presented. In the fourth section, the econometric methods and results used in this study will be given. In the conclusion section, a general evaluation will be made on the subject.

2. Theoretical Framework

As part of the financial liberalization that started after commercial liberalization, the development of market economies and the increase in international production through the process of liberalization of capital movements led to an increase in foreign direct investments. In this process, multinational companies have preferred to make certain stages of their production through direct foreign investments in countries where they find it advantageous. One of the reasons affecting the preferences of multinational companies is the level of financial development. On the other hand, the countries that have insufficient domestic savings and foreign borrowing difficulties have encouraged foreign direct investment inflows in order to achieve their economic growth (Acaravcı and Akyol, 2017:18; Felek et al. 2018: 64). Financial development leads to an increase in domestic savings and foreign direct investment inflows.

The relationship between financial development and foreign direct investments can be explained by the following channels (Dutta and Roy, 2011: 305):

i. Saving: Financial development enables savings to be increased and efficiently used. Accordingly, financial development contributes to the financial intermediation process by establishing a relationship between fund suppliers and demanders. Henry (2000) stated that the increase in FDI inflows created favorable funds in the economy through the expansion of financial markets and banking system and supported financial intermediation activities (Felek et al., 2018: 66). The increase in financial intermediation services through FDI plays an important role in increasing savings. These savings increases can increase investments in terms of quantity and quality (Bozoklu and Yılancı, 2013: 166).

ii. Technology: Financial development facilitates and accelerates the adoption of new technology in the domestic economy (Nkoa, 2018: 221). Moreover, advanced financial systems contribute to the process of technological expansion through FDI. By providing new technologies to the country, foreign direct investments contribute to economic growth by attracting new production processes and techniques, management skills and new types of capital products (Felek et al., 2018: 66). In addition, the development of the financial system determines the extent to which foreign firms can borrow in order to expand their innovative activities in the host country, which increases the scope of technological dissemination to domestic companies (Zakaria, 2007:4).

iii. Cost of obtaining information: Financial development filters investment projects by reducing information acquisition costs. Foreign investors receive good information provided by financial systems (Nkoa, 2018: 222). An advanced financial sector can provide information on reasonable costs associated with investment opportunities and this information improves the efficient distribution of resources and enables an increase in investment returns (Nwosa and Emma-Ebere, 2017: 182).

iv. Borrowing plan: Advanced financial infrastructure allows foreign firms to pre-plan on how much they can borrow for innovative activities and how much investment they can make. Financial development is important as some of the foreign direct investments are financed by the debt and / or equity arising in the financial markets in the host countries (Zakaria, 2007:4).
v. Diversity increase against risk: The development of the financial system facilitates portfolio diversification that will reduce the risk for those who save money and offers more options to increase the profit of investors (Bozoklu and Yılancı, 2013: 166).

vi. Increase in Liquidity: Financial development also increases liquidity, thus facilitating the trading of financial instruments and the realization of such transactions. Foreign direct investments can contribute to the development of local financial markets, especially in the stock market. Foreign investors may want to finance some of their investments with foreign capital or they may want to recover their investments by selling equity in capital markets. On the other hand, if foreign investments are realized through the purchase of existing equity capital, the liquidity of domestic stock markets may increase (Zakaria, 2007:3).

vii. Stability: Political stability helps to create a favorable environment for the development of financial markets. The environment of confidence, which formed with political stability, leads to more foreign capital inflows. Political stability ensures that there is less expropriation risk and enables the state to make a reliable commitment to assist the functioning of financial markets (Dutta and Roy, 2011: 306). Because foreign investors are always concerned about the development and stability of the financial sector of the country they will invest in, financial development affects foreign investors’ confidence in investing in the host country (Nwosa and Emma-Ebere, 2017: 182).

viii. Allocation of Resources: An advanced financial system accelerates the internalization capacity of the country, enabling efficient allocation of resources and facilitating foreign direct investment in the country (Zakaria, 2007:1; Dutta and Roy, 2011: 305).

The occurrence of the above effects depends on the absorption capacity of the host country (Ang, 2009: 317). The occurrence of the aforementioned effects depends on the absorption capacity of the host country (Shahbaz et al., 2011:2825).

3. Applied Literature

In the applied literature, there are many studies examining the relationship between financial development and economic growth. In addition, a large number of studies conducted to determine the determinants of FDI include the financial development variable. In this study, the relationship between financial development and FDI is analyzed and the studies in this field are given in Table 1.
The relationship between financial development and foreign direct investment: evidence from Turkey

Zerrin Kılıçarslan, Yasemin Dumrul

**Table 1. Applied Studies on the Relationship between Financial Development and FDI**

<table>
<thead>
<tr>
<th>Author</th>
<th>Period/Country</th>
<th>Method</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nkoa (2018)</td>
<td>1995 – 2015 52 African countries</td>
<td>Panel GMM</td>
<td>Money and quasi-money, banking credit to the private sector and interest rate liberalization play a positive role in FDI in countries where there are no financial markets.</td>
</tr>
<tr>
<td>Bayar and Gavriletea (2018)</td>
<td>1996-2015 11 Central and Eastern European Union countries</td>
<td>Panel Co-integration and Panel Causality Tests</td>
<td>There is no co-integration relationship between FDI inflows, foreign portfolio investments and financial development. However, there is a one-way causality relationship from financial development to FDI inflows in the short term.</td>
</tr>
<tr>
<td>Desbordes and Wei (2017)</td>
<td>2003-2006 83 source countries and 125 destination countries</td>
<td>Panel Regression Analysis</td>
<td>Financial development in both source and destination countries has a major positive impact on FDI, by increasing direct access to external financing and indirectly encouraging production activities.</td>
</tr>
<tr>
<td>Boateng et al. (2017)</td>
<td>1980 -2014 16 Sub-Saharan Africa countries</td>
<td>Panel OLS and FMOLS</td>
<td>Foreign direct investment and financial development have a significant and positive effect on domestic investments.</td>
</tr>
<tr>
<td>Bahri et al. (2017)</td>
<td>2009-2015 65 developing countries</td>
<td>Panel GMM</td>
<td>Financial development index increases the effect of FDI on economic growth. However, FDI has a negative impact on the group of countries with low financial development.</td>
</tr>
<tr>
<td>Nwosa and Emma-Ebere (2017)</td>
<td>1980 - 2015 Nigeria</td>
<td>VECM</td>
<td>In the long term, there is a negative relationship between financial development and foreign direct investment. In the short term, there is a positive relationship between financial development and foreign direct investment.</td>
</tr>
<tr>
<td>Korgaonkar (2012)</td>
<td>1980-2009 78 countries</td>
<td>Data Mining Approach</td>
<td>FDI is not directed to financially weaker countries. FDI inflows depend on both stock market variables and banking sector variables. However, the development of the financial system of the host country is an important precondition for a positive impact of FDI on economic growth.</td>
</tr>
<tr>
<td>Dutta and Roy (2011)</td>
<td>1984-2003 97 countries</td>
<td>Panel OLS and FGLS</td>
<td>Financial development provides more FDI inflows to a certain level of financial development. To benefit more from FDI, advanced financial markets and political stability must coexist.</td>
</tr>
<tr>
<td>Zakaria (2007)</td>
<td>1970 - 1999 37 developing countries</td>
<td>Granger Causality Test and VECM</td>
<td>The development in the domestic banking sector contributes very little to foreign direct investments. On the other hand, foreign direct investments have a positive impact on the development of domestic stock markets in developing countries.</td>
</tr>
<tr>
<td>Rioja and Valev (2004)</td>
<td>1961-1995 74 countries</td>
<td>Panel GMM</td>
<td>When financial development reaches a certain threshold level, there is a positive relationship between financial development and FDI.</td>
</tr>
<tr>
<td>Hermes and Lensink (2003)</td>
<td>1970-1995 67 countries</td>
<td>Panel Data Analysis</td>
<td>37 out of 67 countries included in the analysis require a sufficiently developed financial system to enable FDI to contribute positively to economic growth.</td>
</tr>
</tbody>
</table>
As can be seen from Table 1, it is observed that financial development has a positive effect on FDI inflows. However, some studies indicate that financial development should be at a certain threshold level. The effect of financial development on FDI may be different in the short and long term. In the studies, it is noteworthy that there should be political stability as well as advanced financial markets in order to benefit more from FDI.

4. Econometric Method and Application

In this study, the relationship between financial development and foreign direct investment were analyzed with Turkey data for the period 1974-2017. In this study, economic growth variable was added as an explanatory variable since financial development was a factor that increased the positive effect of FDI on economic growth. In addition, logarithmic transformation of the variables used in the study was performed. The variables used in the study and the data source are as given in Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Symbol</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic credit to private sector (% of GDP)</td>
<td>LFD</td>
<td>World Bank (2018)</td>
</tr>
<tr>
<td>Foreign direct investment, net inflows (% of GDP)</td>
<td>LFDI</td>
<td>World Bank (2018)</td>
</tr>
<tr>
<td>GDP (constant 2010 US$)</td>
<td>LGDP</td>
<td>World Bank (2018)</td>
</tr>
</tbody>
</table>

The model used to examine the relationship between foreign direct investment, financial development and economic growth is as shown in equation (1):

\[ LFDI = f(LFD, LGDP) \]  

(1)

In Equation (1), LFDI demonstrates foreign direct investments, LFD financial development, and LGDP economic growth. The time series representation of the model used in this study is as in Equation (2):

\[ LFDI_t = a_i + b_1 LFD_t + b_2 LGDP_t + e_t \]  

(2)

In order to establish a co-integration relationship between the series used in the study, each variable must be subject to the same degree of integration. Therefore, the existence and degree of unit root in variables will be analyzed by using unit root tests. In this study, Augmented Dickey and Fuller (1981) (ADF), Phillips-Perron (1988) (P-P) and Kwiatkowski, Phillips, Schmidt and Shin (1992) (KPSS) were used as unit root tests. The null hypothesis in the ADF and PP test indicates that the series contains unit roots, whereas the alternative hypothesis is that the series does not contain unit roots. In the KPSS test, unlike the hypotheses established in the ADF and PP tests, the null hypothesis is that the series is stationary, whereas the alternative hypothesis is the unit root in the series. In other words, whether the existence of the unit root can be rejected in the ADF and PP test and whether the stationary can be rejected in the KPSS test is being tested. Unit root test results are presented in Table 3.
Table 3. Unit Root Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF</th>
<th>P-P</th>
<th>KPSS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>First Difference</td>
<td>Level</td>
</tr>
<tr>
<td>LFD</td>
<td>0.384494</td>
<td>-4.793388</td>
<td>0.148583</td>
</tr>
<tr>
<td></td>
<td>(-.931404)</td>
<td>(-2.933158)</td>
<td>(-.931404)</td>
</tr>
<tr>
<td>LFDI</td>
<td>-1.776128</td>
<td>-9.220703</td>
<td>-1.492496</td>
</tr>
<tr>
<td></td>
<td>(-.931404)</td>
<td>(-2.933158)</td>
<td>(-.931404)</td>
</tr>
<tr>
<td>LGDP</td>
<td>0.469278</td>
<td>-6.276926</td>
<td>0.512061</td>
</tr>
<tr>
<td></td>
<td>(-2.931404)</td>
<td>(-2.933158)</td>
<td>(-2.931404)</td>
</tr>
</tbody>
</table>

Note: Intercept model is used for 5% significance level.

As can be seen in Table 3, in the series with the first difference, all three test results show that the series do not contain unit roots. Therefore, the series are stationary in their first differences.

In this study, multivariate co-integration technique developed by Johansen (1988, 1991) and Johansen and Juselius (1990, 1992) and enabled estimation by maximum likelihood method was used. The first step that should be taken before the Johansen co-integration method is to determine the lag length. In this study, since the annual data is used, the maximum lag length is 4. Thus, as shown in Table 4, according to the information criteria of LR, FPE (Final prediction error), AIC (Akaike information criterion), SC (Schwarz information criterion) and HQ (Hannan-Quinn information criterion), the optimum lag length is determined as 1.

Table 4. Optimum Lag Length Selection

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-68.62195</td>
<td>NA</td>
<td>0.007208</td>
<td>3.581097</td>
<td>3.707763</td>
<td>3.626896</td>
</tr>
<tr>
<td>1</td>
<td>74.35383</td>
<td>257.3564*</td>
<td>8.90e-06*</td>
<td>-3.117692*</td>
<td>-2.611028*</td>
<td>-2.934498*</td>
</tr>
<tr>
<td>2</td>
<td>82.07226</td>
<td>12.73541</td>
<td>9.58e-06</td>
<td>-3.053613</td>
<td>-2.166951</td>
<td>-2.733024</td>
</tr>
<tr>
<td>3</td>
<td>84.46545</td>
<td>3.589780</td>
<td>1.36e-05</td>
<td>-2.723272</td>
<td>-1.456613</td>
<td>-2.265288</td>
</tr>
<tr>
<td>4</td>
<td>89.02275</td>
<td>6.152359</td>
<td>1.77e-05</td>
<td>-2.501137</td>
<td>-0.854480</td>
<td>-1.905758</td>
</tr>
</tbody>
</table>

* indicates lag order selected by the criterion

To determine whether the error terms in the predicted VAR model were related to each other and whether the variance of the error terms is constant for the whole sample, the autocorrelation LM test and the White Heteroscedasticity test were applied. The test results are presented in Table 5.
Table 5. Autocorrelation and Heteroscedasticity Test Results

<table>
<thead>
<tr>
<th>Lags</th>
<th>LM-Stat</th>
<th>Prob</th>
<th>VAR Residual Heteroskedasticity Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8.856440</td>
<td>0.4506</td>
<td>Chi-sq</td>
</tr>
<tr>
<td>2</td>
<td>9.114779</td>
<td>0.4267</td>
<td>df</td>
</tr>
<tr>
<td>3</td>
<td>4.873250</td>
<td>0.8452</td>
<td>prob</td>
</tr>
<tr>
<td>4</td>
<td>10.41011</td>
<td>0.3183</td>
<td>prob</td>
</tr>
</tbody>
</table>

The results of the autocorrelation LM test showed that there was not autocorrelation at 4 lag levels. According to the White Heteroscedasticity Test results, the Chi-Square value reveals that there is no problem of heteroscedasticity in the estimated model. In other words, the variance of the error term is the same for all observations.

After applying heteroscedasticity and autocorrelation tests, Johansen co-integration method was applied. The Johansen co-integration method is based on the vector autoregressive (VAR) model, which is considered strong in detecting multiple co-integration relationships between these series when there are multiple explanatory variables. The results of the Johansen co-integration test are shown in Table 6.

Table 6. Johansen Co-integration Test Results

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>Critical Value 0.05</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.478080</td>
<td>33.38637</td>
<td>29.79707</td>
<td>0.0185</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.134658</td>
<td>6.076245</td>
<td>15.49471</td>
<td>0.6865</td>
</tr>
<tr>
<td>At most 2</td>
<td>4.23E-05</td>
<td>0.001776</td>
<td>3.841466</td>
<td>0.9637</td>
</tr>
</tbody>
</table>

When Johansen cointegration test results are examined according to Table 6; for the basic hypothesis (None*), which states that there is no co-integrated vector, the trace test statistic value (33.38637) is greater than the trace test critical value (29.79707) at 5% significance level. Similarly, the maximum eigenvalue test statistic (27.21012) is greater than the critical value (21.13162) at 5% significance level. The results support the existence of a long-term relationship between the series studied for both the trace test and the maximum eigenvalue test. In other words, there is at least one co-integrated vector between the series included in the analysis.

The cointegration relationship indicates that causality may exist between the series but does not give information about the direction of causality relationship. In this study, Granger Causality Test was used to determine the source
and direction of causality. Table 7 shows the Granger causality test results, which are calculated by the 1 lagged values of the model discussed in the study.

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>F Statistics</th>
<th>Probability</th>
<th>Decision $\alpha = 0.05$</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFD is not Granger cause LFDI</td>
<td>13.50111</td>
<td>0.0012</td>
<td>Reject $H_0$</td>
</tr>
<tr>
<td>LGDP is not Granger cause LFDI</td>
<td>29.95137</td>
<td>0.0000</td>
<td>Reject $H_0$</td>
</tr>
<tr>
<td>LFDI is not Granger cause LFD</td>
<td>1.912753</td>
<td>0.3843</td>
<td>Accept $H_0$</td>
</tr>
<tr>
<td>LGDP is not Granger cause LFD</td>
<td>1.786572</td>
<td>0.4093</td>
<td>Accept $H_0$</td>
</tr>
<tr>
<td>LFDI is not Granger cause LGDP</td>
<td>0.314654</td>
<td>0.8544</td>
<td>Accept $H_0$</td>
</tr>
<tr>
<td>LFD is not Granger cause LGDP</td>
<td>4.718656</td>
<td>0.0945</td>
<td>Accept $H_0$</td>
</tr>
</tbody>
</table>

As can be seen from Table 7, the null hypothesis that the foreign direct investments of financial development and economic growth is not the Granger cause is rejected at the level of 5%. Accordingly, there is a one-way causality relationship from financial development and economic growth to foreign direct investment. In the study period, the null hypothesis that the foreign direct investment and economic growth is not the Granger cause of financial development is accepted because the probability value is greater than 0.05. Similarly, the null hypothesis that financial development and foreign direct investment are not the Granger cause of economic growth has been accepted.

5. Conclusion

This study aims to investigate the relationship between financial development and foreign direct investments in a theoretical and empirical. In this study, the relationship between financial development and foreign direct investment for Turkey economy was analyzed by co-integration test and causality test. 1974-2017 periods was chosen as the analysis period. The Johansen co-integration test was used to determine whether there is a long-term relationship between financial development and foreign direct investments. The direction of the relationship was tried to be revealed by Granger causality test.

As a result, it was found that a long-term relationship between financial development and foreign direct investment in Turkey. In addition, it is concluded that there is a one-way relationship from financial development to foreign direct investment and that there is a one-way relationship from economic growth to foreign direct investments. According to the results, it can be said that financial development is a cause of foreign direct investments in Turkey. Therefore, host countries can implement policies to improve the quantity, quality and efficiency of financial intermediation services in order to attract more foreign direct investment.

References


A NEW FORM OF LABOUR: AN OVERVIEW OF DIGITAL LABOUR DEBATES

Ali BAKIN

1. Introduction

To avert the decrease in the profit rates and overcome a state of crisis always bring with new outcomes in the way of capitalist production and in this sense, there are always new formations in the class struggle. Even though the rule of surplus value keeps its status as the basic regulating principle of the capitalist economy throughout the history, there are still new shifts and transformations in the types of manufacture. These shifts and transformations have also had reflections in the class background. If these reflections will be addressed within the context of work force, the new forms of labour have been appeared and discussed time to time. The concept of digital labour which has recently found its place in academic literature should also be evaluated in this context.

The introduction of the neo-liberal politics since the 1980’s and the commodification of every living space to overcome the crisis of Fordist production model and the digitalization of the production by means of the rapid innovation in the information and communication technologies can be traced in the background of these arguments. The lately popularized concept of Industry 4.0 which is presented as a nostrum for all the problems of capitalism should also be approached in this perspective. The digital labour which can be evaluated as a type of labour emerges in this environment.

Our research aims to summarize the arguments about the digital labour in the light of these developments in the ways of capitalist production. In order to do so, at first the overall global political and economic climate will be summarized, and then the rapid developments in the area of ICTs will be discussed with their transformative effects on the ways of production. The last part of the research will be an evaluation of Christian Fuchs and his concept of international division of labour which is an important influence in academic debates about the digital labour. The conclusion which can also be taken an overview will express the opinion that the formation in which the capitalism is going through is not an essential one, but a formal one.

2. Overall Global Economic and Political Climate

It is important address the current global economic and political climate before the introduction of the digital labour debates. For this, it is necessary to rewind the time a little and to reach the 1970s. “The Golden Age of Capitalism” which is the era between the WWII and the 1970s can be defined as a period in which the Fordist production model relying on the mass production of the standardized goods (or the regime of accumulation as the Regulation School calls) accompanied by the demand increasing Keynesian monetary and financial policies is the prominent model. However, starting from the 1970s the crisis in which the capitalism found itself caused the reconsideration of Fordism and followingly, a transition to the Post-Fordist production models, or in other words, a transition to the application of more flexible policies. (Harvey, 1997:164-170). Therefore, the neo-liberal policies
which was developed as a solution to the crisis of capitalism and the Keynesian policies ensuring several social and economic rights to the working class were completely left aside and the historical gains of labour movement were tried to be reclaim and this endeavour has mostly become successful.

The neo-liberal attacks against the labour movement which is also known as the flexible accumulation according to Harvey’s terminology (1997:170), are multi-dimensional and their scope is beyond this research. However, it is possible to summarize these policies aiming to hinder and subside the organized power of working class such as: De-unionization policies accompanied by privatization, the dissemination of insecure employment through applications of flexibilization and deregulation, the disappearance of life-time employment guarantee or of “the secure and regular jobs”, the liquidation of social security, outsourcing of the dissection of the work and followingly, systematic destruction of unionized movements etc.

However, the effects of the neo-liberal policies on the labour movement cannot be limited to the aspects listed above. Since the 1970s, the digital convergence between the two different technologies progressing in two distant paths, namely the information technologies (transmission information) and the computer technologies (processing information) has provided the opportunity to overcome the problems to “command and control” the capitalist production in global scales. As a result of the rapid development of ICTs, the industrial production in the central countries with the historical gains of the working class has started to be relocated to the countries where the costs of the labour are low, the working class is just started to flourish and followingly, the rate of unionization has decreased. This period called “offshoring” is accompanied with the growing share of the service industry in the employment, production and value-added products. Moreover, in this period, especially in the U.S.A. and the Western Europe, the view about that the capitalism is entering in a new phase has found itself many supporters. According to the proponents of these view, the industrial society emerging since the Industrial Revolution in the 18th century has gradually started to be replaced by a new society in which information is the main productive force. This new society where information is highly emphasized is called as “the Information Society”, “the Post-Industrial Society” or “the Third-World Civilization” (Kumar, 2013:46-49; Parlak, 2004:95-96). Still it can be argued that these utopic views about the disappearance of the industrial production are simply over-generalizations since they ignore the fact that this is a spatial transformation due to the “off-shoring” policies. The case that the People’s Republic of China identifying itself as a cheap labour country, making a breakthrough in the area of industrial production and becoming one of the greatest economic powers of the world constitutes a remarkable example. As it can be seen in the following chapters, the observable tendency for the industrial production returning to the developed capitalist countries (re-shoring) due to the acceleration of automation and the overuse of robots during the production process has become a commonly discussed topic at the debates about the Industry 4.0 (Fratocchi et al., 2014; Whitfield, 2017; Baroncelli et al., 2017; Fratocchi, 2018; Marin, 2014). Contrary to the view of the post-industrial social ideologists, this tendency shows that the industrial production still maintains its importance. The subject is about the fact that the capitalism is developing different mechanisms to overcome its current crisis.

3. The Commodification of Every Living Space

One of these mechanisms to overcome the capitalism’s current crisis is the commodification of every living space. The capitalist economic system is a production style focusing on the commodities and according to this perspective, the commodities possess the vital importance in this economy. In order to sustain itself, the capital has the obligation to commodify everything in its reach. (Kıyan, 2016:16-17). According to the logic of commodification, any
process, goods or social relations are subjected to the proprietary right and all of them can be tariffed and traded in the market within the boundaries of a legal contracts. The capitalist response to the decrease in the profit rates through neo-liberal policies is to place and to commodify every living space on the market. Neo-liberalism retreats the commodification to its origin and extends the scope of the legal contracts. (Harvey, 2015:174-175). Nowadays almost everything can appear as a commodity. In this context, the service industry attains an essential importance. According to the research data from the WTO, the global trading volume of the service industry has increased from 2,9 trillion dollars to 4,8 trillion dollars between 2006 and 2016 (WTO, 2017:11). The information and the production of information which are accepted as one of the main branches of the service industry are also being commodified. It can be said that a series of developments in ICTs has a key position for the inclusion of these into the commodification process. The innovation of skills and capacity of ICTs has enabled the organization of the production, circulation and consummation of the capital in a global and flexible scale. (Kıyan, 2015:31). The universities have been commercialized, the intellectual world has been enclosed within a fence made of certificates and patents. As a result, the world becomes more of a private space than a public one (Saraçoğlu, 2015:12).

Nowadays the capital aims to spread the surplus value production to the 24 hours of a day. The concept of work hours for the work force has become questionable and the limitation of the work hours and the boundary between work life and daily life have been obliterated since the communication becomes easier with the aid of the internet and mobile technologies and the computer becomes a part of our everyday life. Therefore, these innovations in ICTs give birth to a concept of “digital workplace” which can be seen as a replacement of traditional workplace. Before comprehending the concept of “digital workplace”, it will be beneficial to discuss about the subject of digitalization and ICTs.

4. Information and Communication Technologies (ICT) and Digitalization

Information and Communication Technologies (ICT) has become widespread since the1970s. ICTs whose compounds are computers, digital information technologies, internet, software, telecommunications, optical fibre patch cord, mobile devices etc. are based on the digital convergence of two different technologies, mainly the communication technologies (transmission of information) and the computer technologies (information processing) (Dicken, 2011: 80). Since the 1990s, all kinds of data, along with the great development in the ICTs, have had access to warehousing in the electronic (binary) form. All of these digital data can be processed on the computers, their contents can be changed, stored and sent immediately to any point of the world with the help of the telecommunications infrastructure. This rapid progress in the ICTs affects almost every level, from the individuals to the family members, from the local communities to the national ones (Dicken, 2011: 80; Huws, 2018: 23).

At this point, the production and circulation and the goods has become increasingly digital and the necessity of reorganization of labour emerges. Because of that, the companies have developed diversified business practices and the consumption processes are transformed. In almost every aspect of everyday life, commodities originated form ICTs such as the robots, smartphones, tablets, computers, etc. are being used in the process of production. Moreover, it has become possible to spatially redistribute the activities which are previously settled in a specific location with the aid of ICTs. More importantly, the production process can be managed remotely in real time by coordination among distant centers of production (Huws, 2018, p.92).

In other words, ICTs have begun to play a critical role in the capitalist production process. The capitalist desire to make the accumulation of capital absolute by taking advantage of the scientific, technological, socio-cultural
opportunities of the present state (Savul, 2018: 176) can be stated as the main reason of this situation. In fact, the capitalist production develops incrementally and technologically. This process of development is now evident by the fact that automation has gained momentum in the industrial production process and that the machines gradually begin to replace the high rate of work force. This development in industrial production brought about the discussions of Industry 4.0.

5. Industry 4.0 Debates

Industry 4.0 is one of today’s most popular concepts. The concept which was first used in 2011 in Hannover, Germany (Hannover Messe 2011), has become an “ideal type” of today’s rapidly digitalizing capitalism characterized with the developments in information and communication technologies. The starting point of the Industry 4.0 project is an effort to regain the competency that Germany has lost in the global manufacturing industry. However, it has become a political motto of development and progress today.

The concept of Industry 4.0 refers to the claim that capitalism has undergone four different revolutionary transformations in the historical development process. According to the advocates of this concept, the Industrial Revolution, which we can call the First Industrial Revolution, refers to the mechanization period realized by the construction of railway transportation network by the use of water-power and steam-power in production and this process gives birth to the dissolution of handcrafts and workshop production system and the collection of labour power in factories (Kagermann, 2015: 32; Alçin, 2016: 20; Schwab, 2016: 11; Bartodziej, 2017: 32;). The Second Industrial Revolution is characterized by the intensive use of electricity in production (electrification) and in the mass production. This period, which can be called Fordist manufacturing system, lasted until the 1970s. It’s also known as the period of relative stability and progress after the destruction of WWII (Bartodziej, 2017: 32). The process starting with the development of the first Programmable Logic Controller (PLC) by the Modicon Company in 1969 for the inspection of the production lines and of the machines in the factories was described as the Third Industrial Revolution. This period is often called as the period of computer revolution because it is characterized by the development of semiconductors, of hosts (in the 1960s), of the PCs (in the 1970s and the 1980s) and the Internet (in the 1990s) (Schwab, 2016: 11). In this period, the efficiency of production processes increased with the application of the sophisticated mass production (Bartodziej, 2017: 32). This period, which can be considered as the automation and the digitalization of production, even continues today. Thus, it is claimed that with Industry 4.0 there is a new industrial revolution and a new production process has been introduced.

We can define Industry 4.0 as a new process which means a higher level of automation in the most general sense (Alçin, 2016: 19). According to another definition, Industry 4.0 means the combination of the Internet of Things (IoT), the Big Data (cloud computing), the artificial intelligence (A.I.), robots and sensors and the production of these technologies in the distribution and the use of physical goods (Fuchs, 2018: 281). The crystallization of this period is expected to occur in the next few decades. With the implementation of the Industry 4.0 strategy, it is estimated that the jobs that require medium level qualifications will be eliminated with the effect of increasing automation, while the fewer jobs that will replace it will be high-paid professional jobs with low-paying services. As a result of this polarization of employment, jobs with low level qualifications and low wages still exists and jobs requiring medium level qualifications gradually decrease on the one hand, digital labour involved, high qualifications and high wages will take place on the other one. (Acemoglu and Atour, 2010; Atour, 2010).
6. Digitalization of Manufacturing and Digital Workplaces

As mentioned above, transportation and communication, which is valid in most of human history, disappeared with the development of electronic technology, and both technological processes gained speed. This development transformed the society, especially the economy and business world in almost every way. Dicken (2011: 81-82) called it as time-space shrinking technologies has allowed communication, information and transportation breakthroughs and enabled capitalism to spread throughout the world and to trigger technological and technical innovations (Savul, 2018: 198). One of the important results of all these digital qualification processes of capitalism is the decrease in the production's dependence to the physical space so that the production becomes decentralized (Özmakas, 2015: 16). Intelligent factories, big data and analytics, artificial intelligence, intelligent robots, vertical and horizontal system integration, internet of things (industrial internet), cyber security, cloud computing, additive production (3D printing), augmented reality and virtual reality (simulation) technologies digitalizes the production. With the digitalization of production, the concept of traditional workplace changes and the concept of digital workplace emerges. The physical constraints on the circulation of digital workplaces and labour have been disappearing, the global circulation gains momentum, thus, the work places become “placeless”. Hence, the need for physical spaces such as the factory established for traditional industrial production becomes unnecessary. In this environment where the workplace is digitized, a new form of labour, digital labour, emerges.

7. A New Form of Labour: Digital Labour

The fact that the digitalization has reached the upper dimensions and the virtual production spaces have appeared is another phenomenon to be emphasized. It is the separation of production from the physical space. The key concept of this separation is the network. In parallel with the rapid progress of the computer, mobile and internet technologies in ICTs, but especially in the network, the network expands both quantitatively and qualitatively, giving a digital view to production and circulation. Accordingly, as the process of production and circulation is digitalized, the labour is gradually evolving into a digital form, and labour commodities possess digital content. Undoubtedly, this situation is not a phenomenon observed in the general production. However, labour dealing with information processing, storage and transmission processes has become more common. Within this framework, “digital labour” has begun to emerge as a new form of labour (Kıyan, 2015, p.42).

The starting point of digital labour is the concept of immaterial labour theorized by autonomist Marxists. Lazzarato formulates the intangible labour as the labour that produces the cognitive and cultural content of the commodity (Lazzarato, 1996, pp.143-144). Hardt & Negri define this concept as the labour that produces immaterial goods such as a service, a cultural product, information or communication (Hardt and Negri, 2002, p. 203). Both Lazzarato and Hardt & Negri argue that Marx’s concept of labour is invalidated through the development of the concept of immaterial labour. In this context, Fuchs constructs the theory of digital labour against these theoreticians to defend Marx’s labour theory of value (Kangal, 2018, p.159). According to Fuchs (2015: 501), which defines digital labour as an alienated digital work, the labour theory of value is a broad definition covering all activities in the production of digital media technologies and their content. According to him, the digital labour describes a broad industrial-based approach emphasizing the collective exploitation, the sovereignty of capitalism, and the necessity of the struggle for overthrowing capital and the collective exploitation of the workers as their common enemy (Fuchs, 2015: 22).
8. Fuchs and the “International Division of Digital Labour”

The concept of international division of digital labour (IDDL), which contributes significantly to the academic literature on the digital labour, is important one and deserves an assessment. But it is important to mention Banaji, who is the source of Fuchs’s views on this subject. Commenting on Marx’s theory, Banaji describes and opposed the views that a mode of production accommodated only a single form of historical labour and surplus value. He also defines, and the idea that the prevailing mode of production disposed of its former ones as the vulgar Marxism (Fuchs, 2015: 240). Banaji argues that a sovereign mode of production was able to use its predecessors, and that similar forms of use of labour could take place in many different modes of production (2010, pp.1-6). From this idea, Banaji concludes that capitalism could use a variety of forms of exploitation (2010, pp.144-145).

Based on these views of Banaji, Fuchs focuses on Marx and Engels’ views on the mode of production (2015: 240-241). The emergence of a new mode of production which is the result of contradictions between the productive forces and the productive relations, will not destroy the previous mode of production, but rather it sublates (aufheben) these modes and relations of production. What is meant here is the dialectical process of the three meaningful “aufhebung” (sublation) terms of Hegel. This process, which proceeds in order of ascension / elimination / enclosure, means that the old mode of production has lost its dominance, but continues to exist within the new mode in a specific way and therefore adapts to this new mode. Fuchs concludes that with the ascension of capitalism, the existence of previous modes of production, for example patriarchy, could not come to an end and these modes of production were adapted to the new mode (for example, in the form of a specific kind of home economy, which assumed the role of patriarchy as a reproduction of modern labour power) (Fuchs, 2015: 241). As a result of all these views, Fuchs argues that today, wage, free, feudal, patriarchal and slave labour are used altogether, and all of these form the digital working class. Accordingly, the digital working class consists of the following components (Fuchs, 2015: 229-407): slave miners in the Democratic Republic of the Congo, who removed precious metals for ICT; assembly workers employed in inhuman conditions in Foxconn factory and similar workplaces producing semiconductors, peripherals and computers to major ICT companies in China, in particular. By Fuchs’s conceptualization, Tayloristic call center workers as an example of ‘housewifized’ service labour; software workers in software industries in developing countries, such as India, marketed to developed capitalist countries through body shopping or virtual migration mechanisms; high-skilled labour force working in Google-like companies in Silicon Valley and creating the most privileged part of digital workers, working in the same area but working in unhealthy poison-breathing environments and finally, social media sites, content, comments, tastes, sharing, such as movements are transformed into commodities, there are internet producers.

Fuchs’s concept of digital labour is the most important, but at the same time, his discussion mainly focuses on the internet producers (prosumer). According to this view, developed by Dallas Smythe’s audience labour / audience meta theory developed in the late 1970s, users started to become as productive as users and consumers thanks to the new communication tools based on Web 2.0. (Kıyan, 2016, pp.203-204). Users on social media platforms such as Facebook, Google, Baidu are not just those who consume information. These are also digital workers who produce profiles, content, connections, social relationships, networks and communities (Fuchs, 2015: 404). Accordingly, social media platforms, with the help of targeted advertising, content created by these producers, comments, likes, sharing, etc. it converts movements into commodities and produces a surplus-value from here. When the Internet generating commodity is sold to advertisers once, the commodity and surplus value are transformed into money capital. Moreover, because the producers do not pay any wages when producing this use
value, they are infinitely exploited because all the online time in commercial social media is the time of surplus labour (Fuchs, 2015, p.158). This view is criticized from different perspectives. Most of the cultural production in history is free, in this sense the internet labour is not exploited (Hesmondhalgh, 2010); the fact that free labour does not have the price of social labour in the social media, so that free labour cannot be the source of any value, where the realization of value takes place in the financial markets (Arvidsson and Colleoni, 2012, pp.135-150), the media owner hires the media to the industrial capitalist who is interested in accessing a viewer. what is a rant (Caraway, 2011, p. 701) is just a few of the criticisms brought to this theory.

9. Conclusion
It is a typical feature of our period in which capitalism attempts to commodify life through neoliberal policies by reversing the downward trend in the rate of profit. In addition, the developments in information and communication technologies in the last quarter century have presented the possibilities for digitalizing the production to the capitalism. As seen in the concept of Industry 4.0, digitalization in the production will accelerate in the coming years. Although the industrial production continues to exist, parallel to this digitalization, a new form of labour, the digital labour, has begun to emerge.

The scope and content of digital labour is controversial as it is a new form of labour. However, it is a fact that digital labour is also subject to exploitive relations and becomes increasingly widespread worldwide.

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PART II

DEVELOPMENT AND GROWTH STUDIES
1. Introduction

Human capital is defined as an investment in areas such as education, health, and on-the-job-training, it enhances productivity in the labor and non-labor market activities and has always been connected to economic development of a country. Evidence from developed countries experiences supporting education, health and training in promoting economic growth and development, promoted in the last two decades developing countries to investments in those areas as an engine of economic development. Following a peaceful secession from the Sudan through a referendum in January 2011, The Republic of South Sudan became the world’s newest nation and Africa’s 55th country on July 9, 2011. The new nation faces dual challenge of 50 years of war legacy and instability, alongside massive development needs. The country is very young with two-thirds of the population under the age of 30, literacy rate of 27% coupled with a significant gender disparities and several human development challenges. South Sudan remains relatively undeveloped and is the most oil-dependent country in the world, with oil accounting for almost the totality of exports, and around 60% of its gross domestic product (GDP). The labor force is extremely characterized by low levels of human capital. This shades light to the importance of literacy, skills training and other forms of education, especially for young workers. Nearly nine out of ten workers are without any qualification, while less than two percent possess post-secondary education. Education levels are higher among urban residents, among males and among the wealthy, but by far the largest share of even these groups have no education. Non-wage sector is found to host a large share of active population, and agriculture sector to be dominated with low-productivity employment. Since not so many studies were carried out in this area, this study aims to investigate the actual reality of human capital formation in the country and presenting evidence from previous studies demonstrating education’s contributions to economic development to promote investment in primary education and health in South Sudan if it wants to breakout and develop its economy.

2. Human Capital and Economic Development

When questioned about the primary determinants of economic development in an international perspective, a typical economist, or the World Bank, is more likely to point to the important aspect of human capital formation. Nowadays, human capital has emerged as a key component of research for economic development and growth. The theoretical and empirical advances reflect the profound increase of economist’s interest in human capital. A theoretical breakthrough emerged in models where schooling and training requires time and resource sacrifices to yield higher future earnings (Becker, 1964). Empirically, there has been great evidence that schooling and other forms of human capital increase earnings significantly (Mincer, 1974), implying that low levels of income in developing countries is partially caused by low levels of school attainment. Research on human capital has also been

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simplified by the development of longitudinal panel data sets on school attainment (Barro, 1993). Participants in this massive research effort have recognized a large range of questions, giving rise to rich and abundant sub-literatures. At the micro level, there is persisting interest in measuring the returns to education, because human-capital investments continue to be looked at as possible courses for individuals to escape poverty. Since returns to schooling seems to have a big significance in developing countries, as well as developed ones, this naturally leads to the question of the determinants of individual choices of schooling.

At the macro level these questions have counterparts, where scholars investigate the logic behind or the reasons for differences in schooling and other aspects of human capital across countries, as well as the implications of such diversities for differences in living standards. With many researchers looking at the macro level from different aspects they found that education as human development contributed to economic development with special attention on employment levels and education spending to reduce number of poverties in a country (Gherghina and Duca, 2013). With the examination of demographic transitions in population and its influence on the economic development in accordance with the human capital investment in health, life expectancy, fertility rate and mortality, another study found that, population has led to an increase in labor productivity particularly for countries that employ labor-intensive in production process (Tamura, 2006). On the other hand, another study focused on 40 countries in Africa, found that investing in human capital through education is the most important determinant of economic development. Where education enrolment has grown at all levels of education in the 20th century (Seetanah, 2009).

A study in the United States found a direct relation between the level of education and the economic performance of the country. Study outcomes shows that a higher education level, reveals that individual with a high human capital level is more likely to generate higher earnings to the citizens to cater for rising cost of living (Winters, 2011). Another study discussing the impact of economic growth on the living standards of the population in South American countries argues that there exists a strong and positive relation among the variables as it, reduces human capital depreciation and attracts population into having long life. That good health indicates the purchasing power of individuals as they can afford supplement and nutrition depending on their earnings. This leads workers to be able to work hard and increase productivity (Mayer, 2001).

Several problems arise when researchers try to estimate the real correlation between education and income. The discussion normally revolves around whether higher earnings gained by better educated or more-trained individuals (workers) are directly caused by their higher education or training, or whether workers with much greater earnings and ability opted to acquire more education or training. If the latter is true, then a simple estimation of the returns to education or training will be too huge, as they will be unable to differentiate between the separate contributions of education and training and will attribute them both to education and training. Contrary, training or education is a delicate variable when the population size is not large may result to errors in the study results.

It is almost a common knowledge that individuals with more education are more likely to earn more than individuals with less education. But according to researchers we ought to ask is how much better education is valuable? The answer seems to be is far more complex than expected, when talking about the differences between prices or wages given to poorly and highly educated worker researchers label it as “the return to education. “The term “return” derived from the philosophy that education is a choice. Individuals can and free to auction their labor services at the higher price, and that is only achieved through “investing” in their human capital.
Considering so many factors, different approaches and different estimation technique was taken by many studies. Even though almost all studies found a direct and strong correlation between the two variables, there still exists some ambiguity on the same matter. Research from different scholars reveals that every additional year on learning institution gives a learner a competitive advantage when it comes to the job market and also increases his or her earnings by almost 15%. This implies that individuals who spend more time in an institution have higher future earnings. Empirical results do propose, alongside the theoretical literature, that education give farther more important wage advantages to individuals. Majority of the early studies ignored things such as and measurement error bias ability, but the more recent literature has established much more emphasis on attempting to tackle these potential problems. The direct and indirect cost of education has been ignored by majority of studies of return on education is slightly complicated as it’s difficult to find the appropriate proxy for it. Scholars who embarked considered the direct and indirect costs of education also showed a positive rate of return (Behrman, 1990).

Studies on macroeconomic and microeconomic reveal the critical role played by education in the economy of a country. They show that earnings of an individual depend on the level of education attained. The case in less developed countries seem to be different as many high-income earners tend to come from technical science students. This is true in the agricultural sector where those with agricultural courses have higher farm produce as compared to those that lack training in that field. A research carried out in Asian countries reveals that the farmers with farming technical skills get high yields compared to their counterparts who lack those skills and at the same time they lack skills on how to operate machinery used in farming. Scholars from different countries suggest that education alone is not enough to transform the economy of a country as quality is more important than quantity; this is due to the fact that many graduates lack necessary skills to transform the economy of a country. Therefore, the aspect of developing human capital comes in hand. Education is only important where the graduates can apply the acquired skills to make policies that influence major sectors in the economy. Education is also vital to the country’s investment as the more educated individuals, the more investments and vice versa (Psacharopoulos, 1994).

Macroeconomic theories also view education as a vital tool towards a country’s growth and development. These theories emphasize that highly educated people are more likely to come up with new ways of performing tasks and boost innovation which acts as the catalyst for economic growth and boost output (Lucas, 1988). Other theories literate that education has a multiplier effect where not only the learned people benefit but also those who they supervise hence increasing national output. Education also has an impact on the balance of payment as increased national output increases the exports of a nation and reduces the number of imports as more products become available hence improving the balance of payments of a country. Education is even more vital to the less developed nations through the skills it impacts to its citizens who accordingly transfer those skills to the production and boosting the economy. These theories also state that education is also needed those less educated as it’s vital for them to perform effectively (Wood, 1994).

Improved and more upgraded education proved to have a positive response that relates to higher income equality, which, in the other side, is more likely to lead to higher growth rates. As many more individuals favor and seek education opportunities, low-income individuals are able and more likely to seek out economic benefits. A study done in 18 countries of Latin America in the 1980s based on the relation between schooling, income inequality and poverty found out that, one quarter of workers’ incomes variation was due to variations in school the level of academic qualification; it therefore concludes that education is the main factor in income distribution. Training is normally categorized separately from formal schooling and post schooling qualifications (which are more or
less viewed as education) in most empirical studies and is generally outlined in terms of designed courses to help individuals develop and acquire skills that can be useful in their jobs (Psacharopoulos, 1995).

The benefits accrued through acquiring education are numerous hence giving a reason for state and individuals to invest in it. The spillover effect comes where the benefits from the gains of education and boosts the economic growth of a country and benefits the society. Education has both public and social benefit and separating the two becomes a challenge to the scholars who try to find out the benefits that trickle down to each. The benefits of educated population in the society are clear as educated people usually contribute to the national matters. National productivity also improves tremendously as educated people have positive externalities not only to the firms they are employed in but also to other co-workers who are less educated. Numerous studies support the importance of education to the society, but many are unable to pinpoint the exact benefit to the society. Many studies point out the net benefits of education rather than net benefits and those that are specific to education. The best examples of positive externalities come from both macro and microeconomic approximates. Many studies suggest that positive externalities are higher to the private sector than the social. Both the empirical and theoretical literature available cannot ascertain the exact benefits that emanate from education (Blundell and the others, 1999).

3. Basic Education and Economic Development

Scholars have reiterated that there exists an association between education and economic development. Most of the researches carried out have been comparing the level of education and economic development in various countries around the world. Many countries compare the educations levels with the development where the results have revealed a positive link exists between the two. Countries with low levels of educations are associated with low technological progress which leads to low levels of economic growth and development as compared to countries with high literacy rates. This reveals a need for a country to invest in education especially in technical areas to increase its national output. Educated employees have the capability to increase output due to the skills they possess. It will further lead to innovation in the workforce. This statement reveals that countries with highly educated citizens have a high rate of technological advancement. On the hand, countries with low levels of education are associated with low levels of production as well as high importation especially on technological products.

Secondly, low education levels prohibit a nation from incorporating with other states. Education differentials in various countries show the gap that exists in the world in technological and economic advancement. This notion contravenes with the earlier statement that education has a direct link to employment. Education therefore becomes a vital tool in uniting people around the world. A good example is how trade has between different countries has improved due to more educated population especially in this century where majority of population have high literacy levels. The studies also reveal that education is vital in citizen participation in national issues especially those pertaining to making of national laws. Many small countries lack economic autonomy because as the population reduces, the ratio of educated population also decreases (Sen, 1996).

Education is viewed as the only tool that can improve economic performance of less developed countries and move them form low income earning countries to a middle-income earner through gaining of skills by its citizens. This will improve the national output as the trained population will train others hence improving the national output in less developed nations. This varies with the level the skill is being applied whether in simple or advanced state. That kind of training need to be as simple as possible for it to be transmitted to others with eased. A society with educated population not only gains economically but also socially as more educated population is easy to adapt
to any changes brought about by technological progress and other economic transformation. In the traditional settings the family where, one hailed from was the vital factor to economic progression but that changed when education was introduced as an educated person has a higher probability of making it in life than an educated person. However, there is a new wave of youth breaking away from the norm and emphasizing education doesn’t determine how successful a person may become but it all depends on how smart an individual is (Dore, 1984).

There are many positive externalities associated with education like improved mortality rate among the population, reduced infant mortality, national output among other things due to more educated citizens. However, as we’ve already seen in the above statements there are numerous benefits associated to education, many of the benefits are unquantifiable and therefore cannot be pinpointed to education as many studies have revealed. There exist various factors which may lead to the unrealized results of education on development. Sometimes it becomes very difficult to know whether there exists an association linking the two phenomena. There is not enough evidence that education increases national output or leads to development due to lack of data to support this. However, many studies emphasize on the benefits education has to the society, but it cannot pin it down to a specific sector (Pepper, 1996).

4. Economic Characteristics of South Sudan

South Sudan economy is a fragile and underdeveloped one, as expected the macroeconomic management experiences of the country is limited. Since its independence the country had made massive efforts to push the wheel of development that allowed a short term robust of economic growth, but the existing political instabilities is threatening the sustainability of those efforts. With South Sudan suspending oil production for 15 months because of its dispute with Sudan over transshipment fees, the suspension had a devastating impact on GDP, which declined by 48% in 2012. In 2013, there was a substantial recovery with the resumption of oil, GDP grew by 30%. It was estimated at $14.94 billion and $20.88 billion in 2016 (http://www.theodora.com/wfbcurrent/south_sudan/south_sudan_economy.html).

Crude oil contributes about three quarter of the country’s GDP, most of the economic activities emanate from the sector either directly or indirectly. The sector also contributes directly or indirect to the other sectors of the economy by about 50 percent. Overreliance on the sector has resulted to high fluctuations of the country’s GDP due to the frequent changes in global oil prices. Many analysts have predicted drop in oil prices across the world in the future and this will worsen the current situation in the economy of the newly formed state. The country is currently making policies which will help in diversification to other sectors and reliance on the sector to avoid the catastrophe which may occur in the event the reserves will be exhausted. The sector which is focused on shifting to is the Agricultural sector which will not only diversify the economy but also bring food security to the country which is frequently struck by hunger. The country’s GDP per capita reduced by 50 percent from the year 2011 to 2016. However, the statistics from IMF show that the country has a higher income per capita compared to others in the Eastern region.
Oil production is highest in the country compared to its neighbors who have invested heavily on other sectors especially in the service industry. The situation is worsened by the recent ethnic conflicts which have hampered the microeconomic factors in the country such as employment, price levels, poverty eradication among others which has resulted in massive immigration of its citizens to the neighboring countries making the country a burden to its neighbors. Despite the fact that the GDP of the country is dominated by the petroleum sector, agriculture is the second highest contributor of the country’s GDP. The agricultural sector can become the backbone of the country’s economy due to the factors such as the natural forests, livestock due to the nomadic culture of most of its population and vast land for farming and irrigation. These factors have really encouraged the country to embark on faming to curb the issue of hunger.

The importance of the sector cannot be over emphasized due to the role it plays in the economic growth of nation around the world and as a tool of poverty eradication. Only 10 percent of the total population is not involved in cultivation while less than 30 percent do not own livestock. Food consumption amounts to 80 percent of the total expenditure of each household where the high proportion being spent by people in the rural areas. Since the referendum which made the country an independent nation from north Sudan, the country has embarked on agriculture which is viewed as the only long-term solution to eradicate poverty and provide food security in the country. The mandate of developing agriculture in the country has been hand over to the ministry of agriculture whose mandate is to improve and develop the agricultural sector in the country. The ministry however comes under various challenges from many of its population who carry out agricultural activities in a traditional manner and it becomes very difficult to change their mindset (FAO, 2007).

Industry and infrastructure in landlocked South Sudan are severely underdeveloped and poverty is widespread. Therefore, South Sudan finds itself with relatively poor primary conditions for private sector development and a need to work out policies which will introduce entrepreneurial and ultimately technological liveliness in the region. The country also has vast mineral deposits other than the oil exploration which contributes the highest percentage of majority of their GDP. The available data reveal that as at 2010, less than 300 businesses were
registered in the country and about 60 percent were in the manufacturing industry. Those statistics indicate that the country is lagging as the country didn’t have a single registered business in the agricultural sector. There have been numerous ore discoveries in the country though it has not been established yet whether they are commercial or not. There have been recent discoveries of Gold in South Sudan near its borders to Ethiopia. Diamonds have also been discovered on the northern side of the country as well as deposit of limestone on the central region of the country. As compared to other countries in the region, its manufacturing sector presents a meager 3 percent of the total number as to those of its neighbors. This reveals low production in the state hence the high volume of imports from its neighbors Kenya and Ethiopia. There are few businesses doing well in the country especially those producing alcohol hence need to encourage investment in the country (ADB, 2013). Aggregate labor market indicators accentuate several obstacles and challenges facing the labor market in South Sudan. South Sudan portrayed very high rates of child labor, high rates of youth unemployment and low levels of education participation, even for the 10-14- and 15-24-years age associates. Non-wage sector is found to host a large share of active population, and agriculture sector to be dominated with low-productivity employment. 75 percent of the total populations who have reached the majority age are active in the labor force. The figure reveals that the total number of unemployed populations in the country accounts for almost 15 percent. While the unemployed rate in the country is among the lowest in the sub-Saharan Africa, very few employees continue with their studies or attend seminars and training accounting for less than ten percent. Majority of the inactive population is comprised of the schooling workers who contribute high percentage in the discouraged employees accounting for 30 percent. The remaining 70 percent of the inactive employees are neither schooling nor seeking jobs. The high percentage of the inactive employees indicates that unemployment is a challenge facing the newly formed state in Africa and in the world (Guarcello, 2011).

Out of the total population of the employed population, 80 % are not well remunerated due various factors such especially in the agricultural sector where farm produce is not constant. Despite the challenges of poor remuneration in the agricultural sector, about 70 percent of jobs come from the sector. Those doing subsistence farming account for three quarter of the total population working in the sector hence the high number of low remunerations in the sector. The other factor is, only small percentage of the population prefers white-collar jobs accounting for less than 20 percent of the employed population. These statistics are usually influenced by the fact that majority of the population live in the rural areas representing over 80 percent of the total population while those living in urban area account for less than 10 percent. As the figure above reveals, employment and remuneration contrasts depending on the sector with the agriculture sector being the worst paying (Guarcello, 2011). About 15 percent of the population are unemployed but this figure is escalated by the high number of individuals who are inactive in job seeking hence forming a group known as discouraged workers. This rate rises due to consideration of the discouraged workers. Majority of this group of discouraged workers don’t know how to apply and attend interviews hence remaining unemployed for longer period. Majority of the discouraged employees come from the internally displaced people who return the situation calm down.
The human capital in this state is low. This implies the country is still lagging behind in terms of skills among the young employees who graduate without the necessary skills to succeed in the job market. About 90 percent of the population is post-primary graduates while only 10 percent have college qualifications. More literate population is concentrated at the urban areas as compared to the rural areas where many people live nomadic lives hence making it difficult for them to get education. The literacy rates also vary with regions with the central region producing many educated people as shown in the figure above.

5. Education System in South Sudan

After the country became independent in the year 2010, it continued with the education system of the Republic of Sudan. The system has been practiced for over two decades and it’s known as the 1990. The official language of the leaning institution as well as the country itself there is a challenge of implementing English as the official language as it’s an Arabic speaking nation and therefore there is an acute shortage of English teachers. The 2012 report revealed that over 70 percent of population lack reading and writing skills. It further revealed that literacy rate is higher among the male population than the female. The UNICEF (2016) report shows that school dropout is higher among the female students who drop out of school to get married to older men. The report further reveals that only 3 percent of female students finish their o-level education. The status of education in South Sudan is wanting and therefore needs reforms. The primary education system was introduced to the republic of Sudan with an estimated number of institutions totaling 800. Many of these institutions were destroyed during the political instability that rocked the country in the early 80’s. This really hampered the learning in the country as the teachers were among the people who fled the country to seek asylum in the neighboring countries. To restore the status of the learning in the country, the national government made education for all pupils in the primary schools.

This is the continuation from the primary level. Students are introduced to science subjects. Their average age ranges between 13 to 20 years, however many do not accomplish their studies due to various reasons like early marriages among the girls and absenteeism among the boys as many are attain the age where they can now become morals. From the secondary education one moves to the college or a university depending on their qualification
on the 12th grade. There are few institutions which can accommodate all the students graduating from secondary schools hence many do not progress with schooling after the 12th grade. Like many African states, many graduates aim to only attain a certificate and not gain the necessary skills needed for the job market and the outside world. There is excess demand for technical graduates who are needed to foster the country’s infrastructure and boost economic growth in various sectors of the economy. This is also contributed by the fact that many institutions do not offer technical education.

There has been a shift in the mentality of the south Sudanese mentality from their traditional and nomadic culture and they have putting more effort in the education of their children hence increased enrolment in these institutions especially after the national government promise free education to all students in primary schools. Many of the school drop cases are in the rural areas as compared to the urban areas due to the country nomadic ways where they move from place to place in search for pastures for their livestock hence increasing the number of school drop outs in the rural areas. This has posed a serious threat to the economy of the country. Majority of primary school attendants are due to the government subsidies in the sector as revealed in the figure below (World Bank, 2012):

- National Government provides free primary education to all students,
- Some private schools headed by private entities are also subsidized by the national government,
- There are those schools privately funded by individuals and these institutions only attend children from good backgrounds,
- There are also those headed and funded by communities such as churches,
- There are also international Non-governmental organizations without the national government help.

Chart 3. Primary Schools by Ownership and Funding (2009)

The situation in the country is that, 73 percent of the adult population is illiterate while that of the children aged below 18 years is illiterate. Dropouts is rampant such that out of the total number of enrolled students in the primary schools, only less than 15 percent complete the primary level with the highest number of school dropouts being those of girls. The figure below shows the trends of school dropouts since grade one till completion in primary level. Very few institutions in South Sudan offer the full curriculum from the first grade to the last.
Many reports have been published as to why many pupils are dropping out of school. The questionnaires are structured in a way to capture all important information regarding the matter and directed to the stakeholders like the children parents and guardians (Sudan National Bureau of Statistics, 2010). The results revealed different factors as the reasons for school dropouts among the rural children is different from the urban children. The rural children cited proximity to schools as the reason for their dropout while the urban population cited the cost of education as the main reason for children dropout.

### Chart 4. Primary School Dropout Rate by Grade and Gender (2011)

![Chart 4](image)

Source: EMIS, 2011

The cost to education is high on high school education as the government has subsidized primary education in the country. Many parents cited that they can't afford to take their children to pre-school education and results on the number of children attending pre-school education is severely low with less than 50,000 children attending pre-primary school in the whole nation. There has been an influx in the learning institutions especially with more and more refugees who fled home due to civil war which rocked the country for nearly two decades returning home after peace was restored in the country. The already few learning institutions must accommodate the high number of students making the situation even worse.

South Sudan’s “learning infrastructure” still has a long way to go. Classrooms are overcrowded, and some children even don’t have access to permeant classrooms. In addition, there is an inadequate provision of textbooks, where students must share books in some occasions. On the other hand, teachers don’t have the required training to effectively teach. Some of the teachers have secondary certificates and are teaching in secondary schools with no additional training. This has contributed to fact that many class eight children cannot pass a class three exams. The teacher to student ratio is very ration but the situation has improved over the last decade with over 30,000 new staff being employed but still the ratio remains low as the enrollment is increasing at a very high rate (UN, 2013).

Gender inequalities exist in this teaching profession as the profession is dominated by male gender. In 2010, the percentage of female teachers in the primary schools stood at 15% and it slightly declined in the year 2011 to 13 percent. The fact that there is gender inequality in the teaching profession has affected the number of girls enrollment to secondary schools in the region. Teacher/student ratio has been steadily increasing over time as it currently stands at 52:1 -which is the highest in the East African community and one of the highest in sub-Saharan Africa. The ratio varies with the states with the Western and central states having the better teacher/student ratios which stands at 55:1 and 100:1 respectively. The eastern states have the lowest ratios with 151:1. Shortage of
qualified teachers has also hampered the learning process in the country as most of the teachers don't have the qualifications to teach (EMIS, 2011).

The challenge facing the country is that of the qualified teachers. Data show that about 30 percent of the teachers have primary qualification, a fifth of the number of teachers possess a high school qualification while the rest is unknown. The country has literate that the only way to improve this situation is through seminars and training for the teachers. The data also reveal that 80 percent of the teachers in high school are not professionals in this profession. Teacher qualification varies with state with the eastern state having low number of the qualified teachers (EMIS, 2011).

After the referendum was held and the country became an independent state, the government invested a lot of resources in the sector reaching an all-time high, but the resources directed towards the sector declined tremendously after the newly formed state started experiencing political instability. The resources are also constrained due to the fact there has been an increasing number of schools enrollment over the last decade. The sector is allocated about 7 percent of the total national budget in every financial year, but the proportion has remained constant over the years making operations in the sector difficult. The proportion in which the budget is allocated to various levels of education also varies with about 60 percent going to primary education and the remainder to secondary, colleges and tertiary institutions (World Bank, 2012). The country has embarked on promoting education as they view it as the only tool to bring peace and reconciliation to the nation that has been involved in the war for over two decades. Education will also interact with other students from various ethnic communities across the nation which will end these ethnic conflicts experienced in the newest state in the world (https://www.unicef.org/southsudan/education_Education_issue.html).

6. Primary Education and Development in South Sudan

Despite increases in school enrolment over the past few years, South Sudan's education indicators remain among the worst in the world. But before exploring the causes and effects of the country's expenditure on primary education for general development, a little examination is in order to define primary education's contribution to development. The country has been showing positive growth in the enrollment rate since its independence. With support of international organizations, the country recorded one of the world's fastest reconstruction programs a
study report. Between (2006 –2009) primary school enrollment more than doubled from 700,000 to 1.6 million. Thus, the number more than doubled in 4 years. This substantial growth in schooling places Southern Sudan in a small group of post-conflict countries. For example, in Mozambique, after the 25-year civil conflict ended in 1997, enrollment expanded from 1.4 million in 1999 to 4.2 million in 2008, tripling in 9 years. In Sierra Leone, where civil war ended in 2001, enrollment expanded from 554,000 in 2001 to 1.3 million in 2007, more than doubling in 6 years. Post-conflict enrollment growth is not always rapid: in Liberia, the number of pupils has remained fairly constant since its civil conflict ended (UNICEF, 2016).

Programs introduced to strengthen basic education in rural areas in South Sudan, such as Community Girl Schools (CGS) provides quality basic education for girls aged 8-12 in villages that have no schools. The program covers the lower cycle of primary education in three years with girls enrolling in primary 5 in nearby primary schools. Although priority is given to girls, boys can make up 30% of the classes. These initiatives have produced a youthful and a more gender diverse but low capacity labor force. With the current low productivity and investment levels, the greatest potential for initial new growth is likely to be from the small-scale private, predominantly family, agriculture and livestock sectors. However, much rural sector activity is currently focused on low input – low output subsistence agriculture instead of production for markets. Rural-Urban migration mostly inspired by employment possibilities in big cities. Since 88.9% the labor market of the country is majorly dominated by less than primary education holders, a basic education individual is likely to have better chances in the urban labor market than the former. Therefore, a primary school designed to mold the local conditions of certain areas, for instance an agricultural oriented educational system, can benefit local communities in South Sudan and reduces migration to urban cities. In addition, primary education holder's chance of making greater income is reduced due to foreign employee's presence, especially in big cities. Where most effective labor force are hired from neighboring countries because of the low level of education in the country. Therefore, Curriculums designed to fit rural mold will discourage migration to urban areas, in addition this will promote basic education completion and interest in pursuing higher levels of education (UNICEF, 2016).

South Sudan begun to invest particularly in health and primary education in the years following the 2005 Comprehensive Peace Agreement, to boast economic growth. However, resent conflict and political tensions have negatively impacted all health system components. In the health sector, initiatives such as The Health Sector Development Plan (HSDP) were introduced to help transform the health care system in the country. However, majority of the population still have very poor access to health care. Since health has direct effect on the productivity of a worker, this justifies the urgent need to push more towards investment in this sector. A longer lifespan increases the need to generate retirement income, a shorter one is not likely to. Evidence from developed countries points out that saving for retirement generates investment funds. Therefore, higher life expectancy rates in developing countries can lead to investment boom.
7. Conclusion

The broad objective of this study is to examine the role of primary education in human capital formation and economic development in South Sudan. It has been argued that investment in human capital through education, health and training is likely to spur economic and social development in any country set out to change its economy. Under certain conditions, investment in human capital through education, health and training could serve to increase individual’s earning and productivity, for increased knowledge and skill will yield improved economic outcomes for both individuals and societies. Therefore, in developing countries investment in primary education is one of the strongest and most often used economic arguments based upon the concept of human capital. This study therefore arises out of concerns to understand how investment in education and health affects economic development process in South Sudan with emphasis on primary education influence in promoting learning and capability building of workers.

As seen there are several issues that may hinder the smooth interaction between human capital and economic development. Inadequate investment in education and health are clearly not the only cause of the country’s economic difficulties. However, the poor health and education of South Sudan’s workers is one factor explaining its low income. Therefore, the absence of direct and positive relationship between primary education and indicators of social and economic development in South Sudan shouldn’t be taken as a negative commentary on basic education value and importance. Empirical evidence from other developing countries suggests that expansion of primary education does have a positive influence. The real question for the country is not whether and how much basic education is necessary, but how to enhance the beneficial consequences of basic education in specific circumstances. With many issues hindering human capital involvement in the economic development of the country, inadequate investment in education and health stands out as the major cause of the country’s economic difficulties. Therefore, a literate, educated and healthy population is a major requirement for successful and sustainable development. Including social equity principles in the center of the development agenda, South Sudan will have the opportunity to do things differently. The main strategic choices that the country need to consider are the following factors;
The decline in the national education budget is hindering country’s free education plan, this combined with economic barriers especially at the household level leads to drop-outs as children are forced to contribute in household economies, or families become unable to send children to school due to high school fees. In addition, facility development and teacher payment is affected negatively. Therefore, balance provision between access to education services and the quality of those education services is an important factor in human capital and economic development.

Political conflict and instability are negatively affecting education spread. Hence, not only visible features of conflict and disaster should be addressed both within the education policy framework, alleviation measures should also be integrated within all of education planning aspects and delivery.

For medium term goals attainment, prioritizing programs and presenting them in order is beneficial. For example, inadequate numbers of qualified teachers – especially female role models – and other human resource limitations; inadequate physical facilities and infrastructure of schools, and teaching materials…etc.

Education improvement plans should be flexible to allow for short-term major interventions without negative impact on the long-term education outcomes. For example, making it possible for overage children and youth to enroll in primary school and elimination of psycho-social barriers such as age-lapse among the pupils can increase the outcome possibility of basic education completion and promote secondary and higher education attainment.

Promotion of gender equality and increasing girl’s enrolment rates in primary education and building plans to eradicate negative cultural barriers that is primarily driven by traditions, such as girls-child early marriages. Also, initiation of educational program to prevent sexual harassment and early pregnancy in schools.

Development and implementation of creative education programs to accommodate the most disadvantaged and improve the quality of their lives and promote lifelong learning.

Development of new initiative to allow people living in rural communities to easily access health services. Eighty-three per cent of the estimated 12.3 million population of South Sudan live in rural settings in communities’ Communicable diseases are a leading cause of mortality and morbidity in South Sudan.

Finally, the government should ensure that basic education and health planning and implementation are equitable and are driven by the different needs between and within states; and that the most disadvantaged and underserved areas should be prioritized.

References


https://www.unicef.org/southsudan/education_Education_issue.html

THE RELATIONSHIP BETWEEN EXTERNAL DEBT AND ECONOMIC GROWTH IN TURKEY

Aylin İDİKUT ÖZPENCE

1. Introduction

One of the most important problems of developing countries is the saving deficit which is one of the obstacles to economic growth. In order to close the deficits developing countries will either attract foreign capital or take to external borrowing. Another problem is to finance public expenditures. Because public revenues in these countries are less than public expenditures. Developing countries to finance public expenditures need to increase tax revenues, borrowing and total supply of money. In addition, the existence of budget deficits requires borrowing to be effectively used as a fiscal policy instrument.

Different effects occur because of borrowing. These effects can be changed depending on the source, the sector and term of borrowing. Generally, in results of econometric studies the negative or positive relationship between external debt and economic growth is due to these effects. Namely, econometric results are unclear. Additionally, there is no consensus on the impact of external debts on economic growth. Different opinions are put forward by academicians and policy-makers on this dilemma. Some argue that external debts are positively influential on economic growth because external debts provide to entry money to the country. In other words, the expenditures required for economic growth along with capital inflows are carried out. As we know developing countries such as Turkey want to be integrated into the developed markets. If external debts are used in high added value investment there are also developments in issues such as technology, specialization and market knowledge.

Turkish economy took by deep wounds from the impact of the coup in 1980. After coup, privatization initiatives begun with Özal government in 1982. The process of liberalization of goods and services was experienced between 1980 and 1990. 24 January 1980 Economic Stability Program implemented in that term. Medium and long term public external debts in rose from percentage 70 to 78, while medium and long term private external debts decreased percentage from 8 to 6.7.

1980-1990 period is the process of liberalization of goods movements. The most important in the development of external debts in the period under review was the process of treasury’s limitation of foreign debt to foreign debt service in 1989. Thus, the external debt / GNP ratio decreased from 52 in 1989 to 44.5 percent in 1990 (Ulusoy, 2012, p. 187). 1990-2000 period is the process of full liberalization in goods and capital movements. In this period there was a continuous increase in the external debt accumulation. In 1994 a crisis occurred, and April 5 decisions were taken. Due to the recession in the world economy, borrowing costs increased because of the crisis in South East Asia and Russia. Therefore, owing to Turkey’s debt service and current account deficits, the debt burden became heavier. The ratio of public external debts to GNP in rose from percentage 28 to 31 in the period from 1996 to 2000, but private debts more increased percentage from 5.83 to 14.5.

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During 2000s, Turkey has struggled with crises arising from the banking sector. Structural reforms were carried out in the banking sector with the Transition to the Strong Economy Program. The Emergency Action Plan was then implemented. The plan covers a number of structural reforms such as privatization tax reforms.

The ratio of total external debts to GDP fell from 56.2 percent in 2002 to 37.3 percent in 2008 and increased again to 43.6 percent in 2009. Recently in the rise of this ratio has been affected by the 2008 global financial crisis. The 2008 global financial crisis had an impact on the rise in this ratio. The end of monetary expansionary along with the crisis increased the external debt costs. Economic and political uncertainties in the world economy require developing countries such as Turkey to reconsider their borrowing policies. In this period external debts were 39.8 percent and 52.7 percent respectively in 2010 and 2018. Despite these issues Turkey’s debt burden is appropriate to the Maastricht Criteria.

Turkey pursued the budget deficit-based on growth policy until 2001 and policies aimed at increasing the public investments accordingly. After 2001, under IMF stabilization programs (Transition to Strong Economy and Emergency Action Plan), the current account deficit-based on growth policy and private investments were targeted to increase. Therefore, today the external debt of the private market is more than the public external debt.

Emerging markets such as Turkey tend to increase their investments and savings to realize the targets of sustainable economic growth. As internal sources are inadequate to put determined the targets into practise, the necessity of using external resources is inevitable. In this context, this study investigates that the relationship between external debt and economic growth in Turkey.

One of the main motivations of our study is to complete in addition to previous studies econometric methodology which relations external debt and economic growth in Turkey. Various studies investigate the relationship between external debt and economic growth.

The study is organized as follows, section one is introduction of the study. Section two presents a review of the theoretical and empirical literatures on the relationship between external debts and economic growth. Section three provides information about data and econometric method, section four gives the results econometric analysis of the study, last section is the conclusions and gives recommendations to policy makers’ implements.

2. Theoretical Framework and Literature Review

Empirical observations on the effect of external debt on economic growth show of this effect either negatively or positively and some no significant.

If external debts are used to finance investments in developing countries, they may affect economic growth positively. This positive effect may continue if macroeconomic stability is achieved and no external shock is experienced. Thus, debt service will not be a problem. However, the debt stock also has a threshold value. If this threshold is exceeded domestic and foreign investments may be subject to crowding out effect. Using time series data of Kenya over the period 1970-1995, Were (2001) find that the stock of the external debt has a negatively effect on economic growth and crowding effects on private investment. Most of the debt accumulation belongs to the public, but debt services have no negative effect on growth.
The debt overhang hypothesis (Krugman, 1988) which is defined as the problem of external debt repayment is that the income of the country is less than the debt payments although the country is willing to pay. If the stock of debt increases the amount of investment will reduce in the country. Because investors expect an increase in the tax burden on investments due to the increase the stock of the external debt.

There are many econometric studies that support the debt overhang hypothesis. Cholifihani (2008) find that the existence of a debt overhang problem in long term and as increasing the public external debt services decrease economic growth in Indonesia. On the contrary there is no such relationship in the short term. Labour force and capital stock are positively affected on economic growth in long term. A similar result finds for South Saharan Africa (Iyoah, 1999) but is statistically insignificant (Maghyereh et al. 2003). Ali and Mustafa (2013) assess that the short term and long-term impact of external debt on economic growth through using time series data over the period 1970-2010 in Pakistan. They find that external debt has a negative impact on economic growth for both short term and long term. In other words, the analyses results corroborate that Pakistan economy has debt overhang problem. Labour force has a negatively impact on Gross National Product (GNP) for both term while in short term effect is as statistically insignificant. Yeasmin and Chowdhury (2014) examine the relationship of external debt and economic growth and also using the ARDL model for the period 1972-2010 in Bangladesh. They conclude that the significant adverse impact of debt on growth and debt service slows the GDP.

Cunningham (1993) studies the effect of debt burden on economic growth in sixteen heavily indebted nations during the 1971-1987. He finds that debt burden has negative effect on economic growth for the period 1970-1979. Shah and Pervin (2012) investigate to same effect for Bangladesh economy during the 1974 to 2010 periods. They find that external public debt service has significant negative effect on economic growth in long run, but public debt stock has positive effect. Therefore, debt service leads to crowding out effect on Bangladesh economy.

Positive effects are associated with growth-cum-debt model. According to this theory economic growth should be provided through external sources as the internal resources are less in the developing countries. What the important thing is the use of borrowings in productive areas. Thus, economic growth will be positively affected as there will be no problems in external debt services.

According to Bhatta (2003) external debt is one of the basic sources for Nepal economy. He investigates for the 1979-2001 period for the economic growth and debt burden in Nepal. The ordinary least square (OLS) method results show that external debt positively effects on economic growth. Boboye and Eje (2012), in their paper estimate the effect of external debt on economic growth of Nigeria using OLS method and find same result. Abu Bakar and Hassan (2008) assess the impact of external debt in neoclassic growth models and find positive relation as well. They reveal that the 1 percent increase in total external debt increase economic growth by 1.29 percent in the long run. Erhieyovwe and Onowwoakpoma (2013) find that external debt burden has a positive relationship with economic growth for Nigerian economy, whereas Ogunmuyiwa (2011) does not find a causality.

Hasan and Butt (2008) investigate the determinants of economic growth for Pakistan between from 1975 to 2005, analysing data to Auto Regressive Distributed Lag (ARDL) approach to co-integration. According to the results of this study external debt has not affect on economic growth both short run and long run because external debt is managed by Pakistan government in unproductive fields.
A number of studies have looked at the relationship between external debt and economic growth for Turkey. In this respect, Umutlu et al. (2011) study the relationship between the domestic debt, external debt and economic growth for Turkey using OLS method and emphasise that the external debt positively affects the economic growth while domestic debts have a negative effect. External debts support the Growth-Cum-Debt Hypothesis. However, Uysal et al. (2009), Çelik and Direkçi (2013), Aysu and Bilginoğlu (2008) find that external debt has negative influence on economic growth. Aysu and Bilginoğlu (2008) suggest that there is debt overhang dilemma in Turkey.

Karagöl (2002) assesses relationship between debt service and GNP for Turkey between from 1956-1996, analysing multivariate co-integration techniques. The study reveals that there is a negative relationship debt service and GNP in the short run. In addition to according to VAR results there is a one-way co-integration relationship in the long run. Granger causality results assert that debt service is a significant factor of GNP. In his opinion external debts are allocated incorrectly or used in consumption. Gürbüz et al. (2007) research whether public debt is sustainable in Turkey. In line with issue of the sustainability of Turkish public debt, Gürbüz et al. (2007) emphasize that it is not a definitive determinant of unsustainability. Inflation, economic stability and increased public expenditure problems are some of these determinants and these problems can be solved through effective and neutral fiscal policies. Yaarşır Tülümce and Yavuz (2017) investigate relationship between total public debt and economic growth for Turkey. According to findings from the ARDL and VAR model, external debt affects negatively economic growth.

3. Econometric Method

Adapted from the Cunningham (1993), Karagöl (2002), Shah and Pervin (2012), we used standard production function, applying VAR analysis with data covering the period 1987-2018. The sources for data are World Bank data base and TurkStat.

Cunningham (1993) added the debt burden to the standard production function. Thus, the relationship between debt burden and labour and capital accumulation especially its impact on growth can be measured.

\[ Y = f (K, L, DB) \]
\[ Y = GDP \text{ growth}, K = \text{Capital}, L = \text{Labour}, DB = \text{Debt burden} \]

Shah and Pervin (2012) used external public debt to GDP and total public debt service to foreign exchange earning to represent external debt burden. Following Shah and Pervin (2012), in this study the debt burden is separate into the ratio of total gross external debt stock to GDP and the ratio of total external debt service to total exports of goods, services and primary income.

\[ \text{GDP} = \text{Gross domestic product growth} \]
\[ \text{GCF} = \text{Gross capital formation annual % growth} \]
\[ \text{LFPR} = \text{Labour force participation rate}, (\% \text{ of total population ages 15-64}) \]
\[ \text{EDGDP} = \text{the ratio of total gross external debt stock to GDP} \]
\[ \text{EDSEXP} = \text{the ratio of total external debt service to total exports of goods, services and primary income} \]
The method used in the study is the VAR model developed by Sims (1972, 1980). The VAR model, which examines all variables without considering any constraints or pre-assumptions on the model, examines the relations of series with each other. The analysis investigates the dynamic effects of random shocks on other variables in the series. Before performing VAR analysis, it should be determined whether the series included in the analysis are stationary. The VAR analysis performed with the series that are tested for stationarity is an empirical method that shows the effects of the variables used on each other.

The stationary states of the series are used in the VAR model. However, the levels of the series are not to be necessarily the same. According to the results of unit root tests, the GDP and GCF variables are in level and other variables are at first difference in the analysis. In this study the VAR model for empirical analysis is formulated as follows;

\[
GDP_t = a_0 + \sum_{p=1}^{k} \beta_{1p} GDP_{t-p} + \sum_{p=1}^{k} \gamma_{1p} LFPR_{t-p} + \sum_{p=1}^{k} \delta_{1p} EDGDP_{t-p} + \sum_{p=1}^{k} \mu_{1p} EDSEXp_{t-p} + \sum_{p=1}^{k} \tau_{1p} GDR_{t-p} + \epsilon_{1t}
\]

\[
GCF_t = a_0 + \sum_{p=1}^{k} \sigma_{2p} GDR_{t-p} + \sum_{p=1}^{k} \alpha_{2p} LFPR_{t-p} + \sum_{p=1}^{k} \beta_{2p} EDGDP_{t-p} + \sum_{p=1}^{k} \mu_{2p} EDSEXp_{t-p} + \sum_{p=1}^{k} \tau_{2p} GCF_{t-p} + \epsilon_{2t}
\]

\[
\Delta LFPR_t = a_0 + \sum_{p=1}^{k} \sigma_{3p} GDR_{t-p} + \sum_{p=1}^{k} \beta_{3p} GDP_{t-p} + \sum_{p=1}^{k} \delta_{3p} EDGDP_{t-p} + \sum_{p=1}^{k} \mu_{3p} EDSEXp_{t-p} + \sum_{p=1}^{k} \tau_{3p} LFPR_{t-p} + \epsilon_{3t}
\]

\[
\Delta EDGDP_t = a_0 + \sum_{p=1}^{k} \sigma_{4p} GDR_{t-p} + \sum_{p=1}^{k} \beta_{4p} GDP_{t-p} + \sum_{p=1}^{k} \delta_{4p} EDGDP_{t-p} + \sum_{p=1}^{k} \mu_{4p} EDSEXp_{t-p} + \delta_{4t}
\]

\[
\Delta EDSEXp_t = a_0 + \sum_{p=1}^{k} \sigma_{5p} GDR_{t-p} + \sum_{p=1}^{k} \beta_{5p} GDP_{t-p} + \sum_{p=1}^{k} \delta_{5p} EDGDP_{t-p} + \sum_{p=1}^{k} \mu_{5p} EDSEXp_{t-p} + \epsilon_{5t}
\]

The descriptive statistics of the variables before creating the VAR model are shown in Table 1.

<table>
<thead>
<tr>
<th>Statistics / Variables</th>
<th>GDP</th>
<th>GCF</th>
<th>LFPR</th>
<th>EDGDP</th>
<th>EDSEXp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.715</td>
<td>7.598</td>
<td>53.518</td>
<td>38.959</td>
<td>33.793</td>
</tr>
<tr>
<td>Median</td>
<td>5.000</td>
<td>10.694</td>
<td>54.130</td>
<td>38.050</td>
<td>33.949</td>
</tr>
<tr>
<td>Maximum</td>
<td>9.400</td>
<td>35.506</td>
<td>59.789</td>
<td>57.600</td>
<td>48.534</td>
</tr>
<tr>
<td>Minimum</td>
<td>-5.700</td>
<td>-32.969</td>
<td>48.491</td>
<td>26.117</td>
<td>22.297</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.977</td>
<td>-0.717</td>
<td>0.142</td>
<td>0.473</td>
<td>0.134</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.017</td>
<td>2.998</td>
<td>2.032</td>
<td>2.931</td>
<td>2.652</td>
</tr>
<tr>
<td>Jarquera Bera</td>
<td>4.462</td>
<td>2.401</td>
<td>2.0324</td>
<td>1.050</td>
<td>0.225</td>
</tr>
</tbody>
</table>
Table 1 shows the descriptive statistics of the variables. According to Skewness coefficient, GDP and GCF variables extended towards the right side more, they denote positive skewness while LFPR, EDGDP and EDSEX variables are stretched more towards the left direction, then they denote negative skewness. Kurtosis results show that variables are normal distribution.

4. Results and Discuss
For the variables studied Table 2 and Table 3 show unit root tests. Firstly, we test the level stationary of the variables applying ADF (Augmented Dickey-Fuller) and PP (Phillips-Perron) tests.

<table>
<thead>
<tr>
<th>ADF</th>
<th>Intercept</th>
<th>Intercept and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>Critical Values</td>
<td>Test Values</td>
</tr>
<tr>
<td>%1</td>
<td>-3.699</td>
<td>-5.997(0)</td>
</tr>
<tr>
<td>%5</td>
<td>-2.976</td>
<td>222x327</td>
</tr>
<tr>
<td>%10</td>
<td>-2.627</td>
<td>%10</td>
</tr>
<tr>
<td>GCF</td>
<td>Critical Values</td>
<td>Test Values</td>
</tr>
<tr>
<td>%1</td>
<td>-3.699</td>
<td>-7.711(0)</td>
</tr>
<tr>
<td>%5</td>
<td>-2.976</td>
<td>%5</td>
</tr>
<tr>
<td>%10</td>
<td>-2.627</td>
<td>%10</td>
</tr>
<tr>
<td>LFPR</td>
<td>Critical Values</td>
<td>Test Values</td>
</tr>
<tr>
<td>%1</td>
<td>-3.752</td>
<td>-2.076(4)*</td>
</tr>
<tr>
<td>%5</td>
<td>-2.998</td>
<td>%5</td>
</tr>
<tr>
<td>%10</td>
<td>-2.638</td>
<td>%10</td>
</tr>
<tr>
<td>EDGDP</td>
<td>Critical Values</td>
<td>Test Values</td>
</tr>
<tr>
<td>%1</td>
<td>-3.711</td>
<td>-2.243(1)*</td>
</tr>
<tr>
<td>%5</td>
<td>-2.981</td>
<td>%5</td>
</tr>
<tr>
<td>%10</td>
<td>-2.629</td>
<td>%10</td>
</tr>
<tr>
<td>EDSEX</td>
<td>Critical Values</td>
<td>Test Values</td>
</tr>
<tr>
<td>%1</td>
<td>-3.699</td>
<td>-2.417(0)*</td>
</tr>
<tr>
<td>%5</td>
<td>-2.976</td>
<td>%5</td>
</tr>
<tr>
<td>%10</td>
<td>-2.627</td>
<td>%10</td>
</tr>
</tbody>
</table>

Note: Mac Kinnon *, **, *** shows the critical values of %10, %5 and %1 respectively. The numbers indicated by () for the ADF test indicate the minimum lag values without autocorrelation according to the Schwarz Information Criteria.
Table 3: Result of PP Unit Root Tests

<table>
<thead>
<tr>
<th></th>
<th>Intercept</th>
<th>Intercept and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Critical Values</td>
<td>Test Values</td>
</tr>
<tr>
<td>GDP</td>
<td>%1: -3.699</td>
<td>-6.042(2)</td>
</tr>
<tr>
<td></td>
<td>%5: -2.976</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10: -2.627</td>
<td></td>
</tr>
<tr>
<td>GCF</td>
<td>%1: -3.699</td>
<td>-7.711(2)</td>
</tr>
<tr>
<td></td>
<td>%5: -2.976</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10: -2.627</td>
<td></td>
</tr>
<tr>
<td>LFPR</td>
<td>%1: -3.699</td>
<td>-1.804(2)*</td>
</tr>
<tr>
<td></td>
<td>%5: -2.976</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10: -2.627</td>
<td></td>
</tr>
<tr>
<td>EDGDP</td>
<td>%1: -3.699</td>
<td>-1.699(1)*</td>
</tr>
<tr>
<td></td>
<td>%5: -2.976</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10: -2.627</td>
<td></td>
</tr>
<tr>
<td>EDSEXP</td>
<td>%1: -3.699</td>
<td>-2.417(0)*</td>
</tr>
<tr>
<td></td>
<td>%5: -2.976</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10: -2.627</td>
<td></td>
</tr>
</tbody>
</table>

Note: MacKinnon *, **, *** shows the critical values of %10, %5 and %1 respectively. The numbers indicated by () for the PP test is the optimal number of lags according to the Newey-West.

The unit root tests show whether the variables are stationary. Namely, these tests are used to determine long term relations between series. Table 2 and Table 3 represent the unit root test results for the level values of the variables. The results indicate that GDP and GCF series are stationary at level for both intercept model and intercept and trend model except other series. Table 2 and Table 3 show results of ADF and PP unit root tests at first difference for all variables.
### Table 4: Result of ADF Unit Root Tests (First difference)

<table>
<thead>
<tr>
<th></th>
<th>ADF</th>
<th>Intercept</th>
<th>Intercept and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Critical Values</td>
<td>Test Values</td>
<td>Critical Values</td>
</tr>
<tr>
<td><strong>D(GDP)</strong></td>
<td></td>
<td>-3.711</td>
<td>-8.995(0)</td>
</tr>
<tr>
<td></td>
<td>%1</td>
<td>-3.711</td>
<td>-8.995(0)</td>
</tr>
<tr>
<td></td>
<td>%5</td>
<td>-2.981</td>
<td>-11.302(0)</td>
</tr>
<tr>
<td></td>
<td>%10</td>
<td>-2.629</td>
<td>-2.495(2)*</td>
</tr>
<tr>
<td><strong>D(GCF)</strong></td>
<td></td>
<td>-3.711</td>
<td>-11.302(0)</td>
</tr>
<tr>
<td></td>
<td>%1</td>
<td>-3.711</td>
<td>-11.302(0)</td>
</tr>
<tr>
<td></td>
<td>%5</td>
<td>-2.981</td>
<td>-6.517(0)</td>
</tr>
<tr>
<td></td>
<td>%10</td>
<td>-2.629</td>
<td>-3.233</td>
</tr>
<tr>
<td><strong>D(LFPR)</strong></td>
<td></td>
<td>-3.737</td>
<td>-2.495(2)*</td>
</tr>
<tr>
<td></td>
<td>%1</td>
<td>-3.737</td>
<td>-2.495(2)*</td>
</tr>
<tr>
<td></td>
<td>%5</td>
<td>-2.991</td>
<td>-3.595</td>
</tr>
<tr>
<td></td>
<td>%10</td>
<td>-2.635</td>
<td>-3.233</td>
</tr>
<tr>
<td><strong>D(EDGDP)</strong></td>
<td></td>
<td>-3.724</td>
<td>-3.401(1)***</td>
</tr>
<tr>
<td></td>
<td>%1</td>
<td>-3.724</td>
<td>-3.401(1)***</td>
</tr>
<tr>
<td></td>
<td>%5</td>
<td>-2.986</td>
<td>-3.603</td>
</tr>
<tr>
<td></td>
<td>%10</td>
<td>-2.632</td>
<td>-3.238</td>
</tr>
<tr>
<td><strong>D(EDSEXP)</strong></td>
<td></td>
<td>-3.711</td>
<td>-4.863(0)</td>
</tr>
<tr>
<td></td>
<td>%1</td>
<td>-3.711</td>
<td>-4.863(0)</td>
</tr>
<tr>
<td></td>
<td>%5</td>
<td>-2.981</td>
<td>-3.595</td>
</tr>
<tr>
<td></td>
<td>%10</td>
<td>-2.629</td>
<td>-3.233</td>
</tr>
</tbody>
</table>

**Note:** MacKinnon *, **, *** shows the critical values of %10, %5 and %1 respectively. The numbers indicated by () for the PP test is the optimal number of lags according to the Newey-West.
### Table 5: Result of PP Unit Root Tests (First difference)

<table>
<thead>
<tr>
<th>PP</th>
<th>Intercept</th>
<th>Intercept and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Critical Values</td>
<td>Test Values</td>
</tr>
<tr>
<td>D(GDP)</td>
<td>%1 -3.711</td>
<td>-21.518(12)</td>
</tr>
<tr>
<td></td>
<td>%5 -2.981</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10 -2.629</td>
<td></td>
</tr>
<tr>
<td>D(GCF)</td>
<td>%1 -3.711</td>
<td>-37.044(19)</td>
</tr>
<tr>
<td></td>
<td>%5 -2.981</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10 -2.629</td>
<td></td>
</tr>
<tr>
<td>D(LFPR)</td>
<td>%1 -3.711</td>
<td>-4.748(1)</td>
</tr>
<tr>
<td></td>
<td>%5 -2.981</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10 -2.629</td>
<td></td>
</tr>
<tr>
<td>D(EDGDP)</td>
<td>%1 -3.711</td>
<td>-3.623(1)**</td>
</tr>
<tr>
<td></td>
<td>%5 -2.981</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10 -2.629</td>
<td></td>
</tr>
<tr>
<td>D(EDEXP)</td>
<td>%1 -3.711</td>
<td>-4.861(3)</td>
</tr>
<tr>
<td></td>
<td>%5 -2.981</td>
<td></td>
</tr>
<tr>
<td></td>
<td>%10 -2.629</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** MacKinnon *, **, *** shows the critical values of %10, %5 and %1 respectively. The numbers indicated by () for the PP test is the optimal number of lags according to the Newey-West.

All of the variables according to Table 4 and Table 5 are stationary according to both intercept model and intercept and trend model. The results represent that the null hypothesis should be rejected at first difference.

Having established stationarity for all variables at first difference, it is decided to apply VAR analysis according to unit root tests. It is necessary to determine the appropriate lags in performing the analysis. Table 6 indicate optimal lag length for VAR model.
Table 6: The Lag Inclusion Criteria

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-318.6358</td>
<td>NA</td>
<td>355225.2</td>
<td>26.96965</td>
<td>27.21508*</td>
<td>37.03476*</td>
</tr>
<tr>
<td>1</td>
<td>-290.9040</td>
<td>41.59778*</td>
<td>298564.0*</td>
<td>26.74200*</td>
<td>28.21456</td>
<td>27.13267</td>
</tr>
<tr>
<td>2</td>
<td>-275.8282</td>
<td>16.33209</td>
<td>934989.1</td>
<td>27.56902</td>
<td>30.26872</td>
<td>28.28525</td>
</tr>
<tr>
<td>3</td>
<td>-241.8677</td>
<td>22.64033</td>
<td>1218882.0</td>
<td>28.82231</td>
<td>30.74915</td>
<td>27.86410</td>
</tr>
</tbody>
</table>

Results of the lag inclusion criteria (Table 6) favours the use of an optimal lag of 1, so our model is a VAR-1 model. Figure 1 shows inverse roots unit circle according to eigenvalues for VAR model. Figure 1 indicate that our VAR model is stable.

Figure 1: Inverse Roots Unit Circle

It is tested whether there is autocorrelation problem in the model or not by using LM test. When Table 7 is investigated, it is seen that null hypothesis is accepted such that in all the outcome of autocorrelation testing until 6th level, there is no autocorrelation.

Table 6: LM Autocorrelation Test

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14.44051</td>
<td>0.9535</td>
</tr>
<tr>
<td>2</td>
<td>21.29101</td>
<td>0.6763</td>
</tr>
<tr>
<td>3</td>
<td>15.44486</td>
<td>0.9304</td>
</tr>
<tr>
<td>4</td>
<td>22.11104</td>
<td>0.6293</td>
</tr>
<tr>
<td>5</td>
<td>18.12063</td>
<td>0.8372</td>
</tr>
<tr>
<td>6</td>
<td>24.97293</td>
<td>0.4639</td>
</tr>
</tbody>
</table>

Another condition for VAR model is that there is no autocorrelation problem. Table 8 indicate heteroskedasticity tests.
Table 8: Heteroskedasticity Tests

<table>
<thead>
<tr>
<th></th>
<th>White Heteroskedasticity (No Cross Terms)</th>
<th></th>
<th>White Heteroskedasticity (With Cross Terms)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chi-sq</td>
<td>Df</td>
<td>Prob.</td>
</tr>
<tr>
<td></td>
<td>151.2974</td>
<td>150</td>
<td>0.4549</td>
</tr>
</tbody>
</table>

The results are illustrated in Table 8, it is understood that the VAR model does not include heteroskedasticity problem.

Based on the VAR-1 model, we can perform impulse response functions. In impulse response analysis, the aim is to measure the response of a variable when a shock of one standard deviation is applied to another variable (Yurdakul and Ucar, 2015, p. 105).

Figure 2 Impulse Response

Figure 2 shows the effects of other variables on the economic growth, which is the dependent variable, on the top line. Economic growth responds significantly to shock in external debt stock, external debt service and other variables. Referring to the fourth column of the top line in Figure 2, it is observed that a shock in gross external debt stock (EDGDP) affects economic growth negatively for approximately two periods. A similar result exists in the debt service variable (EDSEXP). The last column of the top line of the figure shows the results of the impact of the debt service (EDSEXP) on economic growth. It is understood that a shock in the debt service (EDSEXP)
affects the economic growth negatively. The effect of other variables (GCF and LFPR) on economic growth is positive. When impulse response results are evaluated, it can be said that external debts in Turkey cause both the debt overhang and the crowding out effect.

5. Conclusion
This study analyses whether there is a relationship between external debt and economic growth in Turkey for the period from 1987 to 2017. To examine this relationship, we use Vector Autoregressive Model (VAR). The foundation of our analysis is the standard production model in which growth based on gross capital formation, labour force, total gross external debt stock and total external debt service, used by Cunningham (1993), Shah and Pervin (2012) and Karagöl (2002).

According to our empirical results, the external debt stock and external debt service have a negative impact on economic growth. In addition, capital accumulation and labour force have a positive impact on economic growth.

In fact, this negative relationship (debt stock and debt service on economic growth) stems from the failure to implement a fully effective and efficient borrowing policy. External debts in Turkey were used for budget, foreign trade and current account deficit due to socio-economic and political instability between the years of 1987-2000. In addition, external debt stock increased due to populist policies and electoral economy. In the 2000s the public external debt stock decreased due to the fiscal discipline in the public sector. However, the external debt stock of the private sector has increased. Like that of many developing countries, Turkey can face with the debt overhang and crowding out effect problem especially due to external debt of private sector. External debt inflows should be used in productive areas. If external debt inflows are used in debt payments the debt burden will continue to increase.

References


THE INDUSTRY 4.0 TRANSFORMATION IN TURKEY: IS IT AN OPPORTUNITY OR A THREAT? (PROBLEMS, DETERMINANT FACTORS)\(^1\)

Fevzi ENGİN\(^2\), Fadime Hacer ERMIŞ\(^3\)

1. Introduction

The globalization process in the world economy started in 1980s and deepened in 2000s, and it became multidimensional in time as well. This process and conducted neo-liberal policies give significant opportunities to the countries such as growth and development but they also bring with various risks and threats. From this point of view, countries should consider risks and threats carefully, they should develop solutions towards these issues, they should benefit from the growth and development opportunities by activating the existing potential of themselves, and they should turn this potential into opportunity for economy and society as well. These countries can be considered among the industrialized countries in the world in time since they will make a progress in industrialization and development with aforementioned executions. These tendencies in the global extent will affect every country about shaping the future in medium or long term and they will bring positive or negative effects on Turkish economy as well. Since global competition gradually increase in current environment of world, new developments also have been accomplished in response to new developments. One of these developments is fourth industrial revolution, videlicet, 4.0 transformation in industry. Two of the basic problems of developing countries like Turkey are that they do not have the required infrastructure for industrialization in comparison with developed countries and the level of technological development is relatively low. The digital maturity level of Turkey is considered in between second and third industrial revolutions. The biggest obstacles of Turkey on the Industry 4.0 Transformation are studied in a study and some problems are found as well. These problems are: the high prices in the investment costs (\(\%27\)) and the uncertainty of return on investment (\(\%18\)), the inefficacy of qualified labor (\(\%16\)), the insufficiency of technological infrastructure (\(\%13\)) and the lack of local suppliers (\(\%10\)) (TUŞİAD, 2017: 47).

In this study, the encountered main problems of Industry 4.0 Transformation in Turkey and the determinant factors in the development of Industry 4.0 process will be analyzed in two main topics and the results will be evaluated.

2. The Encountered Structural Problems of Industry 4.0 Transformation in Turkey

Nowadays, the production facilities that belong to classical industrialization period are used in the several fields of Turkish industry and instead of technology intensive products, labor intensive products are offered to domestic and global markets. However, the executions of fourth industrial revolution have been installed the information

\(^{1}\) This study has been prepared by referring the master thesis of “The Industry 4.0 Transformation in Turkey”. This thesis was presented by Fadime Hacer Ermiş under the advisor ship of Dr. Fevzi Engin in August 2018 to Institute of Social Sciences in Bolu Abant Izzet Baysal University.

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\(^{3}\) From Bolu Special Provincial Directorate of Administration
intensive production to the center of economic life and this condition is forced Turkey to discuss the problems of her industry against fourth industrial revolution (Yazıcı and Düzkaya 2016: 76). The structural problems in the execution that Turkey has encountered for Industry 4.0 Transformation will be explained under the below topics.

a. The Problems Originating from the Structure of Labor Force

The problems originating from the structure of labor force in Turkey are the costs of labor force, the limited qualified labor force and the high rates in leave of employment.

The state from aforementioned problems that the costs of labor force are cheap is paved the way to decrease the desire of investments to required capital intensive systems for Industry 4.0 (TÜSİAD 2016: 61). Investors are late to move from the labor-intensive industrialization to the stage that includes the technologies of Industry 4.0 due to cheap costs of labor force. In reality, the state that the costs of labor force are cheap is one of the advantages of Turkey for positioning herself into global value chains in a more competitive manner. However, the costs of labor force have started to a rising tendency in recent years in Turkey.

The research in the costs of labor force is made by TUIK in every four years. The purpose of this research is to reveal the total costs of employed labor force to employers and the distribution of these financial factors in total costs. According to the results of this research, the average costs of labor force in a month were 2.680,00 TL in 2012, while these numbers increased to 3.991,00 TL in 2016 (TÜKI 2016, http://www.tuik.gov.tr/PreHaberBultenleri.do?id=24859, It was accessed in July 10, 2018.).

The state of limited qualified labor force in Turkey is caused to fall behind the technological developments in the world and hinders the development and dissemination of technology in Turkey. The necessity of qualified labor force due to limited qualified labor force gradually increase the demand of a new and effective education system in every field for training both qualified technical employees and employers. This condition is a significant lack of infrastructure in Turkey to obtain a competitive manner in global markets (Kepenek 2012: 559).

| Table 1: The Unemployment Rates in Turkey between the Years of 2010-2017 (%) |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| The Unemployment Rates (%) | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------| 11,9 | 9,8 | 10,1 | 10,0 | 10,4 | 10,8 | 12,7 | 10,4 |

Resource: It was prepared by the author with using the data of labor force statistics by TUIK between the years of 2010 and 2017.

As it is seen in Table 1, the unemployment rates of Turkey are double-digit numbers. Despite these statistics, several employers are still expressing that they cannot find the qualified labor force they search. The mismatch of the supply and demand of labor force can be resolved with opening required schools for the emergence of labor force with professional qualifications instead of solutions towards saving the day. Therefore, both unqualified labor force who have obtained the required qualifications can find a job, and the searching of qualified personnel that hinders the industrial production will be decreased. Especially the young labor force in Turkey rapidly switches from industrial sector to service sector and the young workers ignore to work in their workplaces in a long time. These conditions make the establishment of a strong and experienced labor force difficult in Turkey as well (İşik 2016: 33 and TÜSİAD 2016: 61). The labor force with high educational levels prefers to work in desk jobs rather than
industrial jobs. When this condition is taken into consideration, industrial sector should improve itself to compete with service sector in terms of social and financial rights of employees in order to meet the need of Turkey for a proper industrialization. The working conditions should be reconsidered in the industrial sector, the working hours of labor force with muscle strength should be minimized by using digital technologies and more social life spaces should be brought in organized industrial zones for achieving the goal of solid industrialization process in Turkey.

b. The Problems about Technology and Scale

Scale levels of firms have become a significant factor for the determination of competitive power in a world environment with intensified competitive conditions. If the firms can elevate their scale levels into optimal scale levels, the opportunity to utilize scale economies will be obtained and the production will bring more productive results as well. However, the current technology and scale levels of firms in Turkey are significant problems for the Industry 4.0 Transformation of Turkish industry.

- The executions of businesses and the lack of integration between factory/equipment, and functions make connectivity and collecting data difficult.
- The scales of firms in Turkey are relatively low in comparison with countries with a completed industrialization process, and this condition limits the potential benefits of Industry 4.0.
- The capacity to start required investments for Industry 4.0 is limited with the relatively undeveloped suppliers and the relatively small scales of firms and this condition causes the problem that supply chains cannot be integrated end-to-end.
- The cooperation of the local solution providers throughout all supply chains and design partners is necessary for the integration of Industry 4.0 technologies. However, the greater part of this necessity has been provided from international markets in these days (TÜSİAD 2016: 61).

c. Investment Areas and the Problems about Their Expectations

Industrial investment preferences in Turkey switched from the industrial areas that are the driving sector to the short-term speculative areas like construction and finance. The return expectations from investments are effective in this change. Even some leading industrial firms in Turkey occasionally have abandoned their distinctive investment areas and they have begun to make investments in areas with short-term returns such as construction. In short, the industrial investment preferences have been intensified into the areas with short-term returns. The natural result of this development is to decrease the investments in Industry 4.0 by investors. However, the investments in Industry 4.0 are expected to bring profits as well in long term.

The change of the return of industrial activities from industries to non-industrial areas is considered as a worrisome transformation problem in the report of specialization commission in 2014. This tendency is generally interpreted as deindustrialization. However, it is expected that this tendency will negatively affect the transformation in the manufacturing industry as well (Turkish Ministry of Development 2014: 15-16). Though, the investments in the manufacturing industry have a strategic importance in terms of the future of Turkish economy. Despite aforesaid importance, the investments of private sector in manufacturing industry have decreased over the years and its share in total investments have been minimized as well.
Table 2: The Development of the Investments of Private Sector in Manufacturing Industry (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tbody>
<tr>
<td>The Share of Manufacturing Industry in Total Investments</td>
<td>39.9</td>
<td>36.4</td>
<td>36.0</td>
<td>40.6</td>
<td>38.0</td>
<td>36.4</td>
<td>34.3</td>
<td>34.9</td>
</tr>
<tr>
<td>Its Change (%)</td>
<td>-9.0</td>
<td>-32.5</td>
<td>35.0</td>
<td>38.0</td>
<td>-10.0</td>
<td>-5.5</td>
<td>-8.2</td>
<td>8.0</td>
</tr>
</tbody>
</table>

According to Table 2, while the share of the investments of private sector in manufacturing industry was 39.9% in 2008, it decreased to 34.9% in 2015. In other words, the depreciation of the investments of private sector in manufacturing industry is 5%. However, it is inevitable that this depreciation will have a destructive effect on Turkish economy when the high shares of manufacturing industry have considered.

2.4. The Problems that are originated from the Quality of Production

Nowadays, the development levels of countries in the international fields are determined according to what they have produced and how they have produced. Moreover, the level of technology has a determining role in the industrial production of countries within the scope of production facts. Countries are divided within two groups: countries of technology producers, and countries of technology transferors without a proper technological production within their national borders. The conditions that the development of released products and adding varieties to those products, and the dissemination of sense of quality are emerged with the developments in the technological areas. However, the imports of low-tech quality products from developing countries which become a trend in the international markets, have weakened the international competitive power (Keene 2012: 558-559). In Turkey, however, the export shares of high-tech products are still in the levels of 3%. As a result of that, Turkey is still considered a technology transferor country and she cannot get into the group of technology producers. Since the technological quality of exports products in the most significant component of industrial sector, which is the manufacturing industry production, are not developed enough, this problem is still stand in front of development and the increase of international competitive power in Turkey. Therefore, the realization of Industry 4.0 Transformation is a crucial step for Turkish economy to have an economy with high incomes and to avoid middle income trap. The acceleration in the development of manufacturing industry and the increases of high-tech products with high value added numbers within the share of production and exports should be identified as priority targets in order to achieve Industry 4.0 transformation (Turkish Ministry of Science, Industry and Technology 2015: 32). In 2014, it was expressed in the report of specialization commission that the quality levels of Turkey should be rapidly increased in accordance with the 2023 targets of Turkey. In addition, the main 2023 target of Turkey is to get into the 10 largest economies in the world. Since a possible increase in the quality of production and exports will accelerate the development of a country, it will aid to contribute for the rapid rise of economic growth capacity as well (Turkish Ministry of Development 2014: 14).

4 Middle Income Trap: It is a condition where the per capita income level of an economy is trapped there after reaching a certain level. (Eğilmez, 2012. http://www.mahfiegilmez.com/2012/12/orta-gelir-tuzagve-turkiye.html, it was accessed in July 09, 2018).
2. The Determinant Factors for the Development of Industry 4.0 Process in Turkey

While there is a rapid structural change in the world industry, despite her partially developed industrial structure since 2002, Turkey did not have a change about developing her position in the world economy radically. Moreover, Turkey did not make any progress in the high industrial branches with information intensive and value-added high products whereas they could have substantially contributed to sustainable growth of Turkish economy. Though, the structure of manufacturing industry can be developed with technology intensive production rather than raw material-intensive and labor-intensive production. The most significant keyword in following development is, however, technology itself (Taymaz and Voyvoda 2015: 37).

From this point of view, some determinant factors are closely related for the constant development of industry with contemporary and inventive technology in a competitive manner. One of these determinant factors is the activity of R & D. The necessary factor for the usage of technologies in a productive and active manner is inventiveness, videlicet, innovation activities. The main factor for determining the quality and success of R & D and innovation is depend on the features of human capital.

2.1. Education

The world industry is ready to awake in a new age with 4.0 Industry. The shape of jobs in the world and the shape of production of goods will be undergone significant changes within 10-year process in the future. While digitalization has settled itself with only minimizing the world, it will alter the shape of jobs nowadays. Turkey also must adapt these changes if she desires to protect and to develop her industry and not to lose her competitive power. In this regard, the system of national education in Turkey should not independently be determined from the priorities of industry policies in Turkey and changing needs of qualified human capital (Sak 2013, http://www.radikal.com.tr/yazarlar/guvensak/bu-milli-egitim-ile-sanayi-4-0-bizi-kavurur-1529285/, It was accessed in April 16 2018). In time, people will sweat their blood in the jobs with their intellectual accumulation of knowledge rather than muscle power. If Turkey does not train her especially young and growing population in accordance with the necessities of Industry 4.0, the rates of unemployment will be gradually increased, and the positions of qualified labor force will not be met as well. Thus, the management of fourth industrial revolution process can only be accomplished with education (Avşar 2016: 22 (http://haber.tobb.org.tr/ekonomikforum/2016/259/016_027. pdf it was accessed in 03 February 2018). Therefore, Turkey should pay attention to her encountered problems within the scope of qualified labor force and current industrial infrastructure and from this point of view, the units of administration should determine the deficiencies in the Turkish educational system and the policies should be constituted in order to remedy these deficiencies.

The deficiencies in the Turkish educational system can be revealed with the competitive power of Turkey, her production structure and therefore, conducting productive analyses about understanding the effects of convergence performances in developed countries. Furthermore, the skill levels of Turkish students who have never been in the business life should be compared with their counterparts in different countries as well. One of the most determining tools for the comparison of educational systems in an international manner is the results of Programme for International Student Assessment (PISA). This program was started by OECD in 2000 and it was made in every three year. The application results of PISA enlighten the level and quality of human capital in one country and one of the participant countries of this program is Turkey. However, the results of the program demonstrate
that the quality of education in the country falls behind several developed and developing countries (Ballı and İneke 2017: 3).

The scores that demonstrate the performance of Turkey in the PISA program over the years are given in Table 3. When the results of Turkey in 2015 in the PISA exam that was applied by OECD in age group of 15 are evaluated, a decline is seen. The rising scores in science, mathematics and reading skills since 2003 were on the decline in 2015 and these scores fell behind the results of 12 years ago. According to the result of PISA in 2015, the rankings of Turkey were 52 in science, 49 in mathematics and 50 in reading skills among 70 countries. However, the rankings of Turkey in this exam in 2003 were 33 in science, 35 in mathematics and 35 in reading skills (Salman 2016, http://www.aljazeera.com.tr/al-jazeera-ozel/pisa-2015teki-dususun-sebebi-ne, It was accessed in April 14 2018).

Table 3: The Average Success Grades in PISA Program and the Ranking of Turkey

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<tbody>
<tr>
<td>Average of</td>
<td>500</td>
<td>500</td>
<td>495</td>
<td>501</td>
<td>493</td>
<td>494</td>
<td>492</td>
<td>493</td>
<td>496</td>
<td>493</td>
<td>500</td>
<td>498</td>
<td>496</td>
<td>493</td>
<td>494</td>
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<tr>
<td>OECD</td>
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<tr>
<td>All Participant Countries</td>
<td>496</td>
<td>491</td>
<td>471</td>
<td>477</td>
<td>465</td>
<td>488</td>
<td>484</td>
<td>464</td>
<td>471</td>
<td>460</td>
<td>489</td>
<td>484</td>
<td>465</td>
<td>470</td>
<td>461</td>
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<tr>
<td>The Scores of Turkey</td>
<td>434</td>
<td>424</td>
<td>454</td>
<td>463</td>
<td>425</td>
<td>441</td>
<td>447</td>
<td>464</td>
<td>475</td>
<td>428</td>
<td>423</td>
<td>424</td>
<td>445</td>
<td>448</td>
<td>420</td>
</tr>
<tr>
<td>The Ranking of Turkey</td>
<td>34</td>
<td>47</td>
<td>42</td>
<td>43</td>
<td>54</td>
<td>34</td>
<td>38</td>
<td>39</td>
<td>42</td>
<td>50</td>
<td>33</td>
<td>44</td>
<td>41</td>
<td>44</td>
<td>50</td>
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<tr>
<td>The Total Numbers of Countries</td>
<td>40</td>
<td>57</td>
<td>65</td>
<td>65</td>
<td>72</td>
<td>40</td>
<td>57</td>
<td>65</td>
<td>65</td>
<td>72</td>
<td>40</td>
<td>57</td>
<td>65</td>
<td>65</td>
<td>72</td>
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At this point, the processes of Turkish educational system should be readdressed according to the criteria that the fourth industrial revolution requires. The studies should be started towards to understand the reasons of underlying success at successful countries in PISA program and an effort should be made in order to take lessons from those countries. The main axis of an industrial policy that will especially provide to transform the production profile into a production with high value added and will make the competitive power sustainable should be constituted in the educational policies within the scope of developing the skill levels of labor force and contributing to increase the capacity of inventiveness. The main purpose of educational policies that will be constituted within this regard have been determined in the 10th development plan. In this plan, the generations with happiness and creativeness, of developed perception, thinking and problem-solving skills, the embrace of national culture and democratic values, open to communication and sharing, strong emotions in aesthetics and art, having the features of inventiveness and entrepreneurship with sense of responsibility and self-confidence, trained with basic knowledge and skills for the required necessities of society have been aimed. (Turkish Ministry of Development 2013: 31).
2.2. Technology

When the term of industrialization is described in terms of technology, it is a term that includes brand and patents along with physical being such as machine, organizational knowledge and qualified labor force with advanced skills along with technical and commercial knowledge. (Kalirijan 1987, Aktaran: Soyak 2017: 70). The share of technology will be increased in the relations of production with the contribution of Industry 4.0 and various industrial products with high value added can be easily produced as well.

Technology is one of the determinant factors that is necessary for Turkey to make successful investments in the direction of Industry 4.0. In an environment that technological transformation of the world has rapidly increased, significant decisions were taken in the 29th meeting of the Supreme Council for Science and Technology in February 2016 to empower the position of Turkish industry in the new industrial revolution and to accelerate the digital transformation in the industry.

• The model that is suitable for the dynamics of Turkey in execution, implementation and monitoring should be coordinately developed by the shareholders of sectors with analyses about the policies of employment, education and sectors.
• R & D activities should be increased in a target that will provide to earn the competence in the critical and pioneer technologies (such as the internet of things, and cyber security, which is the main component of Industry 4.0).
• The productive infrastructures should immediately be provided for the production of the technologies with critical and pioneer quality in domestic firms. Moreover, the pilot productions and the supports for the presentations should be supplied as well and the required assistances and the mechanisms of encouragement should be checked and should be developed (TÜBİTAK 2016: 3).

A technological transformation that will take these decisions into consideration and will adapt the changes of the world into Turkey will make the production with high value added possible. Moreover, it will both integrate Turkey into all value chains and production ecosystem and will provide opportunity to produce these technologies in Turkey as well (TÜSİAD 2017: 36).

2.3. Research and Development Activities (R & D)

R & D activities are one of the significant dynamics in global competition age and one of the reasons that Turkey cannot surpass the %3 levels of her industrial production with advanced technology is the inadequacy of R & D activities. When the R & D activities are generally defined, it means creating and developing new products by using information and technology and discovering new production techniques.

Some basic information and data about R & D are also the basic indicator for providing to obtain information about the development levels of countries. A country can be counted as developed country as long as it has developed the technological needs of industry and information-based society by itself (Zabun 2015, https://anahtar.sanayi.gov.tr/tr/news/gelismenin-itici-gucu-arge-i/1924, It was accessed in April 19 2018).

The main purpose of R & D activities and innovation policies in Turkey has been determined in the 10th development plan. These policies are that technology and innovation activities should be transformed into benefit
by increasing these activities as private sector-oriented, the results of research should be commercialized by creating an ecosystem as innovation-oriented, and the branded technology intensive products should be contributed Turkey to achieve her full potential of competitive power in global scales (Turkish Ministry of Development 2013: 86).

Nowadays, the strategic competition for countries has been intensified on the creation of innovative industries for providing products with high value added and it concentrated on attracting and gaining qualified labor force as well; in long run, however, it has centered R & D activities as the primary source of economic growth since these activities produce information and technology. Since technology have become the only determinant of the competitive superiority of countries, the countries with advanced technology have a determinant role in international field for both enhancing social welfare and sharing the world resources as well (Gürsu 2016, https://anahtar.sanayi.gov.tr/tr/news/tasarim-ar-ge-ve-inovasyon-uclemesi/2240, It was accessed in April 19, 2018).

Table 4: The Share of Gross R & D Expenditures in GDP in OECD Countries (%)

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<tbody>
<tr>
<td><strong>The Average of OECD Countries</strong></td>
<td>3.151</td>
<td>2.699</td>
<td>0.237</td>
<td>3.450</td>
<td>3.002</td>
<td>1.947</td>
<td>1.282</td>
<td>1.194</td>
<td>1.881</td>
<td>2.070</td>
<td>1.827</td>
</tr>
</tbody>
</table>


The share of gross R & D expenditures in GDP in OECD Countries between the years of 2006 and 2016 has been given in Table 4. On the other hand, the change of the rate of R & D expenditures to GDP in Turkey over the years has been given in Figure 1.

Figure 1: The Rate of R & D Expenditures to GDP in Turkey


2.4. Innovation

In an environment where the international relations have gained a new dimension with globalization process, a new period for the countries has begun in every area as well. In this period, countries now have the relationship of
“mutual dependence” with each other. This effect has reflected on the processes in the production, development and transfer of technology in the countries. Due to this effect, “innovation” has become a key factor for empowering the competitive power of the countries in the industrial field (Ünlü 2017, http://anahtar-sanayi.gov.tr/tr/news/kuresel-rekabet-raporu-2016-2017-inovasyon-bileseni-kapsaminda-turkiye-degerlendirmesi/9446, It was accessed in 22 March 2018).

Although the increasing R & D expenditures in the recent years are a positive development, Turkey is still not the same level with developed countries in terms of innovation which is the commercial return of R & D. This condition has clearly been revealed in the data of the Report of Global Competition.

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<tbody>
<tr>
<td>Innovation</td>
<td>56</td>
<td>60</td>
<td>71</td>
<td>69</td>
</tr>
<tr>
<td>Market Size</td>
<td>16</td>
<td>16</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Technological Preparation</td>
<td>55</td>
<td>64</td>
<td>67</td>
<td>62</td>
</tr>
</tbody>
</table>


According to the data of Report of Global Competition prepared by World Economic Forum in Table 5, while Turkey was in the 14th rank in terms of market size in 2017, she can only be in the 69th rank in terms of innovation as well. This condition indicates that there is a lack of harmony between the size of Turkish economy and her innovation capacity (Dalkılıç 2017, http://www.ekonomistler.org.tr/arsivler/7132, It was accessed in March 5 2018). Several measures should be taken to eliminate this lack of harmony and in order to begin to execute these measures, the institutions should be insistent. These measures are that the commercialization step in the process of creating technological products should be especially empowered, the structure for public procurements to support the creation of domestic technology should be formed, the interfaced should be installed for making technology transfers, the opportunities of innovative initiative should be developed, the technological innovations that support sustainable production and increase productivity should be created, and the share of products with high-tech and value added should be increased in the production of products in manufacturing industry and exports (Turkish Ministry of Development 2013: 86). The index of technological readiness demonstrates how fast a country can adapt new technologies to increase the productivity of industry. As well as in the innovation, Turkey has a decline in this index.

In an environment where the competition is a significant tool in the world, the technological and innovational environment in Turkey should be developed as well. For this purpose, the cooperation between the technology development zones, and both universities and businesses should be enabled, the cooperation before competition should be strengthened, and the topics such as how the incentive systems in R & D should be used in a more active and efficient way should be evaluated in a platform with a broad participation. While the rate of R & D expenditures gradually increases, the innovative steps should be taken within the context of the cooperation
3. Conclusion

The target of Turkey to become a design base in medium-high and technological products at Afro-Eurasian regions is actually a significant step in terms of global developments. However, the serious problems about making this target real can easily be seen. These problems are that the innovation rankings of Turkey is not making any progress in recent years, the R & D expenditures of Turkey are lesser than the R & D expenditures of several OECD countries and educational system has various deficiencies. However, the successful execution of Industry 4.0 process is depending on benefiting the advantages in a high level by using the particular technologies of Industry 4.0 rapidly.

The process of Industry 4.0 is not a process that automatically have been emerged by developing on its own. Furthermore, the state and the firms cannot execute this process by themselves. Therefore, both the state and the entrepreneurs must accept Industry 4.0 as an absolute requirement rather than choice because Industry 4.0 will inevitably affect various sectors, particularly industry itself. Thus, the entrepreneurs should elaborate not to delay the capital-intensive investments with Industry 4.0 technologies. The state also should provide the necessary infrastructure support for the inclusion of technologies with Industry 4.0 to production in the matter of Industry 4.0. Hence, the cooperation between the state and the entrepreneurs has a serious effect in terms of the accomplishment of Industry 4.0 process.

The way to compete at an international level is to produce information and technology. Turkey should quicken the exercises of R & D and innovations for a strong competition since these exercises are determinant for the development of Turkish industry. Especially R & D exercises should be quickened since they have a critical importance for gaining competence in Industry 4.0 technologies. The domestic production of Industry 4.0 technologies will be accomplished with these exercises in time. On one hand, they will also provide to export the products with high value added in Turkey; they will be effective to struggle against the dependency of import entries on the other hand. The mentioned changes will affect the current and foreign deficits in Turkey in a positive manner as well.

For improving investment environment in Turkey, the tax system should include the regulations that will positively affect the competitive power, should always support the R & D activities and should provide to transfer the domestic savings into the industrial investments with high value added. An industry-university structure that their communication is strong and adaptable is a significant starting point in terms of increasing the activity of R & D expenditures. The cooperation between the universities, which are seen as the primary source of knowledge, and the industry sector, which is considered as the center of production, will have a significant share for the creation of products with high value added. This development will contribute Turkey to obtain significant achievements in global economy. At this point, public sector has significant jobs such as removing the obstacles in front of the cooperation between industry and universities and empowering this cooperation with various legal regulations.

The science and technology will gradually increase their effect in the industrial production with the impact of Industry 4.0 technologies in the new world order. This order will also bring significant changes in the structure and features of labor force. The changes in the structure and features of labor force with Industry 4.0 will oblige the future labor force to rapidly acquire new skills and to improve its capacity of innovation and entrepreneurship. In the meantime, the skill of integration and adaptation to possible new career fields during Industry 4.0 process
should be created as well. The training of the highly qualified labor force with knowledge and talent has an importance for Turkey against Industry 4.0 technologies that will increase the competitive power of Turkey in global area and will provide the transformation of production into the component of products with high value added. The most effective way for the necessity that qualified labor force will be met for the transformation of Industry 4.0, and the training of the highly qualified individuals with adaptation to different structures of production, and professional knowledge and talent in the international field in Turkey will be possible with a qualified vocational and technical education. Therefore, the creation of qualified labor force in concordance with Industry 4.0 should be chief purpose of industrial policies.

To conclude, the public intervention is necessary for the transformation of Industry 4.0 in Turkey. It cannot be only accomplished with micro level activities (firms) and this transformation process should be supported with public policies as well. Otherwise, the process of Industry 4.0 transformation will not be an opportunity any more, but it will be a threat toward deindustrialization of Turkey as well.

References


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HUMAN CAPITAL, EXPORTS, AND ECONOMIC DEVELOPMENT NEXUS: THE BRICS COUNTRIES AND TURKEY

Ayberk Nuri BERKMAN

1. Introduction

In today's economic world, various types of capital concepts (human capital, physical capital, cultural capital, social capital, information capital, intellectual capital, organizational capital, etc.) are frequently encountered in the literature. Among these, human capital would be perceived as the human qualifications to utilize other production factors in a full and effective manner. In other words, it can be described as a sum of abilities, skills, knowledge and other attributes that individuals have in relation to economic activities (Becker, 1994; Aylin, 2013). There are many different studies in the literature examining the theoretical and practical impacts of human capital increase on economies. In this context, a broad variety of different data representing human capital were utilized.

The share of education expenditures in total public expenditures constitutes data that is frequently used in the theoretical and empirical literature representing human capital growth. Accordingly, the increase in investments in education expenditures and the consequent increase in per capita gross domestic product can be explained by the internal growth theories in the literature. The inadequacy of classical economic theory in ranking the production factors such as labor, physical capital, land, and entrepreneurship would be eliminated by internal growth theories that base growth on internal factors and divide capital into physical and human capital types. Although the significance of human capital in sustainable economic development was stated by Lucas (1988), the most crucial item of human capital is also expressed as education. It is expected that the increase in public spending on education would directly affect the accumulation of human capital, and therefore, long-term growth (Annabi et al., 2011).

In Baumol (1986), Barro (1991), and Barro and Leo (1993), and it was stated that the increase in human capital facilitated the transfer of new technologies from developed countries toward developing countries. Thus, the influence of educational investments on economic development was first realized through the rapid adaptation of the educated workforce to modern production techniques, so that the increasing productivity of the educated workforce positively affected competitiveness.

Also, De la Fuente and Doménech (2006) reported that growth is accelerated since the accumulation of human capital stimulates the innovative capacity of the economy. Especially the wages to be paid to the educated workforce were expected to increase, and the rise in productivity of the labour force as a production factor was expected to reduce the unemployment risk and, in turn, encourage economic development. In the study, it was stated that highly educated employees in terms of microeconomics were employed with higher wages and it could have led directly to economic development. Indirectly, education was claimed to support economic development by leading to an increase in health conditions and life expectancy of the population. The proposition of making fixed capital
investments in order to support human capital can also be considered within the framework of internal growth models.

The idea that the increase in fixed capital investments promotes the per capita gross domestic product resulting in economic development is included in the internal growth models (Gökten and Gökten, 2017). Moreover, it is accepted that increasing fixed capital investments would have a higher amount of physical capital which would accelerate economic development. On the other hand, the rise in fixed capital investments may also increase economic development through the increase in exports. Levin and Raut (1997) also asserted the idea that exports would increase the per capita gross domestic product.

In the relevant study, it was theoretically claimed that human capital expenditures would have increased employee education and the educated employees could have adapted to sophisticated technologies more quickly. Similarly, Dollar (1992) and Harrison (1996) also emphasized the interactive relationship among human capital, exports, and economic development by supporting the export-driven economic development hypothesis.

According to the theoretical implications of the internal growth theories and the empirical findings of the studies in the literature, the human capital, fixed capital investments, exports and the number of employees may have separate and / or synergistic impacts on economic development. This study aims to determine whether or not the share of education spending in total public spending as a human capital expenditure, the share of fixed capital expenditures in the gross domestic product, the share of exports in the gross domestic product and the total number of employees in the economy have an impact on the per capita gross domestic product, and if any, to determine the direction of such impact. Regarding the subject, a series of analyses are performed on samples in which the BRICS countries and Turkey are included over the period from 1990 to 2018.

In this context, the study consists of four parts. In the first part, several selected studies in the relevant literature which have examined the subject are summarized. In the second part, the dataset and analysis methodology used in the analysis are introduced. In the third part, the findings obtained from the analyses are explicated. The fourth and final part consists of a general evaluation.

2. Literature Review

Some conducted case studies in the empirical literature are summarized in Table 1 below.
Table 1. Selected Empirical Studies in the Literature

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Sample and Period</th>
<th>Data and Methodology</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levin and Raut (1997)</td>
<td>30 industrialized countries 1965–1985</td>
<td>GDP growth, per capita GDP, Population growth rate, Investments / GDP ratio, Total Exports/GDP ratio, Average Education Years, Literacy ratio, Education Expenditures / GDP ratio are used in the Cross-sectional Regression Analysis.</td>
<td>Education spending and foreign trade policies have a significant relationship. Furthermore, development policies stimulate economic development by increasing human capital and industrial export investments simultaneously in the long-run.</td>
</tr>
<tr>
<td>Ekanayake (1999)</td>
<td>8 Developing South Asian Countries 1960–1997</td>
<td>Exports and GDP Engle-Granger and Johansen Cointegration Granger Causality Analysis based on the ECM.</td>
<td>Findings indicate a unilateral causality from exports toward development in Malaysia, whereas a bilateral causality in other 7 South Asian Countries.</td>
</tr>
<tr>
<td>Contractor and Mudambi (2008)</td>
<td>25 countries 1989–2003</td>
<td>Adult literacy rate, exports of goods and services, public expenditure on education Panel Data Analysis</td>
<td>A significant effect of human capital on the exports of goods and services is detected.</td>
</tr>
<tr>
<td>Şimşek and Kadılar (2010)</td>
<td>Turkey 1960–2004</td>
<td>Number of enrolled university students, exports. Cointegration and causality tests.</td>
<td>Findings indicate that the rise in the volume of exports along with the accumulation of human capital stimulates long-term economic development in the long-run, whereas the increase in GDP encourages the human capital accumulation.</td>
</tr>
</tbody>
</table>
3. Data and Methodology

This study, with which the BRICS countries (Brazil, Russia, India, China, and South Africa) and Turkey are dealt, aims to examine the impacts of education expenditure ratio (EDUEXP), the share of fixed capital investment (FCI), the share of exports (EXP), and the total number of employees (THC) on the per capita gross domestic product (PCGDP). In this context, the GDP data of the BRICS countries are selected among the data which are obtained from the World Bank and OECD National Accounts. The PCGDP data, in USD prices of 2010, are calculated dividing the gross domestic product by mid-year population. The data for the share of education expenditures are included in the analyses calculated by UNESCO statistical unit. The share of fixed capital investments, formerly known as gross fixed investment rate, is published by the World Bank. For the calculation of the fixed capital investments, the total amount of money related to commercial and industrial buildings, schools, public institutions, hospitals, private houses is taken into account. In the analyses, the share of fixed capital investments in the gross domestic product calculated by the World Bank is used.

Furthermore, another data calculated by the World Bank is export data which represents the market value of the exports of goods and services including freight, insurance, transportation, travel, copyrights, license fees, communication, construction, and finance services. The related data is expressed in proportion to the gross domestic product for each country and period. The total number of employees, calculated by the International Labor Organization, involves individuals over 15 years of age who are employed for producing goods and services within a certain timeline. The most suitable period for the analyzes under the data deficiency constraint covers between 1990 - 2018. The frequency of the study is annual according to the data frequency.

In the study, panel data analysis is performed on panel data with both time and sectional dimensions. The interest in panel data analysis has increased since the 1980s due to its advantages (Hausman and Taylor, 1981). Panel data can facilitate broader modeling by creating complex hypotheses compared to one-dimensional data such as cross-
section or time-series. In this context, two different panel data analysis methods are tried to be examined. The former is the Generalized Moments Method (GMM) proposed by Arellano and Bond (1991). Since economic behavior during a period is affected by past experiences and previous behavioral patterns, the lagged values of the variables evaluated in the analysis of economic relationships may also need to be considered as the explanatory factors. Such a dynamic structure is frequently used in panel data models (Tatoğlu, 2013: 65). Since the lagged values of the dependent variable are included in the model pattern, the GMM method can also be expressed as the dynamic panel method. Dynamic panel data methods are frequently preferred in practice because of using more observations, ensuring more homogeneity of observations, enhancing the degree of freedom and eliminating the problem of cointegration between explanatory variables (Baltagi, 2005). In addition, the GMM method can also be used when error terms are autocorrelated (Akay, 2015: 95). The econometric pattern of the model used in this study is expressed as follows:

\[ PCGD_{it} = c + THC_{it} + EDUEX_{it} + EXP_{it} + FCI_{it} + e_{it} \] (1)

\( PCGD_{it} \): The value of per capita gross domestic product of the \( i^{th} \) country in period \( t \)

\( THC_{it} \): The share of total human capital in the gross domestic product of the \( i^{th} \) country in period \( t \)

\( EDUEX_{it} \): The share of education expenditures in total public expenditures of the \( i^{th} \) country in period \( t \)

\( EXP_{it} \): The ratio of exports to the gross domestic product of the \( i^{th} \) country in period \( t \)

\( FCI_{it} \): The share of fixed capital investments in gross domestic product of the \( i^{th} \) country in period \( t \)

\( e_{it} \): The error term

The logarithms of both PCGDP and THC data in the above model are taken for linearization process to be carried out and it is expected that more consistent estimators would be reached. Other data (EDUEXP, FCI, and EXP) are expressed in ratios. In the panel fixed effects model, while the model’s econometric pattern is included in the analysis as described in Model (1), a lagged value of the dependent variable (PCGDP\(_{i,t-1} \)) is included as an independent variable in the GMM model.

4. Findings

The descriptive statistics for the variables included in the analysis performed on the samples involving the BRICS countries and Turkey over the period from 1990 to 2018 are presented in Table 2.

Table 2. Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Stand. Dev.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log(PCGDP)</td>
<td>21.734</td>
<td>8.783</td>
<td>6.620</td>
<td>45.176</td>
</tr>
<tr>
<td>EDUEX</td>
<td>5.477</td>
<td>1.312</td>
<td>0.0098</td>
<td>6.592</td>
</tr>
<tr>
<td>FCI</td>
<td>24.987</td>
<td>7.958</td>
<td>13.998</td>
<td>46.841</td>
</tr>
<tr>
<td>EXP</td>
<td>12.361</td>
<td>0.292</td>
<td>10.757</td>
<td>13.754</td>
</tr>
<tr>
<td>Log(THC)</td>
<td>7.000</td>
<td>0.599</td>
<td>7.042</td>
<td>9.017</td>
</tr>
</tbody>
</table>
Upon examining the descriptive statistics, it is seen that education expenditures constitute 5.47% of the total expenditures of the sample countries in the relevant period. Moreover, it can be said that countries in the same sample realize fixed capital investments at 24.98% of their gross domestic products. On the other hand, the mean value of the share of exports in GDP of the relevant countries is 12.36%. The estimation results of the difference GMM model carried out within the framework of the Model (9) along with the variables in Table 2, and the panel fixed effects model can be examined in Table 3.

<table>
<thead>
<tr>
<th>Table 3. Estimation Results</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>$c$</td>
</tr>
<tr>
<td>$\text{Log(PCGDP}_{t-1}$</td>
</tr>
<tr>
<td>$\text{EDUEX}$</td>
</tr>
<tr>
<td>$\text{FCI}$</td>
</tr>
<tr>
<td>$\text{EXP}$</td>
</tr>
<tr>
<td>$\text{Log(THC)}$</td>
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<tr>
<td>$\text{AR(1)}$</td>
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<tr>
<td>$\text{AR(2)}$</td>
</tr>
<tr>
<td>Wald Test</td>
</tr>
<tr>
<td>Sargan $J$</td>
</tr>
<tr>
<td>Hausman $c^2$</td>
</tr>
<tr>
<td>$F$</td>
</tr>
<tr>
<td>$R^2$</td>
</tr>
</tbody>
</table>

*The probability values are indicated in parentheses.

Upon examining Table 3, the analysis for the difference GMM model detects no 2nd order autocorrelation based on the findings of the 1st and the 2nd order autocorrelation tests. Furthermore, the probability value of the Wald test statistic indicates that the model is significant as a whole. Then, the Sargan Test result reveals that the model estimators are not under over-identifying restrictions. Accordingly, post-test findings reveal that the difference GMM results are valid. Upon evaluating the results of variable coefficients, it is seen that the past values of per
capita gross domestic product have a statistically significant and affirmative impact on itself. The share of education spending in public expenditures has an affirmative and statistically significant effect on the gross domestic product.

Similarly, the ratio of fixed capital investments to the gross domestic product has a statistically significant and affirmative impact on per capita gross domestic product. Moreover, the ratio of exports to gross domestic product is also found positively effective on the per capita gross domestic product, and such effect is statistically significant. The impact of the total number of employees on the per capita gross domestic product is not statistically significant. Upon examining the results of the panel fixed effects model in Table 3, the Hausman $c^2$ Test statistic reveals that the fixed effects model is more appropriate rather than the random effects model. Upon evaluating the results of the panel fixed effects method, the probability value of the F-statistic indicates that the model is significant. Signs and significance of the variable coefficients are exactly in line with the difference GMM model. Table 3 indicates that the same results are obtained from both analyses. In this context, it can be said that the results do not change in the method differences.

5. Conclusion

In this study, the impacts of the share of education expenditures in total public expenditures, the share of the fixed capital investments in the gross domestic product, the ratio of exports to the gross domestic product and the total number of employees on gross domestic product are tried to be examined using the difference GMM model of Arellano and Bond (1991) along with the panel fixed effects model. The period between 1990-2018 is included in the analyses performed on the samples involving the BRICS countries and Turkey. The findings obtained from both the difference GMM model and the panel fixed effects model are similar, and it is concluded that the share of education expenditures in the public spending has an affirmative impact on per capita gross domestic product. Another result obtained from the analyses is that the share of fixed capital investments in the gross domestic product positively affects the per capita gross domestic product. Accordingly, it can be said that increasing the share of education in total public expenditures, increasing the fixed capital investments and increasing the share of exports in the gross domestic product would synergistically increase the per capita gross domestic product within the framework of internal growth theories.

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AN OVERVIEW ON ENDOGENOUS GROWTH THEORY

Musa ATGÜR

Introduction

Economic growth concept is an important indicator of development level of a country’s economy. Economic growth concept shows a quantitative change and implies a positive change in gross domestic product (GDP) compared to previous period.

As a result of the Great Depression, which had a negative impact on world economy and emerged in 1929, world economy has entered into a significant economic recession process. The negative conditions brought about search for economic growth that emerged after this economic recession. Growth theory studies firstly started modern sense with Harrod (1939) and Domar (1946) with Keynes’s contributions to economic growth theory, Solow’s Neoclassical growth model emerged under neoclassical economic approach in 1957.

Economic growth models started with Harrod (1939) and Domar (1946) in modern sense, it continued with Solow’s Neoclassical growth theory and based economic growth on exogenous dynamics. Accordingly, these models were criticized that they considered technological developments as exogenous variables and didn’t take into account economic development differences between countries. In this context, exogenous growth theories has been criticized that it is not in line with economic realities it was insufficient to explain the phenomenon of economic growth and based its growth dynamics on exogenous factors other than economics. Exogenous growth theories have been replaced by endogenous growth theories beginning with Romer (1986) and Lucas (1988) from 1980s.

Endogenous growth theories, which began with contributions of Romer (1986), point to a significant progress in terms of growth models beyond birth as a response to neoclassical growth theory. In this context, technological developments are based on while neoclassical growth models are taken as an exogenous variable; technological developments with endogenous growth models as an endogenous variable. At the same time, it indicates the existence of a breaking point in terms of old and new growth theories.

It requires an examination of endogenous growth theory with different dimensions models developed by endogenous growth theory. In first part, seven different endogenous growth models were examined according to chronological order in this study which examines endogenous growth theory developed within framework of different models. In second part, it was examined econometric studies on endogenous growth theory. In last part, it was discussed endogenous growth theory and models in a general framework.

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1. Endogenous Growth Theory and Sources

Today, it has been developed models that make technological progress endogenous beyond Solow model to fully understand the economic growth process. In this context, it was rejected Solow’s assumption that technological development is exogenous (Mankiw, 2002, p. 222), it is stated that technological progress is an endogenous variable and closely affects the growth rate.

On the other hand, it is important long-run economic growth rate in terms of welfare level of people living in a country. They have made significant progress countries that can realize a stable and rapid economic growth in terms of welfare level of citizens in long-run. Otherwise, they could not make significant progress countries that cannot realize a stable growth rate in terms of welfare level in long-run. It is seen as the first deficiency of Solow model the fact that economic growth is not a key observation. Solow model is based on increases in total factor productivity from outside the model to realize long-run increases in per capita production. Increases in factor productivity include research and development activities carried out by firms, training and work during training and all these activities are sensitive to economic environment. Solow’s growth model could not answer the following questions; How does total factor productivity increase? What is the amount of public funds spent on public education? How are increases in factor productivity affected by subsidies for research and development? Is it meaningful that the government intervenes to promote economic growth? However, an endogenous growth model has the ability to answer the above questions (Williamson, 2014, p. 276).

Romer (1986), Lucas (1988), Barro (1990), Rebelo (1991), Grossman and Helpman (1991), Aghion and Howit (1992) made significant contributions to endogenous growth theory. Seven different models have been developed within the scope of endogenous growth theory generally. These models; Frankel’s technology-capital (A-K) model, Arrow’s learning by doing (LBD) model, Romer’s research and development model, Lucas’ human capital model, Barro’s public spending and taxation model, Grossman and Helpman’s product diversification model, Aghion and Howit’s creative destruction model. These models are examined in detail below.

1.1 Technology-Capital (A-K) Model

Frankel (1962) proposed A-K model the first example of endogenous growth theory by combining Solow-Swan and Harrod-Domar models. There was no clear distinction between capital accumulation and technological progress, physical capital stock and human capital stock are combined by linking capital with innovation in A-K model. Human capital which constitutes a certain part of capital stock that carries out technological progress at point of increase in capital stock of firms (Koç, 2018, p. 479). Thus, human capital factor has an important role in A-K model.

When we try to explain endogenous growth theory with a simple production function equation;

\[ Y = AK \]  

(1)

A shown in Equation (1) is a constant that measures amount of output produced for each capital unit. This equation is known as A-K model. The production function does not show a decreasing return for the capital factor. \( s \), is a part of income saved, in this case;

\[ \Delta K = sY - \delta K \]  

(2)
It will be like in equation (3) when it is written together with production function,

\[
\Delta Y / Y = \Delta K / K = sA - \delta
\]  

(3)

Equation (3) shows determinant of the growth rate of \( \Delta Y / Y \) output. As long as \( sA > \delta \), economy grows forever even without assumption of exogenous technological progress (Mankiw, 2010, p. 239-240).

It is the simplest example of an endogenous growth model above mentioned A-K model. This model consists of two sectors: manufacturing sector and research sector. The manufacturing sector produces goods and services for consumption or investment using physical capital stock \( K \). The research sector consists of universities producing knowledge used in both sectors. Accordingly, the economy can be defined by three equations.

\[
Y = f[K, (1-u)E]
\]  

(4)

\[
\Delta E = g(u)E
\]  

(5)

\[
\Delta K = sY - \delta K
\]  

(6)

Equation (4) shows manufacturing function of manufacturing firms. Equation (5) represents production function for research, and equation (6) represents accumulation of capital. The ratio of labor force is \( u \). Information stock \( E \) determines efficiency of labor. Both manufacturing and research sectors show fixed returns relative to scale (Mankiw, 2010, pp. 240-241).

The A-K Model assumes that return on capital is constant. This situation has removed the braking on growth imposed by reduced yields. This assumption is shown in equation (7).

\[
Y(t) = AK(t)
\]  

(7)

In Equation (1), \( A \) is greater than zero and is a constant. When a part of the capital returns is assumed to be exogenous, this is shown in equation (8).

\[
y(t) = A(K(t)^* / L(t))^{1-\theta} k(t)^{\theta} l(t)^{1-\theta}
\]  

(8)

In Equation (8), \( y(t) \) indicates capital unit \( k(t) \), \( I(t) \) indicates output of a particular firm that leases the labor unit, \( K(t) \) indicates the total amount of capital used in production, and \( L(t) \) indicates total amount of labor used in production (Klein, 2013, p. 1).

The law of diminishing returns is not valid, it has been suggested that increase in investment accelerates economic growth in A-K model. Technology is included as an endogenous variable in A-K model.

1.2 Learning By Doing (LBD) Model

Arrow (1962)’s learning by doing (LBD) model, products are also being developed according to the previous situation, as companies continuously produce new goods and services and learning process is realized more recent products. It is claimed that growth will accelerate at the end of learning by doing (LBD) process.
Reduced return on physical capital accumulation main feature of endogenous LBD. This is due to double role played by physical investment. Accordingly, interest rate was higher than net efficiency of physical capital. The marginal efficiency of physical capital declines, while the marginal productivity of labor increases when physical capital accumulates in this case, it prevents interest rates from falling rapidly. This mechanism slows the convergence of economy towards the equilibrium level in long-run and encourages saving. Arrow (1962)’s knowledge and productivity gains are based on idea that investments in physical capital stock are caused both research and development model Romer (1986)’s and Lucas (1988)’s human capital model. In other words, it also causes an increase in information stock that it incorporates through learning process an increase in the capital stock of a firm. But this learning process has traditionally been accepted as an exogenous. Then, Bessen (1998), Álvarez Albelo (1999) showed that empirical studies learning by doing (LBD) process were largely a company-specific human capital investment and internally determined (Albelo & Manresa, 2005, pp. 1-3).

1.3 Research and Development Model

Monopolistic competition markets are assumed to exist in research and development model of Romer (1986). According to this, innovative firms gain monopoly power thanks to their new knowledge and production techniques. This monopoly power plays an important role in development of new ideas by other firms. Innovative companies reflect on costs of products they produce their research and development expenses in research and development model. It will also encourage production and use of innovative ideas for other firms advantages of companies that produce innovative ideas and use these ideas in production process. Romer (1986)’s research and development model is a two-sector model including manufacturing sector and research and development sector. Accordingly, manufacturing sector produces consumer goods and investment goods. Innovative ideas and new techniques are produced in research and development sector. Developing innovations in the research and development sector has also been the main source of economic growth.

The research-development model has given a significant impetus to endogenous growth theory. This model is based on innovative ideas and application of these ideas in production process. New ideas and technological developments took place as endogenous variables in the model.

The Romer (1986) model is a long-run growth model in which information is assumed to be used as an input in production and increased marginal productivity. This model is a competitive equilibrium model with endogenous technological change. Romer (1986) argued that growth rates may increase over time, and that large countries are always able to grow faster than small countries.

Romer (1986) assumes that a firm has a growing information stock in line with its research and development spending. Information stock is similar to the public interest in absence of an effective patent market. Technological change concept is endogenoused in Romer’s model, long-term growth is mainly due to the production of new information by special economic units that are trying to maximize their future profits in the model. Production of goods obtained through new information reflects increasing return situation (Mayer, 1996, p. 7).

1.4 Human Capital Model

Lucas (1988) examined economic growth on the basis of human capital. According to Lucas, main determinant of economic growth is the human capital factor. While human capital can be developed through education, state can implement policies that increase human capital and accelerate economic growth.
Lucas (1988) has expressed a growth model shown in equation (9) and produced outputs using production function.

\[ Y = AK^{\alpha} (\ell / L)^{1-\alpha} \]  \hspace{1cm} (9)

\( Y \) shows output given in Equation (9), \( A \) shows technology, \( K \) shows capital factor. \( \alpha \) is a value between 0 and \(<\alpha <1 \). The variable \( \ell \) refers to the percentage of total labor spent on work and \( h \) is human capital specified by Lucas.

The production function can be written as in equation (10) when rewritten in per capita form.

\[ Y = Ak^{\alpha} (h)^{1-\alpha} \]  \hspace{1cm} (10)

It is a fixed return production function shown in Equation (10) (Carroll, 2018, p. 1). Human capital is defined as a production factor in Lucas (1988), the model is a two-sector model, human and physical capital are used to produce income or goods in first and productive sector. Only human capital is used to produce the human capital that can be used in the second sector. Its must arrive human capital accumulation from fixed or increasing marginal returns in order for endogenous growth to take place. Fixed or increasing marginal returns, the second sector may exist where human capital is used as an input to form the human capital (Leeuwen, 2007, p. 157).

1.5 Government Spending and Taxation Model

Public expenditure and income tax were added to the endogenous growth model Barro (1990)'s contribution to endogenous growth theory.

There is a positive correlation between long-run economic growth and infrastructure investments to increase marginal efficiency of private investment expenditures and government spending to allow property rights in Barro (1990) model. Accordingly, if these government expenditures were financed by flat rate taxes, it was concluded that these taxes reduced long-term economic growth. Per capita production function is fixed return of the scale Barro (1990) model. There is a positive long-run economic growth rate in the model. It is argued that government policies have an impact on long-term economic growth in the model. The government is spending efficient public spending that positively affects the marginal efficiency of private investments (Minea, 2008, pp. 100-111).

Barro (1990) examined the role of government spending in productivity in the private sector. Accordingly, these expenditures may accelerate economic growth. If government revenues are used to finance wasted state service that does not have an impact on productivity, it will reduce economic growth. On the other hand, if capital accumulation is an engine of growth income taxes taxing interest income will prevent capital owners from accumulating capital and will affect economic growth negatively (Sena & Fontenele, 2012, p. 11). According to the model, government spending and taxes, which are also important instruments of fiscal policy, may have positive and negative effects on economic growth.

1.6 Product Diversification Model

Product diversification model is a single sector model Grossman and Helpman (1991)’s. According to the model, international integration facilitates international information sharing. According to this, knowledge transfer is also possible when a country’s openness level increases.
Technological innovations increase marginal efficiency of capital and average productivity and make investment of machinery and equipment more profitable. On the one hand, the role of innovation on economic growth is undeniable in Grossman and Helpman (1991) model on the other hand it is based on the assumption of constant return scale (Guarini, 2011, p. 153).

Grossman and Helpman (1991) pointed out that the flow of information at international level occurred. The information stock enables production of new products and increases quality of production, which is based on research and development achievements both at domestically and abroad. In this context, international information spillovers reduces innovation costs in all other countries and accelerates economic growth in all countries. Grossman and Helpman (2014) concluded that many countries have increased their long-run growth rates as a result of spillover of information from one country to another (Grossman & Helpman, 2015, p. 101).

Grossman and Helpman (1991) model is based on assumption to constant return of scale. They examined the effect of innovation on three variables: final output growth rate, final output prices general level and investment rate, provided that all other characteristics of the model remain the same in case of increased capital return.

It has been accepted as an exogenous variable international spillover of information In the majority of the literature. But, international trade and foreign direct investment can be important channels for the transfer of new information. The companies of an importing country can get an idea of new products and new production techniques from their suppliers abroad. Companies in the exporting country can also obtain information by discussing the characteristics of the products and receiving feedback from their customers abroad (Grossman & Helpman, 2015, p. 101). As a result, product diversification model argues that with increase in openness level of a country’s economy, information transfer that includes technological innovations from abroad to country will be realized and thus economic growth will accelerate.

1.7 Growth Through Creative Destruction Model

Schumpeterian growth model is the basis of creative destruction model. Schumpeterian growth model stems from investments of initiatives that innovations produce and which motivate the future of these innovations in future of monopoly gains. Schumpeterian growth theory has been transformed into an integrated framework to understand not only the macroeconomic structure of growth but also the many microeconomic problems associated with growth, incentives, policies and organizations in last quarter century (Aghion et al., 2014).

Aghion and Howitt (1992) developed a model of economic growth based on Schumpeter’s growth model. According to this, economic growth arises only due to technological developments, and it stems from the competition between research firms developing these innovations. In this context, each innovation produces a new intermediate product which can be used to produce the final output more efficiently than previous one.

Aghion and Howitt (1992) proposed a two-sector model for production and research and development within the scope of endogenous growth theory. The final goods are produced in manufacturing sector, intermediate goods are produced for production of final goods in the research and development sector.

Innovations provide more efficient production of final goods in the production process, and accelerate growth by positively affecting the qualities of intermediate goods Aghion and Howitt (1992) model.
2. Review of Empirical Literature

Econometric studies were examined by chronological order on endogenous economic growth in this section. From these studies, Ulku (2004) examined the relationship between research and development, innovation and economic growth in twenty OECD member countries and ten OECD nonmember countries during the period 1981-1997. Generalized moments method (GMM) was applied in the study and the variables were determined; patent applications, gross research and development expenditure, GDP per capita and investment in establishment of econometric model. According to the results of the study, a positive relationship was found between GDP per capita and innovation in OECD member and OECD nonmember countries and the impact of research and development stock on innovation was found to be significant only in OECD member countries with large markets.

Ghosh and Gregoriou (2006) examined public spending and optimal fiscal policy and endogenous growth in fifteen developing countries during the period 1972-1999. The results show that public expenditures have a positive impact on economic growth using the panel data analysis of generalized moments method (GMM) applied to the study.

Estrada and Montero (2009) analyzed the impact of research and development investments on long-run economic growth in USA, Japan, Germany, England, France, Italy and Spain during the period 1970-2016. The findings showed that research-development shocks were positively effective on economic activity of the study in which the structural VAR model method was applied.

Kraipornsak (2009) examined the role of human capital and total factor productivity growth in economic growth by using quarterly data in Thailand during for the period 1993-2006. The role of human capital and total factor productivity growth in economic growth has been examined separately for agriculture, industry and services sectors in the study where ordinary least squares (OLS) and vector error correction model (VECM) estimation methods are applied. The findings confirm that total factor productivity growth will not be accepted externally and the endogenous growth hypothesis is valid.

Peng (2010) examined the relationship between research and development expenditures and economic growth in China for the period 1987-2007. Engle-Granger cointegration and Granger causality test methods were used in the study and the variables were determined for econometric model; research and development expenditures and real GDP. According to the study results, research and development expenditures affect economic growth in China.

Ewubare and Oguagu (2015) examined the impact of capital accumulation on economic growth in Nigeria during the period 1981-2013. The variables were determined for the econometric modeling; GDP growth rate, gross fixed capital formation, human capital formation, saving rate, population growth rate, institutional quality and inflation, using the Autoregressive Distributed Lag (ARDL) Bound test Vector Autoregressive (VAR) model methods. The results show that gross capital formation and human capital have a negative and insignificant effect on economic growth. There was political and socioeconomic instability as a result of this result in Nigeria.

Ecevit and Kuloglu (2016) examined the human capital and economic growth relationship in Turkey for the period 1990-2013. The variables were determined for the econometric modeling of the study; economic growth, health expenditure, public expenditure for education and gross fixed capital formation using the Autoregressive Distributed Lag (ARDL) method. The findings supported the endogenous growth theory based on human capital.
Kruse-Andersen (2017) was tested by the validity of research-development based endogenous growth theory, using the cointegration and Vector Autoregressive (VAR) model methods in USA during the period 1953-2014. The variables were determined for the econometric modeling of the study total factor productivity, GDP and research and development expenditures. The findings has shown that there is a significant relationship between total factor productivity growth, research-development expenditures and employment growth.

Ehrlich et al. (2017) examined the role of entrepreneurial human capital in endogenous economic growth in sixty-three countries. The variable were determined for the econometric model of the study; entrepreneurial capital investment, human capital investment of entrepreneurs, institutional support index, real output per capita and real income, total factor productivity, endogenous and predetermined environmental factors in which the panel ordinary least squares (OLS) method is applied. Obtained the results indicate that entrepreneurial human capital affects endogenous economic growth.

Rangongo and Ngwakwe (2019) examined the relationship between human capital and economic growth in South Africa and Kenya for the period 1987-2016. Obtained the findings show that human capital investments are effective on economic growth using panel data analysis method.

3. Conclusion

It is impossible to explain economic growth with pure capital accumulation. Thus, growth theories have led to the necessity of a further study of the efficient use of capital accumulation, the transformation into investment and the conditions and factors affecting it.

Economists focused on the relationship between physical capital accumulation and economic growth until the eighties and they focused on the relationship between economic growth and knowledge and technology from the eighties.

Developments in science and technology have affected production techniques and processes in the last quarter century. Technological developments have also affected the productivity of the factors used in production. Therefore, it has also positively affected the marginal efficiency of capital and labor. Especially by the nineties, technological developments had a positive impact on the production of goods and services and provided significant advantages to the companies in production of goods and services.

Significant progress was made in field of economic growth theory in eighties. In this context, exogenous growth theory models, where the technology factor is taken as an exogenous variable, have been replaced by models of endogenous growth theory. This transformation of growth theory led to emergence of new endogenous growth models based on different foundations within the endogenous growth theory.

The endogenous growth theory, which began with Romer (1986) was then studied in different ways. Romer (1986), together with research and development activities and innovative ideas, centered on the technological developments in center of growth theory and explained the growth based on endogenous variables. Lucas (1988) explained endogenous growth theory on the basis of human capital and saw it as a determining factor in economic growth.

Romer (1986) model is based on technological growth while Lucas (1988) model is based on human capital accumulation. As Lucas (1988) model is based on the marginal return of human capital accumulation, it is unlikely that growth will continue continuously in Lucas’ model (Leeuwen, 2007, p. 155).
On the other hand, Grossman and Helpman (1991) argued that increasing openness level of a country is an important channel in the transmission of information, and with the spread of information among countries, the costs of innovation have decreased and economic growth has accelerated. Barro (1990) examined the effects of productive public spending and flat rate taxes on the endogenous growth model. In this context, productive public spending accelerates economic growth by positively affecting marginal productivity of private investment expenditures. On the other hand, flat rate taxes affect the economic growth negatively.

Finally, Aghion and Howitt (1992) proposed a growth model based on Schumpeter’s perspective of creative destruction model. While Aghion and Howitt (1992) emphasized the importance of research and development, they claimed that innovation accelerated growth by increasing productivity in production.

Although the endogenous growth theory has explained determinants of growth, productivity factors of production factors will be different. Capital and labor will be used in different efficiencies in the production process. In addition, differences between countries may reveal convergence or divergence with each other in terms of economic growth.

The differences between countries economies cause marginal effectiveness of capital to occur at different levels in each country. This may also result in the growth rate being different in each country. Significant differences are observed between developed countries and developing countries in terms of economic growth performance. Research-development expenditures, the availability of innovative ideas in production are more intense in developed countries and the transfer of knowledge cannot be realized simultaneously.

On the other hand, there are differences between countries in terms of human capital. Accordingly, skilled labor in developed countries are in majority compared to developing countries. Human resources are not in sufficient quantity developing countries in the production process.

References


AN OVERVIEW ON ENDOGENEOUS GROWTH THEORY

Musa ATGUR


PART III

POLITICAL ECONOMY
RECENT DEVELOPMENTS IN ECONOMICS: TOWARDS A NEW MAINSTREAM

Hüsnü BİLİR

1. Introduction

Economics has different approaches and schools of thought, although there is a consensus over that neoclassical economics is the school of thought which dominates today’s discipline of economics. However it’s argued that economics has recently been in a transformation or renewal process. Along these lines, the concepts which is thought in the center of economics has adjusted and so the nature of economics has changed. This process is defined as “economics imperialism” –or “freakonomics”-, “reverse imperialism” or “pluralism” in economic literature.

In any case, it’s so obvious that economics has evolved and changed over the last decades. In this respect, although it’s argued that the basic assumptions of neoclassical economics have been challenged by such new approaches as experimental economics, behavioral economics, neuroeconomics, new institutional economics and behavioral-evolutionary game theory, these new research programs could be addressed within the framework of “new” mainstream economics. Because they all continue to imitate and adhere to natural sciences and have same methodological instruments with neoclassical economics.

Therefore, this process can be characterized as the changing face of mainstream economics. And the aim of this paper is to argue that the recent developments in the discipline is a not an imperialistic or reverse imperialistic conduct but a consequence of historical process, and that the relationship between economics and sciences such as psychology, biology and neurology has changed the nature of mainstream economics towards a more pluralistic and heterogeneous “new mainstream economics”.

2. Recent Developments in Economics

Neoclassical economics has dominated the economics discipline especially after the World War II. The distinctive feature of this period was increasing mathematization of the economic subject. As Davis (2008) stated (neoclassical) economists borrowed liberally from physics, engineering, and operations research to develop these tools, and then carried them forward in the postwar to the analysis of markets and economic systems.

We have to say that at this point, mathematical language and modeling –and also statistical techniques- have always been a part of (neoclassical) economics since 1870’s, but it became prominent in this period (Boettke, Leeson and Smith, 2008, p. 18). Following the World War II, economics started to become a mathematical inquiry and it became “social physics based on physics at the end of the nineteenth century” (Reinert, 2012, p. 6). And Friedman reflected this conception of economics as “positive economics is, or can be, an ‘objective’ science, in precisely the same sense as any of the physical sciences” (1953, p. 4).

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In this process, anything which couldn't be formalized and stated mathematically was excluded from (neoclassical) economic theory. From then on, the scientific program of (neoclassical) economists has been to “reformulate verbal (…) arguments into symbols and variables and diagrams and fixed point theorems and the like” (McCloskey, 2005, p. 9). Kreps (1997, p. 59) argued that after the World War II mathematical modeling rose to prominence in economics and described this process as narrowing of the issues economists were willing to address and falling out the detailed study of economic institutions of favor. But beginning in the mid-1960s, technical innovations and increased access to data broadened the scope of greed, rationality, and equilibrium. The Nobel Prize winner Robert Frisch described the development of mathematical and especially econometrics methods with reference to William Stanley Jevons:

“The English mathematician and economist Stanley Jevons (1835-1882) dreamed of the day when he would be able to quantify at least some of the laws and regularities of economics. Today –since the break-through of econometrics– this is not a dream but a reality” (Frisch, 1981, pp. 2-3).

And this process greatly accelerated by substitution for classical economists’ method of inquiry and indeed of the big questions they posed, by models of general competitive equilibrium on the one hand, and technical growth models on the other (Boettke, Lesson and Smith, 2008, pp. 16-17). As Alvey (1999, p. 24) quoted from Solow (1997) “between 1940 and 1990 (…) economics became a self-consciously technical subject” during this process and hence, economists are properly conceived of as technicians.

But it’s argued that economics has been in a transformation or renewal process in the last three decades (Colander, 2000; Colander, Holt, and Rosser Jr., 2004; Boettke, Lesson and Smith, 2006; Davis, 2006, 2008). In this regard, there’s been a shifting boundaries between economics and other social sciences and this process is marked as either the imperialist expansion of economics -or “freakonomics”-, or “reverse imperialism” which means the imports of ideas, concepts and methods of other sciences into economics or “pluralism”. According to former view, neoclassical economics has widened its traditional boundaries by varying its methods of analysis and including the aspects of human-being normally considered beyond the scope of the discipline in the late of the twentieth century (Pressman, 2006, p. xxii-xxiii). The basic idea of this widening was that economics as a social science had superiority over other social sciences as “the queen of the social sciences” (Samuelson, 1948; Lerner, 1972). This view is actually associated with Gary Becker who extended the scope of (neoclassical) economics to non-economic issues and areas such as sumo wrestling, drug addiction and abortion, marriage and divorce, fertility, mate selection, pornography and prostitution, religion and suicide, engineering design, child adoption, various forms of discrimination, etc. This concept refers to the claim that the methodology of (neoclassical) economics is universal and more “scientific” (or the only “scientific” one) than other social sciences, so all social sciences should adopt this methodology; and “imperialism” here implied that economics has done this without any invitations (Stigler, 1984; Hirshleifer, 1985; Radnitzky and Bernholz, 1987; Lazear, 2000; Rothschild, 2008).

Therefore economics imperialism implies the colonization of the subject matter of other social sciences by economics (Milonakis and Fine, 2009). However Mäki (2009) argued that the imperialistic inclination of economics is traced back to the last half twentieth century, and titles of works deal with domains of phenomena that previously were not generally perceived as “economic” but are now analyzed in economic terms such as Gary Becker’s *The Economics of Discrimination* (1957), Anthony Downs’s *An Economic Theory of Democracy* (1957), James Buchanan

\[2\] For a different approach see Eren (214:148)
and Gordon Tullock’s *The Calculus of Consent* (1962), Mancur Olson’s *The Logic of Collective Action* (1965), and Becker’s *A Treatise on the Family* (1981) reflect this inclination.

In this respect the economic method should be applied by all social sciences such as political science, psychology, sociology, philosophy, etc., because “sociologists and political scientists have less powerful analytical tools and know less than we do, or so we believe” (Freeman, 1999, p. 141). So these disciplines couldn’t provide proper answers to questions by their methodologies:

“The power of economics lies in its rigor. Economics is scientific; it follows the scientific method of stating a formal refutable theory, and revising the theory based on the evidence. Economics succeeds where other social sciences fail because economists are willing to abstract (...) But the weakness of economics is that to be rigorous, simplifying assumptions must be made that constrain the analysis and narrow the focus of the researcher. It is for this reason that the broader-thinking sociologists, anthropologists, and perhaps psychologists may be better at identifying issues, but worse at providing answers” (Lazear, 2000, pp. 102-103).

On the other hand, this process is characterized as “reverse imperialism” in economic literature by some historians of economic thought. For example, Frey (1993) argued that it’s time to change in terms of the trade between economics and other social sciences and to switch from export to import of aspects, insights and ideas. Davis (2008) argued that heterogeneity within the mainstream has been obviously increasing in the last 25-30 years and according to him, this happens thanks to the concepts and ideas belonging to other sciences such as psychology (behavioral economics), mathematics (game theory), biology (evolutionary economics), physics (complexity modeling) and neurology (neuroeconomics). According to Santos (2011, p. 706) the new research programs such as game theory, evolutionary economics and neuroeconomics have a common denominator; they all are relatively recent developments whose emergence relied on conceptual contents imported from other disciplines, such as psychology, biology and neuroscience with radically different principles, presuppositions and conceptual frameworks, making up a rather heterogeneous and pluralistic mainstream economics.

So reverse imperialism implies the imports of ideas and methods of other sciences into economics (Davis, 2006). And this method isn’t a new one in the history of economic thought, for neoclassical economics such as Léon Walras and William Stanley Jevons stated that economics had to trace the natural sciences such as physics and mechanics. For example Walras (1954, p. 71) stated that “the pure theory of economics (...) resembles the physico-mathematical sciences in every respect.” Similarly Jevons conceived economics as a mathematical science as physics and mechanics, and stated that economic theory “presents a close analogy to the science of Statical Mechanics, and the Laws of Exchange are found to resemble the Laws of Equilibrium of a lever as determined by the principle of virtual velocities” (Jevons, 1879, p. vvi). In this regard, we could say that there was an imperialism of style (techniques and standards of inquiry) once, but there’s an imperialism of scope (range of phenomena explained) and standing (prestige and power of the discipline itself) in Mäki’s (2009) sense of word.

In the meantime, this ramification of economics discipline is defined as “pluralism”. For example, according to Davis (2008, p. 8) recent economics can be described as a traditional neoclassical core surrounded by two sets of approaches that challenge it: (a) heterodox research programs (many of them long-standing, others more recent)
that have survived the standardization process, and (b) a collection of new research programs which largely derive 
dependence on measurement, experiment and observation, but the distinctive feature of this new mainstream economics is 

3. What is Mainstream Economics?

Mainstream economics is a broader concept, because it has both sociological and intellectual aspects. Intellectual 

But this definition may lead to some misunderstandings, as these concepts are accepted by heterodox economists 

The sociological definitions point out groups (or communities), networks of these groups and power relations 

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memberships of groups, learned societies and networks and the location and exercise of power associated with these groups”. So the key point is “networks”, not “concepts” or “methods”. In this regard Colander, Holt and Rosser Jr. (2004, p. 490) argued that mainstream “consists of the ideas that are held by those individuals who are dominant in the leading academic institutions, organizations, and journals at any given time, especially the leading graduate research institutions”, while “mainstream economics consists of the ideas that the elite in the profession finds acceptable, where by ‘elite’ we mean the leading economists in the top graduate schools”.

According to this definition being a part of mainstream economics it’s not necessary to be a member of the “elites”, it’s enough to share the ideas of them. However this definition could be extended by integrating the elites of the profession. In that case mainstream economics could be defined as “that which is taught in the most prestigious universities and colleges, gets published in the most prestigious journals, receives funds from the most important research foundations, and wins the most prestigious awards” (Dequech, 2007, p. 281). Or in other words mainstream economics “considered a form of knowledge, supported by the prestige of the universities in which it is taught and of the journals in which it is published” (Dequech, 1999, p. 422).

Therefore Dequech’s definition emphasizes the ideas of the elites –not the elites themselves- and it remarks the changing mold of mainstream economics. In this regard mainstream economics changes and evolves in the course of time, because it states the most prestigious and secure ideas, rather than a specific school of thought, so it also included contesting ideas such as neoclassical economics, Keynesian economics and institutional economics in the previous periods.

4. New Mainstream Economics

Neoclassical economics dominates the economics discipline and is a part of mainstream economics in this respect. However it’s safe to say that it’s lost its importance within mainstream, because new research programs such as behavioral economics, experimental economics, neuroeconomics, new institutional economics and behavioral-evolutionary game theory has become more and more important in the last decades. So we could say that mainstream economics is now more pluralistic and heterogeneous than before (Backhouse, 2000; Colander, 2000; Colander, Holt and Rosser Jr., 2004; Davis, 2006, 2008; Dequech, 2007; Dow, 2000, Santos, 2011).

According to Hands (2015, p. 70-71) the most important evidence of this changing situation within mainstream economics is the type of research that is currently being published in the most highly ranked economics journals such as the *American Economic Review*, *Quarterly Journal of Economics*, *Economic Journal*, and even (although perhaps to a lesser extent) in the *Journal of Political Economy*. Another piece of evidence for this is that areas of research and teaching -labor economics, environmental economics, public finance, managerial economics, international economics, and the like- were simply particular “applications” of the standard neoclassical utility and profit maximizing framework. For all these research areas are parts of mainstream, it could be said that new mainstream economics is more pluralistic now.

Similarly behavioral economics, experimental economics, neuroeconomics, new institutional economics and behavioral-evolutionary game theory are parts of the new mainstream economics. These research programs which criticise neoclassical economic theory in terms of rationality, decision-making, equilibrium, self-interest use empirical techniques along with formalist methods. So new mainstream economics is *heterogeneous* which includes different schools of thought and different thinkers from various traditions of thought, rather than a homogeneous one.
And the reason for considering these research programs as a part of mainstream economics is that they use same methodological instruments and have certain prestige and influence. This situation is reflected by the publication of behavioral, experimental and neuroeconomics researches in top economics journals and by the professional status their practitioners have acquired, inside and outside academia. As Davis (2008) stated, today many of the main contributors of behavioral and experimental economics are very successful professionally, though both of these approaches, are not conventional. For example, behavioral economist Mathew Rabin had won the John Bates Clark Medal (Dequech, 2007, p. 286). Similarly the award of the Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel was given to Daniel Kahneman, “for having integrated insights from psychological research into economic science, especially concerning human judgment and decision-making under uncertainty” and to Vernon Smith “for having established laboratory experiments as a tool in empirical economic analysis, especially in the study of alternative market mechanisms” in 2002 (Santos, 2011, p. 706).

Neuroeconomics whose main contributors are Paul Glimcher, Colin Camerer, Paul Zak and Kevin McCabe, and new institutional economics associated with Douglas North and Oliver Williamson are other prestigious research programs, as they have gained more place in top journals and popular media more and more. Evolutionary game theory whose prominent figure is H. Peyton Young is also another representative of new mainstream economics (Dequech, 2007, pp. 286-287).

Consequently the term of mainstream economics refers to a group of different –sometimes even contesting– school of thought rather than a particular and static one. It’s a broader concept than orthodox economics in this sense. It includes behavioral economics, experimental economics, neuroeconomics, new institutional economics and behavioral-evolutionary game theory as long as neoclassical economics nowadays. Because all these research programs imitate and adhere to natural sciences just as neoclassical economics and they all use same formalist methods. In this regard, as Boettke, Leeson and Smith (2008) stated, the only thing that change are the applications of economics principles, not the principles themselves.

5 According to Lawson (2006) the common feature of these research programs is their insistence on mathematical modeling.
6 A very prestigious biannual award given by the American Economic Association to American economists under the age of 40, many of whose winners have ended up being awarded the Nobel Prize later in their lives.
other hand. In this respect this process is described as either “economics imperialism or freakonomics”, or “reverse imperialism” or “pluralism” in economic literature.

However this paper argues that this process has stretched the disciplinary boundaries between economics and other sciences and it’s a consequence of historical process, and that the relationship between economics and sciences such as psychology, biology and neurology has changed the nature of mainstream economics towards a “new mainstream economics”. Because the term of mainstream economics refers to this term refers to “taught in the most prestigious universities and colleges, gets published in the most prestigious journals, receives funds from the most important research foundations, and wins the most prestigious award.”

And new research programs which continue to use same deductive, formalist methods have certain prestige and influence although to a lesser extent than neoclassical economics in this context. For example, such prominent figures of behavioral economics and experimental economics as Mathew Rabin won the John Bates Clark Medal in 2001, and Daniel Kahneman and Vernon Smith won Nobel Prize in 2002. The papers and articles of behavioral economics, experimental economics, neuroeconomics, new institutional economics and behavioral-evolutionary game theory studies also get published in the top economic journals recently. These research programs gained ground within mainstream economics and changed the nature of it. Therefore, we could say that new mainstream economics is more pluralistic and heterogeneous than the older one.

References


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THE MAKING OF THE ECONOMIC AND THE ADMINISTRATIVE THOUGHT IN THE 19TH CENTURY UTOPIAS

Cengiz EKİZ

1. Introduction

In this study, in which the utopian origins of administrative thought will be discussed, we can start first by specifying the historical elements which are the source of utopias and utopian ideas. These are based on a wide variety of types such as mythological sources, holy texts, local, cultural assets and legends. The personas of the utopias with administrative models peculiar to themselves are humans as bodies that are parts of the individual and the social structure. The representation of the individual and the society in the utopias can be considered as a metaphor in terms of space and time. So how should we think on utopias in general? As fictions expressing the capacity to interfere with the individual, the social space and the labor process? Or is it a result of the emergence of man as a species in nature and the pangs of change he has undergone over the centuries?

The administration models emerged in the 18th century under the influence of Enlightenment thought enabled the imagination of new forms of society. The confrontation with Ancient Regime’s ideas had reflections in the 19th century literature. The trust in intellectual capacity of man, with the influence of the Enlightenment, has increased. The ideal of a new and free society has been strengthened further by the idea of technical progress. Utopias, as the metaphor of the idea of intervention to the social sphere, are located right at this point. The faith to good nowhere (eutopia-utopia) has left its place to the future good place (euchronia) (Vieira, 2017, p. 12). Therefore, scientific courage (sapere aude), which paved the way for the 19th century, thanks to the idea of Enlightenment, focused on the knowledge of administrating civil society. In particular, not the glamorous and imaginary world of future, but the elements that focus on the conditions of the current social order have become prominent. Utopian writer has been a part of the motivation that tries to get out of his time and bring his project to reality. The atmosphere of hope and optimism provided by the century of Enlightenment made it possible for the utopian writers to focus on the material elements of the society in which they live, not the unimaginable dream of the future (Vieira, 2017, p. 13).

Through the 19th century, technological innovations provoked by capitalist development created an apparent confusion in the thought of society and administration. Towards the end of the 19th century, administration turned into a biopolitical problem involving the control of economy, population and social body. The utopian language

1 In this text, the paper “Administrative Thought in 19th Century Utopias”, which was presented in Ankara at the meeting Quo Vadis Social Sciences: Fiscaoeconomia International Congress on Social Sciences on 14.09.2018, was utilized. See also http://www.fscongress.com/wp-content/uploads/2018/12/complete-fscongres-2018-part-1.pdf. I would like to express my gratitude to Aydın Ördek for his contributions, suggestions and criticisms.
2 Assist. Prof. Dr., Bolu Abant İzzet Baysal University, Faculty of Economics and Administrative Sciences, Department of Public Administration.
3 The same source states that More’s utopia was the result of the discovery in Renaissance and that euchronia was the product of the new logic of Enlightenment. (Vieira, 2017, p. 12).
knitted by satires of the 18th century has become more intense in the following centuries when social criticism and political-economic problems have come to the fore. So it can be claimed that the skepticism of conservative 18th century intellectuals led to the birth of the dystopia (Vieira, 2017, p. 21).

Since Thomas More (1516), utopias, which have been considered to be a movement towards the modern world, have always produced restrictive models for the society. In order to understand these models, we must first question whether utopias are timeless, perfect constructions of social order. What's at issue, is it models of good life (*politia*) at a non-historical world or a construction at a certain time in history, under the influence of social conditions? Some metaphors concerning the control of the society in these fictions are outstanding. For example, in almost all of the fictions, the process of suppressing and directing desires appears as an obvious mechanism. While there is an egalitarian, moralistic, rigid, disciplinary, pro-family (due to being Catholic) perspective in More, in Plato there stands a non-egalitarian line. In Plato there is an anti-property, elitist model in which protectors (for whom the family is strictly forbidden) and philosopher rulers are privileged. Thomas More is not egalitarian in an aspect; but, he favors the fair distribution of wealth. Unlike Plato, he wants to fairly distribute wealth through the family. In the 16th century religious beliefs and traditions began to gradually erode and become obsolete, while modern ideas designed a moderate, reasonable, principled and faithful world or an island. As for Plato, he constructs an egalitarian, protector- and philosopher-oriented model of society based on elites (Kumar, 2005, pp. 79-83).

As can be conceived from the responses to the idea of centralization in administration, the utopian writers have argued that emancipation would be realized indeed through the dissolution of power, the elimination of property and the dissemination of production to the whole society. Morris’ *News from Nowhere*, placed against Bellamy’s famous work, *Looking Backward*, can be considered as a model of the localization of power, the collectivization of production and the emancipation of the whole society.

<table>
<thead>
<tr>
<th>Table-1 Comparison of Bellamy’s and Morris’ Utopias</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administration</strong></td>
</tr>
<tr>
<td>Control</td>
</tr>
<tr>
<td>Scale of Cooperation</td>
</tr>
<tr>
<td>Process</td>
</tr>
<tr>
<td>Apparatus</td>
</tr>
<tr>
<td>Human Nature</td>
</tr>
<tr>
<td>Scale of Production</td>
</tr>
</tbody>
</table>

*Source: Prepared by the author from the works of Bellamy (2011) and Morris (2010).*

The political-economic developments in the 19th century, along with the population growth in cities and spread of poverty, have deepened the concerns about public health and public security. Population growth on its own was a political-economic problem inherited from the 18th century. The knowledge of population is so valuable that having this can be considered as the key for opening the doors to govern society. The increasing populations of cities, especially in Paris and London cases, have led to the unrestrained growth of public life.4 The city used

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4 For the differences between growth of London by spread and the growth of Paris by squeeze see Sennett (1996, pp. 176-177).
to build elements of socialization that conditioned consumption, production and culture of the crowds. While the public sphere provided the ground for the material development that made the old society's values erode, it was also the space of the growing anxiety of the individual in the cities. So, in the conflict between individual development (personality) and the material development (the city), the individual was defeated (Sennett, 1996, pp. 163-165). Privacy in modern sense would overturn the old social categories. Therefore, the individual's entering into public life needed to be explained by different factors other than the development of the capitalist world. Sennett summarizes the results of the individual's participation in public life in the 19th century under four headings: Fear (the tension created by the unwillingness of the expression of emotions); Imposition (imposition of the individual's private dreams on the public sphere); Suppression (the need to hide emotions in the public sphere); Silence (thinking of remaining passive as life) (Sennett, 1996, p. 167). The population growth in cities led to the revival of commercial life and the expansion of the public sphere; however, this weakened the relations between people. The larger the crowd, the deeper the well that individual fell into. This situation expanded and deepened the bourgeois public sphere with the ditches it dug between itself and the other classes.

The dominant side in the relationship between capital and science in the 19th century was capital (Conner, 2012, p. 433). Science at the service of capital has paved the way for innovations in the 19th century. The development of both geology and metallurgy fields, on the one hand, deepened the knowledge of topography and geography, and on the other, provided the revival of trade and the rapid progress of production through mechanization. The development of popular science made practical, technical knowledge widespread rather than science. Biology, in this respect, has been an exemplary area for discussing scientific innovations. Lamarckism genealogy debates led to the dissemination of evolutionary ideas in society rather than in academic circles (Conner, 2012, pp. 451-453).

2. The First Robot of Humanity: Frankenstein

The tension in society, created by the results of technical and scientific development, has been revealed in Mary Shelley’s Frankenstein (1818). The desire to create an invincible, powerful species of life in this work contains close connections with the developments in today’s robot technology. The social equivalent of the developments in the 19th century is nightmare. The best way to face the nightmare is to create a savior. An invincible, strong, fearless savior; only a modern Prometheus can serve humanity. Shelley’s monster created in Frankenstein is a kind of robot who wants to be a replicant. As the people who come across him become horrified and fearful, he turns into a horrible murderer. As he wishes to be treated as if he were human, but not treated in this way, he gets angrier with the people who behave so (Urgan, 2003, p. 865; Sennett, 2013, pp. 116-117, 272).

Shelley initially wrote Frankenstein as a short story. Later on, the story was expanded into a gothic novel, a type that includes fantasy, mystery and fear. The Monster is like the second personality of Dr. Victor Frankenstein with

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5 The steam engine has had different designs since 1698. The steam engine developed by Slavery, Newcomen and Watt has been used in many different areas from beer production to drainage of mines, transportation, and channel construction (Conner, 2012, pp. 440-444).

6 In this regard, the machinery institutes that were opened in 1823 in England provided the socialization of knowledge. In addition, by the establishment of many useful knowledge dissemination communities, cheap, popular scientific publications have begun to publish (Conner, 2012, pp. 447-448).

7 Urgan's analysis about this is as follows: As we consider the responsibility of scientists who produce atomic bombs, we understand how far Frankenstein covers a contemporary issue. That is why Frankenstein is one of the myths of our monster-producing, uncontrollable age (Urgan, 2003, p. 865).
all its evil aspects.\footnote{When Shelley describes Dr. Frankenstein's beast as monster, she uses different adjectives in different parts of her book: the beast, the freak, the idiot, the demon, the devil, and the wretched.} The book is actually a fiction that reflects the nightmares of the 19th century. *Frankenstein*, which focuses on death, is a necro-political text in this respect. The body has an invincible, inaccessible might; but it is also very destructive. This is somehow an early description of the creative destruction in man. The creative doctor, who has lost family members one after another, is now an aggrieved who has been punished with the greatest destruction.

The monster is a body of dead bodies, a freak (zombie) made up of dead bodies. The monster becomes an obsession that cannot be killed by its creator, Dr. Victor Frankenstein, who admires his miraculous resurrection. From then on, the whole life of the doctor would pass with facing the tragedies that have been created by the monster, who have killed all his family one by one. While the monster curses his own existence, Dr. Frankenstein is burned by the fire of vengeance to ask the account of his tragedies. The reason why Dr. Frankenstein does not kill the monster is because he sees it as his reflection. The beast represents disgust and runaway from the evils created by man. The scenario of animating the organs made up of parts of death bodies by electrical circuits is a result of the electroplating experiments in the electric field in the 19th century (Sennett, 2013, pp. 273-274).

Some questions can be asked at this point. Can the monster be read as an administrative model? If there is no space, can a bad world decor also be considered as the character of the place? The idea that pastoralism creates a logic of administration constitutes the origin of modern power tactics. The main problem here is to shape the society. The social formation, however, is not dominated by an external force, but by its own internal dynamics. It is of course possible to read utopian thought through such a pastoral logic, that is to say, it is possible to design society as a new, happy, prosperous country, continent or land. Utopia; where is it, for whom is it and how?

The human existence is explained by its unmanageable dare. The emergence of this anxiety in the 19th century shows that the ideas about the future are not optimistic. The emergence of the courage of man to create with the natural sciences, at the same time, expresses that his will to know cannot be restricted. The natural sciences became the greatest weapon in the struggle against the remnants of the ancient regime. This contradictory mood appears in Victor Frankenstein, who has escaped from confronting the beast for a long time. Shelley's distance to innovation is perceived throughout the novel. In the novel he describes the monster and his life with a profound disgust. Modern man is on the verge of a miraculous age but must be ready to lose everything!

### 3. Waking up at *Nowhere*

The dream theme, which has become widespread since the 18th century in the utopian literature, constitutes the basic frame of William Morris's *News from Nowhere*. Edward Bellamy (*Looking Backward*) and Herbert Wells (*The Sleeper Awakes*), too, use the dream theme in their works. In all these works, the main characters fall asleep and wake up in the future, centuries later.

William Morris' reaction to the consequences of capitalist development was manifested in his book *News from Nowhere* (1890). Morris looks for the answer to the question whether we want to maintain the factory model. Morris's work is a reaction to Edward Bellamy's utopia, *Looking Backward* (1888), which praises the factory and the industry (Kumar, 2005, 2006; Urgan, 2003).
Morris has no property rights in his fiction (Morris, 2010, pp. 71-72). The family continues to exist in social life. But children are grown in common spaces. The woman is praised as mother and a component of the labor process (Morris, 2010, pp. 77-78). According to Morris, education should be accessible for all, not a privilege and an obligation, but a condition for ensuring equality in society. He says that “the knowledge is at hand for everyone; whenever they want, they get” (Morris, 2010, p. 82).

<table>
<thead>
<tr>
<th></th>
<th>Ancient Regime</th>
<th>New Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Right</td>
<td>Inviolable</td>
<td>No property right</td>
</tr>
<tr>
<td>Family, Children</td>
<td>Family and family ties are sacred, and children are the guarantee for the continuity of families.</td>
<td>The family is not rejected, but it is envisaged that children will be raised in a common culture.</td>
</tr>
<tr>
<td>Education</td>
<td>Mandatory, discriminatory, privileged according to social classes.</td>
<td>Open to all, accessible, optional.</td>
</tr>
<tr>
<td>Population</td>
<td>Misery created by crowds</td>
<td>Prevention of the control of the body/individual in cities by creating communal areas of freedom</td>
</tr>
<tr>
<td>Industry/Factory</td>
<td>Production in misery</td>
<td>Production up to needs</td>
</tr>
<tr>
<td>Science/University</td>
<td>Commercial information</td>
<td>Information art</td>
</tr>
<tr>
<td>Administration</td>
<td>Parliament, protection of property rights, courts/jurisdiction</td>
<td>No institution of Ancient Regime in Nowhere</td>
</tr>
<tr>
<td>Law/Punishment</td>
<td>Punishment for crime</td>
<td>The cause of the crime is eliminated</td>
</tr>
<tr>
<td>Election System</td>
<td>Dominancy of majority in the representative mechanisms (liberal)</td>
<td>The idea of a friendly majority is welcomed (collectivist).</td>
</tr>
<tr>
<td>Work/Labor</td>
<td>Working for fee or wage labor</td>
<td>Free, voluntary, delightful working order</td>
</tr>
<tr>
<td>Production/ Economy/Money</td>
<td>The supply and demand mechanism induced by the production-consumption cycle (market)</td>
<td>Stage of production for needs; cheerful</td>
</tr>
</tbody>
</table>

Source: Prepared by the author from Morris (2010).

4. Doctor Moreau: Pretending to be God

The progress in the natural sciences throughout the nineteenth century affected Herbert G. Wells’s *Doctor Moreau’s Island* (1896) as well. The hybridization of different species, the desire to create new species (humanoid hybrid creatures), and the power to intervene in nature are the themes we encounter in the book. Wells makes us confront with profound questioning, just as done in *Frankenstein*. The main character of the novel, Dr. Moreau, utters his aim as discovering the final limit of forming a living form (Wells, 2017, p. 87). It can be said that the roots of the idea of free interference with nature and human body are the result of developments after 17th century. Behind looking for a new world, an island, a continent, an earth and heaven is hidden the desire of human as a species to dominate nature. The idea of the re-creation of the body can be read as the ground of legitimacy of the intervention to the social sphere. Wells indeed describes the mechanism of creating a kind of control society in the process of humanization of animals. Dictating fixed ideas to humanized animals is an indication of this
(Wells, 2017, p. 96). *Beast People* are perhaps considered as a metaphor of modern society. For example, *the Law* taken as sacred in the novel can be violated in a similar way to as in modern society.

### Table 3: Comparison of Wells (2017) and Shelley (2017)

<table>
<thead>
<tr>
<th><strong>FRANKENSTEIN</strong> (Shelley)</th>
<th><strong>DOCTOR MOREAU</strong> (Wells)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invincible / Single / Strong / Freak</td>
<td>Weak / Plural / Freak</td>
</tr>
<tr>
<td>Animalized Human</td>
<td>Humanized Animal</td>
</tr>
<tr>
<td>Human: Dangerous</td>
<td>Animal: Dangerous</td>
</tr>
<tr>
<td>Construction from the part to the whole</td>
<td>Construction from the whole to the part</td>
</tr>
<tr>
<td>Exclusion / ignore</td>
<td>confinement/restrictions</td>
</tr>
<tr>
<td>Scientific foundations</td>
<td>Scientific/moral foundations</td>
</tr>
</tbody>
</table>

*Source: Prepared by the author from Shelley (2017) and Wells (2017).*

The story of Shelley, which he based on natural sciences, is in fact the mechanism of legitimizing the audacity to intervene in nature. The process of including monster to humanity will result in catastrophe, as expected, the worst would happen. The mechanism is very similar to that in Wells, but the process is reversed. The process of human creation results in the disappearance of human beings and animalization. Wells sanctifies this mechanism to legitimize the process of creation. Thus, he puts the authoritarian boundaries very clear. The return of animalized animals back to their animal essence is a result of Wells’ understanding of nature’s immutability. In a way he stops at a more conservative point. The control mechanism in the novel is the metaphorical depiction of modern society. This control process is achieved by dictating three different elements: a) fixed ideas; b) the law; c) Hypnotism (Wells, 2017, pp. 96-98).

As a part of humanization, the law orders monogamy, but Beast People often violate this law (Wells, 2017, p. 97). Throughout the novel, humanized animals that are prone to be wild, constantly breaking rules, and therefore need to be imprisoned are uttered. Prendick, one of the main characters, mentions that the Beast People are full of formless, ugly species. Using *Doctor Moreau* character, Wells explains his plan and purpose, and the tools he uses to accomplish this purpose in a fatalistic and prophetic manner. The Doctor, who is considered as untouchable and sacred, is the only authority of this mysterious island. According to the *Beast People* he is the founding father of the law. Prendick asks Moreau if he has a good reason to hurt the animals. Moreau argues that animals do not feel pain as human beings, therefore they can be experimented on, and that they can be humanized. On the other hand, Moreau says that the human suffering is due to beliefs and psychological motivations. Moreau ignores the moral elements of the subject and argues that the study of nature makes him as merciless as nature. In fact, this is a kind of self-criticism of the idea of dominating nature, the 19th century image of the desire to conquer the nature, which had been present since the 17th century (Wells, 2017, pp. 85-87).

The ruthless truth arises at the end of the novel. Since the *Beast People* have acquired humanity, they get away from their humanity and take back their essence after they take the smell of blood. Here is described the dilemma of

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9 There are many species in the novel. Most of these are mixed, hybridized species. Panther, hyena-pig mix, monkey-goat mix, pig, mare-rhinoceros mix, wolf, bear-bull mix, monkey, Saint Bernard, fox-bear mix are among the species humanized with hybridization or vivisection (Wells, 2017, p. 98).
modern society as an irreversible destiny. The Beast People can be read as the metaphor of the human population, which the ruling elite cannot rule, but also cannot cure. The House of Pain is a reform and the Law is the punishment mechanism of all this.\(^\text{10}\)

5. Conclusion

The desire to dominate nature provided an arrogant power to man through the influence of scientific developments of the 19\(^{th}\) century. Over time, the rapidly growing industry has set up mechanisms of exploitation, which created positive and negative consequences. In the three works we have discussed, these reactions are in a negative direction. Only the elements in Morris’ utopia were taken as a positive situation. But almost all of what belongs to the past is negated. Taken in such a way, Morris’ utopia can be said to be optimistic. On the other hand, the pessimism of the era like a nightmare dominates both Wells’ and Shelley’s perspectives. Since the mankind in pessimism has no power to overcome it, the utopian literature has carried pessimistic burdens more. While Wells and Shelley describe the fate of mankind who are trying to change nature and society, Morris creates an alternative dream world that transcends this order.

Some questions can be formulated to compare what are discussed so far.

1) Can Shelley’s and Wells’ utopias be considered as a depiction of social degradation?
2) What do the monster / freak / murderer metaphors actually represent?
3) Is the idea of interfering the body a metaphor for the idea of changing the society?
4) Does creation of human take place within the daring utopias or pessimistic dystopias?

<table>
<thead>
<tr>
<th>Work</th>
<th>Place</th>
<th>Emotion</th>
<th>Differences/Similarities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frankenstein</td>
<td>Forest/Mountain</td>
<td>Seclusion/Escape/Rebellion Starting the disaster</td>
<td>The prophecy about the future of the species</td>
</tr>
<tr>
<td>News from Nowhere</td>
<td>Dream/Sleep</td>
<td>Hope/Welfare</td>
<td>The technique is thought to be used for the benefit of humanity.</td>
</tr>
<tr>
<td>The Island of Doctor Moreau</td>
<td>Island</td>
<td>Isolation / confinement / Control He’s opening door to a catastrophe.</td>
<td>Chaos arising from mixing species.</td>
</tr>
</tbody>
</table>


It is possible to find the roots and clues of the 20\(^{th}\) century dystopias in the 19\(^{th}\) century. The role of the social turbulence of the 19\(^{th}\) century in the constitution of conservative ideas which suggest unchangeable social order cannot be denied. In this sense, Shelley was the first woman writer, revealing the inevitability of the catastrophe of society. The monster she created would be one of the most important metaphors of the nightmares of the Victorian era, the era that followed her death. The people of the 19\(^{th}\) century, who were caught up in the magic of natural sciences, felt that modern society would eventually face a catastrophe.

\(^{10}\) The orders in the Law are clear: whoever breaks the Law is the evil! The law is almighty! Nobody can escape! These are the most obvious expressions in the novel.
With the factory model getting widespread, society as a body has been trapped in a narrower space in face of power. One of the most important reasons for the increase of the population in the cities was the labor power flowing into the centers where industry and trade flourished. Instead of the old, traditional social order, there was an order with a mobile population in pursuit of wealth and prosperity. The impact of the formation process of the new civil society on the design of utopias was to be seen more concretely (see Morris). All these political-economic debates were indirectly present within the metaphoric elements of the utopias. In nearly all utopias there were centralized administrative designs. This, in modern society, was the key to the administration. For example, in *Frankenstein*, the body represented by the Monster both represents the whole society and symbolizes the means of intervention in society (violence). *Doctor Moreau*'s unshaken authority on the island was part of the same representation. *News from Nowhere* can be taken as an exception. Morris rejected a large-scale industrial and factory production model that hampered society’s emancipation. Instead, it has designed a more humane, nature-friendly, small-scale production community. *News from Nowhere* is a reaction to the consequences of civilization and capitalist model, called by Morris as the world market that provokes consumption and increasing misery.

The factory was a form of intervention to the social body and labor force. The horror of progress in the 19th century was tried to be overcome by both optimistic and pessimistic projects. While the optimistic side highlighted the elements of courage, wealth, and productivity that scientific-technical progress gave to mankind, the pessimistic side pointed to its social-political consequences. The factory was the source of disaster in all respects. The mobilization of the whole society in the labor process and the confusion created by the oppression of the working classes under free competition destroyed every segment of society from different aspects. As progress accelerated, class contradictions became more evident. As the social body was controlled as labor force, the supply of labor/body stock would become a matter of administration on its own. The executive elite model was both a class (ruling class) design and part of the capitalist state (bureaucracy). As a result, we can argue that in the establishment of utopias are roughly effective the following four issues:

- **Knowledge**: Scientific and technical innovations, *commodification process*, *market model*
- **Power**: Will to liberation/emancipation in society, *class struggle*
- **Fear**: Systemic and systematic anxiety about the rapid upside down of society; *organized workers*, *trade unions*
- **Production**: provided by the innovations the factory, *industrial efficiency*, *labor process*, *reproduction*, *exploitation model*

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ECONOMIC AND BUSINESS ISSUES IN RETROSPECT AND PROSPECT
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HEGEMONIC CRISIS AND ‘SOCIAL EXPLOSION’
DISCOURSE IN TURKEY IN 2000’S

Hatice Sevgi ZENGİN

1. Introduction

The analysis to be made in this article, taking the news analysis exposed in the Media and news Agencies as the start point, can be regarded as media study, elaborating on the hegemony concept put forward by Gramsci, it will analyze the “Social Explosion” discourse occurred in Turkey in the Years 2000s. Gramsci’s concept of hegemony has been widely adopted in terms of media studies, more than media concept as an ideological device, it was based on media understanding as a tool in which social power / power relations were established and power-holders turned their ideologies into social consent (Inal, 1996, pp. 62-75). In this respect, the ‘Social Explosion’ discourse will be evaluated based on the logic of discourse analysis, rather than content analysis as part of a hegemony formation process. Discourse analysis requires the evaluation of the text as a whole by revealing the process of articulation of different elements. The meaning of words in discourse analysis can be explained in relation to usage in contexts, conventions and connotations and through determining their place in the set of the events. In this context, as Barthes points out, one of the main aims of discourse analysis is to comprehend the specific characteristics of concepts and codes in the process through expectation of the ideological connotations that create the difference (Keskin, 1997, pp. 92-93). In contrast to the content analysis, Discourse analysis does not explain the meaning of words as of the representational dimension of words in the human mind; meaning can be determined in context and through the cohesiveness of the text (Çelebi, 1990, p. 12).

As a social system, the capitalist system overcomes the crises with a sovereign ideology from the challenge-contrast of capitalism, renewing itself and having an ideological mechanism capable of holding contradictory forces together; the notion of the formed hegemony being born (Üşür, 1997, p. 27). Gramsci, instead of emphasizing the use of power from the capitalist state’s power-building strategies, stresses on “approval “in the field of civil society, covering the invisible and even difficult-to-use mechanisms of the capitalist state, and makes it more concrete in hegemony concept. Hegemony, as the practice of the ruling class as sovereign, is a synthesis that cannot be reduced to the material interests of a single class, arising from the harmony and tense relationship between different and conflicting classes. According to Gramsci, hegemony can take place with passive consensus or formation of national popular will. While Passive consensus is formed through practices like inclusion, neutralization, and ineffectiveness of the distinctive elements of allied and / or opposition groups, the national popular will is based on active participation of society. In the hegemony in question, the different sections of the society with different representations in the hegemonic field indicate an ideological struggle and counter hegemony. While the traditions of the neglected others of culture, their way of speaking, the area of the establishment of hegemony are against their original rituals, the less systematic, looser ideological articulation relations are the foundation for the counter hegemony. The concept of hegemony and ideology are not regarded as a consciousness imposed by a certain class on the other, it

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is defined as the active subjects who struggle for the formation of counter-hegemony, not an active struggle, which are not passive sensors of the opposing and subject classes of the ruling class (ibid, 27-67). Hegemony referred to by Gramsci does not imply dominance, oppression, and use of force in daily life, it refers to the acceptance of “consent” by the ideological persuasion of the victimized classes in the society (Çelebi, 1990, p. 34). In the context of Gramsci’s concept of hegemony, it is possible to evaluate the “Social Explosion” discourse occurring in Turkey in the process of civil society. In 1980s the Right Wing hegemonic projects, supported by a change in a new accumulation strategy. In the 2000s, the ‘Social Explosion’ reveals the cleavage in the claims regarding cohesiveness through the organic crisis being visible in debates. While the discontent resulting from the social problem that has been structured and publicized in this process is not visible, the increase in ‘exclusion’ practices based on spatial segregation, which can be defined on the level of economic accession, causes conflicts in the social structure in the 1990s. The “exclusion “focused conflict and the religious emphasis, used in the 1980s as the main material of the rhetoric of social integration, were experienced in the 1990s, when it became an important conflict axis within the framework of the regime discussions. The above mentioned two axis of conflict form the ground of the breaking points of the hegemony attempted to be established. The economy-centered conflict stemming from the “social problem” is linked to the social injustice in which the” getting rich” environment has lost its legitimacy in the 1980s. The 1990s, in which the consumption was emboldened and exhibited, became a period when the perception of social injustice and illegitimate wealth was strengthened for the melting middle class and the poorer classes. This perception was created by the strategy of obtaining speculative profit by benefiting from the fragile nature of the unstable and unstable financial markets in some classes, in which the political power creates a ‘state-enriched’ mass by using legislative changes and credit facilities, and the economy is reduced to an idolized ‘market’ discourse originating from the” Profiteering Capitalism”. In the social sphere, while the belief that the wealth of the mass enriched by the methods of ‘profiteering capitalism’ is illegitimate, the actors’ tendency to show ‘exclusion’ and ‘otherness’ towards the lower classes of actors of the mentioned mass is one of the most important factors augmenting the intensity of social conflict (İnsel, 2004). (pp. 210-338), the aggravation of the classes due to social problem has degenerated their situation, but the fact that it took place despite the “illegitimate richness” of the mass in society has undermined the legitimacy of the hegemonic project of the new right through its integrative rhetoric through social injustice ‘. The most comprehensive questioning of legitimacy is carried out through the ‘Social Explosion’ debate. however, the “Social Explosion” debate being as questioning, is a ‘threat’ for everyone to ‘vanish’, ‘destruction’ and damage that will occur as a result of the possible ‘explosion’ (not even those without a direct loss), it refers to the ‘danger’ of the emphasis on implementation of linguistically passive voice practices to establish persuading the community, ‘approval’, and it can function as the legitimacy of the hegemonic project that has lost its legitimacy. This ‘danger’ warning in the sense of ’approval ‘function can be regarded as possible for the masses that are coded as a threat to feel under danger, and that the ‘security measures implemented will provide the security of the classes that are expected to explode. This awakening is nurtured by the concept of security ‘of public service connotation and the fact that those who emphasize security measures “endanger ‘and leave ‘threat over the actors. The fact that these two sections do not express exactly which subjects and groups are formed in discourse makes it complex to comprehend what is at risk regarding the dangers. It is not clear to what extent the group coded as a threat ‘is aware of itself being considered’ dangerous ‘because the line between the “danger” emphasis and the “victimization ‘emphasis is so unclear. Although the aforementioned audience is aware of the practices such as “exclusion ‘, alienation’, humiliation’, contempt ‘, and ignoring’, Since these kinds of qualifications are not accepted by the targeted population (in the context of the strategies as the poor against the rich in terms of establishing themselves with morale / human values), as well as the fact that the direct ‘threat and the ‘danger are top stage of identification of the emphasized practices; the subject always regards the others as someone other than himself. In the discourse, connotations of the phenomenon approach the security discourse based on the threat
'and' danger 'design, the possible 'reaction' stands out and in this way, the expected self-expression erodes. In other words, when the opposition attempts to create a passive consensus by releasing fear, the 'threat is codified as a national 'danger and directed to all citizens, hence national popular will is to be built in this momentum of hegemony. The implication that the political power will eliminate a possible social movement through the security forces before it emerges Is functional in order to regress the expression of social discontent. In this context, the “Social Explosion” discourse also points to a break in the perception of the poverty. Although, in the discourse, the victims of the social problem are not clearly stated, they can be read out in the texts in which the target group is concerned. The phenomenon of poverty, previously referred to in the context of pity and social assistance, or as a focus of unwanted exclusion, is presently discussed in public using the concepts of “threat and ‘danger. Social Explosion discourse corresponds to an advanced stage in the other's sharpening process and it is important in formation of the others identity. Each identity cannot be defined only at the point of having certain properties; there is a need for an additional element in this regard and this process refers to the divergence of a particular identity (Norval, 1995, pp. 156). Moreover, an identity can be redefined in any discourse. For example, in the anti-black immigrant discourse in England, being black is not the indicator of being the lower self, rather it is regarded as an established Anti Britishness. In particular, in the context of Powell's anti-black migrant campaign, the “domestic enemies “is a hostile discourse against Black community. However, not recognizing the anti-blackness from Britishness and the inclusion of certain qualities of certain types of blackness is necessary for the authorities to justify their policies as lawful and impartial. For the formation of an assimilated, British blackness, instead of saying no to blackness, blackness is dissociated and a non-offensive blackness is tried to be established (Smith, 1995, pp. 234-237). In Turkey, the “Social Explosion” rhetoric, like as blackness and Englishness differentiation, it can be seen as an attempt to redefine the poor and the unemployed as potentially destructive. The “other” is not precisely considered; but if it is not considered, it is far from being tolerable and when the “other” gets too close, the problem of tolerance / intolerance is raised (Salecl, 1995, p. 263). The ‘Social Explosion’ refers to the others “coming to the city” considering the harm, visibility, tolerance and intolerance.

From the dimension of the externalization of the other's reaction to the ‘Social Explosion’ debate, a new fear is derived. The mentioned fear is not evaluated with reference to the “mass factor” that has the appearance of an uncontrolled power without any apparent organism after the 90s through the Sivas events, rather it is perceived through personal discourse. The main reason behind this situation is that neoliberalism sees the social problem as an individual problem in the context of the new right, whereas the indicator in the social field carries out the actions of the actors of the outside the Craftsmen Act by focusing on their individual circumstances. In general, the individual is the center of the individual output and actions; does not interpret the activist status as a common denominator with others and in relation to others, which, in turn, draws the situation to the points to be called as fear and “madness”. The most concerned sections about this new kind of unorganized, uncontrolled power design are the politicians and the businessmen. It is to mention that the socialites, who fear the explosion of ‘Social Explosion’, are used not by the society, rather by those who fear the explosion or by those who intimidate the explosion 3. According to Insel, those who make fear the material for politics, and those who live on it, get captivated by their fears when it comes to a certain point. ‘Social Explosion' literature is also articulated into these fears. It has been suggested that regarding the depletion of social resources and the unsustainable accumulation of initial capital, the Turkish people are asked “to spend more carefully” and live a little more modestly indoctrinating the threat of ‘Social Explosion’ 4. From this fear current, politicians took their share as a large number of the MPs told that they were afraid to go to the constituencies, they could not get into the public, they could not wear a

3 Aman Patlama olmasın! (11.20.2000), Milliyet, Column, Umur Talu.
parliamentary badge and they could not participate in television programs. The fear of “Social Explosion” associated with increases in bank robberies and ordinary crimes and its encoding by politicians and the media as a danger, has over shadowed understanding the possibility of its formation nature considering the expansion of events. In the discourse, focusing on fear left unanswered the question of what could happen if the explosion occurred, how the crisis is so deep and how it can lead to transformation is addressed in one detailed paper. According to this viewpoint, in a country being rapidly impoverished by a massive economic crisis; mystical and fascist movements that propose false solutions or escapes can be strengthened, the charlatans who respond to the quest for authority by the masses may rise to power, extreme nationalist currents may rise by creating external problems, or by making major reforms the former working staff may be held responsible, it is also possible to enter a new era through a revolution. However, the realization of what kind of transformation is likely to occur as a result of the explosion in Turkey is not an important axis in discourse; it is possible to come across many analysis regarding the reasons behind the ‘Social Explosion’ or its falsification in Turkey.

The emphasis on different dimensions about social explosion discussion is remarkable in the media. Social explosion is processed in various newspapers by emphasizing different aspects in 2001-2002. The concept of social explosion are included in the articles by analyzes of social and political crisis in the context of the economic crisis, the actions taken at that time, and analyzes of the transformations in the social field. The classification of articles according to newspapers and different types of writing is important in order to clarify the weight of subject in the media:

<table>
<thead>
<tr>
<th>Newspaper Name</th>
<th>News</th>
<th>Column</th>
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<th>Interview</th>
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<tbody>
<tr>
<td>Milliyet</td>
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<td>16</td>
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<td>3</td>
<td>36</td>
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<tr>
<td>Hürriyet</td>
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<td>18</td>
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<td>28</td>
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<tr>
<td>Cumhuriyet</td>
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<td>16</td>
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<td>Radikal</td>
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<td>Star</td>
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<tr>
<td>Sabah</td>
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<tr>
<td>Türkiye</td>
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<td>Zaman</td>
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<td>Akit</td>
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<td>Gözcü</td>
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<td>Yeni Asya</td>
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</table>

Within the discourse, the Cumhuriyet, Milliyet, Radikal and Hürriyet newspaper were the main determinants of the debate and in fact did not display a deeply separated attitude, in a sense, the discursive unity was formed. While the Cumhuriyet reported the “Social Explosion” warnings from the crisis effects and social actors as well as the factions concerning the “Social Explosion”, the Milliyet Newspaper shed information regarding both the government’s statements and the negativities of the ‘social discontent’, it focused on the signs of corruption that could be conceptualized as an explosion, and frequently included articles on the situation of the poor and social welfare. How the Radikal newspaper writings would be in case of explosion? While the answer to the questions of

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7 Dev Dalgaları Beklerken, 14.03.2001, Radikal, Column, Haluk Şahin.
how a ‘Social Explosion’ is experienced reflects the search practices. Hurriyet newspaper followed a policy similar to other newspapers. The other newspapers, maneuvering less in the ‘Social Explosion’ debate, focus more on the extent of the economic crisis and the point where ‘Social Explosion’ would be experienced.

2. Foundation of ‘Social Explosion’ Discourse: What is ‘Social Explosion’?

In order to determine which dynamics lay ground for the concept of ‘Social Explosion’, it is useful to first reveal the historical emergence, course and intensity of the “Social Explosion” debate. In this context, the first use of the concept is made in February 2001 in Akit newspaper and is assessed by Prof. Dr. İzzettin Önder and Prof. Dr Mithat Melen in relation to a possible crisis in April. Again in the same month in Radikal newspaper, the assumption that each economic stabilization program causes ‘Social Explosion’s is assessed regarding the situation in Turkey. Starting from the two articles in March, we see that the issue was first contemplated through associating it with tradesmen’s parade in Elazığ, Isparta, Hatay and Adapazarı. Considering the economic crisis in the NSC (National Security Council), the work plan of the security forces for action and intervention as for the big cities come to the agenda in March. The mobility in question is conducted in April, when the expectations of the economic crisis intensify. In April, Süleyman Demirel and Turkish Young Businessmen Foundation (TÜGİK) issued warning of ‘Social Explosion’ and The possibility of a ‘Social Explosion’ from the Tradesmen’s parade is frequently emphasized. The warning of the NSC to take into account the sensitivity of the social sectors has also been effective in bringing the issue of ‘Social Explosion’ to the agenda. The case, which did not occupy much of the agenda in May, was analyzed with an article pointing to alternative forms of “Social Explosion” May as to have its main output in July. One of the most important reasons as why the ‘Social Explosion’ is taken seriously and determinant of the agenda is that the economic crisis has a place in the NSC and the security wing of the Council warns the government of a ‘Social Explosion’ arising from the hardship of the low-income people due to the devaluation, unemployment, and price surges. The phenomenon of ‘Social Explosion’ was evaluated at least thirty texts in July and August. and, as an indicator of the possibility of a ‘Social Explosion’, the Tradesmen protest, along with the white collar who are unemployed after the crisis, will be the prime determinants. It is also noteworthy that a force commander in the NSC did not use the concept of ”Social Explosion’, instead used the expression as social reflection and after that the issue was so controversial and visible.

3. What sort of ‘a’ ‘Social Explosion’?

As ‘Cyclical aspects of the new social movements, experienced in Argentina’ ‘Social Explosion’ ‘case, Turkey’s IMF program to implement and strengthen the judiciary might face the same situation as being a country with similar economic problems and in Turkey’ ‘Social Explosion’ danger is always compared with what happened in Argentina.

10 Politika Kazanı Kaynıyor, 26.03.2001, Hürriyet, Column, İsmet Solak.
11 Çemberler, 31.03.2001, Milliyet, Column, Güneri Civaoğlu.
12 Genç İşadamlarından sosyal patlama uyarısı, Cumhuriyet, News, 05.04 2001; Sosyal Kriz, Türkiye, Column, Yılmaz Öztuna, Türkiye, 02.04.2001.
14 Batman’da Kadınlar Ölüyor; Hürriyet, Column, 28.05.2001, Enis Berberoğlu.
15 30.06.2001, Niyetleri Bozuk, Sabah, Column, Güngör Mengi.
In Turkey, ‘the destruction caused by the economic crisis,’ ‘becoming unemployed’, ‘despair’, ‘income inequality’; in an environment where social injustice, politics and distrust in the future are experienced,, the outburst of those who suffered from the situation (outward explosion), being possible from the case of Argentina and experiencing the tradesmen protest transformed the ‘Social Explosion’ into an expectation, as well as, in Turkey it has led to reflect on the reason for not experienced it. In this case, as for the direction of discourse, Turkey was not held in account of the charge, and it shifts to the arguments of why it does not create a “Social Explosion”17. Regarding the little potential of Turkish society for ‘Social Explosion’, initially, it can be said that it was founded to give a message to some political power. In this regard, the dominant Sunni tradition in Turkey to seek for right being blocked, the trust for Turkish people as being patient, maintaining passive policy against discontent by the political power, not instigating the folk by the political authority has laid the foundation against creating the complimenting remarks18.

In Turkey “Social Explosion” outside possibility has been characterized as a kind of “toxic gas leak” and this finding has parallels with the “internal bursting state” Professor Dr. Buğra describes, often referred to as a sign of ‘Social Explosion’, the protest of tradesmen as a normal mass demonstration devoid of extremes. According to him, Turkey’s current situation can be likened to a poisonous gas leak and abnormal; however, it is unclear whether this leak will turn into an explosion. With this crisis, both intensity and visibility of misery increased and the ‘ruthlessness’ got evident. Turkish society discord, petty crime and fraud arising from increased expectations is considered to have such discussions turn to physical violence and ‘waiting for a violent’ elements can also be available. At the point where people’s hopes that their lives will not be better than those of their parents, it is normal for an environment in which violence and drugs degenerate into society. Those who use the explosion metaphor emphasize that the uneducated and hopeless youth is a threat to the upper income group, but their internal conflicts and rising violence are a top priority. Sites can be read as explosion of collective life through spatial segregation, inward explosion19. As it is seen, in the discourse of ‘Social Explosion’, the outburst as well as the explosion are emphasized.

According to this idea, Turkish society will not ‘trust’ anything, will not ‘enjoy’ being alive, will not take’ pleasure from being alive, will get daunted , ‘tired and’ hopeless ‘empty; hence it will explode and burst into the exterior phase20. The risk of ‘decay’ with a stink ‘like garbage mountains’ over time is considered more feasible in terms of society in this country21. In addition, the implosion was also considered as a form of ‘Social Explosion’ and the suicides in many parts of the country were considered as an indicator of the explosion22.

The situation in the ‘Social Explosion’ discourse was built on fear associated with being ill society. The effects of unemployment on the theoretical level are explained by the mourning reaction, the cause of physiological disturbances and the increase in the tendency of aggression in case of long-term unemployment. It is not analyzed related to insanity ‘(acute psychosis) cases in which the consciousness is short-lived. In the media, processing of the subject based on insanity cases increases the sensitivity of the issue in the social field, however, the problem is gaining importance in terms of causing the personal discomfort to become externalized and harm the other. The fact that everyone is coded as a target because of the loss of control due to living under stress makes it possible for

19 Prof. Dr. Ayşe Buğra, Sosyal Patlama, Değil Zehirlenme, BIA Haber Merkezi, 07.09.2001.
20 İçe Patlama.... Sovyetler de Böyle Çökmüştü! 20.08.2001, Akit, Column, Hasan Karakaya.
21 Yoksulların Gözleri, 26.07.200, Milliyet, Column, Can Dündar.
22 Batman'da Kadınlar Ölüyor, 28.05.2001, Hürriyet, Column, Enis Berberoğlu.
everyone to be in that situation, as it intensifies fear and makes a holistic effect. The fear of being a target adds to the fear of being disabled and being feared by the effects of unemployment by losing the job. This would point to the ideological message of 'job insecurity for all', which is pointed out by Gorz. That it would take time to find a new job due to the fact that the work was even more scarce during the crisis period, which would enable the adoption of inadequate working conditions. The distrust in the labor market with the transformations in economic conditions, and the struggle for survival as a personal problem, has reinforced the fear for the future as a focus of modern insecurity, and this fear becomes stronger in the crisis environment. In such environments, the relationships of people with each other also based on mistrust and the members of the common social environment, which in the past were perceived to be friends / allies, turn into rivals and potential threats; tense relationships in the past, tense relations in the type of neighbor disputes, and crime have become different bearing different meanings (Furedi, 2001, pp. 102 kav186).

4. Position of the Political Power

The Position of Political Power at the time of the discourse in ‘Social Explosion’ is a tripartite coalition government composed of ANAP and MHP and DSP, and the fragmented structure of power is also visible in the manifestation of political power in the context. Regarding the issue, the ruling parties were MHP and DSP, while ANAP President Mesut Yılmaz’s statement was offered, an ANAP deputy made a statement. Names speaking on behalf of political power from MHP and DSP are MHP Chairman and Deputy Prime Minister Devlet Bahçeli, DSP Chairman and Prime Minister Bülent Ecevit and State Minister Kemal Derviş. The main part of Devlet Bahçeli’s discourse constitutes the Criticizing the possibility of facing a ‘Social Explosion’ and criticizing the character of the Turkish people. According to Bahçeli, even using the expression "Social Explosion' deepens the crisis and it is not correct to ask for resign of the government by “disastrous mentality”, The prerequisite for overcoming the crisis is high moral power and trust in the government. According to Bahçeli, the character of the Argentine community and the Turkish nation cannot be reconciled, The contentness, thankfulness of the Turkish people plays a role in inhibiting the occurrence of such explosion. Bahçeli criticizes such remarks as 'Social Explosion" from those who wrote, “It was like this in Argentina, you do it like this, do not pay attention, we do not care of course. He determines the precondition for the exit from the crisis as overcoming the panic psychology and he believes that the solution is available in this way. Prime Minister Ecevit, after the initial reaction to the provocation reaction, has shown similarity to Bahçeli in terms of relying on the qualities of the Turkish nation, and he frequently emphasized that the Turkish people are patient, trust the economic program and look forward to the future with hope. The biggest support for Prime Minister Ecevit from the economic program comes from State Minister Kemal Derviş, who is naturally responsible for the economy, and Derviş based his belief on the premise that there will be no ‘Social Explosion’ regarding the economics. Although the imbalances in the distribution of income according to Derviş are disturbing, it is not realistic to say that ‘Social Explosion’ will occur and income inequalities can be easily solved by sustainable growth. Derviş considered the tradesmen demonstrations, which are the expression of...
social discontent in the country, as a “psychological crisis” and the two prescriptions for the exit from the crisis include: loving each other and the necessity of maintaining the economic stability program with determination.

The provocation, which can be said to have been construed as a reflex from the statements made by the political power wing, is a manifestation of the conspiracy mentality. The conspiracy mentality, being emphasized when analyzing the state / society relations in the context of a social problem and social discontent, stems from the idea that the expression ‘social problem’ and ‘social discontent’ is lionized by an external enemy ‘and sees the matter as a security problem. The attitude of the political power in the ‘Social Explosion’ discourse indicates a continuum in this sense, but the understanding of the provocation ‘emerged as a reflex, While the statements were made for a long time, this argument was not based on the statements of the Turkish nation. This is due to the fact that the opposition tendency, driven by provocations, is broader than ever before; In other words, it is not preferred by the political power because it causes the ‘total enemy’ to evaluate the situation based on the discourse of enemy and state survival. Therefore, in this area both a continuity and a break can be mentioned. Political power did not maintain its traditional strategy in the face of the problem, and focused on the statements established with reference to the meanings attributed to the nation in the state / society relationship. However, while the qualifications of the Turkish nation as a subordinate element in the traditional state / society relationship, the emphasis is on the priority, strength, and sanctity of the state, while the political power’s discourse in this area is based on the opinion of the Turkish people, the patience and gratitude, focusing on the lack of tradition to raise insurrection. This initiative of the government coincides with the nationalist parties’ strategy of linking the economic and social problems to the problem of national identity and thus the solution of all kinds of problems through the solution of the national problem (Salecl, 1995, pp. 278-279).

While the political power does not put its rhetoric on the ‘holy state analiz, the analysis of the question of why the Turkish nation will not explode in the discourse and the fact that the Turkish nation is perceived as a holy state, and the definitions within the framework of ‘holy state; In the past, it has been established as a connotation applying various techniques in the social field, and it is transformed into a settlement through the problem in question. This also implies an increase in the usability of the ‘Social Explosion’ and the ‘holy state concepts. According to Laclau, the usability of a discourse is not the same as the existence of a discourse. Something can be used with articulation (Sayyid, 1995, p. 329). The discourse of the Holy state ‘becomes accessible as an important part of the traditional state discourse, but it is made possible by articulating it into the ‘Social Explosion’ discourse.

A statement by the General Staff that a security-threatening process exists and the emphasis on the need to take measures within this framework; In Turkey ‘ the problem being told by an influential institution leads to discursive way of ‘Social Explosion’. Although the statement by the General Staff stating ‘the alienated Turkey’ discourse by pointing to a mass dissatisfaction comes before, also conceptually ‘intensification of the use of ‘Social Explosion’ occurs at the time of the next release of pulses. The warning of ‘Social Explosion’ made by the General Staff is a matter of the possible explosion which is uncertain in the use of passive language in the blatant message, and is perceived by different groups, but at the same time, it is void of its explicit expression. The purpose of ensuring security of the security measures planned in the social sphere is established in the discourse within the rhetoric; the explosion that becomes an object of fear, and the externalization of the reaction in the case of externalization of the subject will be neutralized by the criminal practice is implicitly covered.

‘Encoding the ‘Social Explosion’ as danger and’ threat and the message of the using the public force will contribute to the formation of the obedient subject with symbolic violence’. This symbolic violence ‘refers to the theory of Pierre Bourdieu; It becomes clear in the case of linguistic communication which explains the sequence of social hierarchy, with reference to points such as intonation, word choice and sentence emphasis’. It is possible to discourage, threaten, intimidate, steer or force through” speaking”, also establishing power through these actions is different from being ruled by the usual instrument of violence. The position of the actor and the context of the conversation, the existence of a consensus on the speaker’s right to speak are the sources of the legitimacy of the power established as ‘symbolic violence, (Bourdail, 1996). The military wing of the NSC, which draws the critique of the current economic crisis with the emphasis of the concept of ‘Social Explosion’ into the context social and which extends the boundaries of the debate; when the state-society relations are analyzed, it has established a ground that will enable the political power to be a party to the debate and also to make statements about the issue in the media by giving a message under the measures to the political power through its legitimacy arising from its effective position.

5. Conclusion

The discourse of ‘Social Explosion’ points to the first big question of social problems produced by the process starting in the 1980s and the discontent arising from these problems, and the new right hegemonic initiative that entered into crisis at this moment. This questioning is a stage in which class differences are linked to social injustice, where it is recognized that the increasingly intensified and visible victimization through the economic crisis is no longer negligible. While awareness of the social problems in Turkey was regarded as ‘poor literature’ for a long time, In the 2000s, there was a cleavage in this field coming from the debates. However, considering the debate, ‘Because some classes of society are victimized due to social problems with reference to the ‘social explosion’ in Argentina, the situation in Turkey is seen likely to come into consideration; that is, the social problem becomes important in the public sphere when it is perceived as ‘danger and ‘threat’ for some social classes.

The possibility of plundering perpetuated by the people being impoverished by the social explosion has led to new debates on uncertified classes. Encoding the dangerous, ‘threat’ of the unnamed mass, which is avoided to be expressed clearly in the social explosion discourse, may cause this debate to re-emerge at a later stage. With the display of wealth and consumption growing from the point of exclusion practices in Turkey after 1980, the chronic ‘social problems’ and social injustice perception of that coming up with the ‘other Turkey discourses’ in the 2000s, and the silent groups becomes a social explosion probability, which will show the reactions. While until the discussion of the social explosion ‘, the implications of traditional moral discourse and human rights are more implicit, meaningful, the exclusion practices can be seen. After this threshold, the path to the development of a publicized discourse, which is established more straightforwardly, is opened and a legitimacy ground is provided where it will rise. In this regard, it is possible that the practices, which are planned to be realized within the framework of social explosion are perceived as an outburst, or as an explosion, being considered within the scope of ‘crime’, a social problem and the area of social policy will be drawn into the problem of criminal policies in the following years.

References

HEGEMONIC CRISIS AND 'SOCIAL EXPLOSION' DISCOURSE IN TURKEY IN 2000'S

Hatice Sevgi ZENGİN

1. Introduction

In the 1980s, the global economy entered a period of restructuring. In this period, which is called as the neoliberal period, many developed and developing countries underwent a transformation that had profound economic and social dimensions. The main milestones of this transformation in Turkey were the January 24, 1980 decisions and the military coup on September 12, 1980, which paved the way for the implementation of these decisions. The neoliberal process was developed with various discourses and implementations, such as downsizing of the state, privatization, marketization, commercial and financial liberalization, and was amplified by the first- and second-generation structural adjustment programs. The neoliberal period, which for Turkey was based on increasing integration with global capitalism within a structure depending upon international capital movements, brought about repeated crises. Moreover, this period did not provide positive results in terms of the paid and unpaid labor of women, apart from the general working class.

The neoliberal transformation process led to significant transformations to women’s working lives in countries such as Turkey, where patriarchal structures are dominant. This study will evaluate the transformation process of female employment from the 1980s to the present day in Turkey within the context of female labor-force participation, quality of female employment, and dimensions of unemployment on a macro scale.

2. Female Labor Force in the Neoliberal Era

The labor force in Turkey is characterized by a male-dominated society, one that is in line with the dominant patriarchal structure. The secondary position of women in working life is subjected to the determination of the ongoing dominant patriarchal structure and Turkey’s capitalist development process. In the early years of the Republic, agriculture remained the main area of employment for women, and if they did work industry jobs they were mostly employed in very small-scaled traditional businesses. The majority of the women who work in agriculture are unpaid family workers and are also responsible for domestic duties, like housework and child care. Makal (2012), in his study addressing women’s labor in Turkey during the 1920-1960 period, showed that both in the early Republican era and in the post-Second World War era, women, in addition to agriculture, were also employed in the textile, tobacco and food industries, all of which are also recognized as traditional women professions. During the era of 1960-1980, there was no significant change in women’s employment in non-agriculture activities. In this period, a small part of non-agricultural employment consisted of service industry professions, in which educated and skilled women worked, while the other parts included industry sectors, like tobacco, textile-clothing, and food and beverages (Toksoz, 2011). The industry sectors wherein there was a heavy concentration of women were generally low paying sectors that required low level skills. Although limited, women could find employment opportunities

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in various labor intensive industries; however, when unionization was very weak, the working conditions tended to be negative, salary levels low, and kindergarten and child-care opportunities insufficient.

**- Increase in female employment. But how?**

After the 1980s, as part of the globalization process, the rate of women’s employment began to increase in many European countries, whereas in Turkey, the rate continued to be on a downward trend (Buğra, 2010; Toksöz, 2007). Since the mid-2000s, women employment has been on an upward trend, yet there is still conspicuous inequality between men and women in terms of their participation and employment rates. Although exports have been on the rise with the shift from import substitution industrialization to export-oriented industrialization as part of Turkey’s industrialization strategy, its impact on women’s employment rates has remained limited (Çağatay & Berik, 1990, İlkkaracan 2012, Memiş, Öneş & Kızılırmak, 2012). As a result of the institution of neoliberal policies, the disintegration of agriculture and migration to the cities, as seen in the following charts, led to a decline in general female labor force participation during the 1980s and 1990s. Although there has been an increase since the mid-2000s, this rate still has not surpassed the rates seen in the 1988-89 period.

![Labor Force Participation Rate (%)](chart.png)

*Source: www.tuik.gov.tr*

In general, the decline in the female labor participation rate in rural areas had had an influence in the decrease seen in the overall female labor participation rate up to the mid-2000s. According to statistics put out by TurkStat, no big difference was observed between rural and urban areas in terms of male labor force participation rates, whereas the female labor participation rate was far higher in rural areas compared to that of urban areas (TurkStat, 2015: 78). The disintegration of the agriculture sector and the unemployment that accompanied it caused families to migrate from villages to cities. The women who moved to cities took on the position of “housewife” and were excluded from the labor force, which, in effect, pulled down the female labor force participation rates. Some of the women who moved to urban areas started to work at low skilled and low paid jobs in the industry and service sectors, leading to an increase in the female labor force participation rate in urban areas. The female labor force
participation rate increased from 17.7% in 1988 to 28% in 2013 in urban areas, while it decreased from 50.7% to 36.7% in rural areas (TurkStat, 2014:128,131). Starting from the 2000s, the increase in the female labor force participation rate was based on the increase in the female labor force participation rate in urban areas. It can be stated that the reduction in female labor force participation in rural areas was compensated to some extent by the increase in their participation rate in urban areas (Dedeoğlu, 2010).

According to Labor Force Statistics, the not-in-labor-force-population in Turkey stands at 28.755 thousand, and of this number, 11.127 thousand (38.7%), all of whom are women, stated domestic responsibilities as the reason for being part of the not-in-labor-force-population (TurkStat, 2018a). This constitutes 54.8% (20,319 thousand) of women who are not in the labor force. The 2016 Research on Family Structure provides information on the gender distribution of housework and how it prevents work in a paid job. According to this information, regular housework, such as cooking, washing-up, laundering, house cleaning and ironing, is done by women, whereas housework characterized by certain starts and finishes, such as repairs, paint jobs and white washing, and paying bills, are done by men. Narrowing it down to a specific example, throughout Turkey, cooking is done by women in 91.2% of cases and by men in 8.8% of cases (TurkStat, 2016a). As shown in time-use statistics, women engage in household and family care at a five times higher amount of time than that of men (TÜİK, 2016b), which limits female labor force participation. Moreover, female labor force participation is largely based on the men's will, which is another important issue.

Education is another factor that affects female labor force participation and women's employment. According to TurkStat data, in 2017, the labor force participation rate was 23.7% for illiterate females, 33.9% for female primary-school graduates, 34.9% for female high school graduates, and 74% for female higher education graduates (TurkStat, MDS). As can be observed from these figures, the female labor force participation rates increase as the level of women's education increases. In addition to this, according to the TurkStat Income Structure Research, on the sexist structure of the labor force market, the salaries earned by females fall behind those of their male counterparts on an annual basis at each education level (TurkStat, 2015). As a rule, women's perception of domestic jobs and care services and their ignorance of the necessity of doing these jobs in a more public or collective manner are not only an obstacle for women's labor force participation but also an obstacle for their participation in education. Therefore, the patriarchal system imposing household and care responsibilities on women affects female labor force participation both directly indirectly by limiting the access to educational opportunities.

Examining the employment rates, a similar pattern can be observed with labor force participation rates. The women's employment rate decreased from 32.7% in 1989 to 24.9% in 2000, a trend that continued up to 2005, decreasing to 20.7% (TurkStat, 2014). However, after 2005, there was no reduction in women's employment, but rather, the rate has continuously increased, reaching 28.8% in February 2018 (TurkStat, 2018b). Nonetheless, this number is still well below the rate of 1989.

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2 Before 2014, the results of LFS had been given according to the Urban and Rural distinction in Turkey. However, since 2014, the results of LFS can be given only for Turkey due to the new administrative division.
Like labor participation rates, an increasing tendency has also been seen in employment rates in urban areas while there has been a declining tendency in rural areas. Women’s employment rate in rural areas was 52.9% in 1989 but went down to 35% in 2013. On the contrary, women’s employment rate in urban areas increased from 12.7% in 1989 to 23.4% in 2013 (TurkStat, 2014). The non-agricultural employment of women has been rapidly increasing, going from 49.2% in 2004 to 60.7% in 2012, whereas agricultural employment has been decreasing, going from 50.8% in 2004 to 39.3% in 2012 (TurkStat, 2013:75). These rates were 71.7% and 28.3%, respectively, in 2017 (TurkStat, CDS). The increase in non-agricultural employment has largely occurred in the services sector. Examining women's employment by economic activity for March 2018, of the 8 million 892 thousand women employed, 24.7% are employed in the agriculture sector, 15.8% in the industrial sector, 58.4% in the services sector, and 1.1% in the construction sector (Turkstat, 2018a).

Based on the nature of agricultural production, the work that women perform at home and on land intertwines; that is, women do not just provide home and care services but also take on employment as unpaid family workers. As things stand, unpaid family workers are most common in the agricultural sector. In 2017, 1,997 thousand of the 2,258 thousand total unpaid female workers, or 88.4%, worked in agriculture (TurkStat, CDS). In non-agricultural sectors, the separation of women’s work and men’s work becomes evident, and some of the sub-sectors become prominent as “the sectors suitable for women”. In the industry sector, women’s employment rate is high, particularly in food, textile and garment production. Of the women who work in the manufacturing industry, 66.4% are employed in these three sub-sectors (Toksöz & Memiş, 2016:93). In the services sector, wherein

3 See Footnote 50
almost three-fourths of the women employed are employed in urban work, 2017 data indicates that women are mostly employed in the sectors of wholesale and retail trade, education, human health and social services, and administrative and support services, respectively.

Of the women in business life, 65.5% work as paid or casual employees, 23% work as family workers, 10.3% are self-employed, and 1.2% work as employers (TurkStat, 2018a). Although the number of self-employed women is low compared to that of self-employed men, the rate has been increasing for women, going from 358 thousand in 1988 to 915 thousand in 2018 (TurkStat, CDS). However, it is important to note that almost 90% of the self-employed women have an informal employment status, and that this status increases with the increase in self-employment through support policies for female entrepreneurship and micro-credit applications (Toksoz & Memis, 2016:90, KEiG, 2017). One of the primary reasons this informal employment is so common among women is the high rate of unpaid female family workers, for whom almost all work is informal. The rate of informal employment in women is not only higher than that of men in agriculture but also in non-agricultural sectors. In their study analyzing the development of informal female employment in the services and manufacturing sectors and their sub-sectors, Toksoz and Memis (2016) reported that 52% of women are informally employed in industry and services sectors, and that informal female employment is high in the industrial sub-sectors of clothing, textile and food, the services sub-sectors of human health and social services, administrative and support services and other service activities. The absolute increase in informal employment, despite the rate decreases, indicates that the measures taken to address informal employment have not been sufficient (KEiG, 2017).

As one of the atypical/precarious employment forms, part-time employment is very common among women. The increase in the rate of part-time employment has also played a role in the increase in women's employment in recent years. As seen in the following table, particularly in the years succeeding the 2008 crisis, the rate of part-time employment for women almost reached 25%. This rate is three times higher than that of men, which indicates that part-time employment has become a significant feature of women's employment.

![Proportion of employed working part-time by sex, 2007-2016, (15+-age)](Source: www.tuik.gov.tr Central Distribution Center)
- Could the reason for increasing unemployment be the solution to unemployment?

Unemployment rates are one of the key indicators of women's social security and working life status. Although the unemployment rate in Turkey is relatively high in general, it is even higher for women compared to that of men. As seen in the following, unemployment rates were below 10% up to 2003, increased right after the crisis in 2009 to 14.3%, and rose to 14.1% in 2017. Non-agricultural unemployment rates serve as an additional key indicator for women. In September 2018, the non-agricultural unemployment rate was 11.0% for men while it was 19.6% for women (2018c).

When examining the unemployment rates, it is quite clear that a wider unemployment definition, one that includes people who are able to work but not looking for a job and people who have no hope to find a job, would generate higher unemployment rates. In 2018, the 1.347 thousand women who were able to work but not seeking a job and the 214 thousand women who had no hope of finding a job constituted 7.8% of the women who are not in the labor force (TurkStat, 2018c). Considering that the number of men who are able to work but not seeking a job was 740 thousand for the same year, it can be argued that women who do not seek a job have a higher tendency to work compared to the men who do not seek a job. On the other hand, youth unemployment in Turkey has reached risky levels. The unemployment rate for 15-24 year-olds is 18.6% for men and 27.2% for women. The ratio of unemployed and uneducated young women to the total young female population is 36.9%, which is a very high level.
Ulukan (2014) stated that flexible and temporary forms of employment, which emerged as a solution to unemployment, have become a significant cause of unemployment itself, a finding particularly important for women, whose participation in employment is supported through flexible forms of employment. Ulukan further noted that the ratio of unemployed who stated that they lost their jobs due to the ending of a temporary job to the total unemployed population was 10% in the 1990s but increased to 35.1% in 2017. The number of women working in a temporary job has been rapidly increasing recently. The ratio of unemployed women who lost their jobs due to the ending of a temporary job to the total unemployed female workers was 17.9% in 2014, which increased to 24% in 2017. Here, the striking point is that the number of unemployed men who lost their jobs due to the ending of a temporary job increased by 15.3% from 2014 to 2017, while for women, the increase was 84.4% (TurkStat, CDS).

<table>
<thead>
<tr>
<th>Years</th>
<th>The number of unemployed who lost their jobs due to the ending of a temporary job (thousand)</th>
<th>The rate of unemployed who lost their jobs due to the ending of a temporary job (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>2014</td>
<td>186</td>
<td>750</td>
</tr>
<tr>
<td>2015</td>
<td>239</td>
<td>798</td>
</tr>
<tr>
<td>2016</td>
<td>301</td>
<td>831</td>
</tr>
<tr>
<td>2017</td>
<td>343</td>
<td>865</td>
</tr>
</tbody>
</table>

Source: www.tuik.gov.tr Central Distribution System (CDS)

On the other hand, it can be seen that the female unemployment rate increases with an increase in female education status in Turkey. In particular, the unemployment rate of young educated women is 29.6% for high school graduates, while it is 35.4% for higher education graduates (KEİG, 2017). According to 2017 data, 38.7% of the 1.430 thousand unemployed women in total are higher education graduates (TurkStat, CDS). Although this matter has been explained through such reasons as educated individuals behave more selectively or they dislike their jobs as their education level increases, the problem is essentially structural as opposed to being the result of individual preferences. Since Turkey’s economic growth in recent years has not created employment, it has been argued that there is no sufficient employment domain constituted for the educated, qualified female and male labor force (Yeldan, 2010; Tuncer & Altınok, 2012). The areas of employment for women are mostly low-paying jobs for an unqualified labor force with bad working conditions. Qualified employment opportunities are more limited for women because of the sexist structure of labor force markets. This process also rapidly transforms the one-wage male breadwinner patriarchal family structure, considering that in many households the employment of women in temporary, unskilled jobs or home-based production plays a vital role in their living strategies.

3. Conclusions

In Turkey, labor-force participation and employment for women are behind those for men. The main reasons for this situation are a gender-based division of labor and the dominant patriarchal structure. The gender-based division of labor and the patriarchy both hold women responsible for housework and care services while restricting women’s access to opportunities for education and employment. Since the economic growth process has a structure that
does not provide employment in Turkey, the demand for female labor has remained extremely limited. In spite of the export-oriented attempt that occurred in Turkey in the 1980s and the import-substitution industrialization process beforehand, female employment continued to decrease until the 2000s. This decrease may be associated with the agrarian disintegration and rural-to-urban migration resulting from the agricultural policies that were mostly implemented in the neoliberal period. Since job opportunities created in non-agricultural sectors were not sufficient to accommodate the female labor force that withdrew from agriculture, the non-agricultural unemployment rates of women also increased. However, it is important to note that women could find employment opportunities in the service sector after its development in the 1990s. While educated and qualified young women could find relatively well-paid, insured, registered service sector jobs in departments such as banking, finance, and education, most women found menial and low-paid jobs in the service sub-sector, such as cleaning, catering, and care. Although the number of female employees in this sector increased, inequalities based on the sexist division of labor and discriminations that women encountered in their professional life continued in this period. The frequent crises of the neoliberal period affected the service sector, where the number of female employees was relatively significant, such as in banking and finance, and this led to unemployment among women, who were already seen as weak links in the sector. Furthermore, it led to the unqualified female labor force searching for jobs more than ever before in order to earn their families’ keep in crisis periods. Accordingly, most of the women who were at a disadvantage in terms of education and qualifications found employment opportunities mostly in atypical, temporary working areas, which can be counted as an extension of housework.

Ultimately, women were to a large extent excluded from the urbanization and industrialization processes in Turkey. Although it started to look like this tendency would be reversed with the discourses and plans supporting female labor-force participation in the 2000s, a careful analysis of the increase in female employment indicated the existence of significant problems. Although female labor-force participation and employment have increased since the mid-2000s, it is still far from equality, which is the first of these problems. On the other hand, the increase in female employment centered on jobs that were precarious, temporary, part-time, menial, and extensions to housework. Therefore, it is important to emphasize that female employment does not increase because of an increasing number of women working in regular and insured jobs. Working informally has become common among women, which is another problem. Practices such as entrepreneurship, which are suggested to increase female employment, are increasing the number of self-employed women. Almost all of the self-employed women work informally, which directly spreads informal working among women. In other words, the labor market, which cannot create enough employment area for women, prompts women to work informally under the name of entrepreneurship. From the mid-2000s, when the decrease in female employment was reversed, the unemployment rate for women started to be higher than that of men, which is another significant problem. The gap between them has widened, especially since the 2008 global crisis. In particular, the unemployment rate for young educated women is tragic. The growth in atypical employment, which is being presented as a solution to female unemployment, does not strengthen and free women; rather, it causes women to be exploited more in accordance with the needs of patriarchal capitalism, as well as increasing unemployment.

It is more important than ever before to develop and implement complete policies that appropriately handle female labor with its paid and unpaid dimensions, and that aim to both qualitatively and quantitatively increase female employment through insured and safe jobs with decent working conditions.
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EXAMINATION OF DEVELOPMENT STAGES OF SOCIAL DIALOGUE IN TURKEY WITH POLICY ANALYSIS METHOD

Mehmet ÖCAL¹, Özal ÇİÇEK²

1. Introduction

Even if Social Dialogue is, basically, defined as the improvements in institutionalizing the relations among government, labour and capital segments with the formation of a trilateral institutional structure at national level, it seems unlikely to limit the Social Dialogue within this framework. For the establishment of such a mechanism like Social Dialogue, it is necessary to analyze a series of phenomena like governance perception, democracy in decision-making processes, strong bonds of institutional relations, the grounds of compromise which can be observed within different perspectives. Therefore, it is helpful to think on the Social Dialogue concept first, and then to try to make sense of Social Dialogue together with some concepts contributing to Social Dialogue. Thus, it can be said that the concept of social partnership plays a determining role and it seems unlikely to have a consensus among different interest groups without any efforts towards social partnership. When the development and transformation phases of the relation between social dialogue and social partnership throughout history are concerned, it is thought to evaluate the establishment of social dialogue mechanisms in Turkey which is negotiating its accession to EU and the polices adopted by doing process analysis. This is based on the European Community Model emerged as a result of the communication method embraced by social groups, which released the tension among social partners over time in Europe.

2. The Concept of Social Dialogue

Social Dialogue can be defined as consensus-based process through which some issues determined by relevant parties are discussed in detail by at least two groups through defining each others’ perspectives and coming up with possible solutions which might be accepted by all parties. Social dialogue is generally carried out through pre-planned or improvised chain interviews between labor and capital segments in the industrial relations system within a country, which are described as pressure groups. From this perspective, successive negotiations conducted prior to union agreements at any workplace can be seen as a sample of social dialogue at micro level. The level of the dialogue might cover a wide variety of processes such as workplace and enterprise, industrial/sectoral, regional and international. Social dialogue topics at macro-level are negotiated under conditions where a regulatory authority related to economic and social politics takes place as a third social partner and solutions creating common perceptions across the country on the relevant topics are found (Tınar, 2007, p. 33). In other words, social dialogue is defined as all types of negotiation, consultation and exchange of information between or among, representatives

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of government, employers and employees on issues of common interest related to economic and social politics or, briefly, as "negotiations a disunity solution based on peaceful methods (Önsal, 2017, p. 447).

The main objectives of social dialogue which emerged as a concept with the aim of social peace are defining and resolving socio-economic issues faced at macro-level for the sake of coming up with solutions under minimal conditions to build consensus and to ensure peace in the field of industrial relations. Moreover, it is people's understanding and being tolerant to each other despite several disagreements. In other words, social dialogue promotes liaising, discovering, learning and finding common interests which both sides may agree on rather than disputing, debating, threatening or seeking superiority over others (Seyyar, 2008, p. 424). On the other hand, contrary to the common belief, social dialogue is not an unbiased concept or a technical process. Social dialogue, basically, is a process which emerges in the relations of different social classes with each other and with political authority and which includes social dominance relations. It should also be dealt with within social class relations, that is, it should be tackled with its peaceful processes and class conflicts. Therefore, it is unlikely to establish social dialogue in an environment where only institutional and legal regulations are carried out without taking prerequisites into account (Çelik, 2014, p. 17).


Social Dialogue became a current issue in Turkish business life due to the high number of strikes and industrial events which increased especially at the beginning of 1990s and the steadily increasing impact of globalization and neo-liberal policies since 1990s as well as the dynamism resulted from accession negotiations to the EU. The first demands for social dialogue were made by employers (Kayhan, 2007, pp. 61-62).

The initial initiatives for social dialogue and reconciliation started based on a bipartite relation between social partners. Right after the April 5th decrees, worker confederations like Turk-Is (Confederation of Turkish Trade Unions), Hak-Is and DISK (Confederation of Progressive Trade Unions of Turkey) held the first social dialogue summit in July, 1994 with the invitation of TISK (Turkish Confederation of Employee Associations). In the final declaration of this summit, they asked the government to consult and cooperate with the social partners on any issue about business life. In August, the second social dialogue summit was held. In this summit, social partners reached a consensus on tax requirements of social security as well as wages and they demanded the social security to be a state policy by emphasizing that tax burden is unfair in the joint declaration they made (Sipahi, 2000, pp. 37-38).

Social partners felt the need to cooperate within the framework of increasing competitiveness and restructuring processes resulted from the growing progress in information-based technologies and procedures which appeared with increasing global competition pressure after Customs Union Treaty signed in 1995 and the need for an official institution which is both equivalent to European Union Economic and Social Committee and which maintains relationships with this Committee in accordance with The Ankara Treaty signed on 25 June 1963 and Additional Protocol signed on 23 November 1970. Moreover, as well as the economic and political instability that marked the 1990s, high inflation, unemployment, income injustice, the increase of informal economy and the increase of informal employment, increasing labor actions and strikes have urgently required an institution to advise governments on these issues (Demir, 1997, p. 89). With the approval of International Labor Organization's "Convention No. 144 on Tripartite Consultation on the Development of International Labor Norms Application" by Turkey in 1993, it became a necessity to establish the Economic and Social Council (Parlak, 2007, p. 20).
4. Defining Policy Analysis Process

Based on their Constitutional Laws, social states aim at improving and maintaining the welfare, prosperity and vitality of their citizens and intervention in the market with state policy is one of the most effective ways of achieving above mentioned aims.

Types of political intervention started to emerge as a result of the waning liberal understanding on societies. The impact domain of public policies expanded as the impact of the State started to increase. Social issues like class conflict which appeared as a result of the negative effects of Industrial Revolution made political intervention necessary to improve and protect the welfare of the citizens. At this point; public policy and policy analysis studies are significant practices as they attempt to define the causes and implications of public authority activities and analyze the effects of socio-economic and political forces on the content of public policies (Demir, 2011, p. 107).

The concept can be defined as a process which is carried out with the purpose of giving information on the clarification of actualization process of policies and various socio-economic and cultural/political factors influencing legislators, evaluating a public policy which is either being applied or planned to be applied to resolve any social issues in terms of efficacy and evaluating the aims of all relevant public policies and identifying and suggesting the most suitable policy. In other words, the concept aims at understanding and examining the characteristics of public policy as public action or inertia at different stages of the process and why, how, where, when, who and by whom public policy is designed and practiced. Apart from these, the practice also focuses on benefiting from public policies. Policy analysis does not mean advocating only specific policies. The purpose of the practice is to improve public policies (Dunn, 1985, p. xvii; Dye, 1992, p. xiii; Demir, 2011, p. 108; Dilekci, 2013, p. i; Gül, 2015, p. 8).

The actualization of the concept the most important aspect of which is to enlighten policy-making process depends on data and processing these data. Diverse research, analysis and techniques are utilized in current policy analysis. “Policy Process Analysis” is used in this study conducted by us. Policy process analysis focuses on systematically examining every stage from the introduction of a policy to its implementation.

When a policy is considered, from examination of the issue that the policy will resolve as well as the alternative policies to resolve the same issue and cost-benefit analysis of the policies, identification of a specific policy and its implications on the parties involved to the basic steps of policy process as well as the activities, actors, impacts, behavior and practice methods in these steps are determined and evaluated (Gül, 2015, pp. 25-26; Demir, 2011, p. 108).

During the process of the adopting ILO Convention No 144 which was enacted within the framework of policy analysis process, establishment of the Economic and Social Council and the enactment of legislation of Regulation No 6356, the debates, the explanations made by the ministers and the discussions on the commission reports as well as the speeches and discussion during referendum have been deeply examined. Those examinations have been done via the minutes of Turkish Grand National Assembly Journey.

5. Policy Analysis Made While Establishing Tripartite Consultative Committee (Evaluations on the Role of Social Dialogue in adopting ILO Convention No 144)

When the enactment process of ILO Convention No 144 is examined, it was observed that Welfare Party didn’t have a positive attitude towards the process. As for the agreement to be adopted and enacted; it was emphasized
by the Welfare Party that the adoption of such an arrangement would contradict national interests on the grounds that the ILO is not independent. “External Restraints” which were the excuse of the government for supporting the process were also criticized by Welfare Party. On the other side, the Motherland Party pointed out the significance of adaptation to the acquis in question in overcoming the socio-economic problems which the country was facing. The role of social dialogue in the development of the countries economically was emphasized and it was stated that an absolute social dialogue process is needed. It was also emphasized that the use of social dialogue at industrial, national and international level paves the way for these developments. It was stressed that Turkey is 30 years behind in terms of social dialogue when compared to other European countries. It was stated that the convention numbered 144 needs an acceleration including tripartite consultative philosophy for all the positive outcomes of social dialogue and the urgency of this acceleration was emphasized. The reasons for the lack of dialogue between the social partners were listed and some suggestions for social justice were presented. The implementer public authority was shown as the authority in charge to take precautions to address these recommendations. However, there was some criticism due to the fact that the convention couldn’t be legislated and turned into a regulation. Government was criticized by the other parties in the parliament for showing them as opponents of ILO Convention. In general, the alignment with the acquis on the ILO has been favored, but the role and practice of the government in the process has been criticized (TBMM, 1992, pp. 454-477).

Minister of Labor and Social Security of the period claimed that tripartite philosophy or ILO Convention No. 144 is a process having a tradition in Turkey. It was suggested that a new era would start in the international arena with the enactment of the contract. It was emphasized that social dialogue would be the key to social justice and peace (TBMM, 1992, pp. 454-477).

Muş deputy of the period who spoke on behalf of himself demanded the abolition of the reservations put into force by the government on these and other ILO Conventions. Additionally, it was pointed out that the important thing was to fill the content of the convention with national practices rather than the legalization of it. The convention was enacted with 170 ayes, 0 denial and 0 abstention (TBMM, 1992, pp. 454-477).

6. The Policy Analysis Made During the Establishment of Economic and Social Council

True Path Party declared that they made Economic and Social Council established in 1995 a legal obligation. It was pointed out that the Council would play an important role in enabling the country to overcome the economic crises through social dialogue and would accelerate Turkey’s EU harmonization process. At that point, participation criticism for Economic and Social Council attracted attention. It was stated that having 9 ministers of the government in the council was contrary to social dialogue and exclusion of non-governmental organizations, chambers, stock exchanges and trades groups from the council was criticized. Another criticism for the council was about its secretariat. It was suggested that giving the secretariat of the Council to the State Planning Organization would affect the impartiality of the council. Therefore, the Council was considered a public unit rather than a free establishment (TBMM, 2001, pp. 250-254).

Motherland Party, on the other hand, supported the law proposal and stressed the necessity of Economic and Social Council in our country. Motherland Party was seen not to have had a critical attitude towards the law proposal (TBMM, 2001, pp. 255-256).
Virtue Party pointed out that it was high time to legislate the law. Despite their positive attitude towards the law, it was obvious from the speeches made by the Virtue Party members did was against organization and dialogue. In the parliamentary speeches of Virtue Party, it was noticed that they believed that ILO norms and harmonization laws weren’t to the benefit of the country, but unnecessary compulsory movements (TBMM, 2001, pp. 256-260).

The deputies who spoke on their behalf during the legalization phase of the law stated that the Economic and Social Council established in Turkey had nothing to with the ones formed in Europe. That was because it had a biased structure due to the council secretariat and had very few numbers of non-governmental organizations as well as the lack of representatives of all groups in the society. The other reasons were not involving public institution unions and associations into the process, having fewer members than EU, and also harming social dialogue atmosphere because of the determination of meeting numbers by the head of the council (TBMM, 2001, pp. 260-289).

On the other hand, Nationalist Movement Party stated the speech by stating that economic and social issues were resolved by councils like ESC (Economic and Social Council) in developed countries. So, this party supported the initiative. It was stated that social dialogue consultative system together with ESC would become a tradition in time. That party also supported giving the secretariat to the State Planning Organization and justified the establishment of the council. Nationalist Movement Party were in favor of public authority structure of ESC, especially the support they gave to State Planning Organization for the secretariat was an indicator of this situation. The speech made on behalf of Democratic Left Party had similar points with the speech of Nationalist Movement Party. The Minister of Labor and Social Security of the period who talked about the issue pointed out the necessity of the council and mentioned its benefits (TBMM, 2001, pp. 260-263).

It is stated in the article rationale of the 2014 draft law that the Economic and Social Council needs a number of changes to represent the society at the broadest level. The state dominant structure of ESC was criticized by EU as it gave harm to social dialogue, however, it couldn’t go beyond of including public organizations into the process. The non-binding legal nature of the decisions of the Economic and Social Council was also maintained (TBMM, 2014).

7. Policy Analysis Made During the Actualization Process of Law No 6356

As a result of the changes and the regulations made among social groups from 2003 to 2012, Unions Law No 2821 and Collective Labor Agreement Strike and Lockout Law No 2822 which were once organized as two separate collective labor relations regulations were legislated under the same roof in 2012. In these changes and regulations, social dialogue mechanisms were actively used. On this issue, General Director of Labor Mr. Sayın declared “A tripartite Consultative Committee was formed and convened 7 times in 2011, the work of ministerial bureaucrats and experts of the social partners and numerous technical committees were conducted and the ideas of civil society organizations were taken into consideration”. His speech attracted attention. The above mentioned law legislated as Unions and Collective Labor Law in November 2012. In the grounds of the article, it was stated that the amendments to the law were made to comply with the ILO’s contracts No. 87 and 98 and to solve application problems of old regulations. When this topic is approached in terms of industrial freedom, even if the changes made created a positive impression, there are still missing or criticized parts (Soykut Sarıca, 2013, p. 4).

The deputy, who spoke on behalf of Nationalist Movement Party, stated that the ministry was behind the schedule during renewal process of the law, which accelerated de-unionization. That civil servants aren’t allowed to go on a
strike was against ILO norms. It was claimed that public policies encourage cheap labor. The deputy of Peace and Democracy Party also started a debate on strike restrictions. It was pointed out strike restrictions were not in line with industrial freedom and this was a legacy of 1982 coup constitution. Also, de-unionization was stressed by the party members. It was offered to discuss the law within personal freedom. A deputy who spoke on behalf of Republican People’s Party mentioned that the draft law failed to achieve democratic labor-capital peace, that the proposals on the items were rejected, that the union definition in the draft didn't match with the one accepted internationally and that the draft intervened with the internal affairs of the unions, that business organization narrowed unionization, that law draft was not in line with EU and ILO norms and that 12th September Coup mindset was maintained. The law was claimed not to be considered a reform due to above mentioned reasons. On the other hand, the deputy spoke on behalf of Justice and Development Party said that supervision was abolished in working life with 2010 constitutional amendments and this paved the way for trade union rights and freedom. This was necessary to develop more libertarian trade union regulations, and ILO conventions served as a model in the preparation of the draft. It was also said that strike restrictions were narrowed and the Laws No 2821 and 2822 were defined as “remnants of coup period” (TBMM, 2012, pp. 409-503).

The Minister of Labor and Social Security who commented on the subject stated that the law proposal had long been expected to be legalized by social partners and he also said that the proposal covered ILO’s 87 and 98 numbered contracts to a great extent, and the realities of the country had to be taken into consideration while preparing the proposal. This statement was thought to refer to strike right of civil servants and other union rights. The idea that the law was prepared in accordance with social dialogue was based on tripartite council and the necessity of this was stressed. There were practices in favor of employees in some regulations while there were practices in favor of employers in some other regulations. This also attracted our attention. It was underlined that the law had been completely changed by Justice and Development Party since 1982. That the impossibility of a law agreed by all social partners was asserted. That the minimum membership age to the trade unions was reduced was also among other statements made. An independent member of parliament, referring to the Minister’s speech, argued that a proposal of law contrary to ILO norms was unfair to employees (TBMM, 2012, pp. 409-503).

During the referendums; it was stated that the social dialogue was realized only with certain groups or groups and classes, therefore, the perception of social dialogue was superficially observed. At that point, that the demands of the employers were prioritized in the negotiations was criticized. Similarly, the rejections of all proposals made by the opposition parties stood out (TBMM, 2012, pp. 409-503).

The criticisms on addressing the demands of only certain groups in the legalization process claimed to have been actualized with social dialogue were thought to be useful in identifying and resolving the social issue that social dialogue faced in our country.

8. Results

It is difficult to claim that social dialogue which is a key component of European Social Model can be implemented in full measure in Turkey. Generally, the non-binding quality of the decisions made by the mechanisms that have bilateral and tripartite structures, the public-dominated structure of the mechanisms, exclusion of non-governmental organizations, associations, chambers and other social partners from the process, irregular meetings of the organizations, public authority’s not asking ideas of ESCs and similar social dialogue mechanisms make it difficult to mention the effectiveness of social dialogue in Turkey.
It is understood in the policy analysis made by us that the regulations of social dialogue legislated were made within the framework of obligations of EU harmonization process or ILO standards. This result is supported by lack of regular meetings held by social mechanisms, continuous intervention of public authority in the structure of social dialogue mechanisms, and even by the absence of internet websites of social dialogue mechanisms. It can be said that the social dialogue tree the seed of which was taken from Europe can hardly grow in Turkey, but it isn’t fed enough give fruit. It seems compulsory to strengthen the social dialogue mechanisms, which are the guarantors of social justice and social peace in order to ensure unity, welfare, goodness and vitality of the citizens.

References


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INFLUENCE OF FRIEDRICH LIST AND THE GERMAN HISTORICAL SCHOOL ON THE OTTOMAN ECONOMIC THOUGHTS

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1. Introduction

In this study, the economic and social changes in Germany during the period of Friedrich List are considered. After the occupation of Germany by Napoleon and the emergence of a German national consciousness as a result of this occupation has been discussed in general and the national policies applied in the economy have been referred. Secondly, while economic and social transformations were experienced in Germany, the economic views of Friedrich List, one of the pioneers of the German Historical School, were evaluated. It is emphasized that Friedrich List, based on the concepts of individuality, development and organic, defines the nation as a separate organic integrity and states that the interests of the nation are in conflict with the interests of the other nations. In addition, critics of List to Adam Smith and his successors (the Classical School) were included. In the third part of the study, the Ottoman State, in which military and economic relations with Germany developed in the historical process, was discussed. The economic policies implemented by the Ottoman Empire especially during the 1908 Revolution and after the period were mentioned. The Ottoman-Turkish intellectuals to be influenced by Friedrich List were discussed in the formation of these policies called national economics. The application of national economics in the last period of the Ottoman Empire was evaluated.

2. Economic and Social Developments in the Period of Friedrich List

Friedrich List (1789-1846) is one of the economists using historical approach in his works where he analysed the economical structure and processes. In the background of the List's historical approach to the economics, the conditions in Germany for this period were effective. The historical – societal conditions or in other words, the empirical world shaped the thoughts of List.

From the mid XVIIth century to 1806 when Holy Roman Empire was ended under the rule of Napoleon, “a unique pattern of political multiplicity” kept its existence on the lands of Germany (Fullbrook, 2017;79). This complete imperial decentralisation model brought together the relative higher centralisation of the regional powers, as well. In the “era of absolutism”, there were many rulers who were successful at different levels to form permanent armies by establishing local bureaucracies able to collect the tax to cover the expenses of the army and to have more power on the regions to run these areas in a more profitable manner (Fullbrook, 2017:79). Thus, the “absolutist rule” within such a structure was far away from being absolute (Fullbrook, 2017:91).

At the end of the eighteenth century, Germany was divided into small independent states more than three hundreds with weak national ties. This structure to be called as Staendestaat, was an organization of a society

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based on corporate property. It also made trading difficult for these states to use different currencies and to set custom barriers. Therefore, Germany was not a political or economic union. Together with the transformation of the French Revolution from an idealistic freedom, equality and fraternity to an expansionist and imperialistic dictatorship, the French army occupied the lands of Holy Roman Empire in 1792. At the end of 1794, all lands at the north side of Rhine River was under the rule of France (Fullbrook, 2017:102; Kitchen, 2012:9). Thus, “Napoleon, Hegel’s “world spirit on horseback,” destroyed the old empire and inaugurated a new period in German history” (Kitchen, 2012:10). The Napoleonic conquests transformed German politics. The French ideas of liberty and equality started to transform the political life in Germany, as well. It provided a participation way to the public administration and bureaucracy for German middle class people. Most of Germans started to save from the feudal restrictions (Farmer and Stiles, 2008:2). The small and middle size regions at the south and west of Germany were rearranged through the Luneville Agreement in 1801. This arrangement removed many of almost 350 small size political units with the decision of 1803 Reichsdeputations-hauptschluss empire committee or they were, then, subject to greater rulers. Besides, almost 112 political units were removed. Napoleon formed the Rhine Confederation consisting of 16 German States and Warsaw Grand-Duchy in 1806, so the Holy Roman Empire was definitely abolished (Fullbrook, 2017:103). “The majority of the tiny states, which had remained independent after the Conclusions, were now absorbed by their larger neighbours” (Kitchen, 2012:9). In short, the divided political unions were started to be unified in Germany after the conquest of Napoleon.

The most important consequence of Napoleon’s intervention in Germany was the creation of a German nation identity. As Farmer and Stiles noted, Napoleon’s defeat was a great incentive for German nationalism, and in the years after 1815, thousands of middle and senior young men who dreamed of giving a practical form to their romantic national identities joined communities campaigning for a united Germany (Farmer and Stiles, 2008:7). Therefore Napoleon became the most influential man in the birth of German nationalism. The nationalism having a cultural and political background, had been riveted by military defeats. However, although the unacceptable behaviour of the French occupying troops, according to Farmer and Stiles, helped to fuel nationalism, Germany’s resistance to France had never become a mass national uprising (Farmer and Stiles, 2008:3).

But with the defeat of Napoleon, Austria, Prussia, Russia and Britain resolved the German question at the Vienna Congress on June 8, 1815. An important result of the conference was the entry into force of the Confederation Law. Thus, a German Confederation (Deutscher Bund), consisting of 38 states (39 by the year 1817), was established instead of the Holy Roman Empire (Fullbrook, 2017:106). In this confederation, there were thirty-nine sovereign states, but there was no common decision-making mechanism among them. Each state could sign agreements and have embassies of different nations as long as it did not threaten the existence of other states and the confederation. As a result, different customs tariffs and contracts had emerged. Because the Confederation was not a federal state (Bundestaat), but a federation of loose states (Staatenbund).

The French Revolution has left a deep and irreversible political influences on Germany. Economically, the French continental block against Britain did not last long enough to be useful for Germany’s economic development. Even if the preconditions for further economic development were provided with the abolition of a series of feudal restrictions on trade and labour mobility, Napoleon wars, probably delayed economic growth in all areas except the French-ruled Rhine States (Fullbrook, 2017:108).

After 1815, two major reform efforts were successful: the establishment of the railway system and the creation of the customs union, Zollverein, which is the basis for German economic development.
As it was in Prussia at the beginning of the nineteenth century, there were different tariffs not only among different states but also in different regions within the same state in Germany. This difference had affected the political union of German nation in addition to the economic union. In 1818, Prussia removed the domestic tariff barriers. Then, Prussia started to establish a custom union with neighboring states and the German Custom Union (Deutscher Zollverein) consisting of 18 states was formed on January 1st of 1834. With the establishment of the custom union, all temporary tariffs had been abolished, different currencies for all member states had been accepted and uniform tariffs for foreign goods had been applied. The main result of this union was the development of trade with a significant increase in its volume. According to Henderson (Henderson, 1934:17) the development of Zollverein is important for two reasons in the history of Germany in the nineteenth century. First, Germany’s rapid rise after 1870 was led by the expansion of production and trade in the 1850s and 1860s. Without Zollverein, Germany’s commercial development would have been hindered. Second, Zollverein was an important influence on the establishment of the German political union. Bismarck figure was dominated by Germany in the sixties, and students studying the founding history of the German Empire went to Bismarck’s diplomacy and to limit their attention to the wars in which the union was founded. But in terms of economics, before Bismarck’s policies, Germany had already merged. Another important development was the steady development of transportation since Napoleon’s day. Railways proved to be another important factor in facilitating trade and improving trade and continued to be an important factor in economic growth and development.

In comparison to the first years of the nineteenth century when Germany was an agricultural society, there has been a noticeable increase in industrial activity after 1835. We can say that the Zollverein and the railway system, for which List had spent time and energy, have laid the foundation for industrial development. In the nineteenth century, Germany experienced the rise of a new and revolutionary intellectual movement, namely the understanding of historiography, mainly directed against the assumptions of the Enlightenment of Western Europe.

3. Friedrich List and the German Historical School

The German historical school has produced a great and diverse literature. The German historical school emerged in the rapid economic, political and intellectual development period and had witnessed the unification of Germany in 1870 and became a worldwide industrial power. It is generally accepted that the German historical school was found with the publication of Grundris series by Wilhelm Roscher in 1843 (Hodgson, 2001:57). What unites this school at an analytical level has been a reaction to the individualistic assumptions and deductive methods of the British classical political economy and a concern to make the economy sensitive to different social cultures and historical periods. According to Hodgson, it is perhaps better to date the beginning of the school in 1841 when the first edition of the National System of Political Economy was published by Friedrich List (Hodgson, 2001:58).

The German Historical School belongs to a period in which German speaking people seek national unity and identity, and aims at an economic development that will free from British domination in manufacturing and trade across the world.

List defines the nation as a separate organic integrity based on the concepts of individuality, development and organic with a historical approach, and states that the interests of the nation are in conflict with the interests of the other nations. List also highlights the importance of the concept of being a citizen of a nation by defining the person who is lost in the feudal society as an individual. List states that unlike the classical economists who argue that nations in the world live in harmony, the interests of nations are in constant conflict. “List emphasizes the
differences between national and universal interests, introduces the theory of productive power (development),
as against the theory of universal free trade, and concentrates on the differences in the levels of industrialization
of various countries” (Shafaeddin, 2000:6). For this reason, List advocates a real national and political economy.

3.1. List and Adam Smith with The Followers or Classical School

The approach of List to the political economy is different that Adam Smith and his followers, in other words, the
Classical School. According to List, the science of political economy is not something “which teaches only how
values in exchange are produced by individuals, distributed among them, and consumed by them” but rather
“a statesman will know and must know, over and above that, how the productive powers of a whole nation can
be awakened, increased, and protected, and how on the other hand they are weakened, laid to sleep, or utterly
destroyed”. Thus, for the primary aim of List, “how by means of those national productive powers the national
resources can be utilised in the wisest and best manner so as to produce national existence, national independence,
national prosperity, national strength, national culture, and a national future” (List, 1909:284-5). Similarly, List
put for the Classical School that “The political economy is almost synonymous with the private economy of
all individuals; politics are no essential ingredient of political economy”. However, for List, this was nonsense,
because “it is folly to suppose that the community is something quite different from the individuals of whom it
is composed” (List, 1909:133).

List put the importance of the productive powers and productive duties by developing the tailor and bootmaker
maker example of Smith and Say: “Smith and Say compare a nation which seeks to promote its industry by
protective duties, to a tailor who wants to make his own boots, and to a bootmaker who would impose a toll on
those who enter his door, in order to promote his prosperity” (List, 1909:133). However, such finding can be a
crazy wise in a national economics for List, because “a tailor is no nation and a nation no tailor, that one family
is something very different from a community of millions of families, that one house is something very different
from a large national territory” (List, 1909:134). List determines with a more abstract generalisation of “the
aggregate of the productive powers of the nation is not synonymous with the aggregate of the productive powers
of all individuals, each considered separately” (List, 1909:134). List states that this power is mainly determined
by social and political conditions.

3.2. List and Nationalism

According to List, the nation is not only the political and ethical union but also an economical union. A nation,
as part of a cosmopolite economics, should also develop its national economy. This is a field of conflict since
according to List, inside the cosmopolite field “an infinite difference exists in the condition and circumstances
of the various nations; we observe among them giants and dwarfs, well-formed bodies and cripples, civilised,
half-civilised, and barbarous nations”. At the other side of the dilemma or conflict, each nation has something
“as in the individual human being, exists the impulse of self-preservation, the striving for improvement which is
implanted by nature” (List, 1909:142).

List defines the duty of the politics as the civilisation of the barbaric nations, making great and strong the small
and weak one, but before all, securing their existence and survive, so the duty of the national economics is “to
accomplish the economic development of the nation, and to prepare it for admission into the universal society
of the future” (List, 1909:142). In order to participate in the universal society of the future, it is necessary to generate its own power, so “The nation derives its productive power from the mental and physical powers of the individuals; from their social, municipal, and political conditions and institutions; from the natural resources placed at its disposal, or from the instruments it possesses as the material products of former mental and bodily exertions (material, agricultural, manufacturing, and commercial capital)” (List, 1909:142).

3.3. Productive Powers and Industries in List

In contrast to Smith's cosmopolitan economy and his own political or national economy, List continued to distinguish between the theory of exchange and the theory of production power. List suggested that the Classic School paid too much attention to what was considered to be exchange value and ignored the importance of the productive powers that created wealth. As Levi-Faur stated “List’s concept of productive powers is first based on a distinction between the causes of wealth and wealth itself” (Levi-Faur, 1997:157). The creation of wealth, on the other hand, is the result of the interaction between human skills, industry and enterprises, and the natural and material world (Levi-Faur, 1997:157).

As a result of the emphasis on the productive powers of List, the nation's strength can be achieved through a division of labour between manufacture and agriculture: “A nation which only carries on agriculture, is an individual who in his material production lacks one arm” (List, 1909:130). List gives more importance to the manufacture. Since, according to List, “Under the influence of manufactures, agriculture itself is raised to a skilled industry, an art, a science” (List, 1909:162). List states what makes a nation strong is not only the economics but also the importance to be given to the art, science and freedoms. As Levi-Faur indicates, the productive powers are founded on cultural basis with national boundaries. They are based on a cultural foundation because they develop against a particular cultural background and stop their decline (Levi-Faur, 1997:165).

3.4. Custom Tariffs and Infant Industries in List

List believes that unrestricted free trade, advocated by the Classical School, precedes developing industrial economies such as Germany, and that the implementation of Smithian economic methods would not be useful for the long-term development of the German economy (Winch, 1998:369). Therefore, the starting point of List was “the problem of delayed or catch-up development” (Senghaas, 1991:452). In order to achieve this objective, List specifically focused on customs tariffs. Because, according to List, it is possible to ensure the development of the national industry by using tariff barriers in place. However, it should be noted that List was not for the use of tariffs in all circumstances. The use of tariffs was limited to certain conditions, as can be seen below.

List divided economic development into three stages: the agricultural society followed by the agricultural manufacturing society and finally the agricultural-manufacturing-commercial economy. According to List, a free trade policy to be implemented in the second phase of development will have a destructive impact for the manufacturing industry, which is particularly emphasized in this stage with protective measures. According to List (Levi-Faur, 1997:157), one of the first theoreticians of the “infant industries” theory, tariff applications are absolutely necessary to protect the “infant industries” of a developing nation against a more advanced nation. According to List, this is a sacrifice, but it is imperative for the future generations and the strong future of the nation (List, 1909:117). List stressed
that nations opening to the free trade without protecting its “infant industries” will be drawn to the exploitation mechanism where it persistently experiences the crisis.

4. Development of Economic Infrastructure Forming the National Economics Consideration in the Ottoman State

Western and Central Europe, which made the capitalist system dominant in the society had begun to establish its superiority over the world at the beginning of the 16th century. The exploitation of New World wealth and precious mines with overseas discoveries had further strengthened this superiority. These developments have increased the power of the bourgeoisie alongside the feudal class. The bourgeoisie, having the economic superiority, had moved to crown this power with political power. The conquest of political power was first realized by the Cromwell revolution in England in 1646. In continental Europe, it was achieved by the French Revolution in 1789. In this process, the first mobilization of the British bourgeoisie resulted with British domination from the Industrial Revolution to the World War I, as the most powerful country in the world (Akşin, 1980: 10).

In the last quarter of the 19th century, new technological developments such as steel, electricity, oil and internal combustion engines paved the way for a ‘second’ revolution in the industry. Although monopolization increased colonialism activities, the decrease in colonializable regions accelerated the colonialism race. In this context, it was especially important for Germany and Italy, who were late to establish their political union. At the end of the 1878-1914 period, there were very few regions that were not under the control of imperialist countries.” (Akşin, 1980: 10). When the Young-Turk movement began in 1889, the United States and Germany began to pass England. In particular, Germany’s efforts to obtain colonies had led to the confrontation with Britain.

4.1. Economic Developments in The Ottoman State

The Ottoman State began to lose its war power to be formed in the era of growth with reference to the settled agricultural structure and the needs of metropole cities by the time against economic and technological developments in Europe. The Ottoman guild system, which could not compete against the industrial revolution of Europe, collapsed over time. As Akşin pointed out, “Tanzimat (1839) and Reformation Edict (1856) were only the stops of the Ottoman State becoming a common colony” (Akşin, 1980: 12). Spending of foreign debt to be credited in 1854 on luxury consumption led the State to bankruptcy. According to Cezar, the Tanzimat is the “beginning of the end” in the general line of Ottoman financial history. In the XVIIIth century, it was the years of war when financial problems surfaced in the Ottoman Empire. Because, “the wars have then ceased to be an event operating in favour of the Ottoman State, and turned into a mechanism causing major financial crises” (Cezar, 1986: 303).

The free exchange system, which was established by the Trade Agreement to be signed in 1838, created the need for borrowing for the first time in 1854; the borrowing of debt chasing each other resulted in bankruptcy in 1875 (Yerasimos, 1987;8). The Ottoman State’s economy was now incorporated into the capitalist world system. The economic policies to be applied in the XIXth century had made the Ottoman State a semi-colony.

4.2. 1908 Revolution and Developments in Ottoman Economic Considerations

Until the Constitutional Monarchy, national capital had not played an active role in economic life, most of foreign investments were provided from foreign sources. For this reason, sectors could not show the expected development.
Between 1889 and 1914, the growth rate of the country was 2.2%. Although this ratio can be considered normal for developed countries, the industry is low for a newly established country (Eldem, 1970:316). One of the objectives of the Society, or Committee of Union and Progress, CUP (Ahmad, 1986:34), that is the pioneer party of Turkish bourgeoisie, was to create a national economy and a national bourgeoisie in order to be independent from Europe. They were decisive to achieve this goal and achieved a certain success (Ahmad, 1986:41). In this period, the defenders of two opposing schools in the Ottoman State faced on the idea of how to establish the basis of economic policies in order to achieve independence.

4.2.1. Liberal Economic Thought

With the influence of the Young-Turks, who started to move with la patrie, liberté, égalité, fraternité, “after the 1908 Revolution, significant transformations in the field of economic thought had started. The dilemma in the view of freedom-oppression in Ottoman political life was reflected in economic thought and the concept of freedom entered into the literature. In the light of the principles of “freedom of contract” and “freedom of exchange”, “freedom of commerce” were adopted and ‘free competition’ was the main motivator of economic life” (Toprak, 1982:23).

Prince Sabahattin and Mr. Mehmet Cavit were the most powerful defenders of individualism in the first years of the Second Constitutional Monarchy. Mr. Cavit, who criticized Friedrich List as he advocate of protectionist policies, adopted the classical economics doctrine, and “he believed that social welfare would only be raised with the consideration of personal interest in accordance with this idea; in other words, he thought that the personal interest would free the way for people towards the happiness.” (Toprak, 1982:23). Mr. Cavit demonstrated his commitment to economic liberalism, arguing that labour should be charged according to its efficiency (Çakmak, 2011:161).

The constant wars, on the other hand, the State made and the failure of the liberal economic policies led to the loss of credibility of the liberal policies. In addition, the search for liberation in the German ranks of the international allies of the period has given birth to the German state model and, under the influence of the German Historical School, the “national economy” has gradually found a proponent in the committee.

4.2.2. Influence of German National Economy Idea: Birth of “National Economics”

Young-Turks made a radical transition to the national economy policies during the World War. In the background of this transition to be supported by leading theoreticians like Ziya Gökalp and Tekin Alp, there was a German national economy model of List in the minds of them (Gencer, 2015:278).

Gökalp strongly criticized the Classic School and therefore individualism. He opposed the views of Prince Sabahattin and Mr. Mehmet Cavit who defended liberalism. For Gökalp, the coexistence and the well-being of the society had the priority over the happiness and well-being of the individual. As Karpat emphasized, “The individual for Gökalp had only physical meaning; he served the purpose of the group, the community (ümmet). Gökalp denied the individual’s freedom of will, for the individual unwittingly obeyed the ideals of his society. Individualism for Gökalp was a source of despair and frustration, the end of ethical principles” (Karpat, 1959:26). According to Gökalp, who adopted the economic views of Friedrich List, economics has been a “cosmopolitan” character in Ottoman society for many years. It is now understood that “Manchester economy” is only the “national economy” of England (Toprak, 1982:25).
According to Tektin Alp, Turks are historically statist and the ownership of private property is a very new condition in Turkish history, so public ownership is more appropriate for the character of Turkish nation. Therefore, economic liberalism is incompatible with the Turkish economic background (Çakmak, 2011:231). According to Tektin Alp, arguing that the state should be active in economic and social life, national economic policies are a tool for the economic development of the country and should be abandoned after the country has reached the desired level of development (Çakmak, 2011:222).

With the impact of the dilemmas created by the World War I, “national economy” has entered the agenda of the Unionists. The adoption of the idea of “national economy” in the Ottoman society took place in a very short time. “In the Fall of 1915 ‘the Journal of Economics’ having the principle of ‘towards the national economy’, was started to be published with the support of the Unionists and it became the institutional organ of ‘national economy’ doctrine (Toprak, 1982:26).

In the article having the title of “Profession of our Journal: Towards National Economy” in the first issue of the Journal of Economics, it was claimed that Turks should consider the German example as Germans established their national economy within a time period shorter than half of a century (Gencer, 2015:283). According to the Journal of Economics, the source of progression in Germany was the principle of “nation”. The national economy was made by Germany. The Journal emphasized Friedrich List and noted that German nation before List could not even imagine the current achievements (Toprak, 1982:27). Ziya Gökalp suggested Turks to be inspired by the “German Unity”, arguing that Turks could only achieve political unity by going through the German path (Toprak, 1982:28).

The Journal Türk Yurdu (Turkish Land) defined the year 1915 as a starting point of the history of “national economy”: it was written that in terms of the “spirit, decisiveness and idea” the attempt to be a “European-like economical state and nation” had been started in this year. The Journal of Türk Yurdu stated that there were many things to be changed in the Ottoman country from 1908 to 1915 when the “national idea” was reached every corner, “the nationalism” covered every direction (Toprak, 1982:28).

According to the defenders of the national economy, it was not possible to find what was necessary for the development and advancement of a nation in the Classic Economics School, that is, liberalism, pro-freedom. For this reason, it was necessary to create the national economy which was the right answer to the problems of real life and to produce the policies appropriate to it.

The Unionists who accepted the German Historical School, and especially List’s approach, did not separate the economy and politics in private and public spheres. The reason they took such an attitude was that the war environment was inextricably dependent on politics and economics.

4.3. National Economy and Efforts to Create Turkish Bourgeoisie

According to Gökalp, “national economy” could have been achieved with ethnic homogeneity. The contemporary state existed as a result of the division of labour among the same ethnic element with common feelings inside. Gökalp noted that different ethnic elements could only form the unity of communities by going to the division of labour under the same state, and stated that such a structure would create a mutual unity (parasitism mutuel) (Toprak, 1982:32). In other words, Gökalp saw liberal capitalism as a measure of patriotism in the approach to
economic issues and doubts the patriotism of those who defended liberal capitalism as a result of its commitment to corporatism (Çakmak, 2011:211).

Gökalp argues that the development of a country would be the result of the establishment of large scale industrial enterprises by the state. With the national economic policies to be followed, protectionist custom tariffs are mandatory for newly industrialized countries (Çakmak, 2011:217).

According to Yusuf Akçura, who described the concept of nation within the framework of economic policies, the existence of the state could only be achieved by the creation of the Turkish national bourgeoisie. “According to Yusuf Akçura, the foundation of the modern state is the bourgeois class, which has emerged on the shoulders of businessmen and bankers. The Turkish national awakening in Turkey is the beginning of the birth of the Turkish bourgeoisie” (Ahmad, 1986:55).

The necessity of the idea of national economy and the creation of a Turkish bourgeoisie has been reflected in policy practices. In the fall of 1914, Turkey was liberated from capitulations. With a law on the status of foreigners, the former privileges of foreigners had been abolished and full equality of taxation was ensured. The new custom system aimed to protect agriculture and domestic industry and promote industrialization. This tariff, like the victory of Gallipoli, was greeted with great enthusiasm, and it was celebrated as “Turkey belongs to Turks”. A large number of Turkish personnel had to be employed by privileged foreign companies and they had them to familiarize with the business life (Avcıoğlu, 1969: 127). After these measures, it was time to train workers and entrepreneurs. The vocational schools had been improved and the vocational schools for females had been opened. Not only the student, but also the worker and the masters were sent to Germany so that they could know there. The courses were organized for artists (Avcıoğlu, 1969: 128).

The encouragement of Turkish industry with the laws to be enacted was one of the objectives of the Unionists during the World War. For this reason, the national Turkish industry has grown very much compared to the era before 1914 (Gencer, 2015:287). “The Young Turks also provided an excellent experience for the future leaders of Republic of Turkey, which was not only a school for political training but also as a testing ground for ideals and issues.” (Karpat, 1959:31)

5. Conclusion

In this study, liberal and protective policies were taken into consideration in the development process with reference to Germany and the Ottoman State which participated in the Industrial revolution, so the industrialisation lately. Historically, Germany and the Ottoman State had to make a choice between the free trade and the national economic policies under the conditions of the period while they were the target of the imperialistic share. Germany and the Ottoman State of the era saw that instead of the free trade policies, a nation-state could only be industrialised by the national economic policies to be implemented and thus strengthened in the international economy.

Germany, against Britain that started the Industrial Revolution and entered the process of having colonies first, began to adopt national economic policies under the influence of economists, such as Friedrich List, defending the protectionist economic policy after the process of creating the national unity that was an idea began to wake up with the invasion of Napoleon. As mentioned above, it was Zollverein, not the policies of Bismarck, which
enabled the formation of the national unity in Germany. Applied national economy and protectionist policies prepared the foundations for Germany’s industrialization.

The Ottoman State, which underwent difficult period in terms of economic-social-political aspects, began to get closer to Germany militarily under the conditions of war with the imposition of the conditions of the period. This rapprochement was not limited with the military field, but the Ottoman intellectuals were also influenced by Germany’s industrial achievements and the intellectual environment behind such achievement. The views of Friedrich List, the pioneer of national economic policies, influenced the Ottoman intellectuals. In the development of Ottoman economic thought, there were discussions between free trade and national economic supporters. The Ottoman Empire gave up its free trade policy that was applied until the World War I. The Unionists which took power, put the national economic policy into practice between 1914-1918 as a must for economic and social development and progression. The idea of development and the creation of a national bourgeois was practically tried to be realized with the policies of the state economy. As emphasized in the text, these attempts of the Unionists had served not only politically but also as a school of economic thought for the intellectuals of the future Republic of Turkey. The statist development policies to be applied by the Government of the Republic of Turkey with great successes still indicate what should be done for Turkey at current state.

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IS AGRICULTURE FEMINIZED? FEMALE LABOR IN CONTEMPORARY RURAL TURKEY

Umut ULUKAN¹, Nihan CİGERCI-ULUKAN²

1. Introduction

The neoliberal transformation in agriculture caused a multilateral transformation in the agricultural structures of Turkey, which was also experienced by many late capitalist countries. The lower rate of governmental support for agriculture, commercialization of agriculture, and marketization of agriculture under international capital caused more farmers to drift away from agricultural activities. The transformation in agricultural structures also affected women in many aspects. The poverty in rural areas that was caused by the neoliberal transformation in agriculture drove people to form new livelihood strategies, and families that had to increase their income and diversify their income types were forced to consider non-agricultural jobs and wage work opportunities. The workload of women, who took over the responsibility for production and reproduction, increased in this period. Women undertake all kinds of agricultural responsibilities in the event that men perform wage work in other places. In addition, women's working hours increased as they performed temporary seasonal non-agricultural work. This concept, also defined as the “feminization of agriculture”, is observed and mentioned in many late capitalist countries (Katz, 2003; Deere, 2005; Lastarria-Cornhiel, 2006).

Although female labor has the primary role of maintaining agricultural manufacturing, it is in second position within the patriarchal gender relations and is generally neglected. The relevant literature also reflects this negligence. A study by Yıldız Ecevit, which documented the studies of women's labor in Turkey, indicated that the studies of rural women labor only constituted 6% of the total feminine studies. In addition, only 5% of the master’s and doctoral theses conducted on female labor between 1980 and 2007 were found to be related to rural women (Ecevit, 2011, p. 136). The academic interest in the labor of rural women is generally limited in Turkey and this area has many questions yet to be answered. This study will discuss the neoliberal agricultural transformation in Turkey, reflect the agricultural status of female labor, and present how female labor is considered in second position in regard to gender relations. This study will also answer the following question: Is agriculture feminized in Turkey? In addition, this study will review the few studies on feminization of agriculture in Turkey. It will also analyze the current data in Turkey with the indicators of international literature to present the evidence of feminization of agriculture in Turkey.

2. The Neoliberalization of Agriculture in Turkey

The development of capitalism and the beginning of the agricultural transformation in Turkey should be considered with the reformation of the international capitalist system following World War II. Turkey acted as an exporter of

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agricultural products in the new international division of labor, which necessitated the modernization of Turkish agriculture and the expansion of manufacturing for agriculture. Accordingly, external aid and credit of 1.2 million dollars was provided to the agricultural sector under the Marshall Plan between 1948 and 1959. Thus, the number of tractors in Turkey increased remarkably in this period, from 1750 in 1948, to 44,000 in 1957, and more than 400,000 in the late 1970s (Gürel, 2014). Many poor villagers, who earned their income by sharecropping, had to move to urban areas owing to agricultural mechanization. Following this rapid migration, the rural population, which was 75% of the total population of Turkey in 1950, regressed to 56% in 1980 (TurkStat, 2001).

The Turkish economy underwent a significant period of transformation following the 1980s. This period and the dynamics that emerged in this process reflect a new stage achieved by the accumulation of capital. The end of the domestic accumulation conditions for large capital, which is limited, forced this capital to combine with global capitalism or to actively engage in international capital accumulation. It is appropriate to define the period when Turkey combined with global capital and global capital met with the opportunities in Turkey as post-1980s. The military coup that was conducted in 1980 produced the environment that was necessary for Turkey to combine with the global process and paved the way for specifying the main actors of this period. The three factors that ensured the transformation for Turkey's internationalization are large-scale capital, governments and political structures, and the World Bank (WB) and the International Monetary Fund (IMF), which are the main actors of global capital (Ercan, 2004).

Turkey combined with the global capital that met with the opportunities in Turkey after 1980, which also means that the international market took part in the agri-food market in Turkey following this period. Accordingly, it is fair to state that the transformational period in Turkish agriculture developed in accordance with the transformation in the agri-food system. A relevant study by Yenal (2001) indicated that the agri-food sector became a significant field for capital accumulation, the role of international capital became significantly greater for agricultural production and the food industry, and the large capital groups in Turkey increased their activities in the agri-food sector in Turkey by partnering with international capital actors. As seen in many lately capitalized countries on the global scale (McMichael and Raynolds, 1994), the Turkish government’s protective and regulatory concepts of the past changed, and the Turkish government followed a policy in which the market conditions became suitable for agricultural manufacturing. Pricing aid, input subventions, and credit facilities were significantly limited. The neoliberalization of Turkish agriculture started in 1980 and picked up speed between the late 1990s and early 2000s. The relevant institutional and legal infrastructures were also completed.

The three-year “stability program” that started with the Letter of Intent signed by IMF and Turkey in December of 1999 can be regarded as the last phase of combination with the capitalist system on the global scale, which started with the decisions and military coup dated 24 January 1980 and 12 September 1980, respectively (Minibaş, 2001). The medium-term purpose under the title Agricultural Policies in the letter of intent suggests the gradual termination of agricultural aid and replacement of this aid with direct income aid. As per the stand-by agreement, the Letters of Intent sent to the IMF later and the revision studies indicated that indirect aid policies would be nullified, the governmental share of manufacturing and marketing of agricultural products would be reduced, and privatization of state-owned economic enterprises (SEEs) in agriculture would be completed. The Agricultural Reform Implementation Project (ARIP), worth 600 million dollars, was signed with the WB in 2001. The primary aim of this project is to generalize the direct income support (DIS) rather than the aid for prices and inputs. The significant structural transformations in agriculture that started with the IMF and WB programs continued with
the introduction of many laws regulating the agricultural/rural areas and with the privatization of agricultural SEEs. The outcomes of agricultural reform, which took place after 1999 in Turkey, indicate that a dramatic transformation occurred to the detriment of agriculture (Ulukan, 2009).

The total number of individuals who work in the agricultural sector has decreased by 3.5 million in the last 20 years. As many as 8.8 million people were employed in the agriculture sector in 1997, but this fell to 5.5 million in 2017. In other words, the proportion of Turkish people working in the agriculture sector was 42% in 1997, but this fell to 19% in 2017 (TurkStat, 2018). In addition to these drops in the rural population and agricultural employment, rural families became poorer at a greater rate. The relative rural poverty based on expenditure was 19.8% in 2002 and 34.2% in 2009. It is fair to assume that some of the producers whose agricultural incomes decreased and who rapidly became poorer were interested in multiple non-agricultural temporary activities or wage work, and immigration from rural areas to cities became more common. The uncertain amount of agricultural income and the increased need for cash for agricultural manufacturing and inputs made the non-agricultural rural activities irreplaceable for small-scale producers.

3. Female Labor in Agriculture

Agricultural production is generally performed by petty commodity producers in Turkey. These producers generally conduct small-scale family-based agricultural activities. It is unclear which of these activities are housework and which are economic. These uncertainties are generally detrimental to the patriarchal relations within families. Men’s work is generally considered to bring more income while women’s work is regarded to be house-based, seasonal, effort-based, part-time, and unpaid. Consequently, domestic and agricultural work are regarded as being associated, and certain domestic activities support agricultural operations, which makes women’s efforts seem valueless and invisible. Collection and harvest of the products planted by family businesses are defined as domestic work in many regions of the world. In addition, women’s positions in production are considered as unremunerated family labor (Candan & Günal, 2013, pp. 10–11). The definition of women as “voluntary domestic workers” results in the majority of their work being considered as valueless domestic efforts.

Women are engaged in various activities in rural areas. These activities include raising animals, working in the garden, preparing wood and coal for heating-based purposes, cooking and preparing household goods such as clothes, rugs, carpets, beds, and blankets, giving birth and looking after children, providing care to elderly and ill people, fulfilling the daily services for all members of the family.

The agricultural labor process and rural life are surrounded by unequal patriarchal relationships. Although women’s efforts are commonly used and regarded as irreplaceable in rural areas, the productive role of women has always been regarded as secondary within patriarchal gender relations. Women are always productive; they also undertake the responsibility of reproduction. However, women are generally not present in places, other than their houses and fields, during decision-making processes regarding production (Öztürk & Akduran, 2010). Men only take responsibility for production and the organization of the business (Ecevit, 1994, p. 101).

One of the factors that makes women less effective in rural areas is the lack of ownership of a property. Women either give up or sell their hereditary land to their brothers in kind or cash for a sum that is less than the real worth. This tradition conceals women’s role in the production. The maintenance of production in small-scale farms is based on the degree of women’s efforts in domestic work and agricultural production. In other words,
small family farming is reliant on women’s efforts. However, women are commonly and unfairly regarded as people whose efforts can be easily utilized. The hereditary lands of women are neglected. Thus, women are only regarded as individuals who only use their efforts without capital or guarantee. These approaches facilitate the consideration of men as the main producers (Ecevit, 1994, p. 99).

As mentioned in the previous section, capitalist relationships started to be dominant in Turkey following the mechanization of agriculture in the 1950s. The common subsistence agriculture underwent a transformation and the need for labor force decreased in this period. The families whose agricultural income options became fewer were inclined to move from rural to urban areas. Men worked as the breadwinners in the families that moved to urban areas while women were deemed responsible for the care services, which caused a rapid decrease in women’s participation in the labor force. In addition, with the capitalist transformation, in rural areas it became more common for women to work as unpaid family members or wage workers for the landless families. However, the neoliberal restructuring of agriculture after the 1980s caused decreases in agricultural production and employment (Toksoz, 2009, p. 213).

Families with small-scale land have to perform wage work in addition to agriculture, which yields low rates of income and creates the conditions known as “feminization of agriculture”. These conditions became clearer with the capitalist transformations experienced in agriculture, which will be detailed later. While women undertake the responsibility regarding agricultural production, men migrate temporarily or for the long term to perform non-agricultural work (Kandiyoti, 1996, p. 66). This evidence is seen more often in labor-intensive production, such as growing and producing tea, tobacco, and hazelnuts. Women are the primary labor force for this kind of work. However, the production-based duties are not shared equally when men cannot find a job, and responsibilities continue to be assigned to women. Women undertake men’s jobs when needed, but men do not accept these efforts by women. The women living in rural areas undertake all responsibilities regarding agricultural production. These statements indicate that agricultural production is maintained by exploiting women more severely and subjugating them (Kandiyoti, 1996, p. 66).

4. Feminization of Agricultural Labor in Turkey

Numerical data and relevant literature from around the world suggest that feminization of agriculture occurs as men depart from the agricultural sector and women’s share of agricultural work increases (WB, 2016; Katz, 2003; Deere, 2005; Lastarria-Cornhiel, 2006). The concept of “feminization of agriculture” can be reviewed from two aspects: Regarding the first aspect with a limited context, this concept is used to reflect the increase in women’s share of agricultural work. The second aspect with a broader context indicates women’s control over agricultural production and position as decision-makers for production (Patnaik et al., 2018). However, it is not possible to assume that these agricultural conditions positively affect women’s well-being and gender relations. Women are still considered to be dependent on men (Sachs & Alston, 2010).

The feminization of agricultural labor cannot be considered independently from the neoliberal restructuring of agriculture in lately capitalized countries. The rapid agricultural transformation caused by the neoliberal policies resulted in poverty in the majority of rural families. For example, Kay (2008) discusses the concept of new rurality arising from the neoliberal restructuring of agriculture in Latin America. The concept of new rurality suggests that there are multiple activities and livelihood strategies in the economic activities and income sources of rural families. According to Kay, rural families’ plural activities in agricultural and non-agricultural (trade, tourism, etc.)
fields increased in number. In addition, the feminization of rural work, unclear differentiation between rural and urban areas, and the ever-increasing significance of international immigration are considered as the most important changes experienced in the agricultural activities of Latin America. The proportion of the population who earn their incomes just from agricultural activities decreased, but the number of people who live under conditions that appear to be similar to those of urban areas in terms of the variety and complexity of income activities increased. Non-agricultural work started to be more significant for rural households. The rural population started to consider non-agricultural employment opportunities more often, which is in accordance with the growth in commercial, touristic, and construction sectors. Thus, the number of people performing non-agricultural wage work continues to increase. Women perform this non-agricultural wage work more often (Kay, 2008, p. 934).

One of the most significant stages of structural agricultural transformation in developing countries is commercialization. Following agricultural commercialization, products requiring intensive efforts, such as fruits, vegetables, and flowers, rather than sugar, cacao, and coffee, are processed in agricultural businesses (Lastarria-Cornhiel, 2006). These businesses prefer female efforts, which they consider as less expensive and suitable for housework. Thus, women represent the secondary labor force based on gender ideology. According to this ideology, women do not need or wish to work in a full-time job (Deere, 2005, p. 30). The increase in the number of modern agricultural businesses provides employment opportunities to women in rural areas, but these opportunities are temporary, irregular, and unremunerative (Kay, 2014, p. 924). The agricultural businesses in the global market create a labor regime that is precarious with no organizational rights for women to reduce costs (Bieri, 2014, p. 284). In addition, domestic reproduction activities do not decrease if women perform wage work, which increases women's working hours. As a result, women's labor is exploited by capital within the framework of patriarchal relations both in the household and in the paid work.

The number of studies examining the effect of the Turkish agricultural transformation on women living in rural areas is limited (Uyar & Böke, 2017). One of these few studies was conducted as a field study by Yaman Öztürk and Akduran (2010) on women working in tobacco production in Bafra, Samsun. Their study indicated that tobacco production was regarded as a “women’s job”. The majority of men do not participate in the activities of planting tobacco. Instead, they take part in the organization of the work or they perform physical activities. The intensive work by women in tobacco production is clear from the following statement from the interviewed women: “Those who have daughters work better in tobacco production”. While women work in tobacco production, they are also busy with the housework. Men do not undertake the responsibility of housework while women are busy with intensive work. Men rather establish connections with merchants, sign agreements, and sell tobacco (Öztürk & Akduran, 2010).

Another study of feminization of labor in rural areas of Turkey was performed by Him and Hoşgör in a seafood processing factory in Western Black Sea, where rural women were employed (Him & Hoşgör, 2017). This study indicated that the rural transformation experienced under the neoliberal agricultural policies trivialized agriculture and triggered immigration from rural to urban areas, and that rural women performed domestic and non-domestic work as a result of the structural transformations. Poor rural families were dependent on young women's labor, which made their efforts clearer as they performed wage work. Fathers who lost their authority over their sons’ labor also lost their control over their daughters' labor, which indicated an authority gap. The traditional form of patriarchy seemed to be lost, but it acquired a new form as young women performed temporary, precarious, unremunerated work (Him & Hoşgör, 2017).
A field study by Aykaç (2009) examining the transition from rural works to the tourism sector in Fethiye, Belek, and Kemer indicated that women who worked as voluntary family workers in agriculture performed wage work in the developing tourism sector. Families with female members perform subsistence production with wage labor. According to Aykaç, women's social status does not change even though they perform wage work in the tourism sector while benefiting from social security. Women are generally responsible for housework as a result of the division of domestic labor. Gender-based division of labor is present in the tourism sector. Women are generally responsible for housekeeping and doing laundry. Their sociality is largely limited as they often work in closed areas under strict supervision. Men, on the other hand, work outside as they perform technical work, such as garden work, electric wiring, and plumbing, which provides them many opportunities for socialization. In conclusion, women's roles and social status in the traditional structure stay the same, even if they work in the tourism sector (Aykaç, 2009, p. 103).

Çelik (2017) reviewed the stories of miner families in Soma and examined how the rural families of the present time reacted to the effects created by the agricultural transformation. The privatization of mines in Soma and termination of tobacco production in the area owing to the agricultural transformation drove rural families to seek new income strategies. Male family members start to work in mines while women start to work more intensively as unpaid family workers when the agricultural income is not sufficient. Males in families with no property work in mines while women perform wage works on large farms. Women call their efforts “going to the plains”. Males in families with property keep on working in mines but women and children conduct agricultural activities and perform wage work on their land. Men perform wage work, which increases women's workloads. Women work more intensively as wage workers, which corresponds to the deficient efforts on their own land (Çelik, 2017, pp. 807–808).

Seasonal agricultural work, which is among the wage work in Turkey, often employs women and children (Çınar, 2014; Dedeoğlu & Bayraktar, 2018). Women's labor is irreplaceable for the families that get by on seasonal agricultural work. Continuity of seasonal working is dependent on women's role in production and reproduction activities. In addition to intensive daily work lasting as long as 10–12 hours, women also perform reproduction activities, which increase their daily working duration to 16–17 hours. Women cannot earn their income by themselves under patriarchal control. Instead, their husbands, fathers, or relatives illegally take their income (Çınar, 2014). This process also includes international immigrants in Turkey (Kalkınma Atölyesi, 2016). A study by Dedeoğlu and Bayraktar on Syrian women performing seasonal agricultural work in Adana is an example of this inclination (Dedeoğlu and Bayraktar, 2018). The rate of female participants' engagement in seasonal agricultural work was high (40%). This rate indicates that women participate in wage work more often than men (Dedeoğlu & Bayraktar, 2018, p. 268). Women's production and reproduction activities do not change regardless of whether these activities are local or not, but women face new challenging mechanisms, such as low wages and social exclusion (Dedeoğlu & Bayraktar, 2018, pp. 276–277).

Studies on female labor in Turkey, which are limited in number, indicate that women have the primary role in agricultural production. Continuity of agricultural production depends on women's performance regarding production and reproduction activities. This dependence becomes clearer in accordance with the decrease in families' incomes following the more rapid neoliberal transformation that occurred after the 2000s. Small farmers do not consider agriculture as their main income source because of the decreases in agricultural income. They perform wage work in agricultural or non-agricultural activities to generate new income sources. The search for
new income sources determines how many family members are to work in accordance with the families’ economic needs. The above-mentioned studies indicate that women maintain continuity in agricultural production while increasing their working hours in production and reproduction activities. However, is there any statistical evidence for the existence of feminization in Turkish agriculture? The WB (2016) proposes a set of indicators to serve as a conceptual framework for tracking women’s participation in agriculture:

- **Indicator 1** – A relative increase in the incidence of women’s participation rates in the agricultural sector, either as self-employed or as agricultural wage workers.
- **Indicator 2** – An increase in the percentage of women in the agricultural labor force relative to men, either because more women are working and/or because fewer men are working in agriculture.
- **Indicator 3** – An increase in the percentage of women’s time in agricultural work relative to men’s time in agricultural work, either because women are working more hours and/or because men are working fewer hours in agriculture.
- **Indicator 4** – An increase in the share of female managers/decision-makers in agriculture out of both sexes.

As implied by the WB (2016), the data for indicators 1 and 2 can be easily accessed in many countries, but the information for indicators 3 and 4 is hard to collect. An analysis can be performed in Turkey considering two of the WB’s indicators, but it is impossible to obtain a sufficient amount of data for the last two indicators. Thus, the present study used the first two indicators. In addition, the proportion of women in non-agricultural rural activities is considered as the third indicator. This study aimed to imply the transformation in agricultural and non-agricultural activities using the last indicator. Table 1 presents the data regarding these three indicators. Indicator 1 reflects the changes in the proportion of women in the agricultural sector from the total population of women (15+). Accordingly, the proportion of women employed in the agricultural sector has significantly decreased over the last 27 years, which is also valid for men. The total regression in agricultural employment can be seen in Figure 1. In 1990, 4.3 million women were employed in the agriculture sector, but this figure fell to 2.4 million in 2017.

Indicator 2 suggests that women’s share of agricultural employment changed over the last 27 years. Accordingly, the proportion of women and men in the agricultural sector was equal in 1990, but this equality did not remain the same as women’s share in agricultural employment fell to 45% in 2017. Therefore, the increase in the proportion of women in non-agricultural rural activities from the total population of women, which is an indicator of feminization of agriculture, and the increase in women’s share in agricultural employment cannot be presented using the statistical data in Turkey. However, it is not possible to neglect the feminization of agriculture in Turkey considering the relevant data. The first reason is that agricultural statistics in Turkey are insufficient and unreliable. The second and more significant reason is that women’s agricultural activities became invisible because of gender ideology. Women consider their non-agricultural work as their main economic activity if they perform both non-agricultural rural work and unpaid agricultural family labor. The third reason is that women’s working hours may be increased compared to those of men although no proportional increase was seen in women’s employment in agriculture, which was also implied by Mu and de Walle (2011). Thus, the agricultural labor undertaken by women may not be reflected in the statistics.
Table 1. Tracking changes in women's role in agriculture

<table>
<thead>
<tr>
<th>Indicator</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator 1</td>
<td>24</td>
<td>15</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Indicator 2</td>
<td>50</td>
<td>45</td>
<td>48</td>
<td>45</td>
</tr>
<tr>
<td>Indicator 3</td>
<td>6</td>
<td>11</td>
<td>15</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Adopted from TurkStat by authors.

Indicator 3 in Table 1 reflects an increase in the rural non-agricultural employment rate of women. The field studies presented in the current study indicate that the number of individuals who are employed in the rural service sector is increasing. This increase comes from family members who quit agricultural production but keep on living in rural areas, and from other family members who have to perform non-agricultural work as their income from agricultural production is insufficient. The literature includes both statistical and field studies reflecting the increasing proportion of women in non-agricultural employment, which is also presented in Table 1. Thus, it is more appropriate to use the concept of the feminization of rural work instead of feminization of agriculture. The uncertain amount of agricultural income and increases in the need for cash for the agricultural manufacturing and inputs along with the neoliberal transformation in agriculture made non-agricultural rural activities irreplaceable for small-scale producers (Bryceson, 2002, p. 730), which certainly affects both women and men. However, it is more common for women to perform temporary and low-wage work because of patriarchal gender relations. Thus, it is fair to assume that the “triple exploitation”, as suggested by Gills (1999), toward women's invisible domestic labor and unpaid labor in agricultural production is ongoing, and their precarious employment conditions will get worse.

Figure 1. Employment in agriculture (1990–2017) in thousands


5. Conclusions

Women have the primary role in Turkish and global agricultural production and reproduction activities. The continuity of agricultural production is dependent on women’s labor, which makes women's labor seem valueless and invisible as a result of patriarchal gender relations. The agricultural transformation progressed with the neoliberal policies of the post-1980s, which remarkably affected women's labor. The poverty of rural families with the neoliberal transformation drove family members to seek agricultural and non-agricultural wage work. Women's workload increased, and the time they spared for production and reproduction activities also increased.
The male members of rural families that became poor performed non-agricultural work, which drove women to work more intensively to meet the labor deficit. This process is defined as the feminization of agriculture, and it is observed in late capitalist countries.

It is fair to state that the same trends were observed in Turkey. However, it is not possible to state that agriculture became feminized when the indicators formed by the WB for presenting the feminization of agriculture are implemented using the current statistics from Turkey. However, it is significant to determine which work women considered as their main income source. Indeed, when we look at the share of rural women in non-agricultural activities as a new indicator, we observe that the share of women in non-agricultural activities has increased. Patriarchal gender relations consider women's labor as their unremunerative responsibility because women are unpaid family workers in agricultural activities. Therefore, if women employed in wage work, they consider it as their main income source, and the proportion of women in non-agricultural work may increase.

This study suggests that it is more significant to determine whether women in rural areas are facing new forms of exploitation compared to the discussion of whether the feminization of agriculture is present in Turkey. The feminization of agriculture causes negligence toward the processes that reflect the poverty arising from the neoliberal transformation and disengagement from agriculture. The significant point here is the assignment of all responsibilities regarding poverty and low income levels to women. Accordingly, women work for too long as unpaid family workers and participate in low-wage agricultural and non-agricultural activities under precarious conditions. Female labor is preferred in rural areas as a part of the capitalist strategy to reduce costs. Thus, women form the rural reserve army. Whether agriculture is feminized or not, women face triple exploitation by performing domestic work, as well as agricultural and non-agricultural wage work if their families have a land to process. However, more field studies are needed to collect more details about the subject. The status of female labor in Turkish agriculture will be clarified after these studies are conducted.

References


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1. Introduction

Although Ottoman Empire overcame several political and economic crises during her lifespan of six centuries, the industrialization of West and the initiation of the distribution of new economic systems under its control; the occurring crises began to be intensified with extensive changes. Except foreign conjectural movements, crisis and chaos became a chronic disease for Ottoman Empire with the beginning of the deadlock in the existing systems and organizations in the country. Ottoman Empire, which sought a way out from crisis and assisted it with reform movements, became an economic market for the foreign countries despite her all efforts and exertions.

19th century was a period with collapses and crises for Ottoman Empire. Within such a case, several reforms had been made in order to create a way out from these collapses and crises. Initially, the problem with ayans (landed proprietors) tried to be solved with Sened-i Ittifak (Deed of Agreement), and then, the Edict of Tanzimat was declared in order to find an intensive solution for the crisis. Therefore, it would not be wrong to claim that 19th century was both crises and reforms age for the Ottoman Empire. On the other hand, the political and commercial relationship with foreign countries began to be got better and the Ottomans modernized its administrative structure with the approval of Kanun-i Esasi (first Ottoman constitution), and the restoration of constitutional monarchy in 1908. However, these aforementioned reforms did not succeed under the influence of chronic financial and political crises in the Ottoman Empire. Eventually, Ottoman Empire brought her end by herself, and the consecutive wars caused her to cease to exist.

While the subject of this study is Soviet Russia, its predecessor Russian Empire faced with Ottoman Empire several times in history. However, the Russo-Ottoman War of 1768 caused to change the balances of these two states in favor of Russia (Saray, 1998: 77). Then, the relationships between Russian Empire and Ottoman Empire from this date were in mostly state of war since World War I (Uzunçarşılı, 1988: 490).

On the other hand, the world view which had been changed with geographical discoveries, industrialization, technical developments and enlightenment, affected trade as well. Since the port towns became commercial centers, maritime trade increased significantly within the economic market. Although Russia had a coast in Black Sea, since Russia could not reach warm water ports, her activities in maritime trade was considerably low. The activities of Portugal, Netherlands, France, and Britain in both the maritime trade and port towns especially drew attention.

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For example, while the numbers of Russian registered ships were 71 between the years of 1818-1839, this number is only 4% of the total ships in the aforementioned period. However, the number of Russian registered ships in Istanbul port was around 45% in 1908 (Küçükkalay, 2013: 80).

Ottoman Empire had commercial activities with several states in her final period due to she became an open market. Import-export numbers mostly realized in favor of imports with the influence of provisionism mentality which was based on the policy of providing domestic consumption unlike mercantilism.

When the foreign trade components with Russia have been examined, wine and olive oil (with %50) were in the forefront among the exports between the years of 1840-42. On the other hand, Ottomans imported mostly wheat and cereals from Russia. In the 1900s, while the export components shaped as fruit, peanut, and tobacco, the import products were mostly cereal and petroleum products (Pamuk, 1995: 61-70). However, the foreign trade volume of Ottomans and Russians were low in comparison with the other states (Pamuk, 1985: 662). It is safe to say that this condition was a reflection of political conjuncture. The foreign trade with Russia especially came to a halt due to hustle in Balkans and Slav movements.

The Turkish-Soviet relations which had been changed after World War I, will be explained through foreign trade in the first chapter of this study. In the next part, the relationship between Turkey and Soviet Russia in early republican period; will be expressed in the context of the economic journal of “İktisad Bülteni” (Economics Bulletin) which was published regularly in those years. The unique side of this study is that the customs and foreign trade relationships between Russia will be elucidated in consideration of “İktisad Bülteni” which was dated 1926 and was not in the literature.

2. The Sizes of Turkish-Russian Trade before the Republican Era

The terms of foreign trade between Ottoman Empire and Russia began to decrease with the Anglo-Ottoman Treaty in 1838. The numbers of imports had especially been changed in favor of England due to Anglo-Ottoman Treaty in 1838 which provided free trade with England.

<table>
<thead>
<tr>
<th>Years</th>
<th>Britain</th>
<th>France</th>
<th>Germany</th>
<th>Austria</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830-1832</td>
<td>19.0</td>
<td>9.9</td>
<td>3.1</td>
<td>16.9</td>
<td>31.3</td>
</tr>
<tr>
<td>1840-1842</td>
<td>29.3</td>
<td>8.6</td>
<td>4.6</td>
<td>22.1</td>
<td>16.5</td>
</tr>
<tr>
<td>1850-1852</td>
<td>25.5</td>
<td>9.3</td>
<td>9.7</td>
<td>26.2</td>
<td>13.6</td>
</tr>
<tr>
<td>1860-1862</td>
<td>26.5</td>
<td>12.2</td>
<td>9.5</td>
<td>17.2</td>
<td>11.5</td>
</tr>
<tr>
<td>1870-1872</td>
<td>32.4</td>
<td>12.3</td>
<td>13.6</td>
<td>12.9</td>
<td>9.2</td>
</tr>
<tr>
<td>1880-1882</td>
<td>45.2</td>
<td>11.8</td>
<td>2.4</td>
<td>11.8</td>
<td>9.7</td>
</tr>
<tr>
<td>1890-1892</td>
<td>35.9</td>
<td>12.4</td>
<td>10.3</td>
<td>9.8</td>
<td>9.9</td>
</tr>
<tr>
<td>1900-1902</td>
<td>29.8</td>
<td>10.0</td>
<td>9.8</td>
<td>14.5</td>
<td>10.3</td>
</tr>
<tr>
<td>1909-1911</td>
<td>23.9</td>
<td>8.4</td>
<td>13.7</td>
<td>13.9</td>
<td>8.7</td>
</tr>
</tbody>
</table>

France, Austria and Russia provided the requirement of manufactured goods in Ottoman Empire until the first quarter of 19th century. However, Britain almost became alone in the Ottoman market with Anglo-Ottoman Treaty and the other states could not compete with Britain in this market due to the cheap exports of Britain. Another reason of this condition was that the states followed a protective and closed foreign policy. While Russia rigorously forbade the imports of several products in this period, France and Germany decided to execute high tariffs (Kurmuş, 1974: 38). Unlike these states, Ottoman Empire became a complete open market due to capitulations which were given to several states.

<table>
<thead>
<tr>
<th>Years</th>
<th>Britain</th>
<th>France</th>
<th>Germany</th>
<th>Austria</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830-1832</td>
<td>13.3</td>
<td>14.3</td>
<td>2.1</td>
<td>30.9</td>
<td>12.6</td>
</tr>
<tr>
<td>1840-1842</td>
<td>19.8</td>
<td>16.8</td>
<td>1.9</td>
<td>29.1</td>
<td>10.4</td>
</tr>
<tr>
<td>1850-1852</td>
<td>20.1</td>
<td>15.8</td>
<td>1.1</td>
<td>28.0</td>
<td>8.3</td>
</tr>
<tr>
<td>1860-1862</td>
<td>23.5</td>
<td>29.9</td>
<td>0.5</td>
<td>16.8</td>
<td>10.2</td>
</tr>
<tr>
<td>1870-1872</td>
<td>27.2</td>
<td>25.3</td>
<td>0.4</td>
<td>14.3</td>
<td>14.7</td>
</tr>
<tr>
<td>1880-1882</td>
<td>23.5</td>
<td>28.0</td>
<td>0.5</td>
<td>6.1</td>
<td>13.6</td>
</tr>
<tr>
<td>1890-1892</td>
<td>25.9</td>
<td>24.5</td>
<td>4.3</td>
<td>5.9</td>
<td>4.2</td>
</tr>
<tr>
<td>1900-1902</td>
<td>25.9</td>
<td>19.2</td>
<td>7.2</td>
<td>7.8</td>
<td>3.9</td>
</tr>
<tr>
<td>1909-1911</td>
<td>17.9</td>
<td>14.1</td>
<td>11.4</td>
<td>8.0</td>
<td>3.9</td>
</tr>
</tbody>
</table>


When the export numbers of Ottoman Empire in the Table 2 have been examined, it is seen that the exports were mostly made with Austria. While the %30 of the trade with Austria especially comprised of tobacco, the export of leather products had an importance as well. However, it is observed that the exports had certain changes due to the influence of Anglo-Ottoman Treaty. The changes in favor of England and France were a reflection that Ottoman Empire became an open market and she applied lower tariffs as well.

When the products in trade with Russia which is the subject of this study as well has been examined (Table 3), fruits and olive oil were in the forefront within the products which were exported to Russia by Ottoman Empire. After the second half of 19th century, Russia gained importance in the tobacco exports. In addition to this, wheat was the most important product which exported from Russia. As the part of provisionism principal, it was not so surprising that wheat and flour imports were predominately made in order to supply domestic consumption. However, the flour imports can be considered as the reflection of technological inefficacy at the beginning of 20th century. On the other hand, the requirement of petroleum products was increased due to the beginning of the usage of motor land vehicles, and this condition especially can be seen in the numbers of imports in at the first quarter of 20th century. The %40 of total imports in 1900-1902 were realized as petroleum products with Russia.
Table 3. The Total Shares of Products in the Foreign Trade between Ottoman Empire and Russia, 1840-1912 (%)

<table>
<thead>
<tr>
<th>Years</th>
<th>Fruit</th>
<th>Olive Oil</th>
<th>Wine</th>
<th>Tobacco</th>
<th>Petroleum Products</th>
<th>Wheat</th>
<th>Flour</th>
<th>Alcoholic Beverages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1840-42</td>
<td>24.7</td>
<td>12.0</td>
<td>13.6</td>
<td>2.5</td>
<td>-</td>
<td>59.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1859-61</td>
<td>20.4</td>
<td>8.4</td>
<td>2.4</td>
<td>14.8</td>
<td>-</td>
<td>51.2</td>
<td>7.2</td>
<td>-</td>
</tr>
<tr>
<td>1882-84</td>
<td>17.3</td>
<td>11.7</td>
<td>3.2</td>
<td>18.8</td>
<td>-</td>
<td>17.0</td>
<td>16.7</td>
<td>12.9</td>
</tr>
<tr>
<td>1900-02</td>
<td>16.4</td>
<td>6.9</td>
<td>-</td>
<td>14.7</td>
<td>40.2</td>
<td>3.1</td>
<td>13.6</td>
<td>3.4</td>
</tr>
<tr>
<td>1910-12</td>
<td>12.4</td>
<td>2.1</td>
<td>-</td>
<td>1.7</td>
<td>17.0</td>
<td>4.1</td>
<td>13.2</td>
<td>9.1</td>
</tr>
</tbody>
</table>


As a result of changing conjectural structure and political situation, several reform movements especially occurred in a sequential manner in the Ottoman Empire since the second half of 19th century. The governments which came into the power especially in the years of the restoration of constitutional monarchy submitted several political suggestions for abolishing the capitulations. Thus, Ottoman Empire stirred when the European states had entered to World War I, and these conditions guided Ottomans to abolish capitulations ex parte.

In the 9th September 1914, the government of Said Halim Pasha declared that all financial, judicial and administrative privileges of foreigners who were living in the Ottoman soils, in other words, the capitulations would be abolished and this condition would be valid starting from the date of 1th October 1914. Moreover, it was also declared that all the relationships with foreigners would be arranged according to the principal of international law (Toprak, 1982: 71). However, deepening crisis in Europe penetrated into Ottoman Empire as well, and “the period of fall”, in other words, the beginning of the end had begun for the Ottoman Empire. Therefore, this radical step of economic independence lost its meaning.

In consideration of these information, economic, political and military competitions between European States from the end of 19th century to the beginning of 20th century among the European states continued to be intensified, and these conditions caused the states to form blocs. While Germany, Austria-Hungary and Italy formed the bloc of “Central Powers”, Britain, France and Russia formed the bloc of Allied Powers. The growing tensions between two sides burned their bridges with an excuse which was the assassination of Austrian heir presumptive by a Serbian nationalist. The countries of the blocks declared war against each other, and this would trigger to the beginning of global destruction as well.

The national mobilization was declared in Ottoman Empire with the beginning of World War I in 1914, and food problem appeared. Although Ottoman Empire was an agricultural state, the significant part of flours was brought from Romania and Russia. The prices of flour increased due to the closure of Dardanelles Strait because of state of war and the entrance of Russia into the war and flour problem occurred in the Ottoman Empire (Toprak, 1982: 268). In addition to this, when the enterprises in the industry sector have been examined, while the enterprises
in the food industry comprised of 27 percent of total enterprises approximately, the enterprises in the textile field was the second in line (Ökçün, 1984: 26). This condition is also the proof that Ottoman Empire followed an industrial policy based on consumption.

Russian Empire, which was in the bloc of Allied Powers in World War I, and Ottoman Empire, which was in the bloc of Central Powers, inevitably confronted and they again appeared in other fronts. Russia occupied Van, Erzurum, Mus, Erzincan and Trabzon until 1916 (Kurat, 1991: 295). During these occupations, Marxists movements became influential in Russia. The people who desired to destroy Russian Empire in order to bring more democratic structure, eventually actualized Soviet Revolution. Soviet Revolution was essentially two-phased, and the first phase was known as the period of provisional government. The provisional government was established in March 1917 under the presidency of Prince Lvov who was a supporter of Liberalism but this government could not become successful. Bolsheviks grabbed power in November 1917 under the leadership of Vladimir Lenin. After Bolsheviks came into power, their first goal was to provide domestic peace. With this approach, “the Treaty of Brest-Litovsk” was signed between Russia and Central Powers in March 1918 (Sander, 1989).

The Russo-Turkish War was ended with the Armistice of Erzincan (Sürmeli, 2001: p. 28) in December 1917. The withdrawal of Russia from World War I affected the flow of history deeply since the battlefronts increased and the balances changed as well. After the Treaty of Brest-Litovsk, Turkey-Russia relations began to be improved. However, the war had continued for the Ottoman Empire at the other fronts, and she suffered heavy defeats. World War I ended for the Ottoman Empire with the Armistice of Mudros in 30th October 1918, and Ottoman Empire virtually ceased to exist after the Treaty of Sevres in 1920.

3. Rapprochement of Turkey-Russia in Early Republican Period

The Soviet officials got in touch with Istanbul government until Erzurum and Sivas congresses, but they cut off their connection with Istanbul government after the Armistice of Mudros. In addition to this, it was known that the first unofficial contact between Mustafa Kemal Pasha and Soviet officials happened at Havza in June 1919 (Karabekir, 1969). Yet, first serious contacts were made after Sivas Congress when Halil Kut Pasha was sent to Moscow by Mustafa Kemal Pasha (Sorgun, 1972). The purpose of these negotiations was the expectation to the support of new government, and to provide the aid of arms, ammunition and money as well. Thus, these negotiations concluded positively.

Soviet Russia sent a committee to Turkey in order to follow the Independence War of Turkey closely, and Trotsky was assigned as the war commissar. In his statement in 1933, Trotsky said that he had there were no difficulties with Turkish authorities. During the Turkish struggle for national independence in 1920, Mustafa Kemal Pasha had received arms from Soviet Russia which had been delivered through the agency of Trotsky as commissar of war (van Heijenoort, 1978: p. 21-22). It is known that the aids of Soviet Russia were essentially towards the creation of a new state which would embrace the regime of Soviet as well.

Together with the establishment of Grand National Assembly in Ankara, the letter which was sent to Soviet Russia by Mustafa Kemal Pasha, was considered as the first official contact between Ankara government and Soviet Russia. Ankara government requested 5 million golds, ammunition and arms from Soviet Russia for the national struggle with this aforementioned letter (Yüceer, 1995: 89-90). This rapprochement was considered as
a “win-win” situation by both sides which was the reason why it was concluded positively. As a result of this rapprochement, first ammunition and arms aid was made in September 1920, and 3387 rifles, 3623 crates with ammunition, and approximately 3000 bayonets were delivered to Turkish authorities (Müderrisoglu, 1990: 543). These aids continued with the Moscow Treaty in 16th March 1921. In addition to these activities, Soviet Russia made some financial aids as well besides military aids. The financial aids realized with 2.316.412 Turkish Liras in 1920, and then they became 5.761.000 TL in 1921 and 10.791.412 TL in 1922 (Doygun, 1999: 46). These aids strengthened Ankara government, and they were used for providing the necessary finance of national struggle.

After the national struggle and the declaration of the republic, the relationships with Russia continued genially. Since the capitulations were abolished with the Treaty of Lausanne, the commercial relationship between these two countries improved just like the relationship between the other countries and Turkey.

4. The Process of Turkey-Russia Trade: Foreign Trade from Soviet Perspective in 1924-25

As it is known, Turkey was in the danger of occupation and campaigned Independence War as well in 1920s. Moreover, the sectors of agriculture and industry negatively affected and her economic performance was collapsed. Turkey built three trivets in her foreign policy in order to polish the traces of past in the historical process. At this point, Britain-France, Germany-Italy, and Soviet Union were these three powers.

Since the period of Russian Empire, the relationship with Russia continued to increase and the new connections which were established in the period of national struggle, provided to build the political and economic relations of Soviet Union and Turkey in the future on solid basis eventually. The %90 of foreign trade in Soviet Union was controlled by the state and there was only %2 share of private sector in Soviet Union. Thus, Soviet Union tried to execute foreign trade as state-controlled by establishing public commissariats in the countries which she made trade.

Various fairs were organized in the early republican period in order to develop trade between these two countries. The commercial relations tried to be fit with activities such as Russian Expo at Ankara in 1922, Agriculture Expo at Moscow in 1923, and Industry Expo at Istanbul in 1924.

As a result of this policy, several periodicals published in Turkey by Turkish bureau of the People's Commissariat of Foreign Trade. The aim of this policy was to share the sizes of trade between these two countries with public (İktisad Bülteni, 2018: 8). The activities of the customs bureau of Caucasus, which is both one of the subjects of this study and one of the most commonly used customs bureau of Ottoman Empire, in the Republican Period will be tried to be examined in consideration of the statistics of aforementioned journal.

For instance, while Turkey made 3 million lira imports from Soviet Union in 1923, she also made approximately 1.7 million lira exports as well (Kamalov & Svistunuva, 2010: 227). In the aforementioned year, the imports from Russia comprised of %2 of total imports. According to the information in the “İktisad Bülteni” which the examination had been made for the years of 1925-26, “1 American Dollar was equal to 1.75 Turkish Lira”. However, as a result of conducted examinations with the aid of Turkish Statistical Institute (TurkStat) and Central Bank of Turkey, the exchange rates of dollar in early republican period were different than İktisad Bülteni (see the Table 4).
Table 4. The Exchange Rate of Dollar in 1923-1927

<table>
<thead>
<tr>
<th>Years</th>
<th>1 American Dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>1.66</td>
</tr>
<tr>
<td>1924</td>
<td>1.93</td>
</tr>
<tr>
<td>1925</td>
<td>1.87</td>
</tr>
<tr>
<td>1926</td>
<td>1.93</td>
</tr>
<tr>
<td>1927</td>
<td>1.95</td>
</tr>
</tbody>
</table>


In consideration of these information, the foreign trade volume between Turkey and Soviet Union in 1924 was 8,987,710 Turkish Liras (İktisad Bülteni, 2018: 15). However, the trade in the customs bureau of Caucasus was not included in these numbers, only the commercial activities in Istanbul were included. Like previously stated, the foreign trade of Soviet Union was executed as state-controlled, and a controlled trade was applied. Therefore, the commercial activities in the customs bureau of Caucasus which had been made through private sector and without the control of the state, were not included in İktisad Bülteni in the scope of total trade volume. However, according to the public records, the foreign trade volume with Russia was 8,387,780 Turkish Liras in 1924.

Table 5. The Export between Turkey-Soviet Union and its Share in Total Exports (%), 1923-1927 (TL)

<table>
<thead>
<tr>
<th>Years</th>
<th>Total Exports (1)</th>
<th>The Export with Soviet Union (2)</th>
<th>(2/1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>84,311.400</td>
<td>1,726,400</td>
<td>%2</td>
</tr>
<tr>
<td>1924</td>
<td>159,099,550</td>
<td>2,009,130</td>
<td>%1,3</td>
</tr>
<tr>
<td>1925</td>
<td>192,049,000</td>
<td>4,882,570</td>
<td>%2,5</td>
</tr>
<tr>
<td>1926</td>
<td>186,123,410</td>
<td>5,234,160</td>
<td>%2,8</td>
</tr>
<tr>
<td>1927</td>
<td>157,460,550</td>
<td>6,191,250</td>
<td>%3,9</td>
</tr>
</tbody>
</table>


Although a newly founded state has the low levels of foreign trade volume, the reason for the relatively low levels of the exports of Turkey with Soviet Union in 1923 and 1924 was that some of the products had already been sold to Soviet Union in the fairs which had been held in abroad. The trade of products had especially been made with Soviet Union in the fairs of Baku and Nizhny Novgorod (İktisad Bülteni, 2018: 16). Hence, although the trade activities in these fairs indicated in the total export components, they were not reflected in the export components with Soviet Union. As it is seen in Table 5, the share of the exports with Soviet Union within the total exports was at the level of %2-3.

According to the information in the İktisad Bülteni, the products which were imported from Turkey by Soviet Union in the period of 1924-25 have been demonstrated in the Table 6.
The financial relationships between Turkey and Soviet Union in early Republican period: The example of the journal of “İktisad Bülteni” 1924-1925

Ali Gökhan GÖLÇEK, İşıl Şirin SELÇUK (Phd), Altuğ Murat KOKTAŞ

### Table 6. The Goods and Products in Export Activities between Turkey-Soviet Union, 1925 (TL)

<table>
<thead>
<tr>
<th>Exported Goods and Products</th>
<th>The Equivalent of TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leather</td>
<td>136,966</td>
</tr>
<tr>
<td>Sesame</td>
<td>107,558</td>
</tr>
<tr>
<td>Rose Oil</td>
<td>11,250</td>
</tr>
<tr>
<td>Valonia Oak</td>
<td>360,148</td>
</tr>
<tr>
<td>Olive Oil</td>
<td>24,204</td>
</tr>
<tr>
<td>Olive</td>
<td>45,656</td>
</tr>
<tr>
<td>Orange</td>
<td>246,414</td>
</tr>
<tr>
<td>Lemon</td>
<td>53,220</td>
</tr>
<tr>
<td>Fig</td>
<td>44,518</td>
</tr>
<tr>
<td>Raisins</td>
<td>2,916</td>
</tr>
</tbody>
</table>

**Source:** İktisad Bülteni, 2018: p. 18-19.

While food products and fruits were mostly exported from Turkey to Soviet Union, the share of exported goods within the total exports was %2. In addition to this, the amounts of imports with Soviet Union and the numbers of total imports in the period of 1923-27 in Turkey have been given in Table 7.

### Table 7. The Imports between Turkey-Soviet Union and Its Share in Total Imports (%), 1923-1927 (TL)

<table>
<thead>
<tr>
<th>Years</th>
<th>Total Imports (1)</th>
<th>Imports with Soviet Union (2)</th>
<th>(2/1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1923</td>
<td>144,207,520</td>
<td>3,027,840</td>
<td>%2</td>
</tr>
<tr>
<td>1924</td>
<td>193,891,660</td>
<td>6,378,650</td>
<td>%3,2</td>
</tr>
<tr>
<td>1925</td>
<td>241,142,110</td>
<td>6,101,810</td>
<td>%2,5</td>
</tr>
<tr>
<td>1926</td>
<td>234,323,230</td>
<td>8,526,740</td>
<td>%3,6</td>
</tr>
<tr>
<td>1927</td>
<td>210,116,400</td>
<td>6,850,350</td>
<td>%3,2</td>
</tr>
</tbody>
</table>


The size of total imports from Soviet Union by Turkey was 6,378,650 TL in 1924. The one part of this import had been made through Chamber of Commerce in Istanbul, while the one part of it had been made through Caucasian border (İktisad Bülteni, 2018: 22). However, when table 7 was examined, it can be seen that the amounts of imports were decreased in 1927. Moreover, some problems had been occurred due to various commercial reasons between these two countries in 1926. For instance, the high tariffs were demanded for the products from Turkey to Soviet Union. This condition negatively affected the relations of Turkey-Soviet Union. Thus, negotiations were made between the minister of foreign affairs of these two countries, Tevfik Rustu and Georgy Chicherin, and Trade and Marine Agreement was signed for the solution to this problem (Akbıyık, 202: 420).
Table 8. The Goods and Products in Import Activities between Turkey-Soviet Union, 1925 (TL)

<table>
<thead>
<tr>
<th>Exported Goods and Products</th>
<th>The Equivalent of TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals</td>
<td>871.571</td>
</tr>
<tr>
<td>Caviar</td>
<td>741.204</td>
</tr>
<tr>
<td>Fish</td>
<td>134.557</td>
</tr>
<tr>
<td>Petroleum Products</td>
<td>1.065.889</td>
</tr>
<tr>
<td>Coal</td>
<td>1.214.898</td>
</tr>
<tr>
<td>Cement</td>
<td>521.687</td>
</tr>
<tr>
<td>Carpet</td>
<td>548.586</td>
</tr>
<tr>
<td>Match</td>
<td>257.147</td>
</tr>
<tr>
<td>Tire</td>
<td>252.323</td>
</tr>
<tr>
<td>Thread</td>
<td>8.173</td>
</tr>
</tbody>
</table>


The imported goods from Soviet Union in 1925 did not differ so much in the period of 1923-27 which is also the subject of this study. As it is seen in Table 8, while petroleum products and coal was the highest imported products, cereals and caviar followed them. In addition to this, cement had an important share within the imported products because it is a requirement for the problem of sheltering in a newly founded country. The imported goods and products from Soviet Union were generally towards the sectors of energy and construction.

Figure 1. The Change of Imports and Exports between Turkey-Soviet Union by Years

It is seen that Turkey generally had the foreign trade deficits in the period of 1923-27. Although there are several reasons for this condition, it is possible to explain this condition with some reasons like Turkey is a newly founded and unorganized state, the Treaty of Lausanne has binding clauses and a protective customs policy could not be applied since Turkey aimed not to scare foreign capitals. A general decrease is seen in 1925. Since European States began to apply a protective foreign trade policy and the effects of 1929 Depression partially appeared, such decrease was a matter of Turkey.
5. Conclusion

Ottoman Empire could not apply an independent policy due to the capitulations in both foreign trade and customs. Since the view of Ottoman Empire to the foreign policy was developed in the form of the provision of products which was not domestically produced or could not be produced sufficiently, the domestic industrialization remained at the low levels. In the end, Ottoman Empire could not fit in the new world order, and ceased to exist.

In one sense, Turkey was in a position of an inheritor state of Ottoman Empire and she faced several problems in the period of her foundation. Besides the sociocultural and economic destruction from World War I, the battles against occupant states for the national independence forced the hand of the state very deeply in terms of finance and administration. In this period, an event occurred which probably changed the course of history, and Russian Empire was fallen with revolution and Union of Soviet Socialist Republics was established. This condition caused to arise certain conditions both positive and negative for Europe and Turkey.

Since Soviet officials contemplated to enforce their own regime in a newly founded Turkey, they established close contacts with the legitimate government of that period, Ankara government. In this manner, the connections had been established mutually for the solution of both political and economic problems through committees and treaties had been made. The economic cooperations were accompanied by the establishment of close political relationship. Hence, Turkey and Soviet Union signed the Trade and Maritime Agreement in 1926 for this purpose. After this agreement, it was agreed that *Iktisad Bulteni* would be published. This journal would be discussed the trade of Turkey-Soviet Union and would be active in Turkey as well. In consideration of the data of Turkish Statistical Institute, it is seen in the study that the data of *Iktisad Bulteni*, which was dated 1926, was confirmed. In this regard, it is also presented that the economic journals take an important place in the historical background.

As a result of conducted examination, while Soviet Union comprised of the low part of total foreign trade volume, only %2.5, she became an important ally for the early republican period with her critical moves. Turkey especially had problems in the energy sector, and she provided this requirement with Russia by importing petroleum and coal, and the certain parts of cereal products also imported from Russia just like in the Ottoman Empire in order to ensure the domestic consumption. At this point, the exported product classes to Soviet Union were mostly fruits and leather just like in the period of Ottoman Empire as well.

References


AN ASSESSMENT UPON THE GIVEN COAL TO VARIOUS OFFICIALS IN THE OTTOMAN PALACE AS A BASIC NEED IN HARSH WINTERS

Ramazan Arslan

1. Introduction

Coal as a fuel is one of the necessities that producers and consumers, and especially public enterprises, have always demanded. Since a price fluctuation will make the life difficult for the poor people especially in the harsh winter days, this condition has always importance in the correspondences as well. In the edicts, it was demanded that the conditions such as making the life difficult for the poor people should be avoided and required precautions should be taken as well. Therefore, Ottoman Empire tried to retain constant control and supervision over the market of goods and services in order to prevent problems for wood and coal since they were basic needs. These control and supervision were especially about the amount of coals, the prices of coals, the identification of problems and solution of these problems. Thus, administrative divisions such as ministry of internal affairs, municipality (şehremaneti) and ministry of agriculture were specifically hold responsible for these control and supervision mechanisms, and these affairs were made at ministerial levels as well.

Coal is also known as the basic energy resource of daily life and especially of industrial sector. This basic need had a particular importance for Istanbul because Istanbul was the most crowded and the most intensive city of Ottoman Empire for centuries (Öztel, 2013b, p. 488). Istanbul especially had a population explosion between 1453 and 1600s, and the city protected these population movements in every period of the empire (Toprak, 1994, p. 110). These movements increased the migrations in periods of shortage and this condition forced the hand of administration to take measures. Hence, according to a document dated hijri 1304, several examples demonstrated in this document for these measures. For instance, a group of 300 people took the road from Ankara to the capital city but they intercepted in Izmit and they were harbored in Izmit as well by the officials. The same executions had also been made for the people who would go to Hudavendigar and Kastamonu. The state demanded from the officials that they should never let these migrants to arrive the capital city and these type of migrations should be prevented with utmost care (BOA, DH.MKT., 1433/104, 1304 § 29). Since wood and coal were basic needs, they also should be found in the markets in cheap and enough prices for commoners. At this point, the administration tried to discharge this responsibility within the frame of social state. In this study, a coal need in harsh winter for various officials has been analyzed by nature of social state and an assessment about this topic has been made as well. The primary resource in this study is the senior accounting books of inspector of wood (odun emini) in Bâb-ı Defteri (Ottoman institution for financial affairs) from the 16572 numbered document in Ottoman Archive. As a result of the study, it is seen that the administration acted responsibly for the coal need of various palace officials in harsh winter and it made an effort to solve this issue. In the study, the information about coal mining in the world is given firstly, and then, the coal mining and its importance in Ottoman Empire are discoursed.
2. The Coal Mining in the World

Mađen (mining) has a meaning to settle or to dwell in Turkish and it also means the center, mine and the place that something has its root. The customary meaning of it in Turkish is the materials that are in the underground and have a separate economic value from their soil as well. This meaning generally expresses the mine or the mining deposit (Aktan, 2019, p. 1). It is commonly known that humans firstly encountered mining deposits in China. Mines, however, firstly used as fuel in Britain. Coal mines had a significant contribution for the realization of Industrial Revolution. The demand to the coal gradually increased after the realization of the revolution. The factors such as industrial steam engines, railroads, housing, electricity and coal gas enterprises composed this demand to the coal. Coal had a vital importance for Britain and it can be expressed that it was the only sector that Britain was dominant. Hence, Britain had 80 million tons coal production in 1860 but these numbers reached 287 million tons in 1913. In the same manner, 1.100.000 people worked in this sector in 1914 at Britain (Genç H., 2007, p. 6). This condition manifested the reality of the importance of mining sector as well. The hardware industries also were very advanced in England. Coal had been used in most of these industries as a fuel. Coal became valuable in the country in 17th century, and coal had been used by various producers such as beer makers, distributors, salt makers and tile producers. Production of coal reached 3 million tons in 1700s as well (Heaton, 2005, p. 277). Apart from Britain, coal mines had a significant contribution for the development of industries in Belgium, Germany, France and Russia as well (Güran, 1997, p. 130). Russia discovered the mining deposits of Donets region in 1850. Furthermore, production of coal reached 33 million tons in Russia in 1913.

Coal was less-known in Europe in 18th century. Despite this condition, the demand to the coal gradually increased. Three basic factors can be discussed for this increase. First factor is to provide energy to the world industries and to supply heat source for the population in warm climates. Second one is that ship canals will be connected to each other since coal mines are close to the sea and in the end, the coal will be delivered to customers cheaply. Third and last factor is the opening of new coal mines thanks to the development of mining methods (Heaton, 2005, pp. 432-433).

3. Coal Mining in Ottoman Empire and the Importance of Coal

The conquests of Ottoman Empire in 15th and 16th centuries were intensified on the lands that were rich in terms of coal mines. The searching of coal was also rapidly increased in order to provide fuel demands of the ships that were included to the armada since 18th century (Karataşer, 2016, pp. 193-194). The first mining deposit in the Ottoman Empire was found in Sarajevo by Humbaracı Ahmet Pasha in 1731. In addition to this development, the coal mining started with Eregli coal mines in Ottoman Empire. Eregli Coal Mining Company was established in 1841 in order to operate these mining activities. The companies with foreign capital were dominant in the significant part of mining activities (Genç H., 2007, p. 7). Especially Eregli Company with French capital was the most significant foreign company for the production of coal. Yet, there were companies with domestic capital as well. Karaman Company, Georgian Company and Sarıcızadeler Company were among these domestic mining companies (Karataşer, 2016, p. 194).

The supply of coal is both necessary for the people and the palace in Ottoman Empire and that is the reason why this topic is always one of the significant topics. Coal is defined as fuel and the usage area of coal is public enterprises, manufacturing sectors and consumers. The thing that makes coal significant is exactly this excessive
demand from them (Öztel, 2013b, p. 490). Wood and coal generally used together in the Ottoman documents.\(^2\) Due to this significance, they always maintained their importance for supplying them to the people and their supply was always one of the significant issues in the administration. Since wood and coal were significant materials for both producers and consumers, the conditions of market should be handled well. In this respect, state acted responsibly and always kept the goods and services market under control. If there was a setback or a problem appeared out of nowhere, a research would be conducted, a report about related problem would be prepared and the effects which cause this setback in the market would be removed immediately.\(^3\) State especially showed tremendous effort to prevent setbacks in the winter (harsh winter).\(^4\) The poor people who cannot buy wood and coal was especially guarded in the harsh winters and state attempted to provide aids to them as well. To actualize these aids, a notification was made to required places for charity collection. According to this notification, a certain amount would be taken from the people who had a salary more than thousand gürüşes. On the other hand, a people who had a salary less than thousand gürüşes would not be forced to aid but it was also politely asked their help by this notification as well (BOA, DH.MKT., 1144/70, 1324 Z 22).

Bread, meat, wood and coal were considered as vital needs of people and in order to prevent the rises in the prices of them, (BOA, I.HUS.,158/18, 1325 Ş-04), commissions were established in case of not executing the taken measures due to bureaucratic ways and Ragib Bey, financial counsellor and the head of chamber of commerce, was assigned as the head of these commissions as well. These developments demonstrate the significance of this issue. Since wood and coal had already been prioritized in the state, tax exemptions were made for the people who were responsible for the production of these two materials. Moreover, state upgraded its policy and developed policies which would not suffer people, and state protected the producers as well by blocking illegal tax collections (Öztel, 2013, p. 492).

The meeting of basic needs in Ottoman Empire was firstly under the control of Imperial Council (Divan-ı Hümayun) and then, Chamber of Deputies. In addition to them, Ministries of Internal Affairs, Commerce and Agriculture could be counted as efficient administrative units as well. Ministry of Internal Affairs mostly held responsible in case of the rises in prices. In such circumstances, it had great importance that required precautions should be taken with fellow ministries and they should be distributed to relevant units as well. This duty was mostly fulfilled by mayor and ministry of internal affairs. The established commissions with this purpose were presided by the minister of internal affairs (BOA, DH.MKT., 2689/66, 1326 Za 29.). To reveal the supply of wood to several units of palace, the senior accounting books of inspector of wood in Bâb-ı Defteri (Ottoman institution for financial affairs) from the 16572 numbered document have been based on.

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\(^2\) Since the meeting of Chamber of Deputies (Heyet-I Mebusan) came across to winter, the necessary wood and coal for the chambers had been bought (BOA, DH.MKT., 1318/90, 1294 RA 07); The delivery of hay, wood and coals from the districts of Aydos, Huri an Bergos for the military units of Varna and Pazardır…(BOA, DH.MKT., 1322/109, 1294 Ş.14); The boats that stopped to come due to the start of beaconage were pardoned from the dury of this tax. The execution of transaction of about the difficulties of wood and coal suppy in İstinye and the appeal of the people of this town about increasing the supply of wood and coal (BOA, DH.MKT., 1326/69, 1296 ŞA 19) Several examples can be given for this issue.

\(^3\) In this topic for example, a bill was prepared in order to prevent possible coal shortages in the capital city and for supplying coal to the capital city as well, and this bill was presented to mayor (sehremini) BOA, Y.MTV., 181/118, 1316 R 26).

\(^4\) As a statement to this effort, the required precautions were demanded for the supply of wood and coal need to the people of capital city in winter season (BOA, DH.MKT., 2262/89, 1317 CE 23; BOA, DHMKT, 554/58, 1320 R 29).
4. The Amount of Given Coals to Various Officials at Palace in Harsh Winter

Before to start to analyze the subject, it will be better to give information about the based on book for the study in the beginning. The code of book is D.BŞM.ODE.d and its general number is 16572. The full name of the book is the senior accounting books of inspector of wood in Bâb-ı Defteri. The date of beginning and end is uncertain and the shape of book is unbound and without the inclusion of marbling. The book is the size of 20x54. The total number of pages in the book is 12 and numbering paper method was used. The page numbers of 1-5 and 9-11 in the book are blank pages.

Coal and wood were not only the vital needs of common people but also the palace as well. The meeting of these needs was one of the significant point of interests for the administration because the principle of Ottoman economy was provisionism (Genç M., 2000, pp. 80-81). According to this principle, the required goods and services of people should be provided and they should be plentiful, cheap and good quality as well. Administration intervened the markets in certain period in order to maintain this policy.

As a routine in Ottoman Empire, coals were given in the winter to the various officials in the palace for three time, in period from the beginning of erbain⁵ to the end of hamsî⁶. In this study, this issue has been examined. To calculate the amount of given coal at every run, one of the senior accounting books of inspector of wood has been used in the study. This book is hijri dated 15-05-1244, Gregorian dated 23 November 128 and 16572 numbered. According to this, the total of 35155 kıyyes⁷ coal were given to various officials in the palace for three time from the beginning of erbain to its end (Appendix 1). This amount demonstrates that the coal need from 40 days period of harsh winter to 50 days period of harsh winter is approximately equal to aforementioned numbers for the coal need in the winter. This need was met by giving coal in the year for three time. The top three facilities that were given coals were firstly barracks and enforcers with the amount of 800 kıyyes, and second was various palace officials with 500 kıyyes. These palace officials were palace lieutenant,⁸ (Devletli Kethuda Bey Hazretleri) treasurer (Hazinedar Efendi) and palace sergeant (Kethuda Bin Hazretleri). All of them got their coals with aforementioned amounts for three time. For instance, the coal was given to palace lieutenant with 1500 kıyyes; while the coals were given to barracks with 2400 kıyyes and treasurer with 1500 kıyyes. The third facility was the sentry posts. 325 kıyyes were given to this place in every year for three time and this condition can be seen in (Graph 1).

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⁵ Erbain was the 40 days period from the ninth December to seventeenth of January and this period was considered as the coldest time of the year (Devellioğlu, 2005, p. 227).
⁶ Hamsîn was another winter period with 50 days after the harsh winter known as Erbain (Devellioğlu, 2005, p. 323).
⁸ Palace lieutenant (Kethuda Bey) was the supreme officer in the guild of janissaries after the agha of janissaries. (Türkçe Sözlük, 2005, p. 1149).
As it will be seen in the graph, the top three facilities that coal were given were barracks, palace lieutenant and sentry posts. If it is contemplated that these places provided the security in the palace, it can easily be argued that the given coal amount was actually not so much.

The officials that the coal was given in the least amounts were pashas, dressers and master of pantry. The pashas mostly performed their duties in different places of the palace as well.

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9 Master of pantry (kilerci) was the official that he was responsible for the pantry works in the palaces and mansions. (Türkçe Sözlük, 2005, p. 1180).
As it will be seen in the graph, the coal was given to dressers with 60 kıyyes, pashas with 50 kıyyes, and master of pantry with 5 kıyyes in one time. The coal deliveries, however, had been made in three times.

The amount of given coals to the various officials in the palace can be classified according to the facilities that coal was given.

Table 1: The Officials who were in Various Duties in the Palace (As Group)

<table>
<thead>
<tr>
<th>The Facility that Coal was Given (Grup)</th>
<th>The Amount of Given Coal (Kıyye)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aghas and Pashas 10</td>
<td>10.010</td>
</tr>
<tr>
<td>Birun</td>
<td>400</td>
</tr>
<tr>
<td>Çavuşan</td>
<td>600</td>
</tr>
<tr>
<td>Ketthuda</td>
<td>1500</td>
</tr>
<tr>
<td>Enderrun kethuda</td>
<td>500</td>
</tr>
<tr>
<td>Yumaklar 11</td>
<td>650</td>
</tr>
<tr>
<td>Karakolluklar 12</td>
<td>1350</td>
</tr>
<tr>
<td>Clerks</td>
<td>1400</td>
</tr>
<tr>
<td>Kethuda</td>
<td>1450</td>
</tr>
<tr>
<td>Koğuş</td>
<td>1550</td>
</tr>
<tr>
<td>Mehteran</td>
<td>1650</td>
</tr>
<tr>
<td>Mektubi</td>
<td>1200</td>
</tr>
<tr>
<td>Sermhehteran 13 vb.</td>
<td>2750</td>
</tr>
<tr>
<td>Others 14</td>
<td>10.055</td>
</tr>
</tbody>
</table>

As it will be seen in the table, aghas, pashas and effendis had the most numbers in the group of officials that the coal was given. Total of 10.010 kıyyes coal were given to this group and the palace lieutenant was the person that the highest amount of coal was given. In addition to this, 25.100 kıyyes coal were given to total of 13 different groups. Apart from these groups, 10.055 kıyyes coal were given to various officials.

5. Assessment and Conclusion

Coal was not only a basic need for people but also for the public facilities as well. That was the reason why the supply of coal was one of the important duties for administration. As a necessity of this duty, administration was insistent to maintain the price stability in the coal market. Furthermore, administration made the control and

10 Under the title of the aga çukadar aga, makrumeci aga, miftah aga, the expedition aga, iberikdar aga, duhan pasha, arsenal head aga, gunman aga; in the pashas group
11 In the group of Yumaklar, Treasury Cake Eggs, Treasure Teller Balls, Treasury Bar balloon are located.
12 This group is located in the Karaköلك Bostanı Ağa, Karaköلك hudabin, Karaköلك Taam.
13 In this group, there are those named with ser. These can be mentioned as Ser Mehteran Kethudabin, Ser Duhan-ı Kethudabin, and Şerşavuş, as the chief officials.
14 In the other group, it refers to the officials who are a person, such as confectioners, veterans and intermediaries, who are not included in the table. To avoid strangling the table with more numbers, these are not included in the table.
supervision in the coal market as well and necessary punishments were executed if it was necessary, and the people who desired to derange the order of market would not be allowed as well. As a routine in Ottoman Empire, coals were given in the winter to the various officials in the palace for three time, in period from the beginning of erbain, known as the harsh winter, to the end of hamsî, which was 50 days after erbain. This condition can be evaluated that the coal need of the places with security duties was tried to be eliminated by the state even in the harsh winter conditions or in the days with the highest demands of coal. In the study, it has been revealed that the coal was distributed to different fourteen groups in the palace. The people in these groups were responsible with various duties in the palace as well. Due to their importance, coal was firstly given to the facilities with security duties such as barracks, sentry posts and the official who was the supreme officer after the agha of janissaries, the palace lieutenant. The coal was given in the least amounts to the pashas in various duties, dressers and master of pantry. In conclusion, the coal needs of 40 days in harsh winters and the coal needs of 50 days winter for various officials in the palace were tried to be met as far as possible despite the difficult conditions of winter days, and it was provided not to hinder the public services in the units with security duties.

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BOA, DH.MKT., 1318/90, 1294 ŞA 07.
BOA, DH.MKT., 1322/109, 1294 Ş 14.
BOA, DH.MKT., 1326/69, 1296 ŞA 19.
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BoA, MVL., 55/51, 1264.
BoA, Y.MTV ., 181/118, 1316 R 26..

II. Research and Review Works


## Appendix 1: The Amount of Given Coal in the winters to Various Officials in the Palace from the Beginning of Erbain to the End of Hamis for Three Times as a Routine in Every Year (1244/1828).

<table>
<thead>
<tr>
<th>Item No</th>
<th>The Facility that Coal was Given</th>
<th>The Amount of Given Coal (Kyye)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kethuda, His Holiness</td>
<td>500</td>
</tr>
<tr>
<td>2</td>
<td>Tezkire Efendi</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>Tezkire-i Sani Efendi</td>
<td>200</td>
</tr>
<tr>
<td>4</td>
<td>Mektubi Efendi</td>
<td>200</td>
</tr>
<tr>
<td>5</td>
<td>Katip Efendi</td>
<td>200</td>
</tr>
<tr>
<td>6</td>
<td>Teşrifatçı Efendi</td>
<td>200</td>
</tr>
<tr>
<td>7</td>
<td>Hazinedar Efendi</td>
<td>500</td>
</tr>
<tr>
<td>8</td>
<td>Hazine Kâtibi Efendi</td>
<td>200</td>
</tr>
<tr>
<td>9</td>
<td>Gunar Agha</td>
<td>200</td>
</tr>
<tr>
<td>10</td>
<td>Çukadar Agha</td>
<td>150</td>
</tr>
<tr>
<td>11</td>
<td>Mühirdar Efendi</td>
<td>150</td>
</tr>
<tr>
<td>12</td>
<td>Kaftan Ağa</td>
<td>150</td>
</tr>
<tr>
<td>13</td>
<td>Davetdar Efendi</td>
<td>150</td>
</tr>
<tr>
<td>14</td>
<td>? Agha</td>
<td>100</td>
</tr>
<tr>
<td>15</td>
<td>Mucurdan Agha</td>
<td>75</td>
</tr>
<tr>
<td>16</td>
<td>Macun Agha</td>
<td>100</td>
</tr>
<tr>
<td>17</td>
<td>Şemidar Agha</td>
<td>100</td>
</tr>
<tr>
<td>18</td>
<td>Miftah Agha</td>
<td>100</td>
</tr>
<tr>
<td>19</td>
<td>Seferci Pashaya</td>
<td>50</td>
</tr>
<tr>
<td>20</td>
<td>Makrumeci Pashaya</td>
<td>75</td>
</tr>
<tr>
<td>21</td>
<td>İbriktar Agha</td>
<td>100</td>
</tr>
<tr>
<td>22</td>
<td>Dyhan Pasha Agha</td>
<td>100</td>
</tr>
<tr>
<td>23</td>
<td>Seccadeçi Pasha Agha</td>
<td>80</td>
</tr>
<tr>
<td>24</td>
<td>İhram Ağasına</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>Serkilade Enderuna</td>
<td>100</td>
</tr>
<tr>
<td>26</td>
<td>Hazine Pasha Yumağı Agha</td>
<td>100</td>
</tr>
<tr>
<td>27</td>
<td>Dehtavun? Ağasına</td>
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<tr>
<td>28</td>
<td>Yüksek Alemdar Ağasına</td>
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<td>Cndi Pasha Ağasına</td>
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</tr>
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<td>100</td>
</tr>
<tr>
<td>31</td>
<td>?Pasha Ağasına</td>
<td>150</td>
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<tr>
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<td>Telhibsi Agha</td>
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<tr>
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<td>Kethudayi Bevabin Agha</td>
<td>150</td>
</tr>
<tr>
<td>34</td>
<td>Karakolluk Bostani ğaya</td>
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<tr>
<td>35</td>
<td>Selam Ağasina</td>
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<td>Item No</td>
<td>The Facility that Coal was Given</td>
<td>The Amount of Given Coal (Kıyıye)</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>36</td>
<td>Serabluk Bovabin Agha</td>
<td>100</td>
</tr>
<tr>
<td>37</td>
<td>Mektubi Efendi Halfalarına</td>
<td>200</td>
</tr>
<tr>
<td>38</td>
<td>Kâtip Efendi Halfalarına</td>
<td>200</td>
</tr>
<tr>
<td>39</td>
<td>Kethuayı Kethudabin</td>
<td>150</td>
</tr>
<tr>
<td>40</td>
<td>Mühirdar Kethudabin</td>
<td>100</td>
</tr>
<tr>
<td>41</td>
<td>Şeküha Efendiye</td>
<td>150</td>
</tr>
<tr>
<td>42</td>
<td>Karakolluk Kethudabin</td>
<td>150</td>
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<tr>
<td>43</td>
<td>Ser Mehteran Kethudabin</td>
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</tr>
<tr>
<td>44</td>
<td>Ser Çuvakdar Kethudabin</td>
<td>100</td>
</tr>
<tr>
<td>45</td>
<td>Ser Duhan-ı Kethudabin</td>
<td>100</td>
</tr>
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<td>46</td>
<td>Kaib,ı Hazine-i Kethudabin</td>
<td>100</td>
</tr>
<tr>
<td>47</td>
<td>Perdeciyan Kethudabin</td>
<td>50</td>
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<tr>
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AN ASSESSMENT UPON THE GIVEN COAL TO VARIOUS OFFICIALS IN THE OTTOMAN PALACE AS A BASIC NEED IN HARSH WINTERS

Ramazan Arslan

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*Ramazan Arslan*

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Ramazan Arslan

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<td>Aghan Birun odacısına</td>
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<td>Serdiyan</td>
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Appendix 2: The Amount of Given Coal in the winters to Various Officials in the Palace from the Beginning of Erbain to the End of Hami for Three Times as a Routine in Every Year (1244/1828).
Appendix 3: The Amount of Given Coal in the winters to Various Officials in the Palace from the Beginning of Erbain to the End of Hamsî for Three Times as a Routine in Every Year (1244/1828).
PART IV

FISCAL AND MICROECONOMIC POLICY
FOOD-AWAY-FROM-HOME EXPENDITURES, HOUSEHOLD DEMOGRAPHICS AND WORKING HOURS OF MARRIED WOMEN

Gökhan Aykaç (Phd)

1. Introduction

Women in Turkey allocate five times more time on household and family care than men (TurkStat, 2014-2015). On the other hand, traditionally low level of labor force participation rate of women has been increasing in the current decade (TurkStat HLFS, 2019). Regarding the double work on the shoulders of married women - unpaid housework/care work and paid work in the job market –, one can expect a larger ratio of income allocated to time-saving services such as food – away – from - home (FAFH) expenditures for the households where women work more hours in the market. Indeed, the share of FAFH expenditures in total food expenditures increased dramatically from 12% in 2003 to 21% in 2013 (TurkStat, 2019), as well as the weekly working hours of women from 8.96 to 12.42 hours (TurkStat HBS, 2003 – 2013) in Turkey. In this study, the relationship between the “food – away – from – home” (FAFH) expenditures of the households and working hours of married women and some demographic characteristics - the number of children under the age of six, the age and the education of the woman and urban/rural distinction are estimated using TurkStat, Household Budget Survey (TurkStat HBS) 2013 data.

The consumption of time-saving goods has been the subject of a number of studies (Yen, 1993; Byrne, Capps & Saha: 1996) in the framework of Becker’s (1965) influential theory of allocation of time. Findings suggest that there is a positive relationship between FAFH expenditures and the working hours of married women (Yen 1993) as well as the married man (Byrne, Capps, & Saha: 1996). The economic, cultural and demographic characteristics of the households are critical factors for the composition of households’ consumption basket and have been the subject of much systematic investigation (Pollak & Wales: 1978, 1981; Blundell, Pashardes, & Weber: 1993; Deaton: 1986). A good summary of the classification of FAFH expenditures has been provided in the work of McCracken & Brand (1987) where a great deal of previous research into FAFH expenditures is categorized into three parts; first, descriptive analysis, second, uncategorized and general FAFH expenditure analysis and third, the studies in a larger extent that have focused on total consumption expenditures. Besides, more recent attention has focused on the provision of urban/rural distinction (Liu at al., 2015), gender (Kohara & Kamiha, 2016) or heterogeneous consumer segments (Staudigel & Schroek, 2015). One well-known early study that is often cited in research on FAFH expenditures is that of Yen (1993). In his seminal paper, Yen addressed problems with the zero FAFH expenditure level of households that may result in biased estimation and used a Box-Cox transformation. He concludes households with working married women tend to consume more FAFH. Similarly, in his study which set out to determine the relationship of FAFH expenditures and wife’s participation in the labor force -as well as the other demographic characteristics of the household-, Nayga (1996) employed the Heckman (1979) procedure to deal with the sample selectivity bias resulting from the zero FAFH expenditures and found a positive

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relationship. In contrast to Nayga (1996) and Yen (1993), Kinsey (1983) argues that married working women's income has no statistically significant effect on FAFH expenditures.

There is a relatively small body of literature that is concerned with Turkish households. Gul et al. (2007) emphasize the importance of the employment status of married women and education level as notable determinants of FAFH consumption. To further investigate the role of urban/rural distinction and a large number of socio-demographic factors of households of FAFH and food at home (FAH) expenditures, Bozoglu et al. (2013) carried out a maximum-likelihood estimation and concluded that there is a negative relationship between FAFH expenditures and urban households with married individuals. In a comprehensive study of fast food consumption in Turkey, Akbay, Tiryaki, and Gul (2007) found that age, income, education as well as some other factors influence fast food consumption level. However, the presence of a working female spouse in the household is found to be having no statistically significant relationship with the fast food consumption level. One of the essential themes that emerge from the research discussed so far is the potential selectivity problem arising from zero reported FAFH expenditures. However, this problem has not been addressed in the studies for Turkish households. One exception of this is the study of Fisunoğlu and Şengül (2011) where Heckman two-step procedure is used to estimate the regional demand of different commodity groups but the FAFH expenditure. Our paper attempts to examine the relationship between the share of FAFH expenditures in total food expenditures of the Turkish households and married women's participation in labor force as well as the total expenditure, presence of children, age and education level of the working married female and urban/rural distinction, taking the unreported FAFH expenditure selective bias issue in consideration with Heckman (1974 & 1979) process.

This section has attempted to provide an introduction of the issue and a summary of the literature relating the relationship of FAFH expenditures and labor force participation of females as well as some other characteristics of the households. The paper has been divided into four parts. The second part deals with the data. The third part includes the model and the estimation. The final section summarizes the main findings of the estimation results and concludes.

2. Data

TurkStat HBS 2013 micro-data is used for the estimations. TurkStat HBS gathers information on individual and household levels about their characteristics on socio-economic structures, standards of living, and consumption patterns of the households. Surveys are answered by random households monthly. The 2003 survey is implemented to 13248 households in urban and rural areas, and the data set includes 9918 households where the observation number for the households with a married couple is 8316. Among the households with married couples, nearly 17% of the households have not provided information on their FAFH expenditures.

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2 Since the household's urban/rural settlement is considered as an important explanatory variable for the FAFH consumption, this study covers the period of 2013 which is the last year that TurkStat reports the urban/rural distinction in the TurkStat HBS data.
3 Urban areas are the settlements with a population of 20001 and over.
4 For the year 2013, the number of households with unreported FAFH expenditure is 1334 (TurkStat HBS, 2013).
Table 1. Summary Statistics -households with married woman- 2013

<table>
<thead>
<tr>
<th>Variable</th>
<th>Uncensored observations</th>
<th>Whole sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>s.d.</td>
</tr>
<tr>
<td>Ratio of FAFH in total food expenditures (%)</td>
<td>22.037</td>
<td>16.622</td>
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<tr>
<td>Disposable income (annual, in real TRYs *)</td>
<td>7706.8</td>
<td>7819.7</td>
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<tr>
<td>Married women’s labors hour per week (MWLH)</td>
<td>12.803</td>
<td>20.778</td>
</tr>
<tr>
<td>Average labors hour per week (females in the household) –select variable only-</td>
<td>15.789</td>
<td>22.329</td>
</tr>
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<td>Dummy variables: b</td>
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<td></td>
</tr>
<tr>
<td>Child below six years old</td>
<td>0.299</td>
<td></td>
</tr>
<tr>
<td>Married women age under 40</td>
<td>0.455</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
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<td></td>
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<tr>
<td>Married women high school educated</td>
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</tr>
<tr>
<td>Married women university educated</td>
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<td></td>
</tr>
<tr>
<td>Homeowner –select variable only</td>
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<td></td>
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<td>Interaction variables: c</td>
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<td></td>
</tr>
<tr>
<td>Urban * MWLH</td>
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<td>17.987</td>
</tr>
<tr>
<td>Child below six years old * MWLH</td>
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<td>11.763</td>
</tr>
<tr>
<td>Married women university educated * MWLH</td>
<td>2.908</td>
<td>10.800</td>
</tr>
<tr>
<td>Observations</td>
<td>6910</td>
<td></td>
</tr>
</tbody>
</table>

Source: TurkStat HBS 2013
* 2003 TRYs (deflated by CPI 2003=100) and weighted by the OECD scale of the equivalent size of household.
† for all dummy variables: yes=1; 0 otherwise
‡ each represent the interaction of married women’s labors hour
Uncensored observations exclude the observations with unreported FAFH expenditures.

Table 1 summarizes the mean and standard deviations of the variables. Household’s expenditures at restaurants, cages, bars, and the canteens are included in FAFH. Roughly, 22% of the total food expenditure of the households is the FAFH expenditures. The share is larger for urban (24%) than the rural areas (%16.9). Annual disposable income of the households is weighted by the OECD scale of the equivalent size of household and deflated by Turkstat CPI 2003=100. Annual disposable income in 2003 TRYs is more than 1.5 times larger in urban areas (TRY 8568.3) than it is in rural (TRY 5507.3). Married women work nearly 12.8 hours weekly in their main jobs on the market on average. Married women in rural, work longer hours (17.2 hours) where their counterparts living in urban settlements work 11.2 hours weekly. The average weekly working hours of the females in households is around 16. This variable is used only in the selection equation as an explanatory variable assuming that cooking at

5 This scale gives a weight of 1 to the first adult, 0.5 to the second and each subsequent person aged 14 and over, and 0.3 to each child aged less than 14 in the household (HHBA 2013).
6 We refer to the households with a married women hereafter.
7 Consisting of: annual household income + imputed rent - annual non-consumption expenditures -annual aids given to others.
8 Turkish Lira
9 Includes the overtime but excludes lunch hours and individuals commute to and from his/her job.
home is traditionally more likely to be associated with females. “Child below six years old” is a dummy that takes the value of 1 if there are at least one children under six years old in the household. Roughly less than one-third of the married women has a child under six. The age of the married women is controlled by the dummy variable named “married women age under 40” which indicates that the married women’s age is under 40. Almost half of the sample of married women is under 40 years old. The variable “Urban” serves as the dummy, meaning that the household is settled in an urban area. 73% of the households are residing at the settlements with a population of 20,001 or more. Dummies of “Married women high school educated” and “Married women university educated” simply state the education level of the married women. Only 11% of married women have a tertiary or higher education and 26% of the married women is high school educated.

3. The Model and the Estimation

To understand the relationship between the share of FAFH in total food expenditures and married women’s labor force participation as well as the household demographics, we use the household production model where the maximized utility function of the households is specified by the commodities produced in the households, subject to their income constraints. In their cutting edge paper, Becker (1965) and Michael & Becker (1973) theorized that a household consumes only the goods it produces. The production of the commodities in the household depends on the time allocated to production as well as the “intermediate” goods gathered from the market (Huffman, 2011). Therefore, the utility function of the household and the household production function with income and time constraints as well as the maximization are usually specified as follows (Yen, 1993:885) where $\mathbf{z}_i$ represents the $i^{th}$ good that the household produces and $t_{ik}$ is the time of individual $k$ allocated to for producing $\mathbf{z}_i$:

$$U = f(z_1, z_2, \ldots, z_n)$$

$$z_i = z_i(x_i, t_{i1}, \ldots, t_{im}) \quad \text{where} \quad i = 1, 2, \ldots, n$$

Thus, the individual $k$’s total time $T_k$ can be specified as follows where $h_k$ represents the individual $k$’s time allocated to the labor market:

$$T_k = h_k + \sum_{i=1}^{n} t_{ik} \quad \text{where} \quad k = 1, 2, \ldots, m$$

The model requires that the total income of the household including the non-wage income $\nu$ is allocated to the intermediate goods $x_i$ that are used in the production of $\mathbf{z}_i$:

$$\sum_{k=1}^{m} w_k h_k + \nu = \sum_{i=1}^{n} p_i x_i$$

The maximization of (1) subject to (2) yields to the demand function:

$$x_i = f_i(p_1, \ldots, p_n, w_1, \ldots, w_m, \nu)$$

The share of the FAFH expenditures in total food expenditures can be specified on the left-hand side and wages coming from the labor market, and the non-wage income can be expressed as the total income of the household $I$ including the married female’s wage:

10 “Married women university educated” variable also includes the higher education such as masters or PhDs.
Throughout the theoretical set up of Yen (1993), the demand function in terms of the share of FAFH expenditures in total food expenditures can be expressed with some variations:

\[ \frac{p_i x_i}{p_j x_j} = f(h_w, I, Z) \] (3)

The expenditure equation in (3) represents the preference of FAFH— as a time-saving good— against the food prepared at home— as a part of household production in Becker’s (1965) framework. The share of FAFH in total food expenditures for the households with a married woman is expressed as a function of married woman’s hours of work on the market \((h_{w, m})\), the total income of the household \((I)\) within the income pooling perspective and a vector of variables representing the demographic characteristics of the household \((Z)\). The estimated model includes the percentage share of FAFH in the total food expenditures as the dependent variable.

Among the households with married couples, nearly 17% of the households have not provided information on their FAFH expenditure or reported zero FAFH expenditure. However, excluding these observations requires the strict assumption of 17% of the full sample has the same dynamics that affect the tendency to consume FAFH. Because of the potential sample selection bias arising from the unreported FAFH expenditures, the ols estimation results are likely to be biased. In order to avoid the selectivity bias that would result in inconsistent OLS estimates, we employ the Heckman (1974, 1979) full information maximum likelihood (FIML) procedure where a selection—probit—model explaining each household’s FAFH expenditure as a binary dependent variable. The regression model of primary interest is estimated with maximum likelihood estimator for Model 1, Model 2, Model 3 and Model 4 within the Heckman process\(^1\). Robust White-Huber standard errors are used to get heteroscedasticity-consistent standard errors\(^2\). Besides the variable of income and the proxy representing the assets that the household owns (home ownership), the average labors hour of all females in the household and the urban settlement as a proxy for the cultural characteristics of the household that might affect the FAFH consumption are considered as explanatory variables of the selection model. Thus, the selection is determined by annual disposable income, average labors hour of all females in the household per week, urban settlement, and homeownership in the model.

4. Results

The models are estimated with the data of 2013, and the results are presented in Table 2. There are 8244 observations where 1334 of them are censored because of the missing FAFH observations. The upper body of Table 2 shows the estimation results for the Model estimated with OLS and the FIML with Heckman process (Model 1). Model 2, Model 3 and the Model 4 are the same models with additional interaction variables estimated with FIML Heckman procedure. The bottom panel of Table 2 represents the results for the Wald test of independent equations. Wald test \(\chi^2\) rejects the null hypothesis that the correlation of the error terms from the selection and the regression equation is zero at 1% level which confirms that there is a selection problem\(^3\) as it is expected.

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\(^2\) Statistical significance of the estimated coefficients with Robust White-Huber standard error does not substantially differentiate from the estimations with homoscedasticity assumption.

\(^3\) In other words, the null hypothesis that they are independent is rejected. The selection bias cannot safely be ignored and the employment of the Heckman procedure is validated.
negative rho calculated for the selection equation regression shown in Table 3 suggests that unobserved variables that lead to reporting zero FAFH expenditure – or unreported - more likely tend to be associated with less share of FAFH expenditure in total food expenditures.

The percentage share of FAFH in total food expenditures is first estimated without the interaction variables (ols\textsuperscript{14} and Model 1). Estimated Heckman coefficients in Model 1 of Table 2 indicate that income level, married woman’s participation, the presence of a younger married woman, and married woman’s education level had positive statistically significant effects on the dependent variable. Married women’s weekly working hours (MWLH) has a positive statistically significant relationship with the share of FAFH expenditures. The estimation results suggest that married women’s one more hour of work in the primary market job leads to an increase of 0.1 percentage points in the share of FAFH expenditures. Closer inspection of Table 2 shows that this relationship is relatively weaker compared to the other covariates. On the other hand, interpretation might be more salient when more additional working hours are considered (e.g., ten more hours of weekly labor leads to one percentage point more in the share of FAFH expenditures). Model 2 includes the interaction of urban dummy with MWLH. The coefficient of the introduced interaction is statistically significant and implies that one hour of increase in MWLH in urban areas is associated with a 0.15 percentage points increase of FAFH share. One thing to note is the introduction of the interaction of MWLH wipes out the statistical significance of the original MWLH variable.

The interactions of the presence of children under six years old, younger married woman dummy and tertiary educated married woman dummy with the MWLH are further introduced in Model 2, Model 3 and Model 4 respectively. The estimated interaction coefficients show that the presence of children under six is related to a slight decrease in the share of FAFH expenditures in response to one hour of additional labor of the married woman in the prime job. Also, tertiary educated married woman’s additional weekly hour in the labor market tends to a rise of 0.14 percentage points in the dependent variable.

\textsuperscript{14} The ols estimation results are considered to be biased due to the sample selection bias and presented for comparison purposes in the Table 2.
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<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<td>0.000238***</td>
<td>0.000232***</td>
<td>0.000235***</td>
<td>0.000226***</td>
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<tr>
<td></td>
<td>(0.0000272)</td>
<td>(0.0000452)</td>
<td>(0.0000439)</td>
<td>(0.0000442)</td>
<td>(0.0000430)</td>
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<td>Married women’s labors hour per week</td>
<td>0.108***</td>
<td>0.0954***</td>
<td>-0.00775</td>
<td>0.00397</td>
<td>0.00344</td>
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<td></td>
<td>(0.00950)</td>
<td>(0.0104)</td>
<td>(0.0165)</td>
<td>(0.0172)</td>
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<tr>
<td>Child below six years old</td>
<td>-1.860***</td>
<td>-1.729***</td>
<td>-1.694***</td>
<td>-1.018</td>
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<tr>
<td></td>
<td>(0.472)</td>
<td>(0.476)</td>
<td>(0.473)</td>
<td>(0.543)</td>
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<td>Married women age under 40</td>
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<td>4.532***</td>
<td>4.443***</td>
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<tr>
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<td>(0.445)</td>
<td>(0.446)</td>
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<td>Urban</td>
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</tr>
<tr>
<td></td>
<td>(0.452)</td>
<td>(0.449)</td>
<td>(0.530)</td>
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<td>(0.531)</td>
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<td>Married women high school educated</td>
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<td>2.548***</td>
<td>2.494***</td>
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<td>2.557***</td>
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<tr>
<td></td>
<td>(0.445)</td>
<td>(0.449)</td>
<td>(0.449)</td>
<td>(0.449)</td>
<td>(0.448)</td>
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<tr>
<td>Married women university educated</td>
<td>4.196***</td>
<td>3.784***</td>
<td>3.076***</td>
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<td>0.0624</td>
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<td>Urban * MWLH</td>
<td>0.151***</td>
<td>0.154***</td>
<td>0.133***</td>
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<td></td>
<td>(0.0210)</td>
<td>(0.0210)</td>
<td>(0.0215)</td>
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<tr>
<td>Child below six years old * MWLH</td>
<td>-0.0541*</td>
<td>-0.0652**</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(0.0217)</td>
<td>(0.0216)</td>
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</tr>
<tr>
<td>Married women university educated* MWLH</td>
<td>0.142***</td>
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<td>(0.575)</td>
<td>(0.570)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.117</td>
<td>0.117</td>
<td>0.123</td>
<td>0.124</td>
<td>0.127</td>
</tr>
<tr>
<td><strong>AIC</strong></td>
<td>57609.6</td>
<td>64257.9</td>
<td>64204.0</td>
<td>64199.3</td>
<td>64178.8</td>
</tr>
<tr>
<td><strong>BIC</strong></td>
<td>57664.3</td>
<td>64363.2</td>
<td>64316.2</td>
<td>64318.6</td>
<td>64305.1</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>130.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Wald $\chi^2$</td>
<td>582.54</td>
<td>621.63</td>
<td>626.09</td>
<td>652.07</td>
<td></td>
</tr>
<tr>
<td>Wald test of independent equations $\chi^2$</td>
<td>161.14</td>
<td>171.74</td>
<td>172.22</td>
<td>173.34</td>
<td></td>
</tr>
<tr>
<td>Censored observations</td>
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<td>1334</td>
<td>1334</td>
<td>1334</td>
<td></td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>6910</td>
<td>8244</td>
<td>8244</td>
<td>8244</td>
<td>8244</td>
</tr>
</tbody>
</table>

**Source:** estimations. a 2003 TRYs (deflated by CPI 2003=100) and weighted by the OECD scale of the equivalent size of household. b For all dummy variables: yes=1; 0 otherwise. c each represent the interaction of married women’s labors hour (MWLH). Standard errors in parentheses. * p < 0.05, ** p < 0.01, *** p < 0.001
Interpretation of the annual income coefficient needs a little attention because it is represented annually in 2003 TRy$s. 1000 TRy$s increase in annual disposable income is associated with 0.23 percentage points increase in the share of FAFH expenditures. Considering the estimated coefficients of the dummy variable of Model 1, the presence of children under six years old reduces the share by 1.7 percentage points. Households settled in an urban region spend almost 4.3 percentage points more as the share of FAFH. Being a younger married woman leads to a 4.5 percentage points larger share of FAFH expenditures. This relationship is relatively the strongest among the explanatory variables. Education also matters. Presence of a university-educated married female tends to increase the share by almost 3.8 percentage points.

Table 3: Regression Results of the Selection Equation

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Select Model</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home owner</td>
<td>-0.404***</td>
<td>-0.404***</td>
<td>-0.403***</td>
<td>-0.404***</td>
</tr>
<tr>
<td>(0.0387)</td>
<td>(0.0386)</td>
<td>(0.0386)</td>
<td>(0.0387)</td>
<td></td>
</tr>
<tr>
<td>Disposable income</td>
<td>0.0000805***</td>
<td>0.0000803***</td>
<td>0.0000804***</td>
<td>0.0000805***</td>
</tr>
<tr>
<td>(annual, in real TRy$s)</td>
<td>(0.00000862)</td>
<td>(0.00000861)</td>
<td>(0.00000862)</td>
<td>(0.00000862)</td>
</tr>
<tr>
<td>Average labors hour per week</td>
<td>0.00582***</td>
<td>0.00611***</td>
<td>0.00611***</td>
<td>0.00582***</td>
</tr>
<tr>
<td>(0.000882)</td>
<td>(0.000895)</td>
<td>(0.000895)</td>
<td>(0.000882)</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>0.278***</td>
<td>0.286***</td>
<td>0.286***</td>
<td>0.278***</td>
</tr>
<tr>
<td>(0.0389)</td>
<td>(0.0390)</td>
<td>(0.0390)</td>
<td>(0.0389)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.509***</td>
<td>0.501***</td>
<td>0.500***</td>
<td>0.509***</td>
</tr>
<tr>
<td>(0.0517)</td>
<td>(0.0518)</td>
<td>(0.0518)</td>
<td>(0.0517)</td>
<td></td>
</tr>
<tr>
<td>athrho**</td>
<td>-0.392***</td>
<td>-0.402***</td>
<td>-0.403***</td>
<td>-0.392***</td>
</tr>
<tr>
<td>(0.0309)</td>
<td>(0.0307)</td>
<td>(0.0307)</td>
<td>(0.0309)</td>
<td></td>
</tr>
<tr>
<td>Insigma**</td>
<td>2.772***</td>
<td>2.769***</td>
<td>2.768***</td>
<td>2.772***</td>
</tr>
<tr>
<td>(0.00978)</td>
<td>(0.00984)</td>
<td>(0.00983)</td>
<td>(0.00978)</td>
<td></td>
</tr>
<tr>
<td>rho**</td>
<td>-0.373</td>
<td>-0.382</td>
<td>-0.382</td>
<td>-0.382</td>
</tr>
<tr>
<td>(0.02660)</td>
<td>(0.02621)</td>
<td>(0.02619)</td>
<td>(0.02609)</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** estimations.

* * p < 0.05, ** p < 0.01, *** p < 0.001, Standard errors in parentheses.

*2003 TRy$s (deflated by CPI 2003=100) and weighted by the OECD scale of the equivalent size of household

*b females in the household

“Insigma” is the estimator of the standard error of the residual in the regression equation in Table 2. “rho” is the correlation coefficient of the error terms from the selection and the regression equation represented in Table 2. “athrho” is the reparametrized “rho” and equals to (1/2)ln((1+rho)/(1-rho)).

Table 3 represents the results for the selection model estimation of the Heckman procedure. Homeownership, disposable income, weekly average labors hours of the females in the household, urban/rural settlement determine the selection. Rho takes negative sign suggesting that the households with unobserved FAFH expenditures tend
to spend a smaller part of their total food budget on FAFH. Statistical significance of the rho is tested through “athrho” which is a parametrized rho (See the footnotes of Table 3) and found to be statistically significant at 0.01. Table 4 provides the marginal effects of the dummy variables for a more unobstructed view. It is apparent from the Table that there are statistically significant differences between the specifications of the dummies get the value of one or zero. Households without a child under six allocate 23.7% of their total food expenditures to FAFH on average, where their counterparts reserve 21.9%.

<table>
<thead>
<tr>
<th>Table 4: Marginal Effects *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Child below six years old</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Married women age under 40</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Urban</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Married women high school educated</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Married women university educated</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001
* for all dummy variables: yes=1; 0 otherwise
Standard errors calculated with delta-method in parentheses.

Households with a younger married woman are likely to eat out more. The share of FAFH in total food spending is 21.2% for households with a younger married woman and 25.7% for that of without young married woman. Settling in rural or urban is strongly in relation to the share of FAFH expenditures. Households in rural spend their 20.1% of total food budget to FAFH where urban households spend 24.4%. The education level of the married woman also has an essential role in the share of FAFH expenditures. Households with a married woman having an education under high school level tend to share 22.5% of their total food expenditures on FAFH where the households with a high school educated married woman spend 25%. The difference is more apparent for the households with at least tertiary level educated married woman (26.6%).

5. Conclusion

The main goal of the current study was to determine the relationship between the share of FAFH in total food expenditures and the married woman’s working hours as well as some demographics of the household and income level regarding the Turkish households. Returning to the question posed at the beginning of this study, it is now
possible to state that there is a positive relationship between married women’s time at her primary market job and FAFH expenditures. Households with married woman spend one percentage points more on FAFH when the married woman works ten hours more weekly. This result is consistent with the theoretical expectations grounded on Becker (1965). However, the findings clearly indicate that it is more of an effect resulting from demographic and cultural characteristics of the household rather than being the working hours the woman. Being a young married woman under the age of forty and settling in an urban area as well as the education level of the married woman have significantly more effect on household’s preference of FAFH. The estimated coefficients of the interaction variables also support the finding of the importance of demographic and cultural attributes. One weekly hour increase of the married woman’s labor at the market accompanies a nearly 0.15 percentage points rise in the share of FAFH expenditures at urban regions. The interaction of the education level of the married woman and MWLH also matters. One hour of weekly MWLH increase of tertiary or higher educated married woman is associated with a 0.14 percentage point of increase in the share of FAFH in total food expenditures. These two interactions are likely to constitute the majority of the relationship between the working hours of the married woman and the share of FAFH expenditures regarding the estimated coefficients of the interactions in Model 4. On the other hand, annual disposable income is not likely to have an immense effect on FAFH preference. Roughly, households whose annual disposable income is 50% higher than the mean tend to spend one percentage points more on the share of FAFH in total food expenditures. However, ten more weekly working hours of the married woman result in one percentage point increase in the share of the FAFH expenditures. This can be interpreted as married woman’s ten weekly hours of additional labor in the market and 50% increase in annual disposable income have a similar magnitude of effect on FAFH preference of the household (1 percentage point increase in the share of FAFH in total food expenditures). Households with children under six years old are found to spend less on FAFH as a share of total food expenditures. This might be associated with the concerns around the nutritional value of the FAFH or potentially lower likelihood of eating out with children simply due to inconvenience.

Taken together, these findings provide further evidence that married women’s longer participation at labor market is associated with more FAFH preference as a time-saving commodity. This study also suggests that demographic characteristics have a relatively larger role on the share of FAFH expenditure. Finally, a number of potential limitations need to be considered. First, usage of a panel data instead of a cross-sectional data could contribute to the research by allowing to track changes in variables over time. Second, more variety of variables representing the cultural attributes could allow reaching more specific findings on the effects of cultural characteristics on FAFH expenditures. Additional work on the causal determinants –especially the cultural factors affecting the FAFH preference -, would help us for a better understanding of the FAFH preference and women’s participation in the labor market.

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FISCAL AND ECONOMIC IMPACTS OF POPULATION AGEING: THE CASE OF TURKEY

Mustafa Kiziltan (Phd)¹, Anna Golovko (Phd)²

1. Introduction

Since Malthus (1798, 1986), who has stated that child birth rates would increase with the increase in welfare, the relationship between demographic structures and welfare of countries has been frequently examined by economists. However, the studies have shown that the evidences show the opposite with the industrialization. In industrialized countries, welfare increases. This increases the participation in business life and decreases birth rates. As a result, the phenomenon of population aging can be seen in industrialized countries (Ahn and Mira, 2002).

The phenomenon of the population aging has gone beyond being a demographic issue and it has been the subject of economic and more specifically the macroeconomic researches. This is because the aging causes serious macroeconomic consequences for the entire economy. From this point of view, the countries have implemented various social security reforms in order to fall the burden of social expenditures which may arise in the future. In addition to this, they have implemented various social policies (Orlická; 2015, p. 604). This study's purpose is to specify the situation of Turkey in the subject of aging of the population based on the literature in this area in comparison with 15 European Union (EU) member states and to make some basic advices on financial and economic measures that can be implemented in case of this problem. Thus, it is aimed to create awareness to prevent future risks with help of social policies related to aging (Arun, 2014).

2. Indicators of Aging of Population

The aging of population, expressing the increase in the relative number of elderly people (over the age of 64), does not become a serious problem until the population growth rate is almost stopped and the life expectancy at birth becomes high enough. The sensitivity of the people in productive age to the ratio of the non-productive age and the efficient population and the inefficient population structure in the economy reveal the need to approach future population projections more carefully (Clark and Spengler, 1980, p. 2-3).

Aging of the population is represented by a relative value and can be represented by the count of elderly people in a population or by the change in the median age of the population. In this context, the aging of population tends to emerge because of the low fertility and mature population growth while the youthing refers to the combination of high fertility and decreasing mortality rates among young people (Clark and Spengler, 1980, p. 10).

When the population studies are examined in general, it is observed that they are based on projections and forecasts. The most widely used population estimates are made by the United Nations. When the population growth in Turkey and 15 EU countries in 1990 - 2060 range (Figure 1), it is seen that Turkey's population growth trend

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continues and it will be more than Germany which is the Europe's most populous country by 2020. By 2060, it is estimated that the population will reach about 96 million. Although Turkey still keeps its population growth trend, the distribution of the population is expected to change significantly. In this sense, it is foreseen that Turkey will be seriously separated from the other 15 European countries when it is evaluated with regard to young people, working population and elderly population.

As can be seen from Table 1, the average young population, working age population and the elderly population change rates are -12.1, -14.1, 57.2 respectively in 15 European countries. These figures indicate that the old population will grow older. On the other hand, Turkey will lose its young population feature. Compared to 15 European countries, it was the youngest country in terms of population under the age of 15 by 2015 and by 2060, it will be the eighth in regard to young population. In other respects, it will still maintain its leadership in percentage although there is a decrease in the rate of working age population (9.5 %). It will have an active population of more than 58 million which is 60.3 % of the total population. The most striking change will be the proportion of the elderly population to the total population. Compared to 15 European countries (18.7 %), Turkey has an extremely low elderly population as 7.8 % and it will have an elderly population by one-quarter of the population with a change of 209 % in the year 2060. This shows that the population is rapidly aging and measures should be taken. This can be seen in Figure 2. Turkey is getting closer to EU 15 countries with a rapid rise in the elderly population increases.

In fact, according to the classifications mentioned in the literature, (Leahy Madsen et al., 2010; Ak, 2016, p. 1023) the ratio of the elderly population in the total population as 7.2 % in 2010 is actually sufficient for the population to be considered as “elderly population”. According to the same classification, the population will
exceed 10% elderly population rate and be considered as “very old population” in 2025. Although the EU 15 countries continue their aging trends, they will not need to change their current policies radically as they will have a softer increase (Davoudi et al., 2010; Rechel et al., 2013). Since Turkey has a rapid aging process, it should take precautions to avoid this situation (Hoşgör and Tansel, 2010).

### Table 1: Age structure of the populations of Turkey and EU15 countries, 2015 - 2060

<table>
<thead>
<tr>
<th></th>
<th>Young population (0-14)</th>
<th>Working age population (15-64)</th>
<th>Elderly population (65+)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2060</td>
<td>% change</td>
</tr>
<tr>
<td><strong>Turkey</strong></td>
<td>25.6</td>
<td>15.6</td>
<td>-39.1</td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>13.1</td>
<td>13.6</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>United Kingdom</strong></td>
<td>17.6</td>
<td>16.1</td>
<td>-8.5</td>
</tr>
<tr>
<td><strong>France</strong></td>
<td>18.3</td>
<td>16.2</td>
<td>-11.5</td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>13.7</td>
<td>13.2</td>
<td>-3.6</td>
</tr>
<tr>
<td><strong>Spain</strong></td>
<td>14.9</td>
<td>12.6</td>
<td>-15.4</td>
</tr>
<tr>
<td><strong>Netherlands</strong></td>
<td>16.8</td>
<td>15.0</td>
<td>-10.7</td>
</tr>
<tr>
<td><strong>Belgium</strong></td>
<td>17.0</td>
<td>16.1</td>
<td>-5.3</td>
</tr>
<tr>
<td><strong>Sweden</strong></td>
<td>17.3</td>
<td>16.8</td>
<td>-2.9</td>
</tr>
<tr>
<td><strong>Greece</strong></td>
<td>14.5</td>
<td>11.9</td>
<td>-17.9</td>
</tr>
<tr>
<td><strong>Austria</strong></td>
<td>14.1</td>
<td>14.0</td>
<td>-0.7</td>
</tr>
<tr>
<td><strong>Portugal</strong></td>
<td>14.1</td>
<td>11.5</td>
<td>-18.4</td>
</tr>
<tr>
<td><strong>Ireland</strong></td>
<td>21.7</td>
<td>16.5</td>
<td>-24.0</td>
</tr>
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<td>16.0</td>
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<tr>
<td><strong>Finland</strong></td>
<td>16.4</td>
<td>15.7</td>
<td>-4.3</td>
</tr>
<tr>
<td><strong>Luxembourg</strong></td>
<td>16.4</td>
<td>16.2</td>
<td>-1.2</td>
</tr>
<tr>
<td><strong>EU15 average</strong></td>
<td>16.8</td>
<td>14.8</td>
<td>-12.1</td>
</tr>
</tbody>
</table>

*Source: Data from United Nations World Population Prospects: The 2017 Revision.*

In Table 2, population indicators such as the birth rates, life expectancy at birth, median age and the age dependency ratio are given for EU 15 countries and Turkey. Concepts such as decreasing birth rates, increasing life expectancy at birth and increasing median age always indicate the aging of the population. For example, in 2060, according to the estimates made, Turkey will have a ratio of 1.74 by a decrease of 21% compared to 2015 in terms of total fertility rate. This reduction represents an extremely high ratio compared to the United Kingdom (1.07), France (1.54) and Ireland (3.63). In the literature, it is observed that the fertility rates will decrease and the elderly population will increase as the industrial levels of the countries increase. From this point of view, it can be said that Turkey demographically shows the reflections of industrialization. Factors such as women’s participation in the labor force reduce fertility rates and lead to a fall in the rate of young people, and provide improvements in terms of income and growth (Ahn and Mira, 2002, p. 667-668).
Life expectancy at birth will be the age of 84 with an increase of 11% in the same period. This increase rate is also a very high increase compared to the average of the European countries (7.21%). However, this ratio should be considered with caution in terms of economic development. The findings of the studies show that the increase in life expectancy does not have a standard and linear effect on economic growth. Human capital accumulation and inequality factors should also be taken into account in relation to the growth of life expectancy (Cervellati and Sunde, 2011; Castelló-Climent and Doménech, 2008; Kunze, 2014; Desbordes, 2011).

The median age average that splits the population into two equal shares will increase by 45% depending on these. Considering that the highest increase among the European countries considered will be in Greece with 18.7%, it will be seen that the increase is very important. All these point to the rapid growth of the aging population level for Turkey. With this increase, the share of population of 65 years and older who are economically inactive in the total population (Hosgör and Tansel, 2010, p. 20) as the elderly dependency ratio will be 40% with an increase of 71%. This indicates a rapid aging rate compared to the European countries, which are still considered. However, it is necessary to be cautious about the concepts such as age dependency ratio and median age. On the other hand, it is thought that these concepts provide important findings for the developed countries and they have differences within the characteristics of development and demographic structure for developing countries (Cuaresma et al., 2014, p. 51).
Differences in the demographic structure of countries are extremely important in terms of their development. There is a noteworthy relationship between life and income standards of the countries and the age distribution of the population. In addition, the policies implemented are determined by this age and population structure (Herrero et al., 2017, p. 732). In comparison of Turkey with the EU 15 countries based on the age pyramid, the weight of the young population in 2015 is evident (Figure 3). However, the young population will be less by 2060 and the population pyramid will have a dramatic change similar to the EU countries. It is observed that the population is concentrated intensively in the distribution of an older population in relation to the median age and the average of the selected EU countries.

Turkey shows the characteristics of each variable on the basis of a rapid aging in terms of age indicators. This situation was also mentioned in 2008 by Prime Minister Recep Tayyip Erdoğan. Erdoğan have advised the married couples to have at least three children to stay young and prevent the aging problem (Çetik et al., 2008). Turkey, as a country experiencing the aging of the population, will face some problems in the future. There are various studies in the literature regarding the problems that different countries faced or may face. In the next section, some of these policies will be mentioned and some recommendations will be given regarding precautions to take in Turkey.
3. Possible Fiscal and Economic Impacts of the Population Aging

An increase in public sector expenditures based on the social expenditures and the number of people receiving salaries from the social security premiums decreasing with the decrease in the population at the age of tax payment are expected to decrease the active population and tax revenues in connection with the aging of the population. The system of social security will have a significant increase in all expenditures due to pensions and health care costs. Social security contributions may therefore be inadequate. Thus, the general government tax revenues will need to be allocated to the social security system. However, the raise in the number of elderly people may lead to a decrease in expenditures in this direction since it will enable less people to benefit from social policies for middle-aged individuals (Bloom et al., 2010; Kluge, 2013, p. 58-60). Acar and Kitapçı (2008) have considered the impacts of this aging process on the changing structure of pension and social security system and demonstrated the weaknesses of the policies in Turkey.

There are direct and indirect effects between population aging and fiscal crises. Direct fiscal effects will be reflected in social security systems as mentioned before. The prolongation of life expectancy with the aging of the population and decreases in infant mortality are the main reasons for the increase in social security expenditures. In addition to this, it is expected that the future increase in health care costs of the beneficiaries will create a pressure on the social security budgets in the future according to the projections made by various researchers. The indirect
financial effects of aging are as follows; the effects of labor composition, national savings and labor productivity on economic growth. As a potential negativity in these factors would mean a slower growth of the country, these factors should be carefully monitored and policies should be created for them (Gist, 2011).

Chun (2006) analyzed the effects of fiscal policies and population aging on South Korea and the effects of these factors on net savings through the life cycle model. A rapid population aging suggests that long-term budget deficits will reduce national savings rates. The intergenerational distribution of the financial burden suggests that it is important in ensuring the long-term budget balance. It has shown that the “pay as you go” system among the public pension systems transfers this financial burden to the future generations and thus reduces savings.

Miller and Castanheira (2013), who examined the impacts of population aging on education, retirement and health services for Brazil between 2005 and 2050, consider the present values of the increase in expenditures on these areas. They estimated that the change in the population structure will result in significant cost pressures in the education expenditures per student, which are aimed to be increased to the level of pensions, health care and OECD level.

Narayana (2014), who investigated the sustainability of India’s fiscal policies between 2005 and 2100, makes this through net debts and demographic changes. He emphasized that the sustainability depends on productivity increase, discount rates and income elasticity of the public expenditures. Accordingly, India’s current fiscal policies are not sustainable with the projections of the population. It is stated that the fiscal policies can be sustained with the increase in productivity and low discount rates and the decrease in tax burden of the present and future generations. This means that the empirical evidences show the necessity of implementing a reform in the social security system to ensure inter-generational equilibrium.

Yoon et al. (2014) analyzed the impacts of the changes in population structure on real economic variables by a large scale analysis. Their analysis suggests some political propositions in developing countries, where fertility and young population rates are high, against this situation. Some structural reform steps such as increasing the retirement age in terms of macroeconomics need to be introduced in order to eliminate the negative impacts of possible changes in the population structure.

Anderson et al. (2014), who examines the effects of this aging on growth and financial sustainability for Japan, as a rapidly aging country, has found that aging caused inflationary effects through relative price changes. Employees will demand higher wages as there is relatively less labor supply due to lower labor force participation rates. The current budget deficit problems and high debt ratios will further limit public spending due to aging in the future. They emphasized that the elimination of these risks could be solved by structural reforms and compatible monetary policies. Auerbach (2014) states that current levels of debt and budget deficits are indicators of aging of the population and increase of the financial crisis with the policies related to it.

Sheiner (2014), who examined how the elderly population in the United States caused a decrease in consumption expenditures in long term, has shown how and in what way would this change affect wages and capital return. He shows that the effect of these macro changes on the government budget balance depends on fiscal policies. According to him, the aging of the population and the change of demographic structure require implementation of optimum policies.
Verbič and Spruk (2014), who investigated the macroeconomic impacts of the aging for 33 high-income countries in 1998 - 2008, have made research on macroeconomic and demographic determinants of public pension expenditures. They have stated that the effective age of retirement and increases in birth rates would reduce age-related spending rates. According to them, the demographic indicators are more important than macro indicators in terms of their effects on public pension expenditures. They have stated that this was not a good signal for policy making in an aging country.

Yenilmez (2015), who examines the social dimension of the aging of population and the economic dimensions, criticizes the practice of increasing the retirement age in combating the negative economic effects of aging. According to her, the social dimension of the issue is often neglected. Aging creates a situation in favor of women working in elderly care services, which allows them to participate in the labor force more. She emphasizes that the situation should be taken into account in terms of social policies.

Walkenhorst and Sila (2015), who made an analysis for increasingly aging Slovenia, have predicted that old-age spending will increase by 3 % of GDP as result of this growing trend by 2030. According to this, it is stated that there is a need for reform in labor markets and social support in order to ensure debt sustainability and intergenerational equality. For this reason, old-age expenditures such as health and care services need to be made more efficiently. He also takes attention on importance of focusing on measures such as restoring the inflationary weight in retirement pensions, strengthening voluntary insurance and private pension practices.

Žokalj (2016), who analyzed the impacts of population aging on public finance for 25 EU member states for 1995 - 2014, has stated that understanding this relationship will lead to improvements in budgetary arrangements in the medium term. The results of the analysis show that the budget shares allocated for elderly people’s pensions and social protection expenditures have positive impacts. This positive impact on public expenditures shows a negative impact on the budget balance. Chen (2016), who made an similar analysis for the developed and developing countries between 1972 and 1992, indicated that the effect of aging on budget deficits is a valid condition for developing countries and that there is no effect for the developed countries.

Uddin et al. (2016) estimated 1971 - 2014 period with econometric tools in their analysis for Australia. It was determined that there was a connection between age dependency ratio, saving rate and real GDP but this relationship was not in the short term. Their findings show that the alterations in population age pattern have a noteworthy influence on the real GDP per capita in Australia. Nevertheless, it is estimated that this advantage of the age structure will not be present in the short run due to the anticipated rapid jump in the dependency ratio as a result of aging of the population. It is stated that this may cause a decrease in GDP.

Katagiri et al. (2019) scrutinized the impression of aging on voting mechanisms. According to them, the governments will tend to implement policies in favor of the elderly with the aging of the population due to the rise in the life expectancy. This will lead to increased income tax rates for the active generations. The aging caused by the decrease in birth rates will cause inflation by narrowing the tax base and increasing the financial expenses. These results show that the population aging and general level of prices are related.

The influences of the changes in the aging population and age structure on budget revenues and especially on budget deficits should be estimated for the next years with various simulation techniques. Determination of the impact of the decrease in public revenues in the literature (Kluge, 2013) with analysis based on bad, medium and
good scenarios will ensure that policies are prepared in this direction. The direction of demographic and economic parameters and the differences that may occur will also determine the policies to be implemented. In this context, it is aimed to expand this study in the future with help of the techniques based on analysis of public budget deficits and the structure of age profile. The projections and the studies examined show that the aging tendency of the population will increase in almost every country as not seen in the past. However, it is expected that these aging levels will be unevenly distributed among the countries. In such case, the health conditions of elderly people may cause significant problems for economies. Since the older people need more health and long-term care than the young people, this will lead to significant increases in health expenditures. This will require the health, retirement and social security systems to be redesigned (Alper et al., 2012; Bloom et al., 2015).

4. Conclusion and Policy Recommendations

In countries where the birth rate declines rapidly but life expectancy increases rapidly, rapid population aging has important effects on many areas such as employment, urbanization, economic growth, domestic demand, social security system, public finance and intensive labor sectors. Therefore, various steps should be taken, including encouraging family planning and child birth in order to prevent these effects from becoming social problems (Zuo and Yang, 2009).

The policy makers should make decisions about the measures to be taken against the rapid aging of the population. While the policies and reform steps to be implemented can increase the welfare of future generations, they can be politically problematic because they can cause high costs to the present generations. Therefore, it would be more appropriate to implement gradual reforms based on an intergenerational redistribution as a result of analyzes and evaluations rather than urgent and unprepared practices. In this respect, it is thought that the experiences of countries with similar problems should be well examined (Hsu and Yamada, 2017, p. 29). For example, a research group consisting of demographers and economists was formed as a first step for the realization of population policies in China. This research group created models and simulations based on various scenarios and good, moderate and bad conditions (Zuo and Yang, 2009, p. 206). The population surveys conducted every five years by Hacettepe University Institute of Population Studies (2014) provide important contributions in this regard. These researches should be expanded with projections; and joint working groups should be created for the aging within the institutions such as Ministry of Family, Labor and Social Services, Ministry of Finance and Treasury, Turkey Statistical Institute and the Scientific and Technological Research Council of Turkey (TUBITAK).

According to the estimations (Tansel, 2012, p. 45-46), it is stated that Turkey has been in the demographic window of opportunity period in 2010 and it will continue until 2041. This process accommodates some risks as well as opportunities. If a good education is provided to the working age population, a significant economic momentum can be achieved. However, the failure to create business opportunities for this active population and the resulting high unemployment rates may lead to various social problems. For this reason, labor planning should be done with extreme caution. One of the major problems for Turkey is active-passive insured ratio which is an important indicator of the social insurance system. Steps should be taken to ensure improvements. The emphasized targets will be able to be achieved with the aids given to the people establishing their own businesses by the Turkish Employment Agency, public employment pairing and occupational training programs, increasing the role in active employment policies and the Development Plans (Türkiye Cumhuriyeti Kalkınma Bakanlığı, 2014; Günsoy and Tekeli, 2015, p. 81-82).
The share of public budget should be increased in such areas as providing equal opportunities in education and supporting income insufficiency in education for to making the rapidly increasing active population more efficient. In addition, dissemination of the professional qualification courses for meeting the need for intermediate staff and internationalization of education standards should be among the priority objectives (Kavak, 2010, p. 135-144).

There are different opinions about the impacts of aging on health expenditures in the literature (Martin et al., 2011; İyidoğan et al., 2017). Turkey should create short, medium and long-term policies to regulate the health system by considering different opinions for the aging population (Akin and Ersoy, 2012).

Low fertility and high age dependency rates significantly affect the financial variables. In the literature, evidences have been found on the fact that these demographic factors decrease the total tax revenues (Felix and Watkins, 2013) and increase public debt, public service costs and social security expenditures (Hondroyiannis and Papapetrou, 2000; Edes and Morgan, 2014) in long term. Therefore, it is very important to organize fiscal policies in such way to take into account the age projections.

Population aging does not distribute homogeneously throughout the country and therefore, it has the potential to cause a socioeconomic transformation. This situation will cause differences in urban development, housing policies and internal migration levels (Heleniak, 2003; Zhou et al. 2015). In addition, it is necessary to prepare precautionary packages on the geographic characteristics of aging and the impacts to be created by it on the basis of the provinces by considering the instability in the neighboring countries and the external migration phenomenon. For this purpose, case studies should be carried out on the basis of provinces and the results of aging and migration should be evaluated.

In the literature (Herzog and Reeves, 2011), evidences have been found on the fact that, if the countries have low current account deficit and they face an old age problem, the low saving rates will not pose any problems. It is stated that the basic condition for countries with low savings rates to achieve long-term and balanced growth is the current account deficit sustainability. In Turkey, the priority target is still to find solution for current account deficit and low saving rates before the population aging becomes evident.

As can be seen, population aging has impacts macroeconomic variables such as labor force participation rates, savings, inflation, current account deficit, health, education and social security expenditures and budget and tax revenues. Therefore, it directly affects the economic growth. Short-term and long-term policy measures implemented on time and on site can reduce the problems caused by aging. Therefore, it is important to take actions in this direction.

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NEW APPROACH IN FISCAL POLICY: FISCAL RULES AND ESCAPE CLAUSES

Hakan GÜNEŞ

1. Introduction

Since 1980s especially, the increase of both budget deficit and public debts has caused to disrupt financial discipline around the world. After this development, the executions of fiscal rules have rapidly become widespread in several countries, especially New Zealand, in order to secure the financial discipline. Although the emergence of fiscal rules dates back to rather old times, the regulation of fiscal rules into legal basis have become possible since 1990s.

When the executions of countries are examined, it is observed that fiscal rules are instrumental for providing financial discipline. However, the executions of fiscal rules contain two handicaps as well. First of these is that fiscal rules can be abandoned easily in case of turmoil between them and political purposes (Wyplosz, 2012: 23-24). The second is whether the executions of fiscal rules are flexibly working or not against extreme conditions such as economic crises and natural disasters. It is obvious that leaving aside the fiscal rules due to political reasons and making concessions for financial discipline can easily damage to the confidence for government policies. Yet, it is inevitable to abandon fiscal rules and financial discipline in case of economic crisis and natural disasters. In this study, the theoretical framework of fiscal rules will be dealt firstly. Then, the necessity to form fiscal rules with escape clauses against the unexpected shocks such as economic crises and natural disasters will be emphasized. Besides, this condition has importance in terms of the continuity of confidence for government policies.

2. The Definition of Fiscal Rules and The Developments which Lead to Emerge Fiscal Rules

Fiscal rules can be defined as both “the limitations upon several tools of financial policies” (Kopits and Symansky, 1998: 1) and “the legal or constitutional limitations that will specifically set measures into one or several financial tools such as budget, loan, expenditure or taxation” (Kennedy and Rubbins, 2001: 2). While these limitations can be determined as numeral targets in regard to tools of financial policies, they can also be determined as the rate of these magnitudes to GDP. It is observed that these terms in regard to fiscal rules have united with two stages. First of these is that fiscal rules are a regulation to introduce permanent limitations for tools of financial policies; second is that they have a bounding target to government in regard to the combination and amount of financial tools.

Although the emergence of fiscal rules dates back to ancient times (Kopits, 2001: 3), fiscal rules have based upon legal basis in the form of numeral limitations since 1990s. It can be seen that there are some executions to direct the researches of fiscal rules in the ongoing process since 1990s. The first of these is the execution of both balanced budget and golden rule in balanced budget. Second of these is the creation of balanced budget rules as supporter to the programs of economic stabilization which are created within the framework of monetary policies in Germany.

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2 For instance, Cicero expressed that the necessity of “the balance in budget, the treasury replenish, and the decrease of state debts” in 63 BC (Kopits, 2001: 3).
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Italy, Netherlands and Japan after WWII. The third of these is the introduction of “Fiscal Responsibility Act” at New Zealand in 1994 (Kopits, 2001: 3-5).

Along with these executions, some developments which lead to emerge fiscal rules can be collected under these titles:

(i) The results of voluntary financial policies and the emergence of social welfare state concept,
(ii) The view of constitutional economics begins to gain importance,
(iii) Providing execution areas for fiscal rules in the international levels, particularly in the EU,
(iv) Financial transparency and ethical responsibility begin to gain importance as a result of the developments in information and communication technologies (Günaydın and Eser, 2010: 66).

While the number of countries which executed fiscal rules was totally 7 in 1990,(Demir and İnan, 2011: 31), this number rapidly increased and it became 89 in May 2015, (Yalvaç, 2015: 3) and finally, it became approximately 100 in 2017 (Lledó and et al., 2017: 2) as a result of aforementioned executions and developments.

3. The Purposes of Fiscal Rules, The Functions and Types of Optimal Rules

Fiscal rules can be changed according to the national priorities, and they have several purposes as well. Yet, if it is necessary to mention a general purpose for them, it can be said that the purpose of fiscal rules is to provide financial discipline by averting the short term populist tendencies of government (Murray and Wilkes, 2009: 1). Besides, most of the governments disrupts budgetary discipline by using the tools of loan, tax and expenditure in an extensive way in order to secure the victory during the election periods. It is possible to argue that this condition clearly emerges in the countries that they have to operate the government with coalition for a long time.

When the executions of countries are observed, it becomes clear that the primary purpose of fiscal rules differs from country to country. For instance, the primary purpose of Japan after WWII is to sustain macroeconomic stability while the increase of credibility for the financial policy of government and policies to reduce deficits becomes primary purpose in some Canadian provinces. Again, while the primary purpose of New Zealand against the population aging is to guarantee the sustainability of long-termed financial policy, the minimization of negative externalities is the primary purpose for a federation, such as Economic and Monetary Union of EU, or international regulation unit (Kennedy and Rubbins, 2001: 3). It can be said for nowadays that the paramount purpose of fiscal rules is to provide economic growth, macroeconomic stability and price stability by making financial discipline sustainable (Pınar, 2006:150).

The topic what are the increasing functions for the activities of fiscal rules become the main the main topic of debates in order to reveal the expected benefits of fiscal rule executions and to fiscal rules become successful. According to Kopits and Symansky (1998),optimal fiscal rule has to include eight basic functions. According to them; fiscal rules should be well-designed, transparent, simple and clear, flexible, sufficient, insistent, compatible and active (Kopits and Symansky: 1998, 6). In this regard, fiscal rules should be well-designed within the institutional framework and numeral targets, transparent to have the ability to release the processes of preparation and execution to the public, simple and clear in a form which people can understand, flexible towards conjuncture, and internal and external shocks, sufficient to go towards their purpose, insistent to restrain the behaviors of government for political benefits, compatible with other monetary and financial policies, and active to increase the efficiency of financial policy.
The types of fiscal rules can be distinguished as “constitutional-legal rules”, “strict-flexible rules”, “real-nominal rules”, “numeral-nonnumeric rules” and “the rules about tools of financial policy”. In fact, the main discussion at this point is whether the numerical rules for tools of financial policy should be classified by constitutional or legislative rules, strict rules or flexible rules. If the policymakers cannot make changes in fiscal rules as they wish when the political preferences of government or economic conditions have been changed, then it is accepted as strict rules; while if the fiscal rules can be constituted with coalition agreements, medium-term programs, fiscal responsibilities and the annual budget laws, and the policymakers can make changes as they wish, it is accepted as flexible rules. In this perspective, it can be argued that constitutional rules are more strict rules in comparison with legal rules or legal rules are stricter as for the coalition agreements or political commitment.

Numeral fiscal rules express the absolute or proportional limitations on tools of financial policy. These are evaluated within 4 topics as; tax, expenditure, budget and loan. The best example for numeral rules is Maastricht Criteria. According to these criteria, the rate of the budget deficits of EU members to GDP must not surpass %3; while the government debt stock of them must not surpass %60 percent as well. Nonnumeric fiscal rules express processual regulations in order to apply numeral rules actively. These are; transparency (publicity), accountability, the inspection of budget executions, multi-annual budgeting, binding rules during budgeting, the limitations towards supplementary budget and the limitations of open-ended executions during budget execution process. When the executions of countries are observed, the rules about budget and debt stocks are adopted at the level of federal and central administration, while the rules of tax and expenditure are common at the level of federate and local administration. Nevertheless, fiscal rules can be in different type or quality according to the necessities or priorities of the country.

The idea that fiscal rules should be created within the framework of constitutions is firstly suggested by the supporters of Constitutional Economics, and this approach was emerged under the leadership of Buchanan. According to constitutional economics, politicians and bureaucrats will inevitably be corrupted unless constitutional laws will be established for the limitation of the fiscal power of government. Therefore, constitutional economists put forward an idea that numeral or nonnumeric, videlicet, some processual rules must be enshrined in the constitution and/or in the laws for providing the financial discipline and sustainability.

The criteria that are determined or will be determined by the countries for the executions of fiscal policies can be changed based on the traditions and practices of the country. It is theoretically expected that fiscal rules should be in the form of constitutional regulations. However, when the execution of some countries is examined, it is observed that the laws or processual norms can be equal with constitutional regulations or even, they have more power of sanction than constitutional regulations as well. Kopits and Symansky (1998) have classified the principal types of fiscal rules in the table below.
NEW APPROACH IN FISCAL POLICY: FISCAL RULES AND ESCAPE CLAUSES

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Table 1. Principal Types of Fiscal Rules

<table>
<thead>
<tr>
<th>Type of Rule</th>
<th>Explanation of Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced Budget or The Rules</td>
<td>• The equilibrium of the budgetary incomes and expenses, or the limitation of budget deficit with a determined rate of GDP</td>
</tr>
<tr>
<td>Budget Deficit</td>
<td>• Structurally regulated incomes and equalizing expenses</td>
</tr>
<tr>
<td></td>
<td>• Making current expenses and current incomes equal</td>
</tr>
<tr>
<td>Rules Loans</td>
<td>• Imposing a ban to the government for taking loans from the resources of Central Bank</td>
</tr>
<tr>
<td></td>
<td>• Making limitations to the government for taking loans from domestic resources</td>
</tr>
<tr>
<td>Rules Debt Stocks and Reserves</td>
<td>• The limitation of gross or net public debt stock with a determined rate of GDP</td>
</tr>
<tr>
<td></td>
<td>• Making mandatory to keep stocks in a certain rates of annual premium payments for social security funds</td>
</tr>
</tbody>
</table>

Resource: (Kopits and Symansky, 1998: 2.)

4. The Criticism Towards Fiscal Rules

There are several views about the benefits and disadvantages of fiscal rules. The advantages of fiscal rules are collected under two topics. First of these is the view that fiscal rules will be a beneficial tool for providing financial discipline and sustainability against the populist tendencies of government. Second one is the view that they will have positive effects on macroeconomic stability and economic growth, particularly for price stability (Fatás and Mihov, 2006: 102).

The disadvantages of fiscal rules are collected under two topics as well. First of these is the view that the numerically (strict) execution of fiscal rules ties the hands of the government against the cyclical fluctuations. The mandatory fiscal rule to obey legally and numerically can intercept to benefit from a financial policy during the period of economic crisis when the governments must rapidly take measures (Günaydın and Eser, 2010: 72-73). Moreover, voluntary financial policy is accepted as a significant tool for decreasing the negative effects of cyclical fluctuations. The second criticism to fiscal rules is the view that fiscal rules can only be the second best option, in other words, these rules cannot be successful without a strong political will, they can cause unnecessary and complicated bureaucratic transactions, and they are not an effective policy in short term (Aktan and Vural, 2007: 126).

Although fiscal rules have several benefits and disadvantages, nowadays, it is important how the fiscal rules which will be applied should be regulated according to the necessities of the country rather than whether they will be applied or not. On the other hand, the starting point of the executions of financial policy is not to neutralize policymakers. Its primary purpose is to establish financial discipline by constituting the framework about the usage of fiscal powers and therefore, to increase confidence and predictability for governmental policies.

5. Do Fiscal Rules Work in a Time of Economic Crisis? The Example of 2008 Financial Crisis

The problems in the housing market at USA cause instability in the financial markets in 2008 and this instability is expanded itself all around the world, and it turns into a global crisis. The effect of crisis on real sector manifested itself in 2009, and the worldwide economies constricted, the rates of unemployment increased and the decreases at

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3 This view was suggested under the guidance of constitutional economists.
the general level of prices arose as well. The progress of growth rates in the selected countries has been demonstrated in below Graph 1.

*Graph 1: The Growth Rates of Selected Countries (2005-2010)*

![Graph 1](https://data.oecd.org/economy.htm)

Although the measures were taken to decrease the negative effects of global crisis around the world, the loss of confidence due to the crisis decelerated the activities of real sector and it causes to decrease the growth rates prominently. (Öztürk and Gövdere, 2010: 386) The measures which were taken in order to decrease the negative effects of financial crisis on real sector significantly increased the budget deficits and public debt stock in developing and developed countries. The progress of budget deficits in the selected countries has been demonstrated in below Graph 2.

*Graph 2: The Rate of Budget Deficit to GDP in Selected Countries (2005-2010)*

![Graph 2](https://data.oecd.org/economy.htm)

As it can be understood from Graph 2, the rate of budget deficit to GDP was significantly increased in the selected exerciser countries of fiscal rules with 2008 financial crisis. This condition reflected itself into the indicators of public debt stock. The progress of public debts in the selected countries has been demonstrated in below Graph 3.

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4 These countries are; Australia, Panama, Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, Italy, Portugal, United Kingdom, USA, Israel, Colombia, Greece, Japan, Brazil, Argentina and Turkey. The asymmetrical mean has been taken for the growth rate of selected countries for the period of 2005-2010.

5 The asymmetrical mean has been taken for the rate of budget deficit to GDP in selected countries for the period of 2005-2010.

6 The asymmetrical mean has been taken for the rate of public debts to GDP in selected countries for the period of 2005-2010.
As it can be understood from Graph 3, the rate of public debts to GDP was significantly increased in the selected exerciser countries of fiscal rules with 2008 financial crisis. As a result of financial measures against the crisis, budget deficits and public debts significantly increased around the world. This condition negatively affected financial discipline and sustainability. The regulations about fiscal rules for restoring the financial discipline have raised its significance with the decrease of the effects of financial crisis. Other than that, nowadays, it is important how the fiscal rules which will be applied should be regulated according to the necessities of the country rather than whether they will be applied or not.

Fatas and Mihoy (2006) have asserted that strictly regulated fiscal rule executions are delayed the measures of financial policy against economic crises and shocks, and they are deepened the instability even more (Fatas and Mihoy, 2006: 101). In a similar manner, Cottarelli (2009) have expressed that the fiscal rules have lost their meanings in several countries during the time of economic crises (Cottarelli, 2009: 3). However, it should not be forgotten that the starting point of fiscal rule executions is not to neutralize policymakers but to create the framework about the usage of fiscal powers. In this regard, fiscal rules should be constituted with escape clauses against unexpected shocks such as economic crisis or natural disaster. At this juncture, the significant point is that the escape clauses should be designed not only to allow deviations from financial discipline but also to contain policies for restoring financial discipline as well. The number of fiscal rule exerciser countries is approximately 100 in 2017. However, only very few countries have constituted their fiscal rules with escape clauses. Some of the countries which have constituted their fiscal rules with escape clauses have been demonstrated in below Table 2.
<table>
<thead>
<tr>
<th>Country</th>
<th>Fiscal Rule</th>
<th>Escape Clause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>Expenditure Rule: Personnel expenditures are limited with the %50 of net current incomes of federal government and %60 of net current incomes of municipalities in the states.</td>
<td>There are escape clauses for the exceptional economic conditions and the conditions of natural disaster, but they can only be applied with the approval of congress. If the events occur such as the extreme events which threaten the macroeconomic stability of country, the execution of this fiscal rule can temporarily be suspended based on the positive opinion of CONFIS (Internal financial council ruled by minister of finance).</td>
</tr>
<tr>
<td>Colombia</td>
<td>The Rule of Budget Balance: The targets to decrease budget deficits to %2.3 of GDP and the %1 cap of budget deficit which will be available in 2022 have been adjusted.</td>
<td>An automatic regulation mechanism is activated as well in case of a serious deviation in extraordinary periods.</td>
</tr>
<tr>
<td>Denmark</td>
<td>The Rule of Budget Balance: Annual structural public balance will not be surpassed the ½ rate of GDP for every year during budget proposal time except the emergence of extreme conditions.</td>
<td>Government approved in February 2009 that the target of central government deficit can temporarily be deviated if the structural reforms (medium-term or long-term) for developing general finance of government are made. Temporary deviations are allowed in Finland if it is decided that there are extraordinary conditions.</td>
</tr>
<tr>
<td>Finland</td>
<td>The Rule of Budget Balance: Central government deficit should not be surpassed the %2.5 of GDP.</td>
<td>Escape clause revealed that if the non-oil revenues are below their potential due to a negative production gap, another deficit to equal this deficiency may emerge. The escape clause was used in the years of 2010, 2011 and 2012.</td>
</tr>
<tr>
<td>Mexico</td>
<td>The Rule of Budget Balance: The rule is valid for central government, social security and federal public sectors which contain key public institutions (e.g. petroleum company PEMEX and electricity company CFE)</td>
<td>Escape clause are: (I) natural disaster, (II) national state of emergency, (III) recession. Deficit can be %2.5 in case of these conditions.</td>
</tr>
<tr>
<td>Panama</td>
<td>The Rule of Budget Balance: This rule has established regulations that it has limited the public sector deficit (except the administration of Panama Canal) with the %1 rate of GDP, and it aims to bring public debt to the %40 of GDP until 2015.</td>
<td>Escape clause contains a huge recession, the rescue of banking system and natural disasters.</td>
</tr>
<tr>
<td>Slovakia</td>
<td>If the debts raise the %60 of GDP, cabinet will encounter the vote of confidence from the parliament.</td>
<td>Government can approve the budget which departs from the rule in exceptional conditions with qualified majority.</td>
</tr>
<tr>
<td>Switzerland</td>
<td>The Rule of Budget Balance: Structural budget should be balanced.</td>
<td></td>
</tr>
</tbody>
</table>

Resource: (Lledó and et al., 2017: 9-78). The table has been created by the writer.
6. Conclusion

After 2008 Financial Crisis, the financial discipline disrupted in the fiscal rule exerciser countries, in other words, significant increases in budget deficits and public debts were observed. This condition especially brought criticism towards strictly designed fiscal rule executions. In the center of these criticisms, the questions that fiscal rules delay the required measures against economic crises and shocks, deepen instability further and tie the hands of government have appeared. However, the starting point of fiscal rule executions is not to neutralize policymakers but to create the framework about the usage of fiscal powers. In this regard, fiscal rules should be constituted with escape clauses against unexpected shocks such as economic crisis and natural disaster, and they should be flexible enough as well. The escape clauses, on the other hand, should be designed not only to allow deviations from financial discipline but also to contain policies for restoring financial discipline as well. Thus, fiscal rules will help to decrease the effects of economic crisis, natural disaster and shocks on one hand, and will aid to maintain the confidence to policymakers on the other. Although the fiscal rule exerciser countries are approximately 100 in 2018, very few of these countries constitute their fiscal rules with escape clauses.

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INNOVATIVE FISCAL POLICY AND ECONOMIC GROWTH: THEORETICAL EVALUATION

Mustafa Alpin GÜLŞEN

a. Introduction

With the acceleration of globalization, more areas are created to reduce production costs and increase profit rates. In addition, new methods are being developed to change social needs. Not only the private sector but also the public sector plays an important role in meeting the evolving and expanding needs. In this way, policies for innovation are now included in the responsibility of states. The financing of this is spread to the whole society through the right to budget.

The fact that the market failures occur in the innovation sector has made it necessary for the state to intervene in the economy. In this respect, macroeconomic policies aimed at increasing economic growth and social welfare and innovation policies were also included. Thus, the fiscal policies for innovation have come to the agenda frequently.

Firstly, the concept of innovation and its theoretical framework are included in the study. Secondly, the position of innovation in fiscal policies is discussed. Finally, fiscal policies have been examined for innovation implemented in Turkey and then a general assessment is presented.

b. The Concept of Innovation

The concept of innovation, which is often defined in a rather broad sense in the literature, refers to all the scientific, technological, organizational, financial and commercial activities required to create, implement and market new and improved products or processes (Leger and Swaminashan, 2007, p.2).

He firstly linked the concept of innovation to Joseph Schumpeter with economic growth (Açıkgöz and Şengül, 2008, p.62). According to Schumpeter, innovation is not just an invention. At the same time, technology, finance and organization should improve the competitive environment for improvement (Leonard, p.4). In addition, it refers to doing different things in the economic sphere (Sweezy, 1943, p.93). Therefore, according to Schumpeter, for innovation to have the following features (Ersoy and Sengul, 2008, p.62; Lemanowicz, 2015, p.66): (i) a new product (in other words, a product that consumers have not used before the expulsion of the market). (ii) Introducing a new production method. (iii) Opening (or operating) a new market. (iv) Purchase of newly created raw materials or semi-finished resources. (v) Initiation of a new organization in a particular industry (for example, to create or disassemble a monopoly).

According to Schumpeter, innovation is a phenomenon that is profitable to the entrepreneur and is the result of technological developments, whereas in literature, this concept is generally used in terms of technological innovation.

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In the present study, different definitions of the concept of innovation will be ignored. In this study, the role of this concept in fiscal policy will be discussed.

c. Fiscal Policy, Innovation and Economic Growth

The relationship between innovation and fiscal policy is discussed in two axes in the literature. The first is demand-side policies. Accordingly, demand-side innovation policies consist of the consumption of innovation products (such as from public procurement). The second is supply-side policies. Accordingly, supply-side innovation policies include, for example, policies to accelerate the investment of firms investing in innovation by reducing their costs. Although these policies are divided into two axes, such a distinction is not seen clearly in practice. The reason is that policies that increase supply also affect demand. Similarly, policies that increase demand also affect supply. In the literature, this relationship is analyzed under the name of the economic theory of innovation Liter. In other words, this theory emphasizes entrepreneurship and innovation. In addition, this theory seeks to answer the question of how to achieve economic growth by increasing supply and demand (and production) and thus influencing market price.

Today, the importance of innovation is increasing in order to provide economic growth and international competitive advantage and to produce high technology products. In order to achieve this, it is suggested that the public sector should play an active role in international meetings and academic studies.

These policies are divided into two groups as demand and supply. Examples of demand-side policies include incentives, standards and procurement policies. Supply-side policies include financial incentives, access to finance and technical services (EC, 2015, p.9). Therefore, both policy options constitute the main focus of the fiscal policies for innovation.

d. Demand-Side Fiscal Policies for Innovation

Demand-side innovation policies are related to demand-side measures and / or by-products procurement depending on a specific macroeconomic target (Edler, 2009, p.7). These policies are public policies that are common in public procurement and regulate markets (through standards). However, this process should be carried out together with the private sector. The issue of how the public sector should promote the private sector and create the organizational system should be established with stakeholders (Tsipouri, 2013, pp.7-10). This differs according to the priorities of the economies.

The fiscal policies for innovation can be constricting or expanding with the instruments to be used according to the targeted macroeconomic policies. In addition, these policies are also coordinated between market actors (Wintjes, 2012, p.4).

There are various means of demand-side innovation policies. These tools (Izsak and Edler, 2011, p.6); (i) Public Procurement: Consists of the direct procurement of innovative goods by the public sector (procurement of goods and services) and the procurement of R & D services by public procurement. (ii) Regulation: In cooperation with the private sector, the government sets various standards (Standardization) to promote an innovation it aims at. (iii) Supporting private demand: Direct financial support (demand subsidies) or tax incentives can be provided to firms that produce innovation. In addition, the public sector can inform consumers or social groups in a variety of
ways, which may affect their expectations (influencing expectations) or raise awareness of asymmetric information through awareness campaigns.

This classification varies according to the level of development of the economies: While direct public procurement is effective in economies with weak capital accumulation or domestic market, demand is created with more incentives in developed economies. These incentives can be not only financial, but also directing consumption (eg energy bulbs). Therefore, these policies do not only provide financial contribution but can also encourage R & D as the development of devices (Inno-Grips, 2010, p.6). In this context, demand-side innovation policies are expressed as public sector measures to increase, promote and improve innovation demand (Edler and Georghiou, 2007, p.950). The main risks of these instruments are shown in table 1.

<table>
<thead>
<tr>
<th>Demand-side Policies</th>
<th>Public Procurement</th>
<th>Regulation</th>
<th>Standardization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actor</td>
<td>Public sector</td>
<td>Central Government</td>
<td>Industry</td>
</tr>
<tr>
<td>Effect of success</td>
<td>Improved and less costly public services, innovation promotion</td>
<td>Reduction of market risk, transparency, promotion of innovation</td>
<td>Reduction of market risk, transparency, improvement of coordination, increased trade</td>
</tr>
<tr>
<td>Possible risk</td>
<td>Inadequate human capital in the public sector, lack of harmonization between politicians, individual / situation-specific demand creation (Idiosyncratic demand)</td>
<td>Conflicting targets, length of process</td>
<td>Inability to adapt to consumer needs</td>
</tr>
</tbody>
</table>

Source: OECD, 2012, p.170

According to table 1, the public sector should be in cooperation with the private sector and the private sector (and consumers) should be supported by legal and administrative regulations. In addition, policies must comply with global standards, so that the demand for innovation will not be limited to the domestic market. Otherwise, the demand will be narrowed and macroeconomic expectations will not be realized.

e. Supply-Side Fiscal Policies for Innovation

In general, innovation policies tend to focus on supply-side policies. The establishment of state-owned enterprises, corporate tax deductions and educational support are examples. Although these policies increase the production of firms, economic growth target can be achieved. This is due to the fact that there is a particularly high productivity increase in production along with innovation and thus positively affects the total demand and employment. However, demand and supply-side innovation policies are complementary to each other, not rival. In this context, in the economic theory of innovation, demand and supply-side fiscal policies (as in Keynesian and Neoclassical theories) are not definitively separated from each other (Roolaht, 2010, pp.405-406). Therefore, in this theory, supply and demand-side policies are not seen separately.
Table 2: Classification of supply-side policies

<table>
<thead>
<tr>
<th>Political tool</th>
<th>The purpose of the policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants and incentives</td>
<td>Facilitate access to finance</td>
</tr>
<tr>
<td>Competitive R &amp; D grants</td>
<td>Remove / reduce non-competitive barriers to investments with high social benefits</td>
</tr>
<tr>
<td>Credit guarantees</td>
<td>Providing ease of financing to banks (innovative companies)</td>
</tr>
<tr>
<td>Government supported loans</td>
<td>Reduce the cost of debt</td>
</tr>
<tr>
<td>In the case of bankruptcy / liquidation of the lenders, the loss of the losses partially</td>
<td>Encouraging banks (credit to innovative companies)</td>
</tr>
</tbody>
</table>

Source: innovationpolicyplatform.org

According to Table 2, the public sector provides financial, administrative and legal support to the private sector especially due to market failures. Supply-side fiscal policies for innovation can be given to companies in the innovation sector, such as tax holidays and exemptions, reducing borrowing costs of firms and consulting services.

However, rather than developing the macroeconomic target alone, it should also contribute to economic growth, employment and political goals such as public health (Borras and Edquist, 2013: 10). Therefore, supply-side innovation policies positively affect not only financial but also important areas such as education and health.

The demand and supply-side fiscal policies applied to innovation, together with globalization, require the cooperation of all states, not from a national issue. This necessity also made it necessary for the economies to follow the developments. In this regard, Turkey as a global actor, to follow global developments in the field of innovation, it is the state-private sector cooperation measures accordingly. Next, the fiscal policy for innovation in Turkey (in general) will be examined.

f. Evaluation of the Fiscal Policy Towards Innovation Policy Implemented in Turkey

Fiscal policies implemented in Turkey for innovation are examined in terms of performance as well as legal and econometric analysis. Accordingly, policies aimed at innovation with legal regulations are made by providing direct support to a number of projects, mainly tax incentives. These policies are shown in Table 3.

Table 3: R & D policies in Turkey (fundamental legislative regulations)

<table>
<thead>
<tr>
<th>R &amp; D Discount in the scope of the Corporate Tax Law numbered 5520</th>
<th>Support and Incentives Under Law No: 5746</th>
<th>Support and Incentives Under Law No 4691</th>
<th>Cash support programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% R &amp; D discount, Income tax withholding incentive (80-90 %)</td>
<td>100% R &amp; D discount, Income tax withholding incentive (80-90 %)</td>
<td>Corporate tax exemption, Income tax exemption (100%), Stamp duty exemption (payroll), VAT exemption</td>
<td>Cash support for changing project</td>
</tr>
<tr>
<td>Insurance premium employer share support (50%), Stamp duty exemption</td>
<td>Stamp duty exemption (payroll) VAT exemption</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: pwc.com
According to Table 3, fiscal (tax, subsidy, etc.) supports are generally provided through tax deductions or exemptions. In addition, direct cash support is made through various projects.

These projects are divided into National and International programs. The examples include TUBITAK-TEYDEB the National Program Support Program, Technology Development Foundation of Turkey Project Supports R & D, SAN-TEZ Support Program and KOSGEB Support Program. International programs include the European Union (EU Horizon 2020 Program) and Eureka and EUROSTARS funds.

In this context, one of the most important fiscal policy tools for innovation in Turkey is the state's tax incentives to increase production by reducing production costs. These policies are mostly supply-side. Thus, they aim to affect the demand. In addition to these policies, public spots, awareness-raising campaigns (Innovation and Entrepreneurship Week 6-9 December) and policies for the purpose of innovation (mostly demand-side) through panels are monitored.

On the public expenditure side, which is another important tool of fiscal policy, the evaluation of the policies applied for innovation is given in Figure 1.

*Table 4: R & D public expenditure development in Turkey*

<table>
<thead>
<tr>
<th>Year</th>
<th>Total expenditure increase (%)</th>
<th>R &amp; D expenditure / GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td></td>
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<td>2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td></td>
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</tr>
</tbody>
</table>

Source: Turkish Statistical Institute

The figure shows the percentage increase in total R&D expenditures in the left axis compared to the previous year and the ratio of total R&D expenditures to GDP in the right axis. Accordingly, both indicators are increasing over the years.

Turkey has made any progress in terms of innovation policy in their historical context. Both the allocation of public expenditures for innovation and the share of GDP in the GDP increase over the years. However, it is considered that a significant component of the increase in total expenditures is current expenditures (in the 80-90% range)
is a negative indicator. This may be due to the fact that the R&D institutions are more active in the service sector or interested in the indirect processes of production. The reason for this is that the investments in innovation are long-term and high risk of failing at that maturity. Besides, the efforts to develop its human capital in recent years in Turkey for innovation has led to the increase of these expenses.

However, as a result of initiatives to benefit from tax incentives or cash supports, resources can be transferred to inefficient areas. Therefore, the content of scientific projects should be analyzed through an effective monitoring mechanism, and resources should not be allocated to nepotistic practices or initiatives that do not involve scientific concerns. In this context, it is necessary to develop the institutional and professional infrastructure for the development of activities and awareness for innovation in Turkey.

g. Conclusion

In recent years, especially high-income economies are developing new production techniques to reduce unit production costs, to produce resources more effectively and to meet changing social needs. As technological methods developed for production lead to more efficient use of already scarce resources, it has a positive effect on the size of GDP of economies by increasing the total product. As a natural consequence of this, by providing both labor productivity and benefit-cost efficiency, the welfare increases for developed economies; however, it leads to economic growth and development for developing countries. The econometric analysis made in the literature reveals that in any case, the development of innovation positively affects the development, growth and welfare of the countries.

OECD and European Union countries mostly implement their fiscal policies on innovation through market actors. Developing markets in these economies, which choose the policy mix path by using supply and demand-side policies together, is an important factor contributing to the implementation of fiscal policies. Institutionalized market actors act more professionally in decisions to take on innovation; this has a positive effect on the effective use of resources.

Fiscal policy indicators for innovation used in the study in terms of Turkey’s economy have shown a steady increase since 2001. This development is seen as an important development in terms of macroeconomic policy objectives. Furthermore, Turkey should avoid creating unnecessary bureaucracy in fiscal policy, following the global innovation regulations and focusing on corporate and rational goals.

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INNO-GRIPS (2010), Global Review of Innovation Intelligence and Policy Studies, Mini Study 11 Demand-Led Innovation Pr. Ian Miles (University of Manchester- Miör).


Technology Development Zones Law (No. 4691)

Law on the Support of Research, Development, and Design Activities (No. 5746)
PART V

MANAGEMENT, ACCOUNTING AND FINANCE
1. Introduction

Nowadays, industry and production sector have a very substantial place in the growth and development of production-based economies. Energy also has a crucial place in the industry and in the continuity of production. Without energy, it is not possible to talk about a sustainable economy. In addition, there are various energy production methods and raw materials for sustainable economies. Petroleum and natural gas are also located in a very important point among these energy raw materials. The change in energy raw materials’ prices now determines the fate of the production facilities.

In the study conducted by Eyüboğlu and Eyüboğlu (2016), it was examined whether there was a long-term relationship between natural gas and oil prices and BIST industrial sector indices. The authors used monthly data between 2005 and 2015. Within the framework of this study, Forest Paper-Printing, Industrial, Stone-Earth, Metal Main, Chemical-Petroleum-Plastic, Metal-Machinery-Machinery, Food-Beverage, Textile-Leather indices were used separately. The effects of each index on natural gas and oil prices were examined with the help of VECM econometrics model. A short-term relationship was found between oil price and Industrial, Stone-Soil, Metal Main, Chemical-Petroleum-Plastic and Forest-Paper-Printing indices. The long-term relationship between Johansen cointegration method and long-term relationship between natural gas and oil prices and indices was determined.

Lin and Li (2015) examined the effect of contamination and volatility using US, Japan and European oil and natural gas price data. As a result, the authors observe that European and Japanese gas prices move along with Brent oil prices. However, due to the US natural gas market liberalization and shale gas expansion, it has been observed that gas prices act differently from oil prices.

Kang et al. (2017) examined the spillover effect of 6 commodity future markets. The markets studied are gold, silver, West Texas Intermediate, crude oil, corn, wheat, and rice. They used Multivariate DECO-GARCH model. This study focused on financial crises.

Batten et al. (2017) examined the dynamic relationship between crude oil and natural gas. In contrast to the literature, the authors claimed that natural gas prices could be effective when working with large samples on the price of crude oil. The study covers between 1994 and 2014. The authors believe that the relationship between crude oil and natural gas prices in 2006 undermined the events caused by the global financial crisis of the Tohoku earthquake and Katrina storm.

Krichene (2002) examined the relationship between demand and supply elasticity between crude oil and natural gas on the basis of World markets between 1918 and 1999. The author studied in two section namely; between

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1918-1973 and 1973-1999. Demand elasticity was very low. Sadorsky (2001) tried to predict the expected returns in the Canadian oil and gas industry stock market using the multifactor market. The stock exchange rate, crude oil prices and interest rate showed an important and significant effect on the return of stocks traded in Canadian oil and gas industry.

Villar and Joutz (2006) tried to understand the relationship between Henry Hub natural gas prices and West Texas Intermediate crude oil prices using time series models. The relationship between Henry Hub natural gas prices and West Texas Intermediate crude oil prices between the years 1989-2005 seems to affect the supply and demand prices. Boyer and Fillion (2004) examined the relationship between oil and gas prices and the returns of oil and gas companies in Canada. The study covers the period between 1995 and 2002 and there is a positive relationship between oil and gas prices and oil and gas companies.

Acaravci et al. (2012) investigated the relationship between the prices of natural gas prices and stock prices of 15 European countries between 1990 and 2008. Within the sample, long-term relationship between natural gas prices and stock prices has been detected for Luxembourg, Germany, Finland and Austria. Acaravci et al. (2013) examined the relationship between energy prices and the ISE100 index between 2001 and 2010. Long-term relationship between natural gas prices, oil prices, ISE100 and Industrial production index was observed.

Papapetrou (2001) examined the relationship between oil prices and interest rates on the stock exchange in Greece and real economic activity based on the period from 1989 to 1999. He concluded that the sharp rise in oil prices led to a decline in the prices of traded shares. In this study, we investigated the effect of natural gas and oil prices over Industrial Production Index (IPI) and the relationship between them. In our study, we found a long-term relationship between natural gas prices, oil prices and Industrial Production Index. In doing so, we discussed the periods between 2007: 01-2012: 12 and used monthly data. Unlike the literature, Fourier KPSS unit root test developed by Becker et al. (2006) was used.

2. Data

For the period 2007: 01-2018: 12 period, the effect of oil (brent) and natural gas prices on the Industrial Production Index (IPI) was analyzed. Monthly average parities were used to determine dollar based prices. While data on natural gas and oil prices gathered from www.investing.com , the data relating to IPI was obtained from the Turkish Statistical Institute (TSI) website.

3. Methodology

In the study, it has been investigated whether there is a long-term relationship between the prices of natural gas and oil and the prices of IPI. The natural logarithm of the first series was measured. Then, the levels in which the series were stationary were determined by Fourier KPSS unit root test Becker et al. (2006). Perron (1989), Banerjee et al. (1992), Zivot and Andrews (1992), Lumsdaine and Papell (1997) tests have the problem of determining the number and shape of fractures as a priori. Fourier KPSS unit root test Becker et al. (2006) eliminate the mentioned problems.

Fourier KPSS unit root test developed by Becker et al. (2006) is based on Kwiatatkowski et al. (1992) unit root testing. With this test, it can be determined not only sudden changes but also slow changes and the number, form
and location of structural breaks do not affect the strength of the test (Yılancı, 2017: 55-56). Becker et al. (2006)
data generation process is as follows (Becker et al., 2006: 382-391):

\[ y_t = X_t' \beta + Z_t' \gamma + r_t + \varepsilon_t \quad r_t = r_{t-1} + u_t \quad (1) \]

Here, \( \varepsilon_t \) refers to the stationary error term and \( u_t \) refers to the error term with the i.i.d variance \( \sigma_u^2 \). Vector that
contains the trigonometric terms is expressed as \( Z_t = \left[ \sin(2\pi kt / T), \cos(2\pi kt / T) \right] \). In this equation, “T” indicates sample size, “t” indicates trend, “k” indicates frequency and “\( \pi \)” indicates constant (3.1428).

To calculate the test statistics required to test the null hypothesis \( H_0: \sigma_u^2 = 0 \), one of the following models is estimated and the residues are obtained:

\[ y_t = a_0 + \gamma_1 \sin \left( \frac{2\pi kt}{T} \right) + \gamma_2 \cos \left( \frac{2\pi kt}{T} \right) + \varepsilon_t \quad (2) \]

\[ y_t = a_0 + \beta t + \gamma_1 \sin \left( \frac{2\pi kt}{T} \right) + \gamma_2 \cos \left( \frac{2\pi kt}{T} \right) + \varepsilon_t \quad (3) \]

Then the test statistic is calculated with the following equation:

\[ \tau_{ik}(k) = \frac{1}{T^2} \frac{\sum_{t=1}^{T} S_{ik}(k)^2}{\sigma^2} \quad (4) \]

\( e_j \) 3 and 4 shows the remains obtained from the model and is expressed as \( S_{ik}(k) = \sum_{j=1}^{l} e_j \). Becker et al. (2006) proposed to obtain the non-parametric estimation of \( \sigma \) by selecting the weight sequence \( w_j, j = 1, 2, ..., l \) and the pruning delay parameter \( l \):

\[ \sigma^2 = a_0 + 2 \sum_{j=1}^{l} w_j a_j \quad (5) \]

Here the number “\( j \)” obtained from the equations of (2) and (3) shows the autocovariance \( k \) and the optimal frequency number that makes the sum of the residual squares the smallest. The number “\( j \)” can take integer value from 1 to 5. In the case of nonlinear trends, the FKPSS stability test is more effective than the standard KPSS stability test, otherwise the standard KPSS test is stronger than in the FKPSS test. Becker et al. (2006) stated that the null hypothesis \( (H_0: \gamma_1 = \gamma_2 = 0) \) expressing the absence of the nonlinear trend is evaluated by the F-test statistic in the equation:

\[ F_i(k) = \frac{(SSR_0 - SSR_1(k))/2}{SSR_i(k)/(T-q)} \quad i = \mu, t \quad (6) \]

In the equation, SSR_1 shows the SSR obtained from the equations 2 and 3, and SSR_0 shows the SSR of the regression where the basic hypothesis is valid, and \( q \) shows the number of regressor. The F test is used if the basic hypothesis of stationarity is rejected. Therefore, if the series is not stationary, the effect of F test statistic decreases. The critical values required for both FKPSS and F-test are presented in BEL (2006) (Yılancı & Eriş, 2012: 211).
THE RELATIONSHIP BETWEEN THE NATURAL GAS, OIL PRICES AND INDUSTRIAL PRODUCTION INDEX

Temur KAYHAN, Mustafa UYSAL

In order to determine the possible long-term relationship between the series, the study was conducted by Tsong et al. Fourier cointegration (FSHIN) test was used by Fourier functions. This test tests the existence of cointegration under the basic hypothesis and produces strong results despite the form and number of structural fractures. In this respect, FSHIN cointegration is expressed as the extended state of the FKPSS unit root test. (Yılancı, 2017: 58).

The FSHIN cointegration test (2016) takes the following model into consideration in the data generation process (Tsong et al., 2016: 1087-1090):

\[ y_t = d_t + x_t \beta + \eta_t, \quad \eta_t = \gamma_t' + \nu_{t-1}, \quad \gamma_t = \gamma_{t-1} + u_t, \quad x_t = x_{t-1} + \nu_{2t} \]  

(7)

In the above equations, \( u_t \) denotes the error term with 0 mean and \( \sigma_u^2 \) variance, \( Y_t \) denotes the random walk process with 0 mean, \( \nu_{1t} \) and \( \nu_{2t} \) denotes stationary, \( \gamma_t \) and \( x_t \) denotes first difference stationary processes. In addition, \( d_t \) in equation 7, can be shown as fixed term or if fixed term and trend exits, \( d_t \) can be shown as in the equations of 2 and 3. In order to be able to test the basic hypothesis \( (\sigma_u^2 = 0) \) against the hypothesis \( (\sigma_u^2 > 0) \) in which there is no cointegration, the equation 7 can be rearranged as follows:

\[ y_t = \delta_v + a_k \sin \left( \frac{2k\pi t}{T} \right) + \beta_k \cos \left( \frac{2k\pi t}{T} \right) + x_t \beta + \nu_{1t} \]  

(8)

FSHIN cointegration test statistics can be obtained with the help of the equation shown in equation 9:

\[ C_l^{m} = T^{-2} \Omega_l^2 \sum_{t=1}^{T} S_t^2 \]  

(9)

Here \( S_t = \sum_{t=1}^{T} \tilde{u}_{1t} \) obtained from equation 8 denotes sum of the partial of the smallest squares residuals and the consistent estimator \( \Omega_l^2 \) denote the estimator of long term variance of \( \nu_{1t} \). In the FSHIN cointegration test, in the absence of the \( x_t \) variable on the right side of the equation, the inflation test turns into the FKPSS unit root test. In addition, in the absence of Fourier function, Shin (1994) cointegration test is obtained. In the absence of both Fourier function and the \( x_t \) variable on the right side of the equation, KPSS unit root test is obtained (Yılancı et al. 2018: 1275).

4. Empirical Results

First of all, logarithm of all variables was used. Then, the levels in which the variables were stationary were determined. Table 1 shows the FKPSS unit root test results of the variables. According to these results, it is seen that all variables are not stationary at the levels but become stationary after their differences were taken. The F test was then used to test the significance of stationary series in order to test the significance of trigonometric terms. According to the results of the F test, it was found that only the natural gas variables were meaningful and the other variables were meaningless.
Table 1: FKPSS Unit Root Test Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>MinSSR</th>
<th>FKPSS</th>
<th>F-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIPI</td>
<td>1</td>
<td>1.659</td>
<td>0.503 (9)</td>
<td>181.197</td>
</tr>
<tr>
<td>LPETROL</td>
<td>1</td>
<td>21.670</td>
<td>0.361 (9)</td>
<td>120.765</td>
</tr>
<tr>
<td>LDGAZ</td>
<td>1</td>
<td>13.602</td>
<td>0.344 (9)</td>
<td>44.338</td>
</tr>
<tr>
<td>∆LIPI</td>
<td>5</td>
<td>0.070</td>
<td>0.155 (4)</td>
<td>1.887</td>
</tr>
<tr>
<td>∆LPETROL</td>
<td>4</td>
<td>1.430</td>
<td>0.137 (3)</td>
<td>3.765</td>
</tr>
<tr>
<td>∆LDGAZ</td>
<td>4</td>
<td>1.317</td>
<td>0.179 (5)</td>
<td>4.684</td>
</tr>
</tbody>
</table>

Note: Values in parentheses indicate bandwidth. Critical values for the FKPSS test were 0.269, 0.172 and 0.131, respectively, at %1, %5 and 10% levels. The F-test critical values used to evaluate the significance of trigonometric terms are 6.730, 4.929 and 4.133, respectively, at %1, %5 and 10%. ∆, refers to the first difference of series.

Therefore, ADF unit root test was applied to all variables. According to the ADF unit root test, it was determined that they were stationary first difference. The results are shown in Table 2.

Table 2: ADF Unit Root Test Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>I (0)</th>
<th>I (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t-statistics</td>
<td>probability</td>
</tr>
<tr>
<td>LIPI</td>
<td>-0.537</td>
<td>0.879</td>
</tr>
<tr>
<td>LPETROL</td>
<td>-0.834</td>
<td>0.806</td>
</tr>
<tr>
<td>LDGAZ</td>
<td>-1.854</td>
<td>0.353</td>
</tr>
</tbody>
</table>

Note: Critical values for the ADF unit root test are -3.476, -2.881 and -2.577 at 1%, 5% and 10% levels.

As can be seen from the graphs in Figure 1, Fourier estimations are reasonable and it is determined that they catch long-term oscillations of series.

Figure 1: Fourier Functions of Variables and Variables
The long-term relationship between the natural gas and oil prices and the industrial production index, which were found to be stable at the same level, was investigated by FSHIN cointegration test. The results of industrial production index and oil prices variables are presented in Table 3.

### Table 3: IPI and Oil prices Cointegration Test Results

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Min SSR</th>
<th>Fourier Cointegration Test Statistics</th>
<th>Shin Cointegration Test Statistics</th>
<th>F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.198</td>
<td>0.280 (9)</td>
<td>0.562 (9)</td>
<td>2.654</td>
</tr>
</tbody>
</table>

**Note:** Critical values for the Fourier cointegration test at levels of 1%, 5% and 10% were 0.095, 0.124 and 0.198, and the critical values at the levels of 1%, 5% and 10% for the Shin cointegration test were 0.533, 0.314 and 0.231. F test critical values used to evaluate the significance of trigonometric terms are 5.774, 4.06 and 3.352, respectively, at 1, 5, and 10% levels.

The results obtained from the FSHIN cointegration test for industrial production index and oil prices in Table 3 were not statistically significant. The result of the Shin cointegration test is significant at 1% level. Therefore, these results obtained in oil prices and industrial production index in Turkey shows non-existence of cointegration relationship. Table 4 shows the results of cointegration test between industrial production index and natural gas prices.
Table 4: IPI and Natural Gas prices Cointegration Test Results

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Min SSR</th>
<th>Fourier Cointegration Test Statistics</th>
<th>Shin Cointegration Test Statistics</th>
<th>F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.040</td>
<td>0.237 (9)</td>
<td>0.681 (9)</td>
<td>7.370</td>
</tr>
</tbody>
</table>

Note: The critical values for the Fourier cointegration test at the levels of 1, 5, and 10% were 0.095, 0.124 and 0.198, and the critical values at the levels of 1, 5, and 10% for the Shin cointegration test were 0.533, 0.314 and 0.231. F test critical values used to evaluate the significance of trigonometric terms are 5.774, 4.066 and 3.352 respectively for 1, 5, and 10% levels.

In Table 4, it is seen that the results of the test statistics obtained in the FSHIN and Shin cointegration tests related to the industrial production index and natural gas prices are significant at 1% level. In other words, this results states that there does not exists a cointegration relation between natural gas prices and industrial production index in Turkey which is similar for the relation between Brent oil prices and industrial production index. These both cases state that there does not exist any long term relation between natural gas prices and industrial production index and brent petrol prices and industrial production index in Turkey.

5. Conclusion

Energy needs are an important factor for the development and development of countries. Increasing needs drive countries to produce more and this leads to more energy needs. For this purpose, petroleum and natural gas, one of the most important energy sources, is an important input for many sectors. Therefore, the fluctuations in the prices of these inputs may affect both the real and financial markets of the countries.

In this study, monthly data for the period 2007:01-2018:12 is used and existence of long term relation between natural gas prices, brent oil prices and industrial production index in Turkey is studied. In the study, dollar based prices of related variables were used. First, the natural logarithm of all variables was taken. Then, unit root tests were applied to the variables and it was observed that all variables were stationary. FSHIN cointegration test was used to determine whether there is a cointegration relationship between the variables detected to be stationary at the same level. According to the results obtained from cointegration analysis, it is found out that there is no long-term relationship between both natural gas and oil prices and industrial production index. Accordingly, it can be said that the prices of natural gas or oil and long-term industrial production index do not have the same tendency. In other words, economic growth in Turkey does not appear to be effective in the long term of these variables. These results coincide with the results obtained from the studies (Sari & Soytaş (2006); Sayılgan & Sıslü (2011)). In later studies, the study could be developed by examining the long-term relationship between different sector indices, oil and natural gas prices or different energy prices.

References


EFFEKTOS OF WORD OF MOUTH MARKETING ON TAKING AND GIVING ADVICE HABITS IN MEDICAL INSTITUTIONS

Zührem YAMAN

1. Introduction

Today, when individuals decide to purchase products or services, they take their purchasing experience as a more reliable source of information. Therefore, the satisfaction of individuals affects the other individuals. Just as individuals satisfied with the service they receive share their satisfaction, the dissatisfied individuals can easily share his dissatisfaction. Individuals who rely on their purchasing experience perform the purchasing process in accordance with the recommendations received.

Word of mouth marketing (WMP) is a form of interpersonal communication that occurs between a receiver and a sender and can be defined as a personal affecting process that can change the behaviour and attitudes of the receiver (Sweeney and Geoffrey, 2008: 344-345). Especially in terms of service, perceptions are greatly influenced due to such features of service as abstractness, heterogeneity, impartibility, and non-storability. Individuals, who have no previous knowledge of or chance to try the service they are interested in, decide to buy the trust that they cannot get from the businesses through word of mouth marketing based on the experiences of other individuals.

2. The Concept of Word of Mouth Marketing and Its Importance

While word of mouth marketing was described by Arndt (1967: 189) as “interpersonal oral communication between a buyer and a non-commercial messenger about a brand, product or service, Chung and Darke (2006: 270) defined it as an unofficial communication between related personal parties about the evaluation of a service. Word of mouth marketing is defined as verbal communication between two or more consumers who are not engaged in a commercial, brand, product, or service (Woodside and Delozier, 1976: 13).

Philip Kotler, commented on the importance of word of mouth marketing in his book A to Z Marketing as, “nothing, no advertiser or salesman can convince you on the benefits of a product as much as a friend, an old customer or an independent expert can do” (Kotler, 2005: 7).

With customer change pace, decrease in risks and doubts and depending on the consequences of ordinary activities, word of mouth marketing can be an instrument in marketing that leads customers towards campaigns and developing loyalty. Word of mouth marketing can be described as a strong influence on customer choice, loyalty, and change (Wangenheim and Bayon, 2004: 1174).

1 Selcuk University Faculty Of Health Sciences Healthcare Administration, zyaman@selcuk.edu.tr
3. Word of Mouth Marketing in Medical Institutions

The greatest impacts of word of mouth marketing are especially felt in the service sector. It helps to remove uncertainties about services for which customers have never previously experienced, and to reduce potential risks to a minimum. Compared to a product purchase, in which individuals decide on the concrete characteristics of the product and can decide more quickly or confidently, individuals decide trusting on the information to be obtained from various sources when purchasing a service due to its abstract nature. According to Christiansen and Tax (2000: 186), buyers tend to rely more on sources of personal information for services than seeking the quality as they do for concrete goods while choosing the right manufacturer. It is therefore important that medical institutions have a positive impact about the services they offer and that they transfer this to potential customers who will demand their service for the first time.

There is no promotion of services in medical institutions like the products. Therefore, advertisements related to medical services are not very frequently. Additionally, since advertisements are not a reliable source of information for customers, they act according to the information sources based on the experience and advice of people in the immediate vicinity rather than advertisements or various radio, television, and magazine articles.

4. Effects of Word of Mouth Marketing on Taking and Giving Advice Habits in Medical Institutions

The purpose of the present research is measuring the effects of word of mouth marketing on taking and giving advice habits in medical institutions and emphasizing the effectiveness of word of mouth marketing in medical institutions today in accordance with the findings. In order to collect data, the scales with Cronbach Alpha coefficient of 0.726, which were included in the studies conducted by Podoshen (2008: 220) and Feick and Price (1987: 95), were utilised. The 284 participants were selected among patients, who received service from the hospitals in Selçuklu central district of Konya province. Data were collected via questionnaires and analysed on SPSS 20.0 program.
4.1. Demographic Findings of the Research

As presented in Table 1 above, of the participants 61.6% were female, 57.4% were married, and 28.5% were between the ages of 41-50. While 39.1% worked for government services, 25% didn't work. As for the income, 41.2% had monthly incomes between 1001-2000 TL, while 6.3% had incomes between 4001-5000 TL. In terms of the educational background, 43.3% of the participants were high school graduates, 35.6% held graduate degrees, 15.1% held post-graduate degrees and 6% were primary school graduates.
4.2. Taking and Giving Advice Attitudes of Participants

Table 2: Medical Institutions related Taking and Giving Advice Attitudes of Participants

<table>
<thead>
<tr>
<th>Medical Institutions related Taking and Giving Advice Attitudes</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I always take advice.</td>
<td>171</td>
<td>60,2</td>
</tr>
<tr>
<td>I take advice especially for health services.</td>
<td>86</td>
<td>30,3</td>
</tr>
<tr>
<td>I don't take advice.</td>
<td>27</td>
<td>9,5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you taken advice at your request in the last six months?</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>165</td>
<td>58</td>
</tr>
<tr>
<td>No</td>
<td>88</td>
<td>31,9</td>
</tr>
<tr>
<td>I don't remember.</td>
<td>31</td>
<td>11,9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you been given advice in the last six months?</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>165</td>
<td>64,8</td>
</tr>
<tr>
<td>No</td>
<td>88</td>
<td>22,2</td>
</tr>
<tr>
<td>I don't remember.</td>
<td>31</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you given advice at your request in the last six months?</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>131</td>
<td>46,1</td>
</tr>
<tr>
<td>No</td>
<td>124</td>
<td>43,7</td>
</tr>
<tr>
<td>I don't remember.</td>
<td>29</td>
<td>10,2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Have you been asked for advice in the last six months?</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>135</td>
<td>47,5</td>
</tr>
<tr>
<td>No</td>
<td>129</td>
<td>45,4</td>
</tr>
<tr>
<td>I don't remember.</td>
<td>20</td>
<td>7,1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>284</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

As presented in Table 2, most of the participants visited any of the medical institutions based on advice, and the number of participants, who received advice willingly or otherwise in the last six months, were higher than the ones, who didn't.
Table 3: Sources of Advice

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>215</td>
<td>81,2</td>
</tr>
<tr>
<td>Friends</td>
<td>207</td>
<td>78,5</td>
</tr>
<tr>
<td>Medical institution employees</td>
<td>171</td>
<td>68,1</td>
</tr>
<tr>
<td>Internet</td>
<td>162</td>
<td>66,8</td>
</tr>
<tr>
<td>Celebrity</td>
<td>3</td>
<td>1,1</td>
</tr>
<tr>
<td>Medical magazines</td>
<td>12</td>
<td>2,6</td>
</tr>
<tr>
<td>Radio-TV</td>
<td>10</td>
<td>2,2</td>
</tr>
<tr>
<td>Medical institution commercials</td>
<td>18</td>
<td>3,1</td>
</tr>
<tr>
<td>Newspaper</td>
<td>7</td>
<td>1,8</td>
</tr>
</tbody>
</table>

As presented in Table 3, most of the participants preferred to take advice from family, relatives and friends, as a source of information. Other frequently used sources of advice of participants were medical institution employees and Internet, while the least used were celebrities, newspapers, radio and TV.

Table 4: Demographic Features of Individuals whose Advice the Participants Relyed on

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Percentage</th>
<th>Marital Status</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>22</td>
<td>7,8</td>
<td>Married</td>
<td>45</td>
<td>15,8</td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>3,5</td>
<td>Single</td>
<td>27</td>
<td>9,5</td>
</tr>
<tr>
<td>Doesn't matter</td>
<td>245</td>
<td>86,2</td>
<td>Doesn't matter</td>
<td>207</td>
<td>72,9</td>
</tr>
<tr>
<td>I don't take advice</td>
<td>7</td>
<td>2,5</td>
<td>I don't take advice</td>
<td>5</td>
<td>1,8</td>
</tr>
<tr>
<td>Total</td>
<td>284</td>
<td>100</td>
<td></td>
<td>284</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>Percentage</th>
<th>Educational Background</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young (18-39)</td>
<td>92</td>
<td>32,4</td>
<td>Primary S.</td>
<td>11</td>
<td>3,9</td>
</tr>
<tr>
<td>Middle aged (40-59)</td>
<td>51</td>
<td>18</td>
<td>High S.</td>
<td>23</td>
<td>8,1</td>
</tr>
<tr>
<td>Doesn't matter</td>
<td>135</td>
<td>47,5</td>
<td>Graduate</td>
<td>175</td>
<td>61,6</td>
</tr>
<tr>
<td>I don't take advice</td>
<td>6</td>
<td>2,1</td>
<td>Uneducated</td>
<td>4</td>
<td>1,4</td>
</tr>
<tr>
<td>Total</td>
<td>284</td>
<td>100</td>
<td>Doesn't matter</td>
<td>66</td>
<td>23,2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment</th>
<th>N</th>
<th>Percentage</th>
<th>I don't take advice</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>77</td>
<td>27,1</td>
<td>I don't take advice</td>
<td>5</td>
<td>1,8</td>
</tr>
<tr>
<td>Unemployed</td>
<td>2</td>
<td>0,7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doesn't matter</td>
<td>197</td>
<td>69,3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I don't take advice</td>
<td>8</td>
<td>2,9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>284</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As presented in Table 4, as the participants took advice, gender, age, marital status or employment status of the advisor didn’t matter, while educational background did. Participants received advice from individuals with graduate degrees more than the ones, who are uneducated or primary school graduates. Additionally, the participants relied more on the advice taken from female more than male, married individuals more than singles, and employed individuals more than unemployed.

Table 5: Variables related to Participants’ Taking Advice Habits

<table>
<thead>
<tr>
<th>Variables related to Taking Advice Habits</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I ask for advice from my family, friends and relatives when I get a medical service.</td>
<td>4.31</td>
<td>0.987</td>
</tr>
<tr>
<td>I usually see my family, my friends and relatives as a good source of advice on medical service.</td>
<td>4.01</td>
<td>0.895</td>
</tr>
<tr>
<td>I can think of at least two people who tell me something about medical services in the last six months.</td>
<td>3.78</td>
<td>1.112</td>
</tr>
<tr>
<td>If I have very little experience about a medical service, I usually ask for information about it from friendship and relatives.</td>
<td>4.35</td>
<td>0.965</td>
</tr>
<tr>
<td>I rely more on information from my family, my friends and my family, than information from media sources like radio, TV and magazines about medical services.</td>
<td>3.71</td>
<td>1.217</td>
</tr>
<tr>
<td>I often gather information from my family, friends and relatives before purchasing a medical service.</td>
<td>3.73</td>
<td>1.011</td>
</tr>
</tbody>
</table>

As presented in Table 5, the variable “If I have very little experience about a medical service, I usually ask for information about it from friendship and relatives” has the highest mean score with 4.35, which is followed by variables “I ask for advice from my family, friends and relatives when I get a medical service” with 4.31, and “I usually see my family, my friends and relatives as a good source of advice on medical service” with 4.01 mean score.

The variables with lowest mean scores are “I rely more on information from my family, my friends and my family, than information from media sources like radio, TV and magazines about medical services” with 3.71 and “I often gather information from my family, friends and relatives before purchasing a medical service” with 3.73 mean score.

Table 6: Variables related to Participants’ Giving Advice Habits

<table>
<thead>
<tr>
<th>Variables related to Giving Advice Habits</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy introducing my friends to new medical institutions, medical services and physicians.</td>
<td>2.99</td>
<td>0.984</td>
</tr>
<tr>
<td>I like helping people by providing information on various medical services.</td>
<td>3.85</td>
<td>1.102</td>
</tr>
<tr>
<td>People I know get information about medical institutions, physicians and medical services from me.</td>
<td>3.56</td>
<td>0.925</td>
</tr>
<tr>
<td>If people ask me about the best place to find a medical service or the best physician offering a medical service, I can explain where they can find these.</td>
<td>3.97</td>
<td>1.143</td>
</tr>
<tr>
<td>My friends consider me as a good source of information about new medical institutions or services.</td>
<td>3.11</td>
<td>1.128</td>
</tr>
</tbody>
</table>

As presented in Table 6, the variable “If people ask me about the best place to find a medical service or the best physician offering a medical service, I can explain where they can find these” has the highest mean score with 3.97, which is followed by variables “I like helping people by providing information on various medical services”
with 3.85 and “People I know get information about medical institutions, physicians and medical services from me” with 3.56 mean score. The variable with lowest mean score of 2.99 is “I enjoy introducing my friends to new medical institutions, medical services and physicians”.

Table 7: Satisfaction from a Medical Service

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SATISFACTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I express it to the provider.</td>
<td>227</td>
<td>65,7</td>
</tr>
<tr>
<td>I express it to at least 1 person.</td>
<td>173</td>
<td>39,2</td>
</tr>
<tr>
<td>I express it on social media.</td>
<td>62</td>
<td>14,2</td>
</tr>
<tr>
<td>When in need, I consult to the same medical institution or the physician.</td>
<td>251</td>
<td>81,7</td>
</tr>
<tr>
<td>I try to get others to receive this service.</td>
<td>182</td>
<td>41,3</td>
</tr>
<tr>
<td>I do not do anything.</td>
<td>32</td>
<td>7,6</td>
</tr>
<tr>
<td><strong>DISSATISFACTION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I express it to the provider.</td>
<td>201</td>
<td>47,1</td>
</tr>
<tr>
<td>I express it to at least 1 person.</td>
<td>143</td>
<td>34,2</td>
</tr>
<tr>
<td>I express it on social media.</td>
<td>107</td>
<td>31,6</td>
</tr>
<tr>
<td>I report it to the authorities.</td>
<td>105</td>
<td>30,8</td>
</tr>
<tr>
<td>I stop getting service.</td>
<td>248</td>
<td>78,7</td>
</tr>
<tr>
<td>I try to prevent others receiving this service.</td>
<td>164</td>
<td>35,1</td>
</tr>
<tr>
<td>I do not do anything.</td>
<td>23</td>
<td>5,2</td>
</tr>
</tbody>
</table>

*Percentage sum is over 100, since participants could choose more than one option.

As presented in Table 7, participants’ satisfaction from medical service they received was analysed. According to the data on word of mouth marketing, when participants were satisfied they mostly reacted as “when in need, I consult to the same medical institution or the physician” with 81.7% and “I express it to the provider” with 65.7%; the least frequent reaction was “I do not do anything” with 7.6%.

On the other hand, when participants were dissatisfied with the medical service they receive, they most commonly reacted as “I stop getting service”, “I express it to the provider” and “I try to prevent others receiving this service”. In case of both satisfaction and dissatisfaction, the least common response of the participants was “I do not do anything”, which indicates low unresponsiveness.

6. Conclusion

Nowadays, the competition increases each passing day with the increase in the number of medical institutions. One of the most important reasons why health institutions can continue to exist in a competitive environment and be continuously preferred by customers (patients) is to be able to respond to the varying needs and expectations of customers and to present it as a quality service.

As in all sectors, in the medical sector, individuals communicate with each other and decide on the medical service they will demand. People tend to both take and give advice, sharing information with their family, relatives or close friends, whenever they do not have any ideas or experience.
According to the findings of the present research, the participants both take and give advice when requesting service from a medical institution. Participants mostly prefer their family, friends or relatives as a source of information when they receive medical services, and they pay more attention to the advice of families, friends, and close friends especially when they have little experience.

According to the findings related to giving advice about a medical institution, participants tend to share their experience with those who ask for when they are satisfied with the service they get and to provide others with information about a medical service.

As for the findings related to the demographics of the individuals, who the participants would like to take advice from, age, gender, income and marital status of the advisors don’t matter for the participants, while they prefer to take advice from individuals with better educational background. Additionally, participants tend to take advice from married individuals more than single individuals.

According to the findings of the present research related to participants’ responses in case of satisfaction or dissatisfaction from a medical service, most of the participants stated that they would consult to the same medical institution or physician when they needed, and they would express their satisfaction to both the service providers and at least 1 person they know when they were satisfied. Additionally, most of the participants stated that they would stop receiving service when they were dissatisfied with the medical service they received. The participants reported that when they were dissatisfied from a medical service they would express this to the provider and also try preventing other from getting this service.

The findings of the present research show that word of mouth marketing is very effective on purchasing medical service. Just as satisfaction from a demanded medical service will increase loyalty, dissatisfaction from a medical service will prevent individuals from demanding medical service from the same institution again and these customers may also affect the people they, which would result in customer loss. Considering that gaining new customers is very costly nowadays, satisfaction should be increased in order to ensure the continuity of the existing customers and the positive aspects of word of mouth marketing should be used through these customers.

References


1. Introduction

Tourism is a collection of activities, services, and industries which deliver a travel experience comprising transportation, accommodation, eating and drinking establishments, retail shops, entertainment businesses and the hospitality services that are provided for individuals or groups traveling away from home. The sum of the phenomena and relationships arising from the interaction of tourists, business suppliers, host countries and host communities in the process of attracting and host to these tourists and other visitors (Maclntosh and Goeldner, 1986). Over the decades, tourism has continuously experienced growth and deepening diversification to become one of the fastest growing economic sectors in the world. Modern tourism is closely linked to the development and encompasses a growing number of new destinations. These dynamics have turned tourism into an important key to socioeconomic progress. Nowadays the business volume of tourism equals or even surpasses that of oil exports, food products or automobiles. Tourism has become one of the major players in international commerce and represents and at the same time, which is one of the main income sources for many developing countries. This growth goes hand in hand with an increasing diversification and competition among destinations. This global spread of tourism in industrialized and developed states has produced economic and employment benefits in many related sectors such as construction, agriculture, and telecommunications. The contribution of tourism to economic well-being depends on the quality and the revenues of the tourism offer. The United Nations World Tourism Organization (UNWTO) assists destinations in their sustainable positioning in ever more complex national and international markets. As the UN agency dedicated to tourism, UNWTO points out that are particularly developing countries stand to benefit from sustainable tourism and acts to help make this a reality (UNWTO, 2019). The most basic purpose of health tourism that is different from general tourism is to take health care. In this context, health tourist can be defined as international patients who travel abroad to receive health services from different countries. Health tourism can be divided into three sub-groups if it is classified as generally accepted in the literature. These sub-groups can be classified as (i) Thermal Tourism and Spa-wellness tourism, (ii) Elderly care tourism, and (iii) Medical Tourism (Tengilimoglu, 2013; Gümüş and Polat, 2012).

The statistics say that tourism is a growing phenomenon worldwide (Bosselman et al. 1999). In recent years, the increase in the number of tourist expenditures in international tourism has made tourism one of the leading sectors of international trade. In particular, the superiority of tourism types such as sea tourism and health tourism in terms of cost, income, and benefit costs has been accepted, in which both developed and developing countries are oriented towards these sectors in the context of diversification of tourism activities (Arsezen and Uğurlu, 2017). Tourism, which is important for countries economically and socially is a sector that rapidly develops in the world. Tourism, previously which is seen only for vacation and travel purposes, has turned into health tourism in recent years (Aslanova, 2013). As seen in the health tourism sector, which is a sub-branch of tourism has become the

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fastest-growing and developing sector in the world. People’s demands of healthy living have eliminated borders. Thus, economic mobility has started in this field all over the world (SATURK, 2019).

The primary economic aim of the countries is to increase the income of their citizens by enlarging their economies and create a more comfortable habitat for their people. From this perspective, health tourism is likely to be influential in the world economy.

In this study, with an overview of tourism and health tourism in the world and in Turkey was conducted over a number of data.

2. Tourism in the World

According to the data released by UNWTO, the number of people traveling worldwide with an increase of 7% reached to 1,322 million in 2017. This ratio was the highest growth rate that was achieved in the last seven years since 2010. In 2017 the number of travelers to European countries reached to 671 million visitors with an increase of 8%. The countries of the Asian-Pacific region completed the 2017 year as 324 million tourists with a growth rate of 6%. In 2017 the American continent welcomed 207 million visitors with an increasing amount of 3%. According to the data, the African continent reached 62 million visitors in the 2017 year with an increasing amount of 8%. In 2017 the Middle East countries met 58 million tourists with a 5% increase. International tourism in 2017 revenues reached USD 1,340 billion, with an increase of 4.9% as real terms. Tourism as a worldwide export category rank after chemicals and fuels and in third place before automotive products. In many developing countries, tourism is the most exporting category. The top 10 countries with the highest income and with the highest number of tourists in the world are shown in the table below (turob.com, 2017).

<table>
<thead>
<tr>
<th>Top 10 Countries in terms of the Number of International Tourists</th>
<th>Top 10 Countries in terms of the Income of International Tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. France 86.9 million</td>
<td>1. USA USD 210.7 billion</td>
</tr>
<tr>
<td>2. Spain 81.8 million</td>
<td>2. Spain USD 68 billion</td>
</tr>
<tr>
<td>3. USA 75.9 million</td>
<td>3. France USD 60.7 billion</td>
</tr>
<tr>
<td>4. China 60.7 million</td>
<td>4. Thailand USD 57.5 billion</td>
</tr>
<tr>
<td>5. Italy 58.3 million</td>
<td>5. UK USD 51.2 billion</td>
</tr>
<tr>
<td>6. Mexico 39.3 million</td>
<td>6. Italy USD 44.2 billion</td>
</tr>
<tr>
<td>7. UK 37.7 million</td>
<td>7. Australia USD 41.7 billion</td>
</tr>
<tr>
<td>8. Turkey 37.6 million</td>
<td>8. Germany USD 39.8 billion</td>
</tr>
<tr>
<td>9. Germany 37.5 million</td>
<td>9. China USD 35.6 billion</td>
</tr>
<tr>
<td>10. Thailand 35.4 million</td>
<td>10. Japan USD 34.1 billion</td>
</tr>
</tbody>
</table>

Turkey takes place among the fastest-growing countries in the world tourism. In spite of the various negative factors that occur outside the sector, fluctuations in the conjuncture and periods of crisis, Turkey tourism have continued the rapid growth trend in the last ten years. In this process Turkey, which was one of the fastest growing countries, took place among the top ten countries in the world by moving to the top positions in international rankings in
tourism. According to the 2013 assessment of the United Nations World Tourism Organization, Turkey ranked 6th as the arrival of international tourists and 12th as tourism revenues in the world (Gönül, DoA: 2019-01-24).

### 2.1. Tourism in Turkey

In this section, The United Nations recognizes the World Tourism Organization (UNWTO) as the appropriate organization to collect, analyze, publish, standardize and improve the statistics of tourism and to promote the integration of these statistics within the sphere of the United Nations’ system. Generally, this data is given on these subjects; arrivals of non-resident tourists at national borders, by nationality, arrivals of non-resident visitors at national borders, by nationality, arrivals of non-resident tourists in hotels and similar establishments, by nationality, arrivals of non-resident tourists in all types of accommodation establishments, by nationality, overnight stays of non-resident tourists in hotels and similar establishments, by nationality, overnight stays of non-resident tourists in all types of accommodation establishments, by nationality (UNWTO, 2019).

The tourist’s quantity who visited Turkey from Europe, the Middle East, and the Far East, are handed out in Table 2.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>1,936,10</td>
<td>2,403,304</td>
<td>1,919,336</td>
<td>92,539</td>
<td>100,477</td>
<td>0.27</td>
<td>8.58</td>
</tr>
<tr>
<td>Finland</td>
<td>211,267</td>
<td>219,872</td>
<td>207,738</td>
<td>119,582</td>
<td>95,545</td>
<td>0.25</td>
<td>-20.10</td>
</tr>
<tr>
<td>Italy</td>
<td>416,376</td>
<td>457,062</td>
<td>348,035</td>
<td>195,919</td>
<td>197,711</td>
<td>0.53</td>
<td>0.91</td>
</tr>
<tr>
<td>Ireland</td>
<td>100,436</td>
<td>93,466</td>
<td>89,006</td>
<td>48,637</td>
<td>48,678</td>
<td>0.13</td>
<td>0.08</td>
</tr>
<tr>
<td>Greece</td>
<td>659,608</td>
<td>772,978</td>
<td>712,148</td>
<td>558,307</td>
<td>593,850</td>
<td>1.58</td>
<td>6.37</td>
</tr>
<tr>
<td>Sweden</td>
<td>672,677</td>
<td>654,184</td>
<td>610,374</td>
<td>316,346</td>
<td>285,953</td>
<td>0.76</td>
<td>-9.61</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,246,193</td>
<td>2,351,844</td>
<td>2,265,965</td>
<td>1,587,641</td>
<td>1,604,234</td>
<td>4.27</td>
<td>1.05</td>
</tr>
<tr>
<td>Ukraine</td>
<td>739,454</td>
<td>640,626</td>
<td>691,335</td>
<td>1,029,162</td>
<td>1,265,687</td>
<td>3.37</td>
<td>22.98</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>4,245,990</td>
<td>4,460,304</td>
<td>3,633,193</td>
<td>856,612</td>
<td>4,702,498</td>
<td>12.51</td>
<td>448.96</td>
</tr>
<tr>
<td>Belgium</td>
<td>627,881</td>
<td>640,912</td>
<td>599,596</td>
<td>409,052</td>
<td>416,201</td>
<td>1.11</td>
<td>1.75</td>
</tr>
<tr>
<td>France</td>
<td>942,952</td>
<td>943,419</td>
<td>792,133</td>
<td>545,756</td>
<td>570,822</td>
<td>1.52</td>
<td>4.59</td>
</tr>
</tbody>
</table>

*Source: UNWTO, 2019*

When Table 2 is checked out the oftenest tourists to Turkey is seen as coming from Germany. This ranking continues to be at the second is Russia and the third is the UK. The number of tourists who came from Russia was seen that increased by 448.9% in 2017 when compared to 2016. The number of tourists who came from Switzerland decreased by approximately 10% in 2017.
### Table 3. Arrivals of Non-Resident Tourists at National Borders, by Nationality, Middle East

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>105,350</td>
<td>106,893</td>
<td>99,055</td>
<td>94,099</td>
<td>99,779</td>
<td>0.27</td>
<td>6.04</td>
</tr>
<tr>
<td>Iraq</td>
<td>730,473</td>
<td>857,192</td>
<td>1,094,115</td>
<td>420,815</td>
<td>896,570</td>
<td>2.38</td>
<td>113.06</td>
</tr>
<tr>
<td>Jordan</td>
<td>102,399</td>
<td>130,949</td>
<td>162,681</td>
<td>202,986</td>
<td>277,604</td>
<td>0.74</td>
<td>36.76</td>
</tr>
<tr>
<td>Kuwait</td>
<td>87,834</td>
<td>132,739</td>
<td>174,148</td>
<td>179,752</td>
<td>255,630</td>
<td>0.68</td>
<td>42.21</td>
</tr>
<tr>
<td>Lebanon</td>
<td>133,783</td>
<td>157,690</td>
<td>192,472</td>
<td>191,029</td>
<td>233,959</td>
<td>0.62</td>
<td>22.47</td>
</tr>
<tr>
<td>Libya</td>
<td>264,180</td>
<td>267,470</td>
<td>234,734</td>
<td>72,007</td>
<td>99,390</td>
<td>0.26</td>
<td>38.03</td>
</tr>
<tr>
<td>Oman</td>
<td>8,867</td>
<td>14,217</td>
<td>18,719</td>
<td>13,875</td>
<td>25,231</td>
<td>0.07</td>
<td>81.85</td>
</tr>
<tr>
<td>Qatar</td>
<td>18,489</td>
<td>29,564</td>
<td>35,777</td>
<td>32,649</td>
<td>48,735</td>
<td>0.13</td>
<td>49.27</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>233,245</td>
<td>341,025</td>
<td>449,995</td>
<td>529,982</td>
<td>651,059</td>
<td>1.73</td>
<td>22.85</td>
</tr>
<tr>
<td>State of Palestine</td>
<td>7,741</td>
<td>11,287</td>
<td>15,964</td>
<td>18,898</td>
<td>32,238</td>
<td>0.09</td>
<td>70.59</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>52,214</td>
<td>53,541</td>
<td>51,331</td>
<td>38,240</td>
<td>49,334</td>
<td>0.13</td>
<td>29.01</td>
</tr>
<tr>
<td>Other countries of Middle East</td>
<td>216,826</td>
<td>227,589</td>
<td>233,233</td>
<td>222,827</td>
<td>245,842</td>
<td>0.65</td>
<td>10.33</td>
</tr>
</tbody>
</table>

Source: UNWTO, 2019

In Table 3 the number of tourists who visited Turkey from the Middle East between the years 2013 to 2017 is given based on some countries. The highest number of tourists who came from the Middle East to Turkey belonged to Iraq. The number of Iraqi tourists increased by 113% in 2017 compared to 2016. In 2013 the number of tourists who visited from Saudi Arabia, which is 2nd when as about three times higher in 2017. The number of tourists who arrived from Jordan in the third rank increased by 6.7 in 2017 when compared to 2016.
According to Table 4, the country where most tourists come from Asia to Turkey was the Islamic Republic of Iran. The number of tourists who arrived in 2017 increased by 50.2% when compared to the 2016 year. This rate was 156% for Thailand. The number of tourists who visited Turkey from Thailand greatly increased over the years. Besides the number of tourists who visited from China to Turkey was seen that increased by 22.8% in 2017 when compared with the 2016 year.

2.2. Health Tourism in the World and Turkey

Travel for holidays, recreation, and other forms of leisure accounted for just over half of all international tourist arrivals in 2016 (53% or 657 million). 13% of all international tourists reported traveling for business and professional purposes, and another 27% traveled for other reasons such as visiting friends and relatives (VFR), religious reasons and pilgrimages, health treatment, etc. The purpose of the visit for the remaining 7% of arrivals was not specified (UNWTO, 2017).

Figure 1 shows that tourists travel for which purpose around the world.
AN OVERVIEW OF HEALTH TOURISM
Mehmet YORULMAZ

Figure 1. Inbound Tourism by Purpose of Visit (2016), Source: UNWTO, 2017

According to Figure 1, the number of tourists who went to different countries for friends, relatives (VFR), and religious reasons health treatment amounted to 27% exceeding one-fourth of tourists all over the world.

The general process of health tourism activity in the world is as follows;

Table 5. Process Steps of Health Tourism

<table>
<thead>
<tr>
<th>Application</th>
<th>The patient, who wants to receive cross-border health care, applies to the intermediary institution in his/her country.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Record</td>
<td>The intermediary institution collects all medical records of the patient and categorizes them according to the formatting of the target country.</td>
</tr>
<tr>
<td>Medical Consultant</td>
<td>The patient file is evaluated in the name of medical advice by a physician of the intermediary institution.</td>
</tr>
<tr>
<td>Information</td>
<td>Including all costs, information is given about estimated cost, health facility, and the medical team that will perform the operation.</td>
</tr>
<tr>
<td>Consent form</td>
<td>After the written consent of the patient, a form of medical treatment travel is prepared for the patient. If necessary, a document is prepared for the visa.</td>
</tr>
<tr>
<td>Coordination</td>
<td>The patient's journey to the destination country is coordinated by the intermediary, including transportation.</td>
</tr>
<tr>
<td>Case Management</td>
<td>Journey information is given to the contact point (case coordinator) in the target country and control is transferred to the related person or institution.</td>
</tr>
<tr>
<td>Daily Control</td>
<td>The brokerage institution receives daily information about the patient's condition, and if necessary, informs the relatives.</td>
</tr>
<tr>
<td>Return Transfer</td>
<td>The intermediary institution checks the transfer of the patient by the case manager after treatment.</td>
</tr>
<tr>
<td>Reception</td>
<td>Welcoming of the patient's return to his/her country is ensured and is transported to his/her home.</td>
</tr>
<tr>
<td>Reporting</td>
<td>The process/treatment is reported to the insurance company and the family doctor of the patient.</td>
</tr>
<tr>
<td>Feedback</td>
<td>A feedback is received from the patient by phone/email/face-to-face interview.</td>
</tr>
</tbody>
</table>

In Table 5, for an international patient arriving to get health care from his/her country was given that a process from admission to a health care institution until came back to own country.

2.3. The Economy of Health Tourism

One of the economic activities growing fast in the world is tourism. Tourism incomes in the world were as 1042 billion dollars in the 2011 year, 1078 billion dollars in the 2012 year, and 1159 billion dollars in the 2013 year. When looking at these numbers, it can be clearly understood the effects of tourism on the world economy.

Although there are differences according to countries’ level of development, they allocate health expenditures in rates ranging from 2% to 16% of their GNP (SATURK, 2017). On the other hand, the growth of the GNP of countries affects health expenditures.

Figure 2. Annual Growth of Health Expenditure and GDP, in Real Terms, 2000-2017, Source: OECD Health Statistics, 2018

According to Figure 2, the recent increases in health spending are still below those seen pre-crisis years. Before 2009 average health expenditure rose by around 4% or 6% per year, outstripping economic growth, because of the price increase in the health sector, increased demand for service or policies to expand health care coverage. Health spending since 2012 has tended to follow economic growth much more nearly (OECD, 2018). Health spending was 9% of GDP on average in the OECD, ranging from 4.3% in Turkey to 17.2% in the United States. Increase in the health expenditures of countries, high costs, problems that arise from health systems, the fact that it is hard for the patient to reach service in his/her own country and waiting periods for treatment are long, development of mass communication tools, the increase of means of transportation between countries, change of individual demands and expectations in the socio-cultural structure that changes with globalization, lead the global health tourism market to grow at international grade (Çiçek and Avderen, 2013; Biçer et al. 2018).

An important detail that is intertwined with economic growth, improvement and development is the share of health expenditures in the GDP of countries. It is seen that health investments also increased as the share allocated from GDP to health expenditures increased (Uysal, 2019).
According to Figure 3, the highest spending country for health in 2017 was the US with 17.2% of its total GNP. The OECD average was 9%. Accordingly, the US spent three times more than the OECD average. Meanwhile, in Turkey that is under OECD average with a rate of 4.3% of total GNP has realized health spending. According to the US, it was seen that Turkey has about 7 times less spending on health.

In Turkey, health spending in 2017 was realized as 140 billion 647 million TL. Health expenditures reached 140 billion to $647 million with an increase at a rate of 17.4% in 2017. While the share in total health expenditure of current health expenditure was 94% in 2016, it was seen that falling to 93.1% in 2017 (TUİK, 2018).

3. The Importance of Accreditation in Health Tourism

The meaning of the accreditation is to assess whether a public or private institution meets certain pre-defined conditions. Accreditation in health care services is the degree of providing certain conditions pre-designed to improve the quality of service of an institution which provides health care. The important issue here is that the health institution or any institution is done on a voluntary basis (Dorse and Ostenberg, 2004, Roa and Rooney, 1999, Transferred by Akyurt, 2013).

The accreditation organization, which reviews the health institutions in the world and gives the accreditation certificate, is the Joint Commission Accreditation for Health Organization (JCAHO) that was centered in the USA. The accreditation superintendence conducted by the JCAHO until 1999 has been commenced by the International Joint Commission (JCI), which is a subsidiary of the JCAHO organization, since 1999. JCI was created to provide accreditation services outside the United States. The main purpose of JCI is to continuously improve the safety and quality of the health service provided to the community and to place the standards established in this field in
Health institutions. Nevertheless, JCI ensures the creation of continuous and permanent improvement programs for international communities and the determination of standards, according to national needs. In the 2017 year in the world, 993 organizations in 69 countries were accredited by JCI. In Turkey; a total of 48 health facilities, including 36 hospitals, 3 medical centers, 5 outpatient clinics, and 4 clinical laboratories, were certified by JCI (JCI, 2017: www.jointcommissioninternational.org, DoA: 2019).

Health tourism is ever-increasing importance of tourism in Turkey. The Ministry of Health has studied for the development of health tourism and increase the number of health tourists in Turkey. Strategies and general practices of countries within the health tourism are very important. However, the studies carried out by the hospitals that provide health services are among the main determinants of the success of health tourism. Communication activities play an important role in many subjects such as explaining health services, learning about needs and expectations, reaching to health tourists and measuring their satisfaction. Therefore, communication in health tourism efforts of both countries and hospitals operating in that country should be seen as a necessity beyond being optional. Within certain strategies and a wide range of using communication channels, tourists living in different countries should be able to reach and the quality of services provided should be communicated and transferred. By way of another explanation, traveling to a country for health, first of all, requires trust in the country, the hospital and the health care staff. The basis for building this trust lies in continuous, consistent and open communication. Health tourists seek detailed information before deciding on the destination country and hospital. In this context, developments in communication technologies have created important opportunities to reach and inform health tourists for hospitals (Öksüz and Altıntaş, 2017).

3.1. JCI (Joint Commission International)

The first accreditation body in the health sector was founded as “Joint Commission on Accreditation of Hospitals” with the participation of the American College of Surgeons, the American College of Physicians, the American Medical Association and the Canadian Medical Association in the United States (USA) in the 1951 year.

JCI is the approval and regular monitoring of an organization, certification and inspection institutions and laboratories by an independent and impartial body, in accordance with national and/or international criteria (standards) set by a third party. The accreditation organization, which reviews the health institutions and gives the accreditation certificate in the world, is the Joint Commission Accreditation for Health Organization (JCAHO) in the USA. The accreditation audits conducted by the JCAHO until 1999 have been commenced by the International Joint Commission (JCI), a subsidiary of the JCAHO organization, since 1999. JCI was created to provide accreditation services outside the US. Institutions are accredited in the fields of health, education, and management (Kömürçü et al., 2016).

3.1.2. Benefits of JCI

The benefits of the system declared by JCI are as follows (Kömürçü et al., 2016).

- Providing continuous improvement in organizations,
- Improving the quality of care for health institutions,
- Identifying risks related to facility and medical device management and, minimization and control of risks.
• Objectively measurement and monitoring of processes,
• Increasing social trust,
• Continuity of professional staff,
• Recognition by payment organizations,
• Providing continuous training,
• Providing services that exceed expectations on this subject that focus on issues related to patient safety,
• Increasing employee satisfaction,
• Ensuring the evaluation of the organization within itself,
• Following new applications,
• Providing a comparison between health institutions

3.2. Accreditation Studies in Turkey

Accreditation studies in Turkey, within the Article 8 (1) of Decree Law No. 663 that is the very familiar in the health care reform of the country, among the duties of the General Directorate of Health Services (SHGM), the Ministry of Health, the article on determining the quality and accreditation rules in health services is included. In our country, accreditation is carried out by the Department of Quality and Accreditation in Health under the SHGM. The Department of Quality and Accreditation in Health has prepared quality and accreditation standards for many application areas such as hospitals, oral and dental health centers, home health care, dialysis services (Department of Quality and Accreditation in Health, 2017). In Turkey, the first actor of the accreditation process in the health field is, which is an independent accreditation body, Turkish Health Care Quality and Accreditation Institute (TÜSKA). TÜSKA, which has internationally recognized standards, is the first national accreditation body that was established to carry out accreditation activities in health care, which has the auditor training program in the health field (Gökmen-Kavak, 2018). By the International Society for Quality in Health Care (ISQua) accreditation standard that was set for four different areas, is within TÜSKA. These standard sets consist of Health Accreditation Standards (SAS) Hospital, SAS Oral Dental Health Centers, SAS Dialysis Set and lastly the SAS Laboratory Set. In 2012, the Ministry of Health started to establish a national accreditation system. As a result of joint work with ISQua between 2012-2014, Accreditation Standards in Health, which is the first set of accreditation standards, has been prepared for the health system of Turkey (Gökmen-Kavak, 2018).

4. Results

The health tourism that rises trend in the world will be the most profitable area in terms of tourism in the future. Because of its position in this area as well as technological, cheap and quality manpower Turkey will take its place among the country that will shine in the world. In the Tenth Development Plan (2014-2018) that is one of the basic texts determining the goals in tourism field were stated that improvement of promotion and marketing in the sector, greater participation of the private sector in the financing of the promotion remained its importance. It is stated as the main purpose that growing into a global brand with qualified labor-force, facility and quality of service in tourism, diversification and improvement of tourism products and services to address the higher income group, increasing the quality of tourism services, and turning into a leading sector in regional development in the sustainability principle’s framework. Under the heading of policies within the plan, it was emphasized that the
infrastructure deficiencies related to congress, winter, cruise, golf, cultural tourism, and especially, health tourism will be completed, diversification of the market will be ensured, and development of alternative tourism types will be supported. It has been stated that within the scope of “Destination Management” where tourism types will be wholly handled that new projects will be implemented and that the developments in the market and the consumer profile will be constantly monitored, and that the external promotion actions will be enabled. Within the scope of the health tourism development program, Turkey that is in the rising market position in the world in the fields of medical tourism, thermal tourism, and in advanced age-disabled tourism the necessity of enhancing the competitiveness of raising the quality of service was mentioned (Evcin, 2017).

In a study conducted by Arsezen and Uğurlu (2017), it has revealed that Turkey was a favorable country in a strong position within health tourism clustering in the field of health tourism.

As a result; to get a share in health tourism, in Turkey is required that health institutions are to develop the quality of services provided and accredited. Physical and medical equipment should not differ from developed countries. Brand hospitals should be built and marketing techniques such as ‘Halal Certified Hospitals’ should be determined. If Turkey wants to attract patients for health tourism from Arab countries and the Turkish Republics should put on religion and culture common factors. To attract patients from Europe and other western countries, Turkey should provide a qualified professional team, pay attention to patient safety and hygiene rules, and provide quality and cheap health service; by providing visa and travel ease, follow policies to attract patients from all over the world. Besides, free health zones should be established by the state and investors should be supported and encouraged (Tengilimoğlu, 2013).

References


AN OVERVIEW OF HEALTH TOURISM
Mehmet YORULMAZ


ENSURING BRANDING IN RURAL TOURISM VIA MEDICAL AROMATIC HERBS AND AN EMPIRICAL STUDY

Bilge DOĞANLI

1. Introduction

The studies on mass tourism in tourism sector, which started to be organized in 1950s after its importance was realized late in Turkey, started in 1980s; and the studies related to sub-branches of tourism such as rural tourism have been able to start in the last decades. Many concepts today have intermingled and lost in themselves. Rural tourism, medical aromatic herbs, longing for nature, anti-aging, the wish to not getting old of the generation and the concept of branding are among the concepts which could be linked together and their economical output could be used for the benefit of the rural. Tourism has a position like a smokeless industry that can enable economies of the countries improve and combine many variables while providing of different natural, historical etc. experiences by displaying a lot of richness in the discovery of differences between counties and societies. World wanderers today have led their interest from the trilogy of sun-sand-sea to alternative options. When green tourism, longing to nature, nature sports, wishes and efforts to live healthily, efforts to slow down the aging process, tours to motivate diets on medical herbs are added to this, rural tourism has become more popular. People today venture paying a lot of money to always look younger and demand medicines that prevent, slow down and possibly rejuvenate from all over the world especially from USA. They spent millions of dollars every year on herbal, esthetical and surgical means to solve the problems resulting from aging such as solutions that reduce wrinkles, hair loss and obesity. Pursuits of natural and organic diet, anti aging, detox centers/cures, integrative medicine etc. are effective in all levels of the societies. As a result of all these demands, the trade volume of medical and aromatic herbs market is increasing day by day. According to the data from International Trade Center (ITC), it is estimated that medical and aromatic herbs market in the world in 2016 is approximately 167 billion dollars. The export of medical and aromatic herbs in Turkey increased from 2002 to 2015; it was 112 million dollars in 2002 and at the end of 2015 it went up to 280 million dollars.

Trying to settle rural tourism studies with medical and aromatic herbs by meeting changing and differentiating demands of people around the world in health care and tourism and creating powerful brand destination based on distinctness constitutes a big opportunity for rural inhabitants today. 275 surveys, whose feedback was provided smoothly, were completed in Aydin province via face to face survey technique in order to determine whether the idea of branding rural tourism by marketing it with medical herbs have a place in society. The questions related to whether individuals lead their rural tourism preferences in accordance with medical and aromatic herbs were asked.

2. Rural Tourism

Tourism which is away from sea and city center, hosts possibilities for urban people to perform hobbies and activities and where rural, natural and cultural areas are preserved in their authenticity is called “rural tourism”. The main purpose of this kind of tourism is to experience rural culture by staying in rural places such as villages.

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farms, summer range or a chalet (Soykan, 1999), to use what is natural, to be able to feel ecological life. In addition to comfort oriented travels, present day travelers fancy experiencing characteristics of the region they go to, and being like a part of that region as long as they are there. Ecological farms were founded in Turkey to meet these kinds of demands of travelers and this kind of tourism is called TaTuTa (abbreviation for Agriculture, Tourism, Barter in Turkish). Farms that offer services as a part of this sort of tourism which could be accepted as a subtitle of rural tourism can increase costumer satisfaction and their income as long as they provide pros of medical aromatic herbs to potential tourists. Another subject that is desired most by people today is always being young and not getting older. There are millions of people that invest in money and effort for this cause. It could be thought that natural atmosphere, ecosystem and medical aromatic herbs in rural area have a significant role to meet the wishes and demands of staying young.

Since rural tourism provides publicity of the region, economic development, increasing employment possibilities, preservation of ecological balance (since the development of rural tourism is going to be met by medical/aromatic herbs and natural sources, industrial pollution brought along for making money by modern era is going to be avoided), consciousness raising in the society, natural sources will gain importance, natural and scarce sources will be used in the most economic way. Cultural amalgamation will be provided by the tourists coming from different cultures. Since regular visits of foreign and domestic tourists will be ensured, continuous information and cash flow will also be ensured. This cash flow has importance in terms of the wealth of people in the region and economic development in the region will be sustained.

3. Medical and Aromatic Herbs in Turkey and in the World

It is known that the use of medical/aromatic herbs dates back to the beginning of the history of humanity. Some of these herbs are picked from nature, while some others are produced. A considerable part of herbs used for treatments are collected from nature. Treatment with herbs is used in many countries, especially in undeveloped countries in the world with different names such as traditional treatment, supplementary treatment, and natural treatment. The first records related to the treatment with herbs were encountered in Mesopotamian civilization 5000 B.C (Demirezer, 2010). Kumar (2009) stated that the word phytotherapy suggested to literature by Henri Leclerc (1870-1955) means treatment with medical herbs. In today's world, treatment with medical-aromatic herbs has become a developing science and economy through people who have pursued the way to obtain health via natural and traditional methods. These herbs called medical/aromatic herbs are plants that are used for the purpose of medications in traditional and modern medicine to prevent, heal illnesses and stay healthy. Medical and aromatic herbs are used in nourishment, cosmetics, body care, as tea and flavoring, as incense for religious ceremonies, as soap and perfume in daily life and in different branches in industry (Anonymous: 2005: Arslan et. al.:2015, Temel et al.: 2018:199). Some parts (root, rhizome, stem or woody parts, bark, leaf, flower, fruit, seed and herbal) of medical and aromatic herbs called drog that are prepared with dried and in specific portions are used (Anonymous, 2012). In Anatolia where folk medicine practices are employed frequently, traditional folk medicines are often used and these practices have reached present day as a result of long years of experiences. These herbs used colloquially are also called as medicinal herbs. These medicines are made of plants collected from nature. The herbs are also used in today's modern medicine studies as the basis of medicines (Faydaoğlu, Sürücüoğlu, 2011). Although treating illnesses with medical-aromatic herbs is frequently employed in Far-East societies, this type of treatments have also commonly been used in Western countries in recent years, because products with chemical content have a lot of negative side effects. Properties that are important for human health and destructive for microorganism of herbs have been subject researched in laboratories since 1926 (Faydaoğlu, Sürücüoğlu, 2011: 52).
It is predicted by World Health Organization that treatments with herbs is going to increase in the following years all over the world. World Health Organization (WHO) states that nearly 4 billion people in the world, which is equal to 80% of world population, try to eliminate health problems with herals in the first place. According to World Health Organization 25% of pharmaceutical medicines used today is produced from medical herbs. Also, according to FAO (Food and Agriculture Organization), 30% of medicines sold around the world consists of composed derived from herbal materials (FAO, 2005). Medical-aromatic herbs and products (most of them are collected from rural areas) are used in many fields and contribute to the economy of the region where they are produced in a significant level. Main trade centers for herbal drops in the world are China, Germany, USA, France, Italy, Japan, Spain, England and Hong Kong (Faydaoğlu and Sürücüoğlu, 2011). Turkey is in the 18th place among 110 countries that export medical herbs (Aydın et al., 2014).

Schippmann et al. (2006) stated that the number of types of flowery plants in the world is 422.000 and 52885 of them are medical and aromatic. According to data obtained from World Health Organization (WHO), nearly 20.000 herbs are used for medical purposes. The number of world-wide popular medical herbs is 4-6 thousand and the number of types that are traded is stated as 3 thousand. The maximum number of type of medical and aromatic herbs are in China with 4.941, and it is followed by India with 3.000, in USA with 2.546, in Vietnam with 1.800, in Malaysia with 1.200 and in Indonesia with 1.000. Japan is the country where herbal medicines used per person is at maximum (Anonymous, 2016). The use of herbs as treatments changes in accordance with the level of development of countries. The idea that these products are completely harmless and the interest of media in natural products are among the main reasons of increasing use (Mosihuzzaman, 2008). In some countries in Asia, Africa and Middle East, this rate goes up to 95%. This rate is lower in developed countries. It is 40-50% in Germany, 42% in USA, 48% I Australia and 49% in France. Germany, USA, Japan and England are leading countries as important trade centers in medical herbs (Titz, 2004).

Along with the increase in the consumption of medical and aromatic herbs in different fields and industrial branches has caused an increase in world trade volume of these herbs, as well and studies to increase the production of these speed up, and there has also been an increase in the rate of collecting them from nature (WHO, 2015). Increasing demand in medical herbal product is a national and an international trend. The approval of herbal products as products with little side effects and as safe and healthy when compared to synthetic medicines is also among the important factors that help market share to enlarge.

Although was not listed on the list of Schippmann et al., according to FAO (2015) the number of types of medical and aromatic herbs in Turkey is 500. There are approximately 300 herbs sold in herbalist, however, only 70 to 100 of them are exported (Başer, 1997). The export of medical and aromatic herbs in Turkey is performed with different Customs Tariff Statistics Position (CTSP) numbers and a lot of types of herbs are exported with the title others, unfortunately, their names and export costs are not known exactly. According to data for 2015 issued by Ministry of Food, Agriculture and Livestock, the production of medical and aromatic herbs via collecting from nature and/or as a part of organic farming in 46 provinces in Turkey was 5300 tons. The biggest share in products collected from nature is Bay Leaf (1026 tons), Thyme (1390 tons), Rose Hips (370 tons) and Sage (255 tons). Medical and aromatic herbs produced as a part of organic farming are Rose (722 tons), Poppy (509 tons), Cumin (2240 tons), Fennel (98 tons), Bee Balm (92 tons), and Thyme (78 tons). Apart from these products, herbs such as goji berry (4 tons), Thistle (2 tons), Chasteberry (9 tons), Camomile (5 tons), Lemon thyme (5 tons), French Lavender (2 tons) are collected from nature as a part of organic farming.
ENSURING BRANDING IN RURAL TOURISM VIA MEDICAL AROMATIC HERBS AND AN EMPIRICAL STUDY
Bilge DOĞANLI

Statistics Related to Medical Herbs and Tourism through Numbers and Tables

Table 1: The Number of Medical Herbs Used in the World by Countries (Piece)

<table>
<thead>
<tr>
<th>Countries</th>
<th>The Number of Medical Herbs</th>
<th>Countries</th>
<th>The Number of Medical Herbs</th>
<th>Countries</th>
<th>The Number of Medical Herbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>4941</td>
<td>Pakistan</td>
<td>1500</td>
<td>Philippines</td>
<td>850</td>
</tr>
<tr>
<td>India</td>
<td>3000</td>
<td>Malaysia</td>
<td>1200</td>
<td>Bulgaria</td>
<td>750</td>
</tr>
<tr>
<td>USA</td>
<td>2564</td>
<td>Korea</td>
<td>1000</td>
<td>Sri Lanka</td>
<td>550</td>
</tr>
<tr>
<td>Vietnam</td>
<td>1800</td>
<td>Nepal</td>
<td>900</td>
<td>Jordan</td>
<td>363</td>
</tr>
<tr>
<td>Tailan</td>
<td>1800</td>
<td>France</td>
<td>850</td>
<td>Hungary</td>
<td>270</td>
</tr>
<tr>
<td>Total</td>
<td>22388</td>
<td>Other</td>
<td>49612</td>
<td>World Total</td>
<td>72000</td>
</tr>
</tbody>
</table>

Source: Schippmann et al. 2006

Table 2: Distribution of Endemic Plants by Regions in Turkey

<table>
<thead>
<tr>
<th>Regions</th>
<th>The Number of Endemic Plants in Region</th>
<th>Regions</th>
<th>The Number of Endemic Plants in Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mediterranean</td>
<td>862</td>
<td>Marmara</td>
<td>102</td>
</tr>
<tr>
<td>Aegean</td>
<td>171</td>
<td>Central Anatolia</td>
<td>335</td>
</tr>
<tr>
<td>East Anatolia</td>
<td>471</td>
<td>East Anatolia</td>
<td>102</td>
</tr>
<tr>
<td>Black Sea</td>
<td>277</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: General Medical Herbs İşler, N.

Table 3: Medical Aromatic Herbs Data on World Export-Import

<table>
<thead>
<tr>
<th>Importing Country</th>
<th>Import</th>
<th>Exporting Country</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount (Ton)</td>
<td>Value (1000$)</td>
<td>Amount (Ton)</td>
</tr>
<tr>
<td>USA</td>
<td>374.343</td>
<td>1.472.995</td>
<td>CHINA</td>
</tr>
<tr>
<td>INDONESIA</td>
<td>507.585</td>
<td>726.987</td>
<td>INDIA</td>
</tr>
<tr>
<td>GERMANY</td>
<td>119.055</td>
<td>661.797</td>
<td>USA</td>
</tr>
<tr>
<td>JAPAN</td>
<td>186.137</td>
<td>624.734</td>
<td>SPAIN</td>
</tr>
<tr>
<td>FRANCE</td>
<td>64.074</td>
<td>567.480</td>
<td>GERMANY</td>
</tr>
<tr>
<td>ENGLAND</td>
<td>110.090</td>
<td>530.787</td>
<td>FRANCE</td>
</tr>
<tr>
<td>HOLLAND</td>
<td>137.569</td>
<td>419.520</td>
<td>HOLLAND</td>
</tr>
<tr>
<td>SINGAPUR</td>
<td>64.708</td>
<td>405.182</td>
<td>ARGENTINA</td>
</tr>
<tr>
<td>BRAZIL</td>
<td>181.279</td>
<td>366.079</td>
<td>IRAN</td>
</tr>
<tr>
<td>MALAYSIA</td>
<td>219.165</td>
<td>337.795</td>
<td>BRAZIL</td>
</tr>
<tr>
<td>TURKEY (39TH PLACE)</td>
<td>13.106</td>
<td>43.341</td>
<td>TURKEY (18TH PLACE)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1.977.111</td>
<td>6.156.697</td>
<td>TOTAL</td>
</tr>
<tr>
<td>OTHER</td>
<td>2.349.431</td>
<td>5.610.443</td>
<td>OTHER</td>
</tr>
<tr>
<td>World Total</td>
<td>4.326.542</td>
<td>11.767.140</td>
<td>World Total</td>
</tr>
</tbody>
</table>

Source: FAO 2014
Table 4: The Share of Turkey from the World Tourist Number and Tourism Incomes

Source: Turofed Tourism Report, 2018

Table 5: Number of Domestic Travelers Who Resides in Turkey, the Number of Overnight Stays and Expenses, 2014-2017

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of Travel (Thousands)</th>
<th>Number of Overnights (Thousands)</th>
<th>Average number of Overnight</th>
<th>Travel Expenditures (Thousands TL)</th>
<th>Average Expenditures (TL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>70 894</td>
<td>575 871</td>
<td>8.1</td>
<td>22 601 201</td>
<td>319</td>
</tr>
<tr>
<td>2015</td>
<td>71 251</td>
<td>588 786</td>
<td>8.3</td>
<td>2440 9560</td>
<td>343</td>
</tr>
<tr>
<td>2016</td>
<td>68 450</td>
<td>605 608</td>
<td>8.8</td>
<td>28 033 083</td>
<td>410</td>
</tr>
<tr>
<td>2017</td>
<td>49 147</td>
<td>572 658</td>
<td>9.0</td>
<td>29 757 387</td>
<td>605</td>
</tr>
</tbody>
</table>

Source: TSI Research of Households Domestic Tourism
## Table 6: Tourism Income- Expense and the Number of Average Overnight Stays, 2001-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Tourism Income (000 $)</th>
<th>Number of departing visitors</th>
<th>Average expenses per capita ($)</th>
<th>Number of overnight stays</th>
<th>Tourism Income (000 $)</th>
<th>Number of foreign visitors resident abroad</th>
<th>Average expenses per capita ($)</th>
<th>Number of overnight stays</th>
<th>Tourism Income (000 $)</th>
<th>Number of citizen visitors resident abroad</th>
<th>Average expenses per capita ($)</th>
<th>Number of overnight stays</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>10450 728</td>
<td>13450 127</td>
<td>777</td>
<td>-</td>
<td>7386 246</td>
<td>11276 531</td>
<td>655</td>
<td>-</td>
<td>2680 909</td>
<td>2173 596</td>
<td>1 233</td>
<td>-</td>
</tr>
<tr>
<td>2002</td>
<td>12420 519</td>
<td>15214 514</td>
<td>816</td>
<td>-</td>
<td>9235 506</td>
<td>12921 982</td>
<td>715</td>
<td>-</td>
<td>2891 248</td>
<td>2292 532</td>
<td>1 261</td>
<td>-</td>
</tr>
<tr>
<td>2003</td>
<td>13854 868</td>
<td>16302 053</td>
<td>850</td>
<td>11,1</td>
<td>10141 116</td>
<td>13701 419</td>
<td>740</td>
<td>8,5</td>
<td>3600 411</td>
<td>2600 634</td>
<td>1 384</td>
<td>23,8</td>
</tr>
<tr>
<td>2004</td>
<td>17076 609</td>
<td>20262 640</td>
<td>843</td>
<td>10,7</td>
<td>13061 118</td>
<td>17202 996</td>
<td>759</td>
<td>8,2</td>
<td>3862 552</td>
<td>3059 644</td>
<td>1 262</td>
<td>24,1</td>
</tr>
<tr>
<td>2005</td>
<td>20322 111</td>
<td>24124 501</td>
<td>842</td>
<td>10,4</td>
<td>15725 813</td>
<td>20522 621</td>
<td>766</td>
<td>7,9</td>
<td>4374 383</td>
<td>3601 880</td>
<td>1 214</td>
<td>23,9</td>
</tr>
<tr>
<td>2006</td>
<td>18593 950</td>
<td>23148 669</td>
<td>803</td>
<td>12,0</td>
<td>13918 757</td>
<td>19275 948</td>
<td>722</td>
<td>9,4</td>
<td>4463 614</td>
<td>3872 721</td>
<td>1 153</td>
<td>24,4</td>
</tr>
<tr>
<td>2007</td>
<td>20942 501</td>
<td>27214 988</td>
<td>770</td>
<td>11,3</td>
<td>15936 347</td>
<td>23017 081</td>
<td>692</td>
<td>8,8</td>
<td>4703 850</td>
<td>4197 907</td>
<td>1 121</td>
<td>24,1</td>
</tr>
<tr>
<td>2008</td>
<td>25415 067</td>
<td>30979 979</td>
<td>820</td>
<td>11,0</td>
<td>19612 296</td>
<td>26431 124</td>
<td>742</td>
<td>8,8</td>
<td>5418 439</td>
<td>4548 855</td>
<td>1 191</td>
<td>22,7</td>
</tr>
<tr>
<td>2009</td>
<td>25064 481</td>
<td>32006 149</td>
<td>783</td>
<td>11,2</td>
<td>19063 702</td>
<td>27347 977</td>
<td>697</td>
<td>8,9</td>
<td>5690 629</td>
<td>4658 172</td>
<td>1 222</td>
<td>23,9</td>
</tr>
<tr>
<td>2010</td>
<td>24930 996</td>
<td>33027 943</td>
<td>755</td>
<td>10,8</td>
<td>19110 003</td>
<td>28510 852</td>
<td>670</td>
<td>8,7</td>
<td>5558 366</td>
<td>4517 091</td>
<td>1 231</td>
<td>22,9</td>
</tr>
<tr>
<td>2011</td>
<td>28115 694</td>
<td>36151 328</td>
<td>778</td>
<td>11,0</td>
<td>22222 454</td>
<td>31324 528</td>
<td>709</td>
<td>9,1</td>
<td>5638 484</td>
<td>4826 800</td>
<td>1 168</td>
<td>22,4</td>
</tr>
<tr>
<td>2012</td>
<td>29007 003</td>
<td>36463 921</td>
<td>795</td>
<td>10,8</td>
<td>22410 365</td>
<td>31342 464</td>
<td>715</td>
<td>9,0</td>
<td>6354 379</td>
<td>5121 457</td>
<td>1 241</td>
<td>21,4</td>
</tr>
<tr>
<td>2013</td>
<td>32308 991</td>
<td>39226 226</td>
<td>824</td>
<td>10,2</td>
<td>25322 291</td>
<td>33827 474</td>
<td>749</td>
<td>8,6</td>
<td>6760 180</td>
<td>5398 752</td>
<td>1 252</td>
<td>19,7</td>
</tr>
<tr>
<td>2014</td>
<td>34305 904</td>
<td>41415 070</td>
<td>828</td>
<td>10,0</td>
<td>27778 026</td>
<td>35850 286</td>
<td>775</td>
<td>8,6</td>
<td>6289 260</td>
<td>5564 784</td>
<td>1 130</td>
<td>18,5</td>
</tr>
<tr>
<td>2015</td>
<td>31464 777</td>
<td>41617 530</td>
<td>756</td>
<td>10,1</td>
<td>25438 923</td>
<td>35592 160</td>
<td>715</td>
<td>8,7</td>
<td>5843 074</td>
<td>6025 370</td>
<td>970</td>
<td>17,5</td>
</tr>
</tbody>
</table>

Source: TurkStat Departing Visitors and Arriving Citizens Surveys
Table 7: The Number of Travels and Overnight Stay Expenses of Domestic Travelers Who Resides in Turkey, 2009-2015

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of trips (Thousand)</th>
<th>Number of overnights (Thousand)</th>
<th>Average number of overnights</th>
<th>Expenditures of trips (Thousand TL)</th>
<th>Average expenditures of trips (TL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>60 888</td>
<td>510 961</td>
<td>8.4</td>
<td>12 216 339</td>
<td>201</td>
</tr>
<tr>
<td>2010</td>
<td>68 373</td>
<td>555 145</td>
<td>8.1</td>
<td>13 843 504</td>
<td>202</td>
</tr>
<tr>
<td>2011</td>
<td>65 854</td>
<td>558 270</td>
<td>8.5</td>
<td>15 641 262</td>
<td>238</td>
</tr>
<tr>
<td>2012</td>
<td>64 922</td>
<td>556 803</td>
<td>8.6</td>
<td>16 725 035</td>
<td>258</td>
</tr>
<tr>
<td>2013</td>
<td>68 452</td>
<td>557 459</td>
<td>8.1</td>
<td>18 416 817</td>
<td>269</td>
</tr>
<tr>
<td>2014</td>
<td>70 894</td>
<td>575 871</td>
<td>8.1</td>
<td>22 601 201</td>
<td>319</td>
</tr>
<tr>
<td>2015</td>
<td>71 251</td>
<td>588 786</td>
<td>8.3</td>
<td>24 409 560</td>
<td>343</td>
</tr>
</tbody>
</table>

Source: TurkStat Household Domestic Tourism Survey

4. Brand

Branding and being a powerful brand is to be preferred to competitors by probable costumers by getting differed from competitors and having a product perception with a higher value (Ailawadi, Keller, 2004: 334). The consumer who chooses the same brand thinks that he/she gains reputation/prestige by using that product (Vigneron, Johnson, 1999; Rio vd. 2001: 412). The brand constitutes a reason for a product or a service to be preferred to its competitors. If the differences that a brand has are associated with non-materialistic properties, it will become more valuable for brand customer and company. Brand is more effective creating a loyal customer mass than the name of the company or the properties of the product. Branded products are easily recognized and bought by potential buyers. Since the brands present continuous warranty of quality, reduce existing risks in the eyes of costumers and shopping processes that result in purchase are experienced. If these processes resulting in purchase turn into satisfaction after the use, costumers who become brand loyal will be created through repeated purchases. A brand loyal mass is the highest expectation wished by a brand to have, because brands that have brand loyal costumers will have regular cash flow, will not have difficulty in deciding new investments and concern for future.

5. Brand Image of Destinations and Rural Tourism

The image of a destination is of a great importance when tourists are visiting the area (Lubbe, 1998, 21). Hence historical values, gastronomy, the seaside, antique habitats, green texture, physical activities (for instance rafting, ski, water sports) or rural tourism opportunities are of a big influence. The idea which determines the activity program of a tourist may be influenced by the brand image of visited area (Tapachai and Waryszak, 2000: 37). Once the destination acquires new opportunities and follows the current trends in terms of rural tourism (as in health and anti-aging aiding medicinal-aromatic plant fields etc), it will have a positive impact on the brand image. For the local community it is of a crucial importance to reintegrate rural areas to tourism as branded destinations since these are the promising quality. In order to be a branded rural area one has to be the one selected compared to its peers and also be the rural area that invigorates its economy. Nowadays changes in transport and informatics are forcing people from different places all over the world to visit destinations that arouse interest. And these destinations in
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return are promising unique experiences by putting forward its history and culture, natural atmosphere or natural diversities. It is the gastronomy, diversity, architecture, ecological atmosphere etc that will then enable to establish a brand. Furthermore it is important to note that the existence of a brand history will have an impact on the tourists purchases, visits and activities taken during their stay. Some cities have been able to brand themselves as the capitols of for instance the city of romance which is Paris, New York the city that never sleeps, Tokyo for its technology, Rio the capitol of carnivals, the magnificence of Dubai and Prag the capitol of history. For rural areas to become a branded destination it might be difficult to accomplish this in a country that is still in progress since they might not own a history belonging to the brand. But if the countryfield can highlight its traits that its peers does not have, for instance the healing ability of medicinal-aromatic plants growing in that area, this will improve the economy and establish a certain brand loyalty of customers which also contributes to this effect. It may not be a realistic approach to brand a country as a whole. Instead, it may be more achievable to bring the distinctive features of those destinations into the forefront, thus brand a single product and turn the area into a centre of attraction. Changes ongoing in the world tourism market (destination counts more than the country it is located in) have enabled rural areas to become a brand: for instance Şirince, Cumalıkızık, Beypazarı, Sığacık etc.

6. Aim and Cope of Research

This study aims to define if the idea of creating a brand image of rural tourism by commercializing medicinal-aromatic plants exists in the province of Aydin. 275 operated trouble-free questionnaires were taken using the face-to-face interview method. The questions asked were based on the idea if the individuals would prefer herbal products in terms of rural tourism.

7. Materials and Methods

Literature research was taken as a conceptual framework for this study followed by data collection, analysis and application. The preparation of the questionnaire was based on “An Applied Approach to the Notions of Branding through Herbal Products and Herbal Medicine Production in Achieving Rural Development” (Doğanli, 2016). Face-to-face interview method was used to collect data. First question was on demographic information of each participant. Afterwards their choice of rural tourism, possible preference on usage of medicinal-aromatic plants and branding preferences were questioned. The Likert Scale which is widely used for quantitative data was utilized and data collected was analyzed by SPSS statistics programme.

8. Results and Discussion

In the first part of the questionnaire, frequencies and percentages are given to determine the demographics of respondents. Exploratory factor analysis (EFA) was applied to determine whether the scale was valid or not. Furthermore Kaiser-Meyer-Olkin (KMO) sample suitability and Bartlett’s Test of Sphericity were performed to determine whether the data set was suitable for factor analysis. Principal Component method was determined by Varimax rotation. As a result, the Cronbach Alpha coefficient was determined for the internal consistency of all the items. Table 8 provides information on the demographic characteristics of the respondents.

Table 8 shows that 50.9% of the respondents were female, 49.1% were male, the ratio of high school and university was 92.36, the mean age with 32% was between 32-40, the residence in the province 35.27%. It was observed
that the income variable was condensed with 3 options in the 2001-5000 range and 79.27% in total, with teacher-academician and merchant-trades options and a total concentration of 37.46%. Herbalists and bazaars are on top of herbal medicine supply routes with 84.73%. Usage Areas of Medicinal-Aromatic Plants primarily consist of weight and staying young 45.09%. 97.5% of participants said yes to implementation / supplying of Medicinal-Aromatic Plants in Rural Area if there was a Chance. All participants stated that they used herbal products at least once throughout their lifetime.

The most important influence promoting herbal product usage was printed-visual media with 40% followed by usage due to herbalist’s recommendations with 17.45%. Rural area with 98.18% was the first thing to strike the mind when mentioning herbal medicine. 93.1% of participants did not have knowledge about the regions which are branded with medicinal-aromatic plants. The respondents said yes to wanting to go to a rural area for tourism purposes with a rate of 71.64%.

Table 8: Demographic and Behavioral Findings of Participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>%</th>
<th>Age</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>140</td>
<td>50.9</td>
<td>17 AND BELOW</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>Female</td>
<td>135</td>
<td>49.1</td>
<td>18- 25</td>
<td>39</td>
<td>14.18</td>
</tr>
<tr>
<td>Monthly Income</td>
<td></td>
<td></td>
<td>26-31</td>
<td>46</td>
<td>16.73</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pri. -Sec. School</td>
<td>9</td>
<td>3.27</td>
<td>32-40</td>
<td>88</td>
<td>32</td>
</tr>
<tr>
<td>High School</td>
<td>66</td>
<td>24</td>
<td>41-50</td>
<td>34</td>
<td>12.36</td>
</tr>
<tr>
<td>University</td>
<td>188</td>
<td>68.36</td>
<td>51-60</td>
<td>48</td>
<td>17.45</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>12</td>
<td>4.37</td>
<td>61 and above</td>
<td>17</td>
<td>6.18</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Habitation</td>
<td></td>
<td></td>
<td>1-minimum wage</td>
<td>3</td>
<td>1.1</td>
</tr>
<tr>
<td>City Center</td>
<td>97</td>
<td>35.27</td>
<td>Minimum wage +1-2000</td>
<td>17</td>
<td>6.18</td>
</tr>
<tr>
<td>County Town</td>
<td>88</td>
<td>32</td>
<td>2001-3000</td>
<td>82</td>
<td>29.82</td>
</tr>
<tr>
<td>Precinct</td>
<td>73</td>
<td>26.55</td>
<td>3001-4000</td>
<td>75</td>
<td>27.27</td>
</tr>
<tr>
<td>Village</td>
<td>17</td>
<td>6.18</td>
<td>4001-5000</td>
<td>61</td>
<td>22.18</td>
</tr>
<tr>
<td>Profession</td>
<td></td>
<td></td>
<td>5001 and above</td>
<td>37</td>
<td>13.45</td>
</tr>
<tr>
<td>Dr.- Engineer -Lawyer</td>
<td>37</td>
<td>13.45</td>
<td>Usage Areas of Medicinal-Aromatic Plants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merchant - Craftsmen</td>
<td>46</td>
<td>16.73</td>
<td>Cosmetics</td>
<td>55</td>
<td>20</td>
</tr>
<tr>
<td>Academician</td>
<td>57</td>
<td>20.73</td>
<td>Staying Young/Vigorous</td>
<td>61</td>
<td>22.18</td>
</tr>
<tr>
<td>Civil servant</td>
<td>41</td>
<td>14.91</td>
<td>Weight</td>
<td>63</td>
<td>22.91</td>
</tr>
<tr>
<td>Employee</td>
<td>18</td>
<td>6.55</td>
<td>Oncologic</td>
<td>42</td>
<td>15.27</td>
</tr>
<tr>
<td>Housewife</td>
<td>21</td>
<td>7.63</td>
<td>Viscera</td>
<td>16</td>
<td>5.82</td>
</tr>
<tr>
<td>Student</td>
<td>28</td>
<td>10.18</td>
<td>Asthma, Bronchitis</td>
<td>38</td>
<td>13.82</td>
</tr>
<tr>
<td>Retiree</td>
<td>27</td>
<td>9.82</td>
<td>Implementation / Supplying of Medicinal-Aromatic Plants in Rural Area if there was a Chance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ways of providing herbal medicine</td>
<td>Yes</td>
<td>268</td>
<td>Implementation / Supplying of Medicinal-Aromatic Plants in Rural Area if there was a Chance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herbalist</td>
<td>142</td>
<td>51.63</td>
<td>No</td>
<td>7</td>
<td>2.5</td>
</tr>
</tbody>
</table>
ENSURING BRANDING IN RURAL TOURISM VIA MEDICAL AROMATIC HERBS AND AN EMPIRICAL STUDY

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<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>%</th>
<th>Age</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy</td>
<td>39</td>
<td>14.18</td>
<td>Have You Ever Used A Medicinal-Aromatic Herbal Medicine?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market</td>
<td>3</td>
<td>1.1</td>
<td>Yes</td>
<td>500</td>
<td>100</td>
</tr>
<tr>
<td>Bazaar</td>
<td>91</td>
<td>33.09</td>
<td>Place Strinking the mind when it comes to Herbal Medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotes the Use of Medicinal-Aromatic Plants</td>
<td>Rural Area</td>
<td>270</td>
<td>98.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Doctor - Pharmacy</td>
<td>28</td>
<td>10.18</td>
<td>City</td>
<td>5</td>
<td>1.82</td>
</tr>
<tr>
<td>Herbalist</td>
<td>48</td>
<td>17.45</td>
<td>To have knowledge about branded regions with medicinal-aromatic plants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Media</td>
<td>21</td>
<td>7.64</td>
<td>Yes</td>
<td>19</td>
<td>6.9</td>
</tr>
<tr>
<td>Internet</td>
<td>37</td>
<td>13.46</td>
<td>No</td>
<td>256</td>
<td>93.1</td>
</tr>
<tr>
<td>Printed – visual Media</td>
<td>110</td>
<td>40</td>
<td>Asking to go for tourism purposes in a rural area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends – Family</td>
<td>19</td>
<td>6.91</td>
<td>Yes</td>
<td>197</td>
<td>71.64</td>
</tr>
<tr>
<td>Own Preferences</td>
<td>12</td>
<td>4.36</td>
<td>No</td>
<td>78</td>
<td>28.36</td>
</tr>
</tbody>
</table>

In order to test whether factor analysis can be applied to rural tourism and medicinal-aromatic plant options, Kaiser - Meyer - Olkin (KMO) value and Bartlett Test Chi - square value were used. Table 9 shows the KMO and Bartlett Test results.

Table 9. Kaiser - Meyer - Olkin (KMO) and Bartlett Test Results

<table>
<thead>
<tr>
<th></th>
<th>Rural Tourism</th>
<th>Medicinal-Aromatic Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin (KMO)</td>
<td>0.786</td>
<td>0.769</td>
</tr>
<tr>
<td>Bartlett Test Chi-Square Value</td>
<td>1725.5</td>
<td>1008.25</td>
</tr>
<tr>
<td>S.d</td>
<td>221</td>
<td>52</td>
</tr>
<tr>
<td>P value</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

According to the results of the analysis it could be said that the sample size is enough, since KMO values are above 0.70 in both scales. Also Bartlett Test Chi Square Value presents an amount of 1725.5 and 1008.25 for rural tourism and medicinal-aromatic plants, respectively. As both scales' P values are 0.000 it shows significance at a 0.01 significance level. These results prove the data to be appropriate for factor analysis. After this step, exploratory factor analysis was applied to the data. Table 10 and Table 11 present the analysis results.
Table 10. Rural Tourism Preference Factor Analysis Results

<table>
<thead>
<tr>
<th>Factor Name</th>
<th>Question Phrase</th>
<th>Factor Load</th>
<th>Factor Explanatoriness (%)</th>
<th>Reliability (Cronbach’s Alpha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouraging</td>
<td>Having a green tourism is important in terms of preventing damages to the environment.</td>
<td>0.872</td>
<td>25.682</td>
<td>0.842</td>
</tr>
<tr>
<td></td>
<td>It has a structure that is sensitive to green tissue and encourages reproduction</td>
<td>0.847</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Due to its working principles, it is far from chemicals.</td>
<td>0.816</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Has a nature-promoting structure.</td>
<td>0.798</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It has a structure that promotes healthy nutrition.</td>
<td>0.763</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It has a structure that encourages sports.</td>
<td>0.739</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makes Understand</td>
<td>Feeling that you are in nature is important to think that you are free.</td>
<td>0.821</td>
<td>19.913</td>
<td>0.813</td>
</tr>
<tr>
<td></td>
<td>Important to be purified from technology</td>
<td>0.755</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Important role in helping people show empathy towards bygone life</td>
<td>0.736</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Important in order to make oneself feel healthy</td>
<td>0.719</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Important in order to find opportunities for physical exercise</td>
<td>0.701</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acting as a shield against the negatives</td>
<td>It is important in terms of developing an alternative to nutrition with prepared food products.</td>
<td>0.862</td>
<td>14.124</td>
<td>0.791</td>
</tr>
<tr>
<td></td>
<td>It is important in terms of enabling detox for healthy living</td>
<td>0.834</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It is important because it provides brain detoxing for healthy life</td>
<td>0.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Revitalization of social relations, sincerity etc is important in terms of allowing emotions to be experienced</td>
<td>0.721</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It is important to think that unhealthy life should not be allowed after this experience</td>
<td>0.708</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reiability Coefficient (Cronbach’s Alpha)</td>
<td></td>
<td></td>
<td></td>
<td>0.780</td>
</tr>
<tr>
<td>Amount of explaining total variance</td>
<td></td>
<td></td>
<td></td>
<td>%59.719</td>
</tr>
</tbody>
</table>

As a result of the factor analysis carried out, the rural tourism scale showed a three-factor structure, consisting of encouraging, making understand and acting as a shield against negativity, explained in 6, 5, 5 clauses, respectively. These three factors explain 59.719% of the total variance. The reliability coefficient of the scale is 78%. According to these results, no factors have to be eliminated.

In Table 11, The scale of medicinal-aromatic plants revealed a two-factor structure as a result of the factor analysis test. Health factor was explained in 6 clauses whereas aging/staying young was explained in 4. These factors explain
65.337\% of the total variance. The reliability coefficient of the scale was 73.6\%. After the factor and reliability analyzes of the questions in the questionnaire, correlation and regression analyzes were performed to determine the relationship between rural tourism and medicinal-aromatic plants and to determine the direction and the rate of impact.

<table>
<thead>
<tr>
<th>Factor Name</th>
<th>Question Phrase</th>
<th>Factor Load</th>
<th>Factor Explanatoriness (%)</th>
<th>Reliability (Cronbach's Alpha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>The properties of plants that are good for diseases are encouraging.</td>
<td>0.862</td>
<td>41.716</td>
<td>0.905</td>
</tr>
<tr>
<td></td>
<td>It is encouraging that plant contain no artificial chemicals</td>
<td>0.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feedbacks of used and healed people is encouraging</td>
<td>0.823</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aromatic plants’ fragrances encourage their use</td>
<td>0.782</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Possibility to collect from nature encourages its use</td>
<td>0.764</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aging/Staying Young</td>
<td>Promotes the idea of rejuvenation without the need for aesthetic interventions</td>
<td>0.828</td>
<td>23.621</td>
<td>0.769</td>
</tr>
<tr>
<td></td>
<td>Being cheap is encouraging the use.</td>
<td>0.806</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encourages to use without any pain, discomfort or complication under supervision.</td>
<td>0.781</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Usage is encouraged by positive feelings</td>
<td>0.763</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability Coefficient (Cronbach's Alpha)</td>
<td></td>
<td></td>
<td></td>
<td>0.736</td>
</tr>
<tr>
<td>Amount of explaining total variance</td>
<td></td>
<td></td>
<td></td>
<td>%65.337</td>
</tr>
</tbody>
</table>

Correlation analysis results are given in Table 12.

<table>
<thead>
<tr>
<th>Rural Tourism Preference</th>
<th>Medicinal-Aromatic Plant Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>0.721</td>
</tr>
<tr>
<td>P value</td>
<td>0.000</td>
</tr>
<tr>
<td>N (Sample number)</td>
<td>275</td>
</tr>
</tbody>
</table>

Pearson Correlation coefficient was used because of the normal distribution of the data obtained as a result of the survey and a moderate positive correlation was found between the rural tourism preference and the use of medicinal-aromatic plants. P value of 0.000 indicates that this result is significant at the significance level of 0.01. Results on Regression Analysis can be found in Table 13.
According to the results of the analysis in Table 13, Rural Tourism and Medical-Aromatic Plants are in a positive and strong (0.837) relationship. This relationship is statistically significant because $T = 7.005$ is $P = 0.000$. In other words, this result indicates that one unit increase in rural tourism will increase the utilization power of medicinal-aromatic plants positively by 0.837 percent. (Medical-Aromatic Plants = 0.582 + 0.837 * Rural Tourism)

### 9. Conclusion and Suggestions

Should the regions that produce medicinal-aromatic plants only provide income through the sale of this product or they should transform their products into profit by evaluating them with the alternative of rural tourism. Today, developed countries are no longer raw material producers but have become semi-finished or finished product producers. These countries take the plant raw material from developing countries in the specification they want and prefer to produce clean products, pure substances or herbal medicines with high added value. While Japan is importing medicinal plants from $2 a unit of imported value, it exports medical plant products at an average value of $40. Similarly, while the US unit import value is USD $1.8, the unit for exporting herbal drugs is 17.7 dollars (ziraial.com, 2018). It is seen that the earnings of these countries are 10 to 20 times higher than that of the products’ originating countries. Obtained results indicate that Turkey, unfortunately, as a country is still just in the position of an exporter of raw medicinal plants. When it is taken to account that catching up with technology will take time, it can be suggested that medicinal-aromatic plant producer Turkey could increase its economical incomes from another point of view hence hundreds of years of agricultural past. Last but not least, the experience and information collected during the past years, manpower resources and the fact that their people are naturally hospitable altogether create a groundwork for becoming a brand. The request in staying young and healthy nowadays is tremendously increased, so these medicinal plants existing in the rural countryside will meet the expectations of customers, thus increasing rate of repeated sales and sales in general. Furthermore these people will spread the word and possibly do positive feedback in social media or printed/visual media which will then also attract new customers. Turkey, despite thousands of years of rich natural habitat and vegetation is still an export country of unprocessed plant. A very valuable portion of the medicinal-aromatic plant is collected from its natural environment and exported to very small material provisions. As a result of the problems occurring in the flora, some species are in danger of decreasing. Necessary precautions should be taken in order to ensure that the plants in danger of extinction will live again (Karik and Öztürk, 2009) and, as in Japan and USA samples, when they have sufficient production size, they should be able to export to the economy by marketing them to the position they are exporting or by tourism. As in the case of Japan and the USA, they should be able to export to the economy by marketing them to the position they are exporting, not by raw, or by tourism.

The aim in rural tourism should always be to enable branding of that rural destination. The twist here is to capture its possibilities, exclusiveness, strength, positive and diversity creating potential and sell it to the tourists. Medicinal-aromatic plants and longing for natural life are positive and different perceptions of rural areas. But is it possible
to bring rural areas to tourism by means of medicinal and aromatic plants? Will the medicinal-aromatic plants be differentiated and create a brand image by visiting the rural areas in the eyes of the citizens? Which factors will differentiate and step forward in terms of branding? In order to find answers to these questions, a survey study was conducted with 275 people who have completed the questionnaire process in Aydın province. As a result of this study, the results can be summarized as the feeling of positive emotions that rural tourism and medicinal-aromatic plants bring with them: health, non-aging / staying young, being away from negative emotions and thoughts, being encouraging (environmentalism, green tourism, chemical use consciousness, natural life, healthy eating and physical exercise), being reminded of being free and being purified from technology. Is it even possible for rural cities to become a significant brand destination when it already is difficult for cities to brand as a destination while they have all the possibilities of technology, manpower and equipment?

Another result of the study shows that the new trends of the world are returning more to the natural side, using the nature, feeling it, living it, staying young and never looking old. The new generation of the aging world, which has been refusing to age, has been trying all ways of retarding aging in order to prolong these experiences. As a solution to the problem, they prefer to resort to nature and use medicinal-aromatic plants. It has been observed that they may prefer medicinal-aromatic plants within the option of rural tourism with the effects they feel like freedom and natural life. Interestingly all participants in the survey have used herbal products in at least one period of their lives but they do not seem to have information neither about the places where the products were collected nor the accommodation facilities in these settlements.

It can be said that the problem here is not about the consumers but the lack of awareness raising activities of rural areas where the product is produced. First of all, the awareness of being a partner in the habitats of rural residents should be improved in community dwellers’ minds. Furthermore it is necessary to construct rural areas without disturbing the natural life and natural landscape. So, vegetable products will be attractive to tourists not in concrete buildings, but in an atmosphere where green, nature and organic life can be marketed as a whole tourism package. Turkey, in order to use the advantages of being a country with a rich flora, more efficiently, it can convert rural areas to rural destinations. In this natural concept, it can market its medicinal-aromatic plants and carry out studies for branding of the region. To put it all in a nutshell, if the trade of medicinal-aromatic plants, whose annual yield is expressed in billions of dollars for a country that sells, can be combined with the tourism option as well as the export option, there will be a significant development both, in the development of the rural areas and the increase of the country’s earnings.

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ENSURING BRANDING IN RURAL TOURISM VIA MEDICAL AROMATIC HERBS AND AN EMPIRICAL STUDY

Bilge DOĞANLI


ziraialet.com/haber/2018/01/02/tibbi-aromatik-bitkilerin-pazarlamasi.html).
1. Introduction

Just as health is directly linked with many scientific fields in concept and application, it is directly included or inspire in many social and technical subjects. Except for medical sciences, subjects such as economics, sociology, law, statistics, communication, political science, and human rights support and affect health applications and management in different dimensions. Likewise, technology with its different forms, as an indispensable stakeholder of the subject, facilitates the delivery of health services (Çinal, 2010). A number of patient and organizational structure-oriented quality systems have been built up to reduce patient care environment at the optimal level, to provide improved quality and continuity of patient safety, as well as to assess the performance of health institutions through these systems (General Directorate of Health Services, 2016). In this context, in order to measure and assess the performances of institutions, the national quality standards have been developed. Applying of the standards has been made obligatory all over the country. These standards, which consist of five dimensions, formed by the Ministry of Health and are called quality standards in health. The most important one that of these dimensions and the subject to be explained here is the dimension of “Safety of Patient and Employee”. Patient and employee, which provide and receive the health service are two important parts having importance in the delivery of health service. In this study, the dimension of health security will be told. Patient safety is defined as preventing the faults depending on health service and reducing patient damages that these faults caused. Patient safety has been the leading subject that societies have given importance since the first ages and, in every period, various applications have been made and actions have been taken. As much as patient safety is a medical problem, it emerges as an economical problem (Ovalı, 2010).

In the study of this book, describing the features of health services, quality concept, quality standards in health, clinical quality, patient safety, and malpractice, in the delivery of health services, the effect of quality standards on patient safety will be mentioned.

2. Conceptual Frame

2.1. Health Concept and Health Services

Health is evaluated as one of the main needs (Çelik, 2006). Health, according to the definition taking place in the foundation law of World Health Organization, “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (Hayran, 2013). Health also has a social dimension. This dimension engenders the results that people will be affected by the negativities occurring in society due to the fact that he/she is a social being. Health care is a need to develop the health status of society. The health service is a very specific area forming a sub-branch of the service sector. When service sector is mentioned, what comes to
mind is a sector, where there is no financial asset of the economy; economic goods are consumed at the moment when the consumers and industries are produced; and economic activities made contribute to gross national product and employment (Tekin et al., 2003). The generally accepted definition of health services in the literature is: “With aimed to be able to raise, develop, and sustain the health status of the society and individuals are all of the healing work made for protecting the health and therapeutic and rehabilitating diseases”. If health services are classified, it can be possible to collect this under four main headings as Preventive Health Care, Therapeutic Health Care, Rehabilitating Health Care, and Developing Health Care. In this classification, a large part of the resources reserved for health are allocated to therapeutic health care services. Therapeutic health care services are “the services delivered to enable the people whose health status worse to recover their old statuses.” Therapeutic services are realized under the responsibility of physicians and with the contributions of other professionals. The most fundamental difference in therapeutic health services compared to the other health services is them to be presented completely directed to the person (Tengilimoğlu, et al. 2017). Health services, in the most form of them, can be defined in the form of “all studies carried out to protect the health and treat diseases” (Fişek, 1983:1, Transferred by Ateş, 2013).

Health services are divided into three levels in terms of the scope of service these are:

• Primary Care Health Services
• Secondary Care Health Services
• Tertiary Care Health Services

Primary care health services include preventive health services rather than therapeutic health services. Primary care health services form the first contact point of the society with the health system. Primary care health services are generally presented by the unspecialized medical staff of the society, while secondary care health services include treatment –aimed to present by specialized medical staff. They are more comprehensive services compared to primary care health services. In tertiary care health services, the aim to treat is dominant. These services include the services delivered by regional hospitals and education and research hospitals. Specific branch hospitals and education and research hospitals can be given as an example of these sorts of hospitals (Kavuncubaşı and Yıldırım, 2010).

2.2. Concept of Quality

Although there are different definitions in the literature, quality is defined as “perfection”, “excellence degree” in the dictionaries. According to Turkish Standards Institute, its definition is “all or sum of features of a product or service based on the ability to meet the needs that are specified and may occur”. According to Goetsch and Davis (2010), quality is a dynamic state, related to the people, processes, and environment, which helps to produce the products, services, and dominant value that meet or come over the expectations. Quality concept continuously develops in time. For staying and surviving in business life, production and service industries have been making an effort for finding better ways of meeting customer expectations for long years (Kaya, 2013).

In spite of this, it is wrong to say that there is a single definition of the word. Quality definitions mostly taking place in the literature are the definitions belonging to Deming and Juran. Deming said that “quality is continuously improving and that this case reaches maximum value thanks to motivation of employee.” Juran defines quality is
the form of being consumer-oriented and degree of goods and services to meet the desires and expectations. Gross defined this concept as minimization of the faults in output (Transferred by Aygar and Önsüz, 2017).

Feigenbaum defined quality that is “The total composite product and service characteristics of engineering, manufacturing, marketing and maintenance through which the product and service in use meet the expectation of the customers” (Mishra and Sandilya, 2009).

The words used to describe quality in health care, and the thinking behind them, vary between countries and over time. This variation reflects a shift in health care policy such as that from hospitals to networks and primary care – and in perceptions of what constitutes quality in health care. The focus is moving from institutional regulation to integrated health system development: that is, from static control to dynamic improvement (WHO, 2003).

2.3. Development of Quality Thinking

Two main concepts in quality management system are “quality” and “thought”. If these two concepts are blended with each other, the targets aimed can be effectively reached. The expected value in this relationship is to meet the desires and expectations of stakeholders in the best way (Conti, 2018). The emergence of a new age does not mean that the applications and principles in the previous periods died. The main examples of craftsmanship and quality security also keep their validity today. By 1900s, we see that the art age, when the personal skills are dominant and production is mostly made by muscle force. At this age, the studies of quality evaluations were carried out, but any set of standards was not formed. Between the years of 1900-1950, industrialization accelerated, amount of production increased, management science developed, and quality control studies began. Between the years of 1930-1930, the studies of statistical quality started. When reached the years of 19-1950, Total Quality Management, European quality awards, and excellence awards stood out. We are in the attempt age, which began in the 1990s and which is also continuing in the present days. The characteristic of this age is that contemporary management techniques such as work processes, simple management systems, artificial intelligence, and Six Sigma (Knowles, 2011).

2.4. Historical Development of Quality Management Systems

Leaders who give directions to quality are (Warren, 2014):

- W.A. Shewhart (1891–1967),
- W.E. Deming (1900–1993),
- J.M. Juran (1904–2008),
- T. Ohno (1912–1990),
- K. Ishikawa (1915–1989),
- A.V. Feigenbaum (1922–) and

Shewart directed to the development of the Six Sigma approach within quality in the mid-1980s. Deming named the Plan-Do-Study-Act (PDSA) cycle, which can be engaged into Shewhart. Juran who has notable contributions to the quality movement described the Juran Trilogy. This trilogy is in relation to three processes. These are quality
planning, quality improvement, and quality control. Ohno set up a standardized process in which products are manufactured through a regular system within anytime, conclusively producing less waste, greater efficiency, and higher output. Ishikawa developed for Japan publicity the concept of the total quality control (TQC) at all levels of an organization. Feigenbaum redefined the total quality control that was developed by Ishikawa. Crosby defined four absolutes of quality management (Warren, 2014).

2.5. Quality in Healthcare

Health is inherently scientific branch not accepting fault. A fault to be made during the delivery of health service can lead patients to become permanently disabled and even them to die. All works and processes that are directly related to human life must be under control and made with zero error.

When international applications are examined, it is seen that similar tools are used for high-quality delivery of health service. But countries use idiosyncratic methods according to their own priorities (Güler, 2018).

Health services, which are not personal, are the sort of service that cannot be delayed and ignored. The first studies directed to developing quality started through the standards developed for quality and supervision of health care in the USA in 1913 and, in the 1990s, it is known that total quality approach was adopted, which first began in production industries. The fact that each application made in health service become the most accurate at first and in a lump is important for protecting human and society health (Aygar and Öksüz, 2017).

For carrying health to a better position, quality standards were formed. Standards are strict criteria containing the generally accepted clinical guidance information and definitions related to health phenomenon determined (General Directorate of Health Services, 2018).

2.6. Clinical Quality

The most important instruments for the following of quality are quality indicators. Quality indicators in health are the tools that ensure to be expressed in numbers of the results determining the quality of the services provided. Just as indicators can be followed at the country level, they are also followed at the international level or allows for international comparisons. The study of OECD HCQI taking place among the leading examples of international studies aims at measuring and comparing health quality delivered in different countries. So, in the scope of this project, a mechanism encouraging reciprocal learning is formed (Turkish Ministry of Health, 2017). Clinical quality can be defined as a system concretely measuring the outcomes and outputs of health services delivered.

For being able to measure the outputs in health, indicators were determined. In the scope of 2016-2017 HCQI, there are 9 indicators. These are (Turkish Ministry of Health, 2017);

- Primary Care Health Services (Preventable Hospital Admission)
- Primary Care (Receipting)
- Acute Care
- Mental Health Services
- Patient Safety
• Patient Experience of Care
• Cancer Care
• Care Against Contagious Disease
• Dementia Health Services

Turkish Ministry of Health measures health outputs through 9 health indicators. Measurement is an indispensable instrument for management.

3. Patient Safety

In the 21st century, the main issues in the health systems can be summarized as patient safety, an effective health system, patient-centered health service, timely and efficient health care and the equal distribution of health care in all service areas. Patient safety is defined as the prevention or elimination of patient damage caused by health service-related errors and prevention of health-related errors. Patient safety is related to the quality of care, but not both. Security is an important subgroup of quality. According to another definition, patient safety is an attempt to prevent the harm and errors that may cause damage to patients, relatives and healthcare workers because of simple errors that can be observed during the presentation of health services (Ovalı, 2010).

In order to prevent damage to the individuals during the serving up of health services, all the measures taken by the health institutions and the employees in these institutions are defined as patient safety (Ardahan and Alp, 2015: 85, Transferred by Özkan, 2017). Since effective and accomplished patient safety applications, patients should also be actively involved in this process (Özkan, 2017). According to another definition, patient safety is to make designs that will prevent simple errors in the processes from occurring in a way that will be able to harm the patient and the health employee. It is that determine by taking precautions before errors occur and to create a positive environment that will physically and psychologically affect the health employee, patient, and patient relatives in the process. In this context, the first and most fundamental principle of medicine is the principle of non-harm (Kurutkan and Bulun, 2012).

A safety measurement system in point of patient safety should have at least the following three components (OECD, 2018);

1. Reporting of Adverse Events: When an undesired event occurs, this situation should be reported to the appropriate units. This reporting system is called the Security Reporting System within the Turkish Health System.
2. Routine Collection of Data: To be able to recognize problems in the system beforehand, a risk assessment should be done.
3. Notifications of Patients: Patients look at things differently than we look at. This situation is an unmissable opportunity for the institution. Patient notifications are important in the process of being a learning organization.

3.1. Malpractice

Physicians diagnose, treat, or perform surgical interventions. These processes may include rapid movement and high-risk applications, and sometimes undesirable and distressing results may occur. The World Medical Association defines as malpractice “the physician's failure to perform the current standard during treatment, lack of skill, or
damage caused by the physician not giving treatment to the patient.” The increase in the expectations of the patients receiving services from the health service industry, the results of the studies conducted on patient safety and patient rights and the effects of the media, and the punishments and compensation cases connected to the errors of the practitioner has increased and news about this matter is in the media. Risk management is a form of management that starts with placing the patient safety culture and which can harm the security and safety of the environment, which can damage the patients, the visitors, and the employees, and identify the risks in possible situations that may cause fiscal damage to the business in judicial terms (Gökmen ve Güleç, 2010). The report, published in 2000 by the American Medical Institute, announced that approximately 100,000 people die each year. For Turkey, this number is estimated to be around 35,000 annually (www.iom.edu.tr, Transferred by Bulun, 2012).

Malpractices are much more frequent than predicted. For example; the risk of being injured due to malpractice within the health institution is 1: 300 while the person who boarded the plane is at 1: 1,000,000 risk of being killed in a plane crash. In the UK, the annual cost of hospital infections was calculated to be about £ 1 billion. By comparison, the risk of dying a bungee jumping person is 1: 100, 1: 300 of mountaineers, 1:20,000 of driving. The risk of death of a person traveling on European railways is 1: 10,000,000 (Nul et al., 2003, Transferred by Ovalı, 2010).

The end of the damage that will be given to the patient in medical applications is undoubtedly the death of the person. In Turkey, as well as all over the world has also seen patient deaths due to medical applications with incorrect or bad for several reasons. According to statistical results in the US, deaths due to medical errors are in third place after the heart attack and cancer-related deaths. There is no statistical information about the patients who died from inaccurate or defective medical practice in Turkey (Kök, 2016; www.medimagazin.com.tr).

3.2. Unexpected (Sentinel) Case

Unexpected (Sentinel) cases are often used to describe undesirable and unexpected events that happen to the patient and their relatives. The vast majority of these events are considered in the context of malpractice. But the medical error is not limited to them and there are also different varieties. There are no unexpected case lists identified by JCI (Joint Commission International). However, the list below that shows some unexpected events can be given as an example (Bulun, 2012):

<table>
<thead>
<tr>
<th>Table 1. Some Unexpected Events Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrong Side Surgery</td>
</tr>
<tr>
<td>Attack</td>
</tr>
<tr>
<td>Late Treatment</td>
</tr>
<tr>
<td>Medical Device-Sourced Death</td>
</tr>
<tr>
<td>Maternal Mortality</td>
</tr>
<tr>
<td>Patient Abduction</td>
</tr>
</tbody>
</table>

For example Table 1, an involuntary foreign object can be forgotten by the health care specialists in the surgical section of the patient after a tiring and intensive operation.

Figure 1 below shows the OECD average and averages compared to some countries.
According to Figure 1, the OECD average for each 100,000 surgical procedure is 5.3. The highest rate was 12.3 in Switzerland and the lowest rate was in Poland. The forgetting of foreign objects in the surgery area is a serious error that can cause significant results.

4. Conclusion

According to the Act of the World Health Organization, utilization of the highest accessible health standard is one of the basic rights of every person. This signifies a variety of obligations to states that have to implement the right to health care, as taking the precautions that aimed to ensure overall access, to avoid from systematic unfairness in services, and to realize of pre-requisites for health (including environmental procedures). To recognize that health is a prerequisite for all other fundamental rights and freedoms; it emphasizes the obligation and responsibility that the states undertake in matters of providing access and quality in health services and healthy living conditions for individuals based on the needs of individuals (Turkish Ministry of Health, 2008).

The method of presentation of health services is a process that is of great importance in terms of patient safety. Health employees do not have the right to make mistakes in the presentation of health services. Every mistake you make, either may cripple the patient you offer health care or die. In this respect, some rules have been developed into the provision of health services, besides health services are requested to be presented under these rules. These standards are called the Quality Standards in Health. Quality standards in health may be appropriate for a country’s health system or universal. But, the patient and employee safety cannot be definitely ignored. Quality standards in a country’s smallest unit of health care must be the same on a macro basis. Health is a vital need for everyone to be presented according to the same criteria. In this context, the fact that health services have the same quality as the content has revealed the concept of Clinical Quality. The quality of work currently applied with clinical quality in Turkey; efficiency and effectiveness of the health care delivery process is to make more predominantly a process-based assessment with the standards set forth on the patient and employee safety issues. The clinical quality
program aims to establish a system that concretely measures the results and outcomes of the health service provided. In this way, both systems will form a supportive and complementary structure (https://klinikkalite.saglik.gov.tr).

As a result, quality and patient safety are very important concepts related to each other. Especially, patient safety is very important for healthcare system. Patient safety objectives published by JCI in 2011 are as follows (jointcommissioninternational.org; Sur, et al., 2013);

- Identification of accurate patient,
- Improving of efficiency communication,
- Improving the safety of high-risk drugs,
- Development of true patient, true side and true procedure (true patient care),
- Reduce the risk of infection to healthcare,
- Reduce patient falls and damage

These goals are very important for patient care quality. Patient safety and quality gained importance after 1990 in the world. Patient safety only depends on quality standards in health. As a result, the standards should be applied in hospitals for patient safety.

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IMPORTANCE OF THE TRANSFER PRICING IN MULTINATIONAL ENTERPRISES

Seçkin ARSLAN

1. Introduction

As of today, many countries are making arrangements to attract foreign investments in order to achieve successive economic policies. Due to such regulations, both national and international competition has increased. The ability to invest in different countries has led to an increase in the number of multinational enterprises as well as the growth of these enterprises. It is stated that multinational enterprises have approximately 60% of the world’s trade volume and about 50% of the trade volume is realized with related parties or institutions. In these circumstances in which excessive competition occurs; It has been determined that multinational enterprises gain an advantage by incurring less tax by transfer pricing in order to maintain their competitive power and to succeed in cost management for gaining higher profits (Kaymaz et al., 2008: 42). Upon considering the position of multinational enterprises in global markets; research studies, analyses and regulations pertaining to the issue have been conducted in many countries. Because the distribution of disguised revenue through transfer pricing in order to increase the profitability of multinational enterprises also threatens the national tax systems of countries.

2. The Concept of Transfer Pricing

Transfer pricing involves the price settings regarding goods and services at which affiliated segments or divisions of an enterprise transacting with each other. In other words, transfer pricing stands for the price at which the relevant company makes business transactions with its related parties in terms of tangible and intangible goods or services, leasings and borrowings (Levey and Wrappe, 2006: 1). In short, transfer pricing is described as a price-setting practice performed on business transactions regarding the purchase/sale of goods and services which take place between an enterprise and its direct or indirect sub-branches or profit-sharing affiliates (Kaymaz et al., 2008: 42). Transfer pricing, considering commercial and economic conditions, is perceived as a concept that reveals the basic principles of determining the price of the goods or services between related parties (Gelir İdaresi Başkanlığı (Revenue Administration), 2010).

3. Historical Development of Transfer Pricing

Upon examining the conducted research studies on transfer pricing, it would be stated that transfer pricing was first coined at the beginning of the 1900s. In his seminal work entitled “The Principles of Political Economy” published in 1901, Harry Sidgwick stated that two sub-branches of an enterprise with vertically-integrated structures might have utilized their own products throughout production process as long as the market price for those products were admissible. In this study, it was stated what the transfer price would have been that time (Güney and Bozkurt, 2011: 151).

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Moreover, it was disputable in the 1920s for Du Pont and between 1921-1925 for General Motors that the first item, material, and semi-finished products to be used in production were accounted whether at market price or at their own costs. In 1956, the first research study on transfer pricing was published by the National Society of Accountants in the United States (Ece, 2016: 100). Legal measures for transfer pricing in the United States were taken in 1963. The UK Tax Administration and the US, Internal Revenue Administration, developed various methods and practices in 1970 to prevent enterprises from paying lower taxes through transfer pricing. In the guidelines published by the OECD between the years 1979-1984, important legal arrangements were made regarding transfer pricing (Türk, 2008: 105-114, Doğan and Çürük, 2003: 30).

The expression of “disguised revenue distribution” in the Corporate Tax Law enacted in 1949 in the Turkish Tax System can be considered as the first provisions on transfer pricing. However, in the Article 13 of the Corporate Tax Law No. 5520 published in the Official Gazette dated 06.21.2006, the term “Disguised Revenue Distribution” via Transfer Pricing Transfer was directly involved in the term “transfer pricing” to be applied as of July 01, 2007. On July 2015, the World Customs Organization issued a guideline based on transfer pricing and customs value relationship for authorized persons who are responsible for customs inspections. The main purpose of the publication of this guideline is to demonstrate how the valuation of the customs value of the goods imported from the group companies would be made. Thus, in order to determine the customs base most accurately, the relation between the customs value and the generally accepted transfer pricing can be established (Denge YMM, 2015/14: 1). Efforts have been made by multinational enterprises (MNEs), OECD and G20 countries regarding the Action Plan on Base Erosion and Profit Shifting in order to guide the tax management. As a result of these efforts, the final arrangements related to OECD Transfer Pricing Guidelines were announced on October 5, 2015, and many new regulations are being made by many countries ever since (Ece, 2016: 100-101).

4. Transfer Pricing Applications in Some Countries

Transfer pricing is an issue that is meticulously considered by tax authorities. Because, in addition to the transfer of funds from one country to another, it also affects the amount of tax that businesses would pay. In many countries, regulations on transfer pricing have restrained multinational enterprises from avoiding taxes. The United States of America (USA) is one of the leading countries which attach importance to transfer pricing followed by the United Kingdom, France, Canada, and Japan. Korea, Australia, and Italy are expressed as countries that exhibit less interest in transfer pricing, whereas Ireland and Puerto Rico are not committed to this issue despite their attractiveness to foreign investors having lower tax rates (Doğan, 2004: 74). In another study, India (47%) and the UK (41%) were seen as the leading countries in which transfer pricing was mostly applicable (South and Bozkurt, 2011: 158). At this part of the study, some regulations some regulations regarding this issue in the international field are reviewed.

i. The United States of America (USA): In 1954, the US was the first country to make regulations on transfer pricing. Nevertheless, the origins of transfer pricing are based on regulations which dated back to 1928. These arrangements made by the USA have also constituted examples for OECD regulations. Transfer pricing has great importance in the US tax system. The rising number of multinational enterprises operating in the USA increased the importance of transfer pricing. Until 1962, no special method was envisaged for the transactions between the affiliated enterprises. In 1962, application of the arm’s length principle in uncontrolled transactions was included in the agenda, and the arm’s length principle with transfer pricing practices became legitimate as of 1968. The purpose of the regulation under the subject is to comprehend the revenue arising from these transactions by
controlling the transactions made between the taxpayers and the related companies and to minimize the tax loss accordingly (Kapusuzoglu-a, 1999: 57). In the US, three methods are used to determine the transfer price. These methods include the Comparable Uncontrolled Price Method, Resale Price Method and the Cost Plus Method (Kurt and Ünlü, 2005: 72). In addition to these methods, in 1992, three new methods were used to determine the cost of intangibles, namely, the Matching Transaction Method, the Comparable Adjustable Transactions Method and the Comparable Profit Interval Method (www.vergidanismani.com). In a conducted study, due to transfer pricing policies of enterprises, it was determined that the US incurred 30 billion USD worth of tax loss between 1983-1986 (Doğan, 2004: 74). As a result of this situation, the USA has taken very serious measures on taxes. Punitive sanctions for transfer pricing in the United States were determined by the regulations made in 1990 (Kapusuzoglu-b, 1999: 104).

- If the price subject to the transfer is found to be 200% or more or 50% or less than the arm’s length price; the transaction penalty is imposed at 20% of any misstatement of tax.

- If the price subject to the transfer is found to be 400% or more than the arm’s length price; the transaction penalty is imposed at 40% of any misstatement of tax.

- No penalty is imposed for any misstatements of tax below $ 10,000.

After the necessary amendments are made; if the adjustments in taxable income are more than $ 5 million or more than 10% of the total invoices, a penalty at 20% of the misstatement of tax is imposed. If the adjustment in taxable income is in excess of 20 million USD or more than 20% of total invoices, a 40% penalty is imposed (Doğan and Çürük, 2002: 58). With these criminal arrangements, taxpayers are intended to be more careful about certification of the compliance with the arm’s length principle.

ii. India: The first regulation on transfer pricing was performed in India as of 1961 through the Indian Income Tax Law. Within the scope of the related regulation; the arm’s length principle should be taken as the essential basis in domestic transactions with the related parties and international transactions (sale/purchase or rental of tangible and intangible fixed assets; services or cost-sharing contracts; lending or borrowing; profit, income, loss from the transactions with the related parties) (www.india-briefing.com). In this case, the following are required for two enterprises to be affiliated:

- A particular enterprise to have voting right, directly or indirectly, at a rate of 26% or more;

- Determination of the price or conditions of sale of a large portion of the raw materials or final products purchased or produced in the enterprise,

- Another enterprise’s warranty of at least 10% of the total debts of the enterprise,

- Appointment of at least 50% of the board of directors by a specific entity,

- Finding dependence on the various intellectual property rights (copyright, license, patent, brand, know-how, etc.) owned by both enterprises,

- A mutual interest relationship between the two enterprises (www.pwc.com).
In a conducted study, it was stated that a 1% decrease in the corporate tax rate of multinational enterprises in their own countries would increase the transfer prices reported in the transactions with related enterprises by 0.248% - 0.389% (Gupta, 2012: 29).

iii. Canada: In Canada, the basis of the transfer pricing legislation constitutes the relevant part of the Income Tax Law in 1979. Since Canada is among the OECD countries, transfer pricing regulations are consistent with the OECD guidelines. Effective taxation of multinational enterprises in Canada is an important issue. In Canada, revenues from businesses in different states or countries are not consolidated. Therefore, the enterprises may shift their revenue from countries and states that apply higher tax rates toward countries and states that apply lower tax rates. In the arrangements made regarding transfer pricing, the arm’s length principle constitutes the basis of the regulation. In Canada, if the related form or document is issued late, 25 Canadian Dollars is charged per day, and 12,000 Canadian Dollars is applied if no such form or document is issued at all. Also, a penalty is imposed at 10% of the adjustment amount arising as a result of the conducted examination (Çelebi and Mastar Özcan, 2017: 287).

iv. The Republic of China: The first regulation on transfer pricing began in the Republic of China in the 1980s. Initially, national and international enterprise distinctions were made in the taxation of operating profits and international enterprises benefited from many provisions related to tax incentives. During that period, many companies shifted their profits through transfer pricing and decreased their tax liability in China (Çelebi and Mastar Özcan, 2017: 284-287). Although the People’s Republic of China is not a member of the OECD, the relevant authority has implemented many rules and regulations on transfer pricing, following the recommendations of the OECD. Regulations on transfer pricing were made in the Income Tax Law as of 1991. According to these regulations; within the context of related parties, if the price has been determined contrary to the arm’s length principle and tax loss has occurred, the tax administration would have had the right to make the necessary amendments.

In the previous arrangements, the transfer pricing application, which covers only transactions with foreign related parties, has been expanded to include all national and international related parties with the amendments made. In the most recent regulation, the importance of the arm’s length principle has been specified and the definition of related parties has been included. In this context; enterprises are considered as the related parties if they have the authority to control, directly or indirectly, in a partnership regarding purchase, sale, and financing (Markham and Liao, 2014: 718). In a conducted study, 1055 enterprises were examined in the Republic of China over the period from 2006 to 2011 regarding transfer pricing. Upon considering the data from the year 2012, it is stated that the tax base correction of 26.2 billion Yuan has been made as a result of performed auditing. Nonetheless, except for the nonissuance of the forms promptly regarding the transactions with the related parties, there are no special penalties imposed on transfer pricing. If there is a deficiency in the form or documents, interest rate may be applied as a punitive sanction and the interest rate to be charged may be 5 points higher than the credit interest rate (www.taxjustice.net; Çelebi and Mastar Özcan, 2017: 287).

v. Germany: The German tax legislation did not include detailed regulations on transfer pricing until the 1980s. Transfer pricing practices in Germany have been shaped by administrative proceedings and judicial decisions for many years. Since 1983, transfer pricing has been included in the German tax legislation, even though the legal regulations have been put into force as of June 30, 2003. In accordance with the German Corporate Tax Law, it was determined that disguised revenues would not be taken into account as a factor that would reduce corporate earnings in determining corporate income. Such a provision reveals that the distributed disguised revenue in the calculation of corporate tax cannot be deducted from the corporate income. In Germany, it is stated that the
comparable price method, as one of the traditional methods, is relatively more applicable in the context of transfer pricing. It is stated that the comparable price should be determined in cases where the determination of the arm's length price is difficult, whereas in cases where the comparable price is difficult to determine, the transfer price can be determined by taking the average of the base and ceiling prices. According to the German Tax Procedure Law, if the documents related to transfer pricing are not submitted to the relevant authorities within 60 days or the documents are insufficient, it is stated that an additional assessment at 5% - 10% of the appraised amount (at least 5,000 Euros) plus a penalty of 100 Euros can be imposed (Ağar, 2011: 46-51, Köse and Ferhatoğlu, 2008: 119).

vi. Japan: The first arrangement regarding transfer pricing was made as of April 01, 1986 in Japan. Within the framework of the regulation regarding the issue; all transactions of an enterprise, being a corporate income taxpayer, in relation with the related parties in a foreign country should be carried out in a manner consistent with the arm's length price. Between the years 2002 and 2012, it is stated that the estimated tax base for approximately 1250 enterprises has been estimated to be 120 billion Yen per annum in order to determine the missing tax base arising from the transfer pricing in Japan (Çelebi and Mastar Özcan, 2017: 279).

5. Regulation Regarding Transfer Pricing in Turkey

Transfer pricing is a multidimensional concept that includes not only taxation but also accounting, finance, business management, law, and economy. The concept known as ‘disguised revenue’ in the former Corporate Tax Law No. 5422 enacted in 1949 is later replaced by the phrase ‘Disguised Revenue Distribution via Transfer Pricing’ in the Corporate Tax Code No. 5520 as of July 01, 2007 in Turkey. The transfer pricing regulation sets out the basic principles of how purchases/sales of goods and services should be determined by considering economic and commercial conditions. Disguised revenue distribution refers to the transfer of corporate income toward outside the corporation without taxation. Within this framework; “disguised revenue distribution via transfer pricing’ results in the price of the goods or services in the purchase or sale of the goods or services between the related parties, eroding the tax base and transferring the corporate income to the shareholders or other related parties without taxation (Revenue Administration, 2010: 1-23). The main purpose of the regulations regarding transfer pricing is to prevent the erosion of the tax base by ensuring accurate declaration of the revenues of enterprises which purchase or sell goods or services from/to the related parties.

5.1. Taxpayers Covered by Transfer Pricing Application

All real person and corporate taxpayers with full and limited liability located in Turkey are within the scope of transfer pricing practices. Pricing of goods or services used in the realization of domestic and international activities carried out with the related parties is considered within the scope of disguised revenue distribution through transfer pricing. The revenues obtained from the price or prices determined by the institutions and the owners of the enterprises in contravention of the arm's length principle are deemed to be distributed as disguised in whole or in part through transfer pricing. The requirements of disguised revenue distribution through transfer pricing are as follows:

- Purchase or sale transactions of a good or service should be realized by a person/institution,
- Those transactions must be involved with the related parties,
- Those transactions must be detected to made at a price that is contrary to the arm's length principle.
If the price at which the transactions are made is in compliance with the arm’s length principle, the disguised revenue distribution via transfer pricing would not be considered. The term “institution” includes capital companies, cooperations, public economic organizations, associations or foundations and their economic enterprises and joint ventures, whereas the term “enterprise” refers to real persons and ordinary partnerships subject to income tax in terms of commercial and agricultural revenues and limited partners of scrip companies (General Communiqué on Disguised Revenue Distribution via Transfer Pricing, 2007: 2).

5.2. Transactions in the Context of Transfer Pricing

The transactions within the scope of regulations pertaining to transfer pricing procedures in Turkey can be classified as follows:

- Purchase Transactions,
- Sale Transactions,
- Manufacturing and Construction Transactions,
- Renting or Leasing Transactions,
- Loaning and Borrowing Transactions,
- Transactions that involve Sale and Licensing of Intangible Assets/Rights,
- Other Transactions that Require Payments such as Gratuity, Wage, etc. (General Communiqué on Disguised Revenue Distribution via Transfer Pricing, 2007: 2).

5.3. The Related Parties

The related parties associated with a person or institution is a very broad concept that refers to individuals and institutions and partnerships including partners, real persons or institutions in which the partners are involved, real persons and institutions directly or indirectly affiliated with respect to the audit or capital, real persons or institutions that can be exercised in terms of audit or capital (Corporate Tax Law No. 5520, Item13 / 2).

In addition, whether the tax system in the country where the income is obtained in terms of corporate tax and income taxpayers can provide taxation at the same level as the taxation in the Turkish tax system, all transactions made with the persons in the countries or regions to be announced by the Council of Ministers are also made with related parties. (Kara and Can, 2017: 30). Nonetheless, regardless of the existence of any partnership relationship between them, an institution abroad as well as an institution acts as a distributor in Turkey are considered as the related parties. However, if there is only a dealership relationship between a real person/institution and another real person/institution within the scope of the usual trade activity, such real person or institutions should not be considered as the related person in terms of the goods and services regarding the dealership (GİB, 2010: 4).

5.4. The Arm’s Length Principle

The arm’s length principle implies that the price at which the purchase or sale of goods or services is realized with the related parties should be appropriate for the price to be determined in the absence of such relationship between the parties. The arm’s length price is also known as the market price determined under the conditions at which
the transaction is realized. Such a price reflects the most appropriate figure determined objectively without any impact at the time of the transaction and the price applied to the transactions with the related parties should be in accordance with that figure. In order to achieve the arm’s length price, the internal comparables are considered as the basis for comparison. If the price used in this way is not available or cannot be determined reliably, the external comparables are considered as the basis. The aim here is to determine the most appropriate and reliable arm’s length price (General Communiqué on Disguised Revenue Distribution via Transfer Pricing, 2007: 4).

i. Internal Comparables: They refer to the price at which the transactions are realized between the taxpayers and the unrelated parties.

ii. External Comparables: They refer to the price at which the transactions are realized among the unrelated parties.

The comparability analysis refers to the comparability of the transactions under control and uncontrolled transactions. The controlled transaction in this statement covers the transaction between the interrelated parties; whereas uncontrolled transactions include the transactions between the parties which do not have any relationship with each other. The main purpose of comparability analysis is to determine the arm’s length price. The conditions of transactions between the conditions of purchase or sale of goods or services between the related parties and the similar conditions of the transactions between parties who are not related to each other would be determined as a result of comparability analysis. In the comparability analysis conducted within this framework; the characteristics of the goods or services being compared, the analysis of functions, the structure of the market where the transactions take place (such as the market volume) and the economic conditions in the market and the business strategies of the institutions would be taken into consideration. Accordingly, the items that should be taken into consideration upon a comparison of the controlled and uncontrolled transactions are stated as follows (General Communiqué on Disguised Revenue Distribution via Transfer Pricing, 2007: 4/1):

- Properties of Goods or Services,
- Function Analysis on Assets,
- Economic Conditions,
- Business Strategies

However, in the comparison of the first two items between the related and unrelated parties, the conditions of the contract (such as the scope and duration of the warranty, duration of transportation, credit terms) should also be taken into account.

5.5. Methods to be Used for Detection of the Arm’s Length Price

In the transactions made by the taxpayers with the related parties; the most appropriate one of the following methods is selected and to determine the arm’s length price. Traditional Process Methods are comprised of the Comparable Uncontrolled Price Method, the Cost Plus Method, and the Resale Price Method (General Communiqué on Disguised Revenue Distribution via Transfer Pricing, 2007: 5).

i. Comparable Uncontrolled Price Method: The arm’s length price is determined on the basis of the market price applied by the related parties or institutions with unrelated parties/institutions.
ii. **Cost Plus Method:** In this method, which is also called as gross profit share method, the arm’s length price is calculated by adding a reasonable gross profit rate to the cost of the related goods or services. The appropriate gross profit rate would be the gross profit rate applied by the taxpayer in the transactions made with the unrelated parties regarding such goods or services. The gross profit rates are calculated as follows:

The Cost Plus Method compares gross profits to the cost of sales. Under the Cost Plus Method, the first step is to determine the costs incurred by the supplier in a controlled transaction for products transferred to an associated purchaser.

\[
\frac{\text{Sales} - \text{Cost}}{\text{Cost}} = \text{Gross Profits Rate}
\]

iii. **Resale Price Method:** An arm’s length price is calculated by deducting an appropriate gross profit from the price to be applied in case the goods or services subject to the transaction are resold to real or legal entities which do not have any relationship between each other. The calculation would be made using the following formula:

\[
\frac{\text{Resale price}}{1 + \text{Gross profit rate}} = \text{The arm’s length price}
\]

The enterprises which do not apply either one of the three methods mentioned above would utilize the Transactional Profit Methods, also known as the alternative methods since 1994. Those methods are comprised of the Profit Split Method and Transactional Net Margin Method (Doğan, 2006: 81).

i. **Profit Split Method:** It is based on the distribution of the total operating profit or loss of the related parties for one or more of the controlled transactions commensurate with the functions they undertake and the risks which they undergo among the related parties in accordance with the arm’s length principle. This method can be used in particular where the transactions are intertwined and interconnected.

ii. **Transactional Net Margin Method:** This method is based on the taxpayer’s examination of net profit margin pertaining to a relevant and appropriate basis such as costs, sales or assets through a controlled transaction. Although being similar to the cost plus and resale price methods, this method takes the net operating profit margin into consideration in the calculation of the gross profit margin. In determining the net operating profit margin, firstly the net operating profit margin applied by the taxpayer in a comparable uncontrolled transaction is also taken into account.

6. **Required Documents in the Context of Transfer Pricing Transactions**

Books and documents must be kept for a minimum period of 10 years and submitted within the specified periods, if required, in accordance with Article 82 of the Turkish Commercial Code (5 years according to the Article 253 of the Tax Procedure Law). These documents can sometimes be used in favor of the enterprises and sometimes as evidence against the enterprises. In this context, enterprises are obliged to prove that they abide by the arm’s length principle in terms of transfer pricing. The types of documents required to be prepared in connection with the transfer pricing practices are classified under two categories: The Annual Certification and Certification regarding Advance Price Agreement. However, additional information and documents may be required from taxpayers upon request.
6.1. The Annual Certification

In Turkey, the annual certification documents required to be prepared are briefly described below:

6.1.1. The Form Regarding Transfer Pricing, Controlled Foreign Institution and Disguised Capital

Preparation of this form aims to identify the transactions that the enterprises have made with the related parties and to provide information on these transactions. This form is only filled in by companies that are subject to Corporate Tax Law. Beginning from the first day of the fourth month, following the end of the accounting period, to the twenty-fifth day of the fourth month, the annual corporate income tax return form is submitted to the relevant tax office. The following information take place in the form regarding Transfer Pricing, Controlled Foreign Institution and Disguised Capital:

- General Information Regarding the Enterprise/Institution,
- Information Regarding the Related Parties in the Context of Transfer Pricing,
- Information Regarding Transactions Made with the Related Parties in Transfer Pricing,
- Information on the Methods used in Transactions in Transfer Pricing,
- Information Regarding Foreign Affiliates of the Establishment,
- Information on Disguised Capital Application, and
- Information Regarding Borrowings from the Related Parties.

6.1.2. The Annual Report on Transfer Pricing

This report is not obliged to be prepared every year, unlike Transfer Pricing, Controlled Foreign Institution and Disguised Capital to be submitted to the relevant tax office in the annex of the Corporate Tax Declaration. However, it should be prepared by the relevant enterprise until the date of the Corporate Tax Declaration and to be submitted to authorized persons upon request. Table 1 indicates how the taxpayers should prepare the Annual Transfer Pricing Report.

Table 1: Taxpayers to Prepare Annual Transfer Pricing Report

<table>
<thead>
<tr>
<th>Taxpayers Registered in Large Taxpayers Office</th>
<th>- Domestic transactions</th>
<th>Since January 01, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Foreign transactions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Domestic transactions with the taxpayers in Free Zones</td>
<td>Since January 01, 2008</td>
</tr>
<tr>
<td>Other Corporate Income Taxpayers</td>
<td>- Foreign transactions</td>
<td>Since January 01, 2007</td>
</tr>
<tr>
<td></td>
<td>- Domestic transactions with the taxpayers in Free Zones</td>
<td>Since January 01, 2008</td>
</tr>
<tr>
<td>Corporate Income Taxpayers Operating in Free Zones</td>
<td>- Domestic transactions</td>
<td>Since January 01, 2008</td>
</tr>
</tbody>
</table>

Source: General Communiqué on Disguised Revenue Distribution via Transfer Pricing, GİB, 2010: 14.

The Annual Transfer Pricing Report contains the information in the following headings below:
IMPORTANCE OF THE TRANSFER PRICING IN MULTINATIONAL ENTERPRISES

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- General Information,
- Information Regarding the Related Parties,
- Detailed Information Regarding Transactions among the Related Parties,
- Information Regarding Transfer Pricing Analyses,
- Conclusion.

However, there are also taxpayers who are not obliged to prepare Annual Transfer Pricing Report regarding transactions with the related parties. These include;

- The domestic transactions of the corporation income taxpayers (excluding taxpayers registered to the Large Taxpayers Tax Office) with the related parties,
- Foreign transactions of corporate income taxpayer’s operating in free zones with the related parties,
- Income taxpayers.

6.2. Advance Pricing Agreements

Advance Pricing Agreements are defined as the determination of the method to be applied for detecting transfer price regarding transactions with the related parties by the taxpayer and the Ministry of Finance Revenue Administration without exceeding three years. The point to be considered here is that the transfer price is not determined with this agreement; only the method to be used in determining the transfer price is determined. This agreement was first applied in the USA in 1991, and later on, it was included in the legislation of many countries (Ağar, 2011: 299). Avoiding potential tax disputes between taxpayers and the administration would be possible with advance pricing agreements. Advance pricing agreements can be either unilateral, bilateral or multilateral (Köse and Ferhatoğlu, 2008: 108-109). Unilateral advance pricing agreements are made between the taxpayers and the country’s tax office. The relevant administrations of other countries in such agreements are not related parties. Thus, the provisions of the agreement have no impact on the administrations of other countries. Bilateral advance pricing agreements are made between the related companies of a multinational corporation in two different countries and the tax offices of those countries. Multilateral advance pricing agreements are made among taxpayers operating in more than two countries and tax authorities of those countries. In this context; the advance pricing agreement can be made by the following taxpayers:

i. Corporate income taxpayers’ foreign transactions with the related parties,
ii. The transactions made by corporate income taxpayers in relation to corporate taxpayers operating in free zones, and,
iii. It is possible to make an agreement as a result of the application of the related administration to the taxpayers operating in the free zones by the taxpayers who are not operating in these regions.

6.2.1. Advantages and Disadvantages of Advance Pricing Agreements

Advance Pricing Agreements made between the taxpayers and the related administrations contain various advantages and disadvantages (Köse and Ferhatoğlu, 2008: 111-112). The obtained advantages as a result of the agreements;

i. Provide precision in transfer pricing practices and tax planning can be made more easily.
ii. Foster cooperation and solidarity between the taxpayer and the tax office are increasing.

iii. Resolve the disputes experienced in the past.

iv. Extend advance pricing agreement terms if appropriate.

v. No payment is made in the advance pricing agreements.

It is possible to classify the disadvantages of advance pricing agreements under three categories:

i. Double taxation problems may arise in unilateral advance pricing agreements.

ii. Multilateral advance pricing agreements, in particular, may take more time.

iii. As a result of the agreement, the declarations of the taxpayers regarding transfer pricing are recorded by the administration. The inspections and examinations made by the administrations are sometimes performed over the taxpayers. Therefore, there is a possibility that the taxpayers involved in the agreement may go under inspection.

6.2.2. Required Documents to be Submitted by the Taxpayers in Advance Pricing Agreements

In order to determine whether or not the taxpayers comply with the provisions of the agreement they have made with the relevant administration, an annual report is prepared and submitted to the administration by the taxpayers for the period specified in the agreement. The relevant report should be prepared and submitted to the administration upon the issuance of the corporate tax return each year during the agreement period. This report consists of three main sections; the first section contains general information, the second section contains information on transfer pricing analysis, and the third part contains the conclusions. In case of necessity, the administration may request additional information and documents from taxpayers.

7. Conclusion

Multinational enterprises (MNEs) operating in many regions of the world have been able to maximize their profits by occasionally eroding the tax revenues of countries by making the best use of the opportunities they have had along with globalization. In this context, multinational enterprises (MNEs) have increased their profitability by lowering tax bases via such methods as the disguised capital, restructuring, treaty shopping, investing in tax havens, revenue transfer to tax havens and transfer pricing (Çelebi and Mastar Özcan, 2017: 291). Transfer pricing is one of the most applied methods of multinational enterprises. Since the 1960s, the US and the OECD countries have made serious arrangements for transfer pricing. In Turkey, since the beginning of 2006, this standard has been implemented by the relevant enterprises. Along with these published standards, it is aimed at eliminating the differences in international accounting systems and to further increase awareness about the transfer pricing practices. Today, upon examining the share of the multinational enterprises in the world trade, it is stated that the total revenues of the multinational enterprises, which are only in the first 100 countries, reached approximately 12.3 trillion USD as of 2016. This figure is higher than the national income of all countries except for the USA (Kamacı and Turan, 2018: 87). As of 2019, the national legislation of more than 125 countries and the action plans, called Base Erosion and Profit Shifting, have included regulations on transfer pricing.

Following these regulations, the transactions of the enterprises with the related enterprises should be realized on the basis of the arm’s length price, and it has to be proven. In this context, the enterprises should fulfill the obligations related to the certification of the regulations for the determination of the transfer price, and these documents should be kept by the enterprises within certain periods. Upon considering the conducted audits and
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imposed penalties; afterward, it is seen that the penalties are aggravated in case there are signs of tax evasion. Upon evaluating the general view of the countries toward the penalties, it can be asserted that if the certification obligation is not complied with, the sanction that the taxpayers encounter will become gradually more severe. As a result of this situation, enterprises may avoid facing possible tax penalties. There is a need for more concrete and up-to-date data and serious efforts to determine the impacts of the regulations regarding the transfer pricing practices on the tax revenues and to detect the enterprises that act against the arm’s length principle. In this context, relevant authorities should harden audits and share data in monthly or annual bulletins in order to support the studies to be carried out in this area. Furthermore, it is necessary to ensure that national and international current regulations concerning the transfer pricing are comprehended by the related parties or institutions and that the enterprises abide by these regulations.

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5422 Sayılı Kurumlar Vergisi Kanunu.

5520 Sayılı Kurumlar Vergisi Kanunu.
THE EFFECT OF RESEARCH AND DEVELOPMENT EXPENSES ON BUSINESS PROFITABILITY: EVIDENCE OF BORSA İSTANBUL

Mustafa KILLI

1. Introduction

It is a prerequisite for enterprises to invest in technology in order to sustain their existence in the long term, to achieve sustainable competitive advantage and thus to provide a return on average profit. Research and development (R&D) skills have an important role adaptation to change, being innovative and gaining competitive advantage against competitors. The global competition environment requires to making technological innovations, thereby R & D activities are gained the importance.

R & D is the systematic and creative works to reveal new products and production processes in enterprises (Albez, 2017:85). R & D is defined as a basic business function to developing existing products and maintaining the existence of enterprise by developing science and technology infrastructure (Şimşek & Çelik, 2010:275). Research and development is a concept that almost every company needs. In order to be successful in a competitive environment, the demand for research and development activities is consistently increasing (Ghaffar & Khan, 2014:358). R & D activities are a key concept for efficiency, innovation, economic growth and competitiveness all over the world and serve as the main locomotive (Kaya, 2009:2; Zibiao, Boamin & Meng., 2011:1).

R & D indicators, which enable the measurement of how far the countries have taken within the framework of the new economy, are also the basic indicators that provide information about the level of development of the countries (İşik, Engeloğlu & Kılınç, 2016:32). R & D expenses in the 2011-2017 period in Turkey are shown in Table 1.

Table 1: R & D Expenditures in Turkey (2011-2017 Period)

<table>
<thead>
<tr>
<th>Years</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>R &amp; D Expenditures (Million USD)</td>
<td>5.905</td>
<td>7.348</td>
<td>6.938</td>
<td>6.726</td>
<td>7.090</td>
<td>7.002</td>
<td>7.915</td>
</tr>
</tbody>
</table>


Operating expenses for R & D are considered as the most important determinants of an economy’s competitiveness and specialization model in the international arena (Salim & Bloch, 2011: 352). Today, the importance of R & D for companies to be original and to make a difference is increasing day by day. Accordingly, the share of R & D expenses in operating budgets is increasing (Yıldırım & Sakarya, 2017:865). Due to the increasing dependence on technology for the competitive advantage of companies and the increasing costs of R & D, managers began to look for evidence of the impact of R & D on performance. R & D affects the performance of companies and is

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a tool for improving performance. Past studies have documented that consistent and positively impacting market value of a firm’s R & D investment (Ayaydın & Karaaslan, 2014:43).

R & D activities are defined separately in International Accounting Standards (IAS). IAS 38 par 8 defines research as: "original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding," and development as: “the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use.”

Based on the above definitions, development is hence the application of the research findings. In the development phase, the information attained and the planning done during the research stage are applied.

According to IAS 38, if research and development costs can be differentiated from each other, research costs are not capitalized whereas development costs are capitalized. This is because, research costs cover activities such as acquiring new information, valuation of previous information and findings for another product or service production, and researching alternatives of production systems and tools and the results of these activities are uncertain (Örten, Kaval & Karapınar, 2010:604).

The success and continuity of a business depends on its performance. Performance measurement provides managers with useful information they can use in the decision-making process. Various performance measurement techniques can be used to investigate the contribution to business performance of R & D investments made in previous periods.

In this study, it is aimed to investigate whether the R & D costs have an impact on business profitability. The R & D intensity was used as independent variable to control the relationship between R & D costs and business profitability. Return of Asset (ROA) and Return of Equity (ROE) are used as the dependent variable. Correlation and Regression Analysis were used to test the relationship between variables.

R & D investments are risky investments and their effects are long-term (Karacaer, Aygün & İç, 2009:82). Therefore, when it is wanted to investigate whether there is a relationship between R & D investments and the performance of the enterprise (or whether the R & D investments have an impact on the performance of the enterprise), the data should cover a wider time interval (Kiracı & Arsoy, 2014:39). In this study, in order to reveal the impact of R & D expenses on the performance of the enterprise, research was conducted in a period of 7 years covering the period of 2011-2017.

2. Literature Review

In the literature, there are studies testing the relationship between R & D expenses and business profitability. Most of these studies in the field of accounting and finance explain that there is a positive relationship between R & D investments and future firm returns (Cooper, 2008:1642). Some of these studies are given below.

Branch (1974) examined the relationship between R & D expenses and profitability in a study conducted by 111 firms in seven different industries in the USA between 1950-1965. In the study using regression analysis, a statistically positive relationship was found between R & D expenses and profitability.
Nivoix & Nguyen (2009) investigated the impact of R & D expenses on business performance by using the data of the companies traded on the Tokyo Stock Exchange between the years of 1999-2006. In the study, it has been determined that the firms that make R & D expenses have higher returns than those who do not.

Ghaaffar & Khan (2014) used the data of the pharmaceutical companies in 2007-2012 in Karachi Stock Exchange in order to evaluate the impact of R & D budget on firm performance. In the study, a positive relationship was found between R & D budget and firm performance.

Apergis & Sorros (2014) examined the relationship between R & D expenditures and profitability of US companies operating in the energy sector. In the analysis covering 1990-2011, the energy sector are divided into two groups as the companies using fossil energy sources or renewable energy sources in order to produce electricity. Empirical findings indicate that R & D expenditures have a more strength effect on profitability in the group of companies selling renewable energy sources.

Vanderpal (2015) used data from 103 companies that recorded high R & D values between 1979 and 2013, in order to investigate the impact of R & D investments on firm value. In the study, it is concluded that R & D has a positive effect on the firm value in general.

Doğan & Yıldız (2016) benefited from 2008-2014 years data of the manufacturing industry companies traded on Borsa İstanbul (BIST) in order to investigate the impact of R & D expenses on firm profitability. In the study, it was determined that the increase in R & D expenses positively affect the profitability of the firms.

Elmas & Polat (2016) analyzed the effect of R & D investments on firm performance by using the quarterly data of the manufacturing firms registered to the BIST Corporate Governance Index for the period of 2007-2015. According to the results of the panel data analysis, it is determined that R & D investments affect the performance of some firms positively and some of them negatively.

Kiracı, Çelikay F & Çelikay D. (2016) conducted a panel data analysis using the data of 46 manufacturing companies in Borsa İstanbul in order to determine the effect of R & D expenses on short and long term profitability of a firm. The results of the analysis revealed that R & D expenses have a significant positive and powerful effect on profitability in the long term, although R & D expenses did not have a statistically significant effect on short-term profitability of a firm.

İltas & Kaya (2018) examined the long-term relationship between R & D expenses and profit per share by using data from 2009-2015 of the firms traded in the BIST Technology Index. According to the results of the analysis, R & D expenses, R & D Intensity and earning per share are determined to be cointegrated in the long term. The findings obtained from the analysis of the cointegration coefficients revealed that R & D expenses had a positive effect on the earning per share.

3. Research Methodology

The aim of this study is to determine whether there is any relationship between R & D expenses and profitability of enterprises.
THE EFFECT OF RESEARCH AND DEVELOPMENT EXPENSES ON BUSINESS PROFITABILITY: EVIDENCE OF BORSA İSTANBUL

Mustafa KILLI

Data and Sample

In this study, the research universe is composed of companies that are traded in BIST Information Technology Index. At the date of the study, The number of Information Technology companies traded on the BIST was fifteen. Five companies that invested regularly in R & D activities between the years 2011-2017 were selected as samples in this study. The research sample is consists of Alcatel, Karel Electronics, Kron Telecommunications, Link Computer and Logo Software companies. The data used in the study were obtained from financial statements (balance sheet and income statement) reached from www.kap.gov.tr web address.

Variables

The variables used to determine whether there is a relationship between the R & D expenses and the profitability of the enterprises are summarized in Table 2.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D Intensity</td>
<td>R &amp; D Expenses / Total Sales</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Asset (ROA)</td>
<td>Net Income / Total Assets</td>
</tr>
<tr>
<td>Return on Equity (ROE)</td>
<td>Net Income / Total Equity</td>
</tr>
</tbody>
</table>

The R & D intensity shows the share in net sales of total R & D expenses carried out during the year. This ratio is an important ratio used in determining the relative weight of the investments made by the enterprises in R & D activities (Falk, 2012:22).

R & D intensity is defined differently for firms and countries. R & D intensity for a firm is the ratio of R & D investment to the income of the enterprise. R & D intensity for a country is defined as the ratio of R & D expenses to a gross domestic product. R & D is the main driving force of innovation, R & D spending and density are the main indicators used to monitor the resources allocated to science and technology all over the world (Savrul & İncekara, 2015:391).

Research Hypotheses

Below hypotheses were developed using the dependent and independent variables introduced in Table 2.

Hypotheses on relationship between R & D Intensity and ROA

\( H_0 \): There is not positive relation between R & D Intensity and ROA

\( H_1 \): There is a positive relation between R & D Intensity and ROA.

Hypotheses on relationship between R & D Intensity and ROE

\( H_0 \): There is not positive relation between R & D Intensity and ROE

\( H_1 \): There is a positive relation between R & D Intensity and ROE.
Models

R & D intensity was used as an independent variable in both models. In the first model, ROA was used as dependent variable. In the second model, ROE is used as dependent variable.

Model 1: $\text{ROA}_t = \beta_0 + \beta_1 \text{R&D}_t + u_t$

Model 2: $\text{ROE}_t = \beta_0 + \beta_1 \text{R&D}_t + u_t$

4. Findings

Data were analyzed by using SPSS statistical program. Correlation and regression analysis were used to test hypotheses. Correlation analysis is used to calculate the direction and intensity of the relationship between the two variables (Altunışık, Coşkun, Bayraktaroğlu & Yıldırım, 2012:228). Regression analysis is a strong analysis method that allows us to find the cause-effect relationship between variables (Çokluk, Şekercioglu & Büyüköztürk, 2016:54).

The average values of the variables within the scope of the research between the years 2011-2017 are presented in Table 3.

<table>
<thead>
<tr>
<th>Table 3. Average Values of Research Variables for 2007-2011 Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average R &amp; D Intensity</td>
</tr>
<tr>
<td>Average ROA</td>
</tr>
<tr>
<td>Average ROE</td>
</tr>
</tbody>
</table>

The summary statistics of the variables within the scope of the research between the years 2011-2017 are presented in Table 4.

<table>
<thead>
<tr>
<th>Table 4. Variables and Sample Summary Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>R&amp;D intensity</td>
</tr>
<tr>
<td>Return on Assets (ROA)</td>
</tr>
<tr>
<td>Return on Equity (ROE)</td>
</tr>
</tbody>
</table>

Result of the Correlation and Regression Analysis

Result of the correlation analysis of the variables are given in Table 5. According to the results of correlation analysis, positive correlation between the R & D intensity ratios and accounting based performance measures of the enterprises were determined.
Table 5. Correlation Analysis Results of Variables

<table>
<thead>
<tr>
<th>Correlations</th>
<th>R &amp; D Intensity</th>
<th>ROA</th>
<th>ROE</th>
</tr>
</thead>
<tbody>
<tr>
<td>R &amp; D Intensity</td>
<td>Pearson Correlation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>Pearson Correlation</td>
<td>.894*</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.041</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>Pearson Correlation</td>
<td>.940*</td>
<td>.989**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.018</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

* Correlation is significant at level 0.05 (2-tailed).
** Correlation is significant at level 0.01 (2-tailed).

In table 6, result of the correlation analysis between the R&D Intensity and ROA are given.

Table 6. Regression Analysis Results of Variables (R&D Intensity-ROA)

<table>
<thead>
<tr>
<th>Coefficientsa</th>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (Constant)</td>
<td>2,665</td>
<td>2,924</td>
<td>.911</td>
<td>.429</td>
</tr>
<tr>
<td></td>
<td>R&amp;D Intensity</td>
<td>.488</td>
<td>.153</td>
<td>3,194</td>
<td>.050</td>
</tr>
</tbody>
</table>

*Dependent Variable: ROA

According to the results of the analysis, it is seen that there is a linear relationship between ROA and R & D intensity of firms. As seen in Table 6, one-unit increase in R & D intensity ratio, ROA by 0.05 units. In this case, the hypothesis \( H_0 \) was rejected and hypothesis \( H_1 \) was accepted.

In Table 7, results of the correlation analysis between the R&D Intensity and ROE are given.
Table 7. Regression Analysis Results of Variables (R&D Intensity-ROE)

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>5.555</td>
<td>2.873</td>
<td>1.933</td>
<td>.149</td>
</tr>
<tr>
<td>R&amp;D Intensity</td>
<td>.715</td>
<td>.150</td>
<td>4.766</td>
<td>.018</td>
</tr>
</tbody>
</table>

Dependent Variable: ROE

According to the results of the analysis, it is seen that there is a linear relationship between ROE and R & D intensity of firms. As seen in Table 7, one-unit increase in R & D intensity ratio, increases ROE by 0.018 units. In this case, the hypothesis $H_0$ was rejected and hypothesis $H_1$ was accepted.

5. Conclusion

In this study, which was conducted in order to investigate the effect of R & D expenses on firm profitability, the data of 5 firms in BIST Information Technology Indice between 2011-2017 were used. Correlation and regression methods were used in empirical analysis.

In analysis, it was determined that there is a positive relationship between R & D expenses both return on asset and return on equity. In other words, the increase in R & D expenses of the companies also increase their profitability.

There are some limitations of this study in which the effects of R & D expenses on firm profitability are investigated. First of all, the findings of the study; It should be interpreted in terms of firms operating in Information Technology Indice in BIST. Furthermore, the utilization of the data in 2011-2017 of the companies is another limitation of the study. In future researchs, the effect of R & D expenses on firm profitability can be examined in terms of different sectors or sub-sectors in the manufacturing industry.

References


1. Introduction

Blockchain which is defined as the most important technological development that comes into our lives after the internet by technology circles, attracts attention with its wide application potential. Blockchain technology was first recognized with Bitcoin, the first cryptocurrency in the world. Bitcoin is the first application of blockchain technology (Iansiti ve Lakhani, 2017). Although blockchain technology has been developed for use on the infrastructure of crypto currencies such as Bitcoin, it has the potential to be used in different sectors such as finance, health, real estate, supply chain, government agencies and telecommunication (Kirbaş, 2018). Blockchain technology continues to be rapidly developed in the oncoming process, especially along with the application potential in accounting and finance.

Blockchain technology which forms the infrastructure of the bitcoin is noteworthy for bringing an innovative perspective to the trade models, eliminating the need for intermediary institutions. Blockchain technology is a system that eliminates transactions and contracts applied in regulated money transfers, reduces transaction costs in making online payments and allows transactions without banking information (Çiftçi & Evci, 2018). This system is based on the principle of simultaneous approval and monitoring of the money flow from many different sources and keeping the account record in transparently. Thanks to this system which is expected to become widespread in the markets by eliminating centralization in all areas of trade, can be encountered the buyer and the seller without intermediary.

Companies and institutions have become very keen to explore new areas of application using blockchain technology which truistic by bitcoin application. Particularly finance companies, leading organizations operating in many fields such as insurance companies, retail industry and public institutions, show great interest in blockchain technology and are involved in application development efforts (Avunduk & Aşan, 2018).

The aim of this study is to explain the effects of blockchain technology on the accounting profession. In this direction, firstly blockchain technology is defined, types, advantages and disadvantages are explained. Then, the evaluations on the innovations brought by the technology to the accounting and auditing areas were referred and the potential effects on the accounting and auditing profession were discussed.

2. Blockchain Technology

Bitcoin was first suggested by unknown the person or people who used the pseudonym Satoshi Nakamoto. The blockchain technology suggested for Bitcoin is a innovatory protocol that handles transaction past using a decentralized ledger and verifies transactions by cryptography (Hambiralovic & Karlsson, 2018). Bitcoin which is
a cash-like currency and offers a way to exchange property at peer to peer, is not based on a central clearing house such as financial institution. Instead, each ancient bitcoin operation is stored in a globally distributed digital ledger called blockchain that follow entire bitcoin transaction historically (Nakamoto, 2008; Byström, 2016). In essence, the blockchain is a decentralized ledger that permanently records transactions between two parties without third party authentication (Marr, 2018).

A blockchain is a type of database used to register transactions through a distributed system. All participants such as individuals or companies using the shared database, are “nodes” connected to the blockchain, each keeping an identical copy of the ledger. Each entry into a blockchain is a transaction that represents a value change between participants. In practice, many varied types of blockchains are being developed and examined. Nevertheless, most of blockchains track this common frame and approach (CpaCanada, 2018).

Whereas conventional databases records all data on single servers, blockchain databases are copied and stored on all computers that join the network. A blockchain is a digital ledger distributed to multiple locations to provide security and ease of global access. Currently, the primary use of this technology is bitcoin and other crypto currencies. However, it is expected to completely stop accounting operations of block chain technology in the very near future (Taylor, 2017).

The most basic features of blockchain technology which are make different from today’s known ledgers are as follows (Icaew, 2018).

**Propagate:** There is no single ‘master’ copy of a blockchain ledger, contrary there are many copies. All participants can access an exact copy of the ledger and all copies are same and equivalent. None of parties can control the ledger. New transactions can be saved rapidly and propagate to copies of all participants.

**Permanence:** When each user has own copy of the ledger, reality is designated by unanimity. Older transactions cannot be changed without consensus, meaning that blockchain registers are persistent. The whole ledger is stored by all participant and can be controlled and substantiated.

**Programmability:** Some blockchains permit for storage of program code as well as ledger records - generating automatic daily entries that automatically run when started. These are called smart contracts.

**Types of Blockchain**

Blockchain types can be classified from various angles. There are different types of blockchain depending on whether authorization is required for network nodes that perform duty as confirmatory and whether blockchain data are accessible (Peters & Panayi, 2016):

- **Public (Permissionless) Blockchains:** It is the blockchains where everyone with a technical competence can be involved in the registration approval process without needing any preapproval or authorization and generally in return for monetary reward incentives. The most typical example is Bitcoin. The Bitcoin network is open to everyone, because anyone is using the appropriate Bitcoin software can read or write data from the ledger. In such structures, blockchain data can be accessible to everyone, or mixed blockchain structures can be created in which the accessibility of data is restricted in various ways (Ünsal & Kocaoğlu, 2018).
• **Private (Permission) Blockchains:** The blockchains used for special purpose applications that predetermined by an authority or consortium of the participants will be included in the registration approval process. It is used for inter-company or in-company applications which public disclosure of performed transactions is objectionable.

### Advantages and Disadvantages of Blockchain Technology

Blockchain technology identified as a digital ledger which the records cannot be deleted or changed is considered to have significant advantages that will replace the traditional accounting system. Keeping the accounting records with blockchain technology and due to the fact that especially each block added to the chain cannot be changed unilaterally without the consent of all parties. It provides significant advantages such as minimizing the risks of fraud and corruption, operational simplification by means of accounting transaction (Özdoğan & Kargın, 2018).

According to Fanning & Centers (2016), the advantages of blockchain technology: Firstly, there is currently a peer-to-peer network that has no an only point of unsuccess. If there is a fault in any node, the another nodes will sustain to run, saving availability of the system. Secondly, almost all documents are electronic and can be easily performed to many varied implimentations. Thirdly, all transactions on the blockchain are appear to entire its participants. This increases the controllability and reliability of transactions. Fourthly, it is extremely difficult to make changes in blockchain and in the very scarce situation, such a change occurs, it can be seen by other participants. These superiority of blockchain technology will eliminate third party intermediaries, decrease transaction costs and lead to transformation in many sectors. Obviously, the blockchain is the essential of the bitcoin protocol.

Like all technologies in the development process, blockchain technology has many significant opportunities, rich potential applications range and advantages as well as various uncertainties and disadvantages. The disadvantages of blockchain technology can be listed as follows. (Özdoğan & Kargın: 171):

• **New Technology:** There is not enough evidence whether expected yield from the system has been received due to the fact that it is a developmental technology. Resolving difficulties such as speed of transactions, verification process and data limits will be crucial in making the blockchain widely applicable.

• **Performance:** Since blockchain technology does not support the currently used technological infrastructures, it is doubtful that it will reach the targeted level of efficiency. By its nature, blockchain technology will always be slower than central databases. While perform a transaction, a blockchain has to do the similar things as a normal database, but it also carries three additional loads (Niranjanamurthy, Nithya & Jagannatha, 2018): 1-Signature Verification: Each blockchain transaction must be digitally signed. The generation and verification of these signatures is numerically complicated and creates a primary congestion. 2-Reconciliation Mechanisms: In a distributed database such as blockchain, efforts should be made to ensure the nodes in the network obtain agreement. 3- Overplus: While central databases perform transactions one or two times, in a blockchain must be processed independently by each node on a network. So, much more work is done for similar outcome.

• **Confidentiality:** In particular, there are concerns about it can be revealed by reversed engineering studies of transactions that take place between the institutions and involve confidentiality.

• **Legal Obligations and Compliance:** Due to the fact that it is a developing technology and it is not supported by any other state, there is a legal gap in practice and this situation creates a concern about the future of technology.
• **Real Costs:** While the elimination of intermediaries of the system provides a significant cost advantage, there are problems in exactly measuring the actual costs.

In addition to these disadvantages, slowness of the blockchain system, longer wait times in approval processes and higher data size are regarded as other disadvantages.

### 3. Effects on Accounting and Auditing

#### Potential Effects on Accounting Profession

In recent years, the digital transformation emerging in every field is closely influenced to accounting profession and practices. The digital age has led to the use of various technologies that make faster and more secure of the accounting applications. New technologies are making it easier for accountants to play a more active role in ongoing operations of their clients’ (Nixon, 2016). Blockchain technology which is one of these technologies is still a new technology, but considering the potential impacts on the accounting profession, accountants need to understand what this new technology will bring (Alarcon & Ng, 2018). Technological developments can threaten livelihood of people in any profession. Whether an opportunity or a threat for the accounting profession of blockchain technology should be understood and concerns must be addressed. (Tysiac, 2017).

The use of blockchain technology especially in accounting and auditing functions has come into prominence as a result of expansion of usage areas in financial markets and becoming an important technologic solution for many business functions (Özdoğan & Kargın, 2018). The blockchain is an advanced technology ready to convert invoicing, payment transactions, contracts and documentation with significant implications for accountants, finance specialists and regulators (Kokina, Mancha & Pachamanova, 2017).

The blockchain is a digital ledger on which transactions are recorded chronologically and be able to seen of anyone with access (Tysiac, 2017). Blockchain is basically a ledger that can never be changed and its records can never be destroyed. Therefore, it can be useful as a reliable and continuously updated ledger for a company’s accounting records. This is due to the fact that blockchain technology can be used not only to transfer digital currency between a buyer and a seller, but also to transfer ownership of the other two assets between the two companies in a cheap, efficient and reliable manner (Byström, 2016).

As blockchain technology continues to evolve and new areas of use are investigated, the accounting profession defined as an area that can benefit greatly from blockchain. Although the exact results of blockchain-based accounting are not yet known, the primary benefits discussed include reducing the risk of fraud, large cost savings and increasing accuracy in financial reports (Hambiralovic & Karlsson, 2018). Blockchain facilitates accounting, provides real-time reporting and real-time audit.

#### Blockchain and Triple-Entry Accounting

The most important innovation introduced by the blockchain technology to accounting applications, it is shown as conversion to the triple-entry bookkeeping system from the traditional double-entry bookkeeping system (Uçma & Kurt, 2018).
Traditional accounting is based on a double-entry bookkeeping system, which is basically a credit-debit mechanism where any entry in an account requires an entry corresponding to a different account (Simoyama, Grigg, Bueno & Oliveira, 2017). Blockchain is a creating advantage technology rather than a revolutionary technology which changes and intervenes traditional accounting recording techniques, creates a new accounting technique.

Triple-Entry Accounting is a scientific concept designed by Ijiri (1986), a professor at Carnegie Mellon University. Then, before the invention of blockchain technology, Grigg (2005) proposed a system in which a transaction between the two parties was confirmed by a third party. However, this system required an independent and reliable intermediary to verify each transaction. With the development of blockchain technology, this concept has come up again. Blockchain technology has the potential to develop this mechanism and to reduce troubles. Blockchain technology assumes role of the intermediary by automating the verification process. Due to the nature of the blockchain, it cannot be changed or destroyed after an accounting entry has been approved (Dai & Vasarhelyi, 2017).

It is come to the fore that recording in the blockchain environment of a accounting transaction that occurs with blockchain technology. This technology cause to be forming of distributed and public accounting records instead of central accounting records. Records made on the blockchain are defined as ‘triple-entry accounting’, because they create a third recording environment in addition to existing double-entry accounting records (Aslan & Türün, 2018). Furthermore, this technology is called ‘Real Time Accounting’ because it causes the accounting records to be seen immediately (Byström, 2016).

**Potential Effects on the Audit Profession**

Another area that benefits from the blockchain is the audit profession. A financial statement is only a summary of what is happening during the period in a company’s ledger. The responsibility of the auditors in auditing the financial statements is to conduct an examination in accordance with professional standards, to reach an opinion on the integrity of the financial statements and to report their findings (Dursun, 2005). The opinion of an auditor on the financial statements is important because of the external parties sometimes rely on the auditor’s opinion and the relevant financial statements when making investment decisions (Demir & Çiftçi, 2016). If the financial statements of the company appear promising and the auditor gives an opinion indicating the accuracy of the financial statements, then a person or business may decide to continue to invest in this business. Therefore, it is said that the auditor is responsible for protecting the public when conducting the audit. That is where can play an inseparable role of blockchain technology behind Bitcoin (Lazanis, 2015).

If a company voluntarily records its commercial transactions in a blockchain, each transaction is permanently recorded with a timestamp. This situation, preventing it from being altered ex-records. The firm’s all ledger is then instantly visible to any partner, customer, lender, vendor or other related party and anyone can aggregate the company’s transactions in real time to the form of an income statement and balance sheet (Yermack, 2017). In other words, most of the works that the auditor performs in today’s accounting world can accomplish much more efficiently and more timely with the blockchain in the near future. If a firm holds all its operations and balances in a blockchain, the blockchain itself, largely, can substitute the auditor to verify the accuracy of the company’s accounting. As the historical transactions in the blockchain could not be intervened, the issue of insecurity was wisely removed from the firm’s financial statements. In addition to trust topic, the automatic updating of the ledger in real-time, where each transaction is instantly incorporated into the company’s blockchain, the accounting information of a company can make potentially timely and dynamic. In other words, because of the inherent
parallels between blockchain and accounting, the blockchain technology can enhance the quality of accounting information that reaches investors by making information more reliable and more timely (Byström, 2016).

The security, validity and clarity provided by the blockchain will facilitate the tasks of the auditor. The structure of blockchain systems makes easier to audit whether any data is tampered. In fact, it is possible to think of a future where the audit takes place in real-time and every relevant party is informed along the process - “a true continuous audit” (Nichols, 2018). The most important impact of the blockchain on audit components is to increase the efficiency and effectiveness of the audit activities as seen in Table 1.

Table 1. Impact of blockchain on audit components

<table>
<thead>
<tr>
<th>Audit Process</th>
<th>Pre-blockchain</th>
<th>Post-blockchain</th>
<th>Impact on audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmations</td>
<td>Random</td>
<td>100% and real time</td>
<td>Increased efficiency/effectiveness</td>
</tr>
<tr>
<td>Inventory counts</td>
<td>Manual</td>
<td>Continuous</td>
<td>Increased efficiency/effectiveness</td>
</tr>
<tr>
<td>Data analysis</td>
<td>Sampling methodology</td>
<td>Continuous and for 100% of information</td>
<td>Increased efficiency/effectiveness</td>
</tr>
</tbody>
</table>

Source: Smith, 2018.

Using a blockchain, the accounting records between the two commercial partners can be easily contrasted while protecting data privacy. This solution can considerably decrease the dependence on auditors in controlling financial transactions (Fanning & Centers, 2016).

The emergence of the blockchain has led to concerns about the future of the audit profession. According to some, if all transactions are recorded and maintained in a unchangeable blockchain, there may be nothing left to audit accountants working as auditors (Tysiac, 2018).

4. Conclusion

Nowadays, digital technologies have become one of the main agenda topic of business World. Blockchain technology which is one of these technologies, draws attention as an important area where enterprises are rapidly investing due to their potential usage areas in all business functions.

Blockchain technology has been rapidly gaining acceptance, especially with its applications in accounting and auditing area. As a globally distributed digital ledger that records cannot be changed and never destroyed, block chain can be useful as a reliable ledger for a company’s accounting records. It is discussed that among the primary benefits of blockchain-based accounting to reduce the risk of fraud, to provide significant cost savings and to improve accuracy in financial reports. The most important potential impact of the block chain on the audit activities is increased efficiency and effectiveness. The security, validity and clarity provided by the block chain will facilitate the auditor's tasks and ensure that the audit is performed in real time.

As a result, considering the potential impact of block chain technology on the accounting and auditing profession, to prepare of the accountants for the future, for a good assessment of the threats and opportunities of technology is considered important. In addition, it may be necessary to apply new policies and standards compatible with
block chain technology by taking steps to enable to prepare the necessary regulations and infrastructure of the professional organizations in accordance with the change.

References


THE RELATIONSHIP BETWEEN OPTIMAL EXPERIENCE (FLOW) AND PERFORMANCE

Meryem Derya YEŞİLTAŞ

1. Introduction

The optimal experience, also known as intensive focus on flow, is defined as the self-abstraction of everything other than the action it has taken at the time and its attention to the job (Csikzentmihalyi, 1990, p. 4). The interest in the issue of flow, based on the psychology literature, has increased over the last two decades. In addition, flow theory has been examined in many other areas such as academy, creativity, motivation, video games, internet use. Flow experiences can occur within a wide range of activities from chess, mountain climbing and daily activities (Csikzentmihalyi, 1990). Despite the large differences between individuals, the flow is described in a very similar way, regardless of socioeconomic status, age, culture and ethnicity (Asakawa, 2004, 2010; Bassi & Delle Fave, 2004; Csikszentmihalyi & Csikszentmihalyi, 1992; Moneta, 2004).

In positive psychology studies, which have recently increased its importance, the flow experience is seen as a new structure in the organizational field. The affirmative contributions of different dimensions of positive psychology to individuals’ performance and job satisfaction are observed. These positive situations change the behavior patterns of individuals in a positive way and lead them to gain new skills and resources (Fredrickson, Moncuso, Branigan, & Tugade, 2000). Especially, positive psychology studies which were performed organizational field, provide new different perspectives in the field. Therefore, there are a limited number of studies on issues such as the flow experience and resources of work (Bakker, Demerouti, & Euwema, 2003), productivity, performance (Makikangas Bakker, Aurola, & Demerouti, 2010; Eisenberger, Jones, Stinglehamer, Shanock, & Randall, 2005) and job satisfaction (Fredrickson, Moncuso, Branigan, & Tugade, 2000) in the organizational field. When a task is given, the flow experience emerges with the balance between the challenge of the job and individual’s abilities. Because many tasks are given, individuals experience the flow mostly while working (Csikszentmihalyi & LeFevre, 1989). The aim of this study is to examine the relationship between optimal performance emotional state (flow experience) and performance and to investigate the flow experiences of the students who will be employees in the future.

The flow experience studies generally have been focused on athletes, dancers, theater actors and surgeons (Burke, 2010). The flow theory has been the subject of various researches for nearly 40 years in the world. But it has started to attract attention in marketing and psychology and sport (Altuntas, Asci & Caglar, 2010) in Turkey in recent years. It is expected to contribute to management and organization literature with this study by describing the relationship between flow experience and performance in Turkey.

1 Assist. Prof., Osmaniye Korkut Ata University, Faculty of Economics and Administrative Sciences, 0328 827 10 00/3225, deryayesiltas@osmaniye.edu.tr.
The remainder of the study is organized as follows. Section II provides a brief about related the literature. Section III describes methodology while Section IV presents the empirical results of research and the final section provides some concluding remarks.

2. Literature

The term “flow” was used by Csikszentmihalyi (1975/2000; 1990) and described an optimal state of mind in which an individual feels cognitively efficient, deeply involved, and highly motivated and also experiences a high level of enjoyment (Csikzentmihalyi, 1990, p. 4). The flow experience is defined as the intense focus on the action by the individual, attention to the work, and abstraction by losing importance of everything except task (Csikzentmihalyi, 1990, p. 4). It develops spontaneously without any special effort and gives a sense of subjective control to the individual. Meanwhile, the individual has clear goals, gets feedback about own performance and feels time passes faster than it is. As a result, the flow affects the individual positively and provides high performance (Nakamura & Csikzentmihalyi, 2005).

Flow occurs in situations in which challenges are lower than or meet the skills of a person (Rheinberg, 2008; Clarke & Haworth, 1994; Csikszentmihalyi, 1990; Massimini & Carli, 1988). Therefore falling right underneath the skills, boredom or relaxation occurs. Absorption, however, occurs only when demands and skills are in balance (Rheinberg, 2008; Csikzentmihalyi, 1990). In cases other than that, when the challenge exceeds the skill, stress and anxiety arise instead of flow (Rheinberg, 2008; Csikzentmihalyi, 1990; Peifer, Schulz, Schächinger, Baumann, & Antoni, 2014).

The flow which happens in case of the balance between the challenges and skills that an individual perceives while doing a job is a motivational situation. Eventually, it results in an optimal mental state and a pleasure of working. A high level of skill and a high level of work challenge, which enable the flow experience, is based on very delicate balances. The balance between these two variables can occur only if some preconditions exist. These conditions are defined as the individual having clear target or targets, be able to get healthy feedback during the realization of the objectives, the belief that the individual has control over own action and has autotelic personality (Nakamura & Csikzentmihalyi, 2005; Csikzentmihalyi, 2009).

Csikzentmihalyi (1990), explains optimal performance emotional state in three dimensions: sense of control, positive emotional experience and absorption by concentrating. The sense of control is defined as having clear targets, matching skills with the challenges of the work, controlling the work given during the task, feeling that you have control over the job and being aware of how it goes and henceforth feeling that you can handle everything related processes about the task. Positive emotional experience can be defined as feeling spending meaningful time and enjoying the work and to want to do it again. Absorption by concentrating can be defined as to concentrate easily and feeling that time has passed very quickly.

The flow experience can affect performance in different ways. The high concentration and control feeling in the flow experience facilitate performance (Eklund, 1994, 1996; Williams & Krane, 1997). One of the indirect effects can be expressed as the positive experience of deep participation during the flow. Also, another indirect effect can be taken into consideration as the sense of accomplishment, this feeling comes with creation of motivation power in order to experience again (Csikszentmihalyi et al, 2005, p. 602).
3. Methodology

3.1. Research Questions

The purpose of this study is to examine the relationship between optimal performance emotional state (flow experience) and performance and to investigate the flow experiences of the students who will be employees in the future. Two main research questions were developed to test the relationship between variables.

1. Do students experience flow during the task?

2. Is there a relation between grade points of students and optimal performance emotional state and its dimensions?

3.2. Population and Sample

The population of the study was consisted of university students and convenience sampling was used. The sample of the study consisted of the second year students of the business administration department. The scales were given to each of the students after their presentation and they were asked to answer by considering their experiences related to presentation. Totally, 212 students presented in the course. 185 of presenters filled the questionnaire forms. 8 participants’ questionnaire forms, which were not eligible for evaluation, were excluded. The analyzes were carried out with 177 valid questionnaires. Confirmatory factor analysis, reliability analysis, correlation analysis and independent sample t test analysis were used in data analysis.

3.3. Data Collection Tools

The questionnaire used in the study consists of two parts. In the first part, there are questions about the students’ task flow experiences and the second part about the demographic characteristics. In order to measure the flow experience, Flow Status Scale was used which was developed by Yoshida, Asakawa, Yamauchi, Sakuraba, Sawamura, Murakami, Sakai (2013). Scale consists of 14 items and three dimensions as sense of control (6 items), positive emotional experience (4 items) and absorption by concentrating (4 items). The three-factor structure of this scale was consistent with the suggestion of Nakamura and Csikszentmihalyi (2002) that flow was most operationally and economically measured by combining three levels of concentration, involvement, and enjoyment with the challenge-skill balance. Because scale required only a short time experimental environment, the scale was available to be used in classroom (Yoshida et al., 2013, p.60), Also, it allowed for practical and economical measurement. The performances of the students were measured with grade of the presentations.

4. Empirical Results

4.1. Demographic Profiles

185 questionnaires were distributed and from them, a total of 177 valid, usable and completed questionnaires collected which was considered as a sufficient sample size for the purpose of confirmatory factor analysis and structural model test (Hair, Black, Rabin & Anderson; 2010, Byrne, 2001). 98 (55.37%) of the participants are female and 79 (44.63%) of them are male in this study. The respondents’ age ranges between 18-25 years old and the mean of age is 21.44. The data on the descriptive characteristics of the participants are presented in Table 1.
Table 1. The Demographic characteristics of the participants

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Groups</th>
<th>Frequency(n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>98</td>
<td>55.37</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>79</td>
<td>44.63</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Married</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>175</td>
<td>98.9</td>
</tr>
<tr>
<td>Monthly House Income</td>
<td>1500 Tl and below</td>
<td>82</td>
<td>46.3</td>
</tr>
<tr>
<td></td>
<td>1501-2250 Tl</td>
<td>58</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>2251-3000 Tl</td>
<td>27</td>
<td>15.3</td>
</tr>
<tr>
<td></td>
<td>3001-3750 Tl</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>3751-4500 Tl</td>
<td>8</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>4501 Tl and above</td>
<td>8</td>
<td>4.5</td>
</tr>
<tr>
<td>Living Place</td>
<td>With family</td>
<td>31</td>
<td>17.5</td>
</tr>
<tr>
<td></td>
<td>In dormitory</td>
<td>76</td>
<td>42.9</td>
</tr>
<tr>
<td></td>
<td>With friends</td>
<td>70</td>
<td>39.5</td>
</tr>
</tbody>
</table>

4.2. Measurement

First the three-factor model was tested by conducting confirmatory factor analysis (CFA) to assess the convergent and discriminant validity (Table 2). The measurements of model fit were $X^2=200.06$ (df=74), CFI= 0.913, TLI = 0.889, IFI= 0.916, and RMSEA= 0.079. Furthermore, all factor loadings for each construct were significant ($p < .01$), according to the results, three factor model was approved compatible and acceptable (Meydan & Şeşen, 2015).

Table 2. Goodness-of-fit index of the Scale

<table>
<thead>
<tr>
<th>Model</th>
<th>Good Fit Index</th>
<th>Acceptable Fit Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN/DF= $\chi^2$/df</td>
<td>$\leq 3$</td>
<td>$\leq 4.5$</td>
</tr>
<tr>
<td>CFI</td>
<td>$0.913$</td>
<td>$\geq 0.97$</td>
</tr>
<tr>
<td>TLI</td>
<td>$0.889$</td>
<td>$\geq 0.95$</td>
</tr>
<tr>
<td>IFI</td>
<td>$0.916$</td>
<td>$\geq 0.95$</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.079</td>
<td>$\leq 0.05$</td>
</tr>
</tbody>
</table>

The Cronbach’s alpha coefficient of the task flow scale was .918. The Cronbach’s alpha coefficient of each factor was as follows: “sense of control of a task” = .861; “experience of positive emotion” = .784; and “experience of absorption by concentrating on a task” = .603. Cronbach’s alpha reliability coefficient was calculated higher than 0.60 for each one of the dimensions. Consequently, scale was accepted as reliable (Kalayci, 2010, p.405).
4.3. Findings Related To Research Questions

1. Do students experience flow during the task?

According to the definition, people experience flow when they score high on each of the three dimensions to examine intense of flow-experiences. The rate which was higher than 6 score of the dimensions were as follows; mean of the sense of control of a task (n=115; 74.58%), experience of positive emotion experience of absorption (n=132; 74.58%), by concentrating on a task (n=79; 44.6%). As a result, the rate of the participants who scored high on each of the three dimensions was 44.0 7% (n=78).

Gender differences were examined by using independent sample t test and the results are presented in Table 3. Results of the analysis, significant difference was determined between genders on sense of control of a task (6.318>5.622); experience of absorption by concentrating on a task (5.787>5.307) and task flow experience (6.275>5.844). Because of p value, it was higher than 0.05 on the experience of positive emotion dimension, the difference between genders was not accepted as significant.

<table>
<thead>
<tr>
<th></th>
<th>Sense of Control of a Task</th>
<th>Experience of Positive Emotion</th>
<th>Experience of Absorption by Concentrating on a Task</th>
<th>Task Flow Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Dev.</td>
<td>p</td>
<td>Mean</td>
</tr>
<tr>
<td>Female (N=98)</td>
<td>6.318</td>
<td>.9053</td>
<td>.003</td>
<td>5.529</td>
</tr>
<tr>
<td>Male (N=79)</td>
<td>5.622</td>
<td>1.2665</td>
<td>.003</td>
<td>5.311</td>
</tr>
<tr>
<td>Results</td>
<td>p&lt;0.05</td>
<td>p&gt;0.05</td>
<td>p&lt;0.05</td>
<td>p&lt;0.05</td>
</tr>
</tbody>
</table>

2. Is there a relation between grade points of students and optimal performance emotional state and its dimensions?

Correlation analysis were used to examine the relationship between flow and performance. Results showed that the correlation between task flow experience and grade was marginally significant (r=.286, p < .01). Again, as the dimensions of flow; experience of positive emotion (r=.294, p < .01), experience of absorption by concentrating on a task (r=.150, p < .05) and sense of control of a task (r=.296, p < .01) were related with the grades. The correlation coefficients in Table 3 show that the mean of task flow experience and its subdimensions were positively correlated with the grade of the participants.
5. Conclusion

At the end of the analysis determined that 44.07 % of the participants experienced flow during the task. According to the results, significant differences were determined between genders on experience of absorption by concentrating on a task, sense of control of a task dimensions and over all task flow experience. Performance examined by students grade of the task. To examine the relationship between flow and performance, correlation analysis was used. Results showed that three of the dimensions and overall task flow were related to performance.

Empirical results of this study contributed understanding the relationship among flow experience and performance. However, this study has methodological and theoretical limitations that provides some aspects for future study. First of all, the sample was consisted of students and evaluation of flow contained one task. Secondly, because of the flow experience as temporary and transient information embedded in memory, the data doesn’t always assure of validity. So, future researches can be longitudinal in order to establish of flow experience overtime. Lastly, future researches can be conducted on a larger number of sample groups to reach more general data.

References


IS THE VOLATILITY OF BIST 100 INDEX AFFECTED BY REGIME CHANGES?

Nazan ŞAK

1. Introduction

Financial markets, with the impact of globalization and technological developments, have been developing rapidly and offering different investment alternatives to investors. The mobility in the markets reveals uncertain and risky situations, and this has an impact on investors’ investment decisions (Tuna & İsabetli, 2014, p.21).

The fluctuation in the values of financial investment instruments is called volatility and is measured by standard deviation or variance. Accurate modeling of volatility is very important for investors to decide the right investment tools by making a risk-return analysis in financial uncertainty situations. Conditional heteroscedasticity models have been developed to model the volatility in the series. ARCH models were developed by Engel (1982) to model the conditional variance. It was then developed with new approaches where different features were added to conditional variance models. (GARCH, EGARCH, PARCH, TARCH, FIGARCH, APGARCH, MSGARCH etc.).

One of the most important investment tools in financial markets is the stock exchange. In this study, the volatility structure of the logarithmic return series obtained by using the daily closing data of BIST 100 stock index will be analyzed with GARCH, EGARCH and MS-EGARCH models and it will be tried to explain how different regime effects affect the volatility.

The second part of the study is the literature section which examines the conditional variance models related to BIST 100 index. In the third chapter, the methodology is explained. In the fourth chapter data and empirical results are presented, while the fifth chapter is the conclusion part.

2. Literature Review

In most of the studies in the literature, it is seen that conditional variance models that best estimate volatility in BIST 100 index are investigated. Akar (2007) examined the volatility structure using the closing prices of ISE 100 for the period 05.01.1990-10.08.2007 with ARCH, GARCH and SWARCH models. It was determined that SWARCH model gave better results in modeling volatility. In his study, Atakan (2009), using ISE 100 index’s daily closing price data for 1987-2008 period, found that GARCH (1,1) model is the most suitable model for modeling volatility. Çabuk, Özmen and Kökcen (2011), using the daily data of the ISE100 national, service and financial index for the period 2004-2009, found that the EGARCH (1.1) model was the best model in all three indexes. Guris and Şaçaklı Saçıldı (2011), examined the volatility structure of the ISE 100 index for the period 04.01.1995-18.06.2010 with the classical GARCH and Bayesian GARCH models and found that the Bayesian GARCH (1.1) model modeled the volatility better. Demir and Çene (2012), using the data for the period...
04.11.2002-25.11.2011, examined the volatility structure both for the whole period and two sub-periods. They estimated GARCH (1,1), EGARCH (1,1) and TGARCH (1,1) models for three periods and reported that the ARCH effect was eliminated with these models. Kutlar and Torun (2013) determined the TGARCH model as the best model by using the data of 01.12.2002-08.08.2012 period of BIST 100 series. Tuna and İşabetli (2014), using data from 2002 to 2012, found that the most suitable model for volatility is GARCH (1,1). Karabacak, Meçik and Genç (2014) examined the volatility structure of BIST 100 and Gold return series in their studies. TARCH (1,1) for the BIST100 series and GARCH (1,1) for the Gold series are the most suitable models for modeling volatility. Gürsoy and Balaban (2014) analyzed the volatility of BIST 100 index with GARCH (1,1), EGARCH (1,1) and GJR-GARCH (1,1) models by using the data of 04.01.2007-31.12.2012 period. In the model estimation, they used both the classical models and the Support vector machines approach and stated that the prediction made with the support vector machines approach was better. Altuntas and Çolak (2015) examined the volatility of BIST 100 index in 3 sub-periods. The first period is 02.01.1991-30.12.2011, the second period is 03.01.1994-28.12.2001 and the third period is 02.01.2002-31.12.2009. Symmetric in the first and second periods, and in the third period, both symmetric and asymmetric conditional variance models have shown good performance. In the third period, both symmetric and asymmetric, and in the first and second period symmetric conditional variance models were found to be good in estimation. Özmerdivanlı (2016) examined the volatility structure of the return series using BIST 100 index weekly closing price values and found that the best model was EGARCH (1,1). Demir (2016), using the data for the period 2005-2015, formed two-year forecast periods. GARCH, EGARCH, GSJ-GARCH, AGARCH and MSGARCH models were estimated with data from these periods. It was determined that the MSGARCH model provided a stronger estimation for emerging markets and all models showed similar results except for the recession period. Kılıç, Çelik and Kaya (2017) examined the volatility structure of BIST 100 index with classical GARCH and Bayesian GARCH models and determined that there was no difference between these models. Kuzu (2018) examined the volatility structure of BIST100 index with ARCH, GARCH, EGARCH, TGARCH models using the 2011-2017 period data and found that it was the most successful TGARCH model in modeling volatility in these models. Topaloğlu and Yaman (2018) examined the volatility structure of BIST 100 index with symmetric and asymmetric conditional variance models and stated that APGARCH model is the best model for modeling volatility.

In the studies, it is seen that the variability of BIST 100 index over time is examined with conditional variance models and the most suitable volatility model is investigated. For this purpose, in addition to classical GARCH models, new approaches in the literature (such as Bayesian GARCH, MS-GARCH) have been used. In this study, using the MSGARCH module developed by Ardia, Bluteau, Boudt, Catania, Peterson and Trottier (2018) in R program, Asymmetric Markov regime change model (MS-EGARCH), GARCH and EGARCH models will be compared and the best models will be presented and then the results will be interpreted. It is thought that the study will contribute to the literature, because there is no study revealing the best modeling structure of BIST100 index using this method.

3. Methodology

In order to model volatility, which is a measure of the spread in stock prices, and to forecast the course of capital assets over time, different models have been developed. The first of these models is ARCH model developed by Engel (1982). While the GARCH model developed by Bollerslev (1986) is a symmetric conditional heteroscedasticity model, the EGARCH model developed by Nelson (1991) is asymmetric conditional heteroscedasticity model.
GARCH (p,q) model is defined as,

\[ y_t = \alpha + b'x_t + \epsilon_t \]
\[ h_t = \alpha_0 + \sum_{i=1}^{q} \alpha_i \epsilon_{t-i}^2 + \sum_{j=1}^{p} \beta_j h_{t-j} \]  

While Model 1 is conditional mean model, Model 2 is conditional variance model. The \( \alpha_i \) and \( \beta_j \) in the model are parameters that express the effects of ARCH and GARCH on conditional variance, respectively, q and p are the lag lengths. \( \epsilon_t \) is the error term. For GARCH models to be valid, the parameters \( \alpha_0, \alpha_i \) and \( \beta_j \) should be greater than zero and statistically significant, and the sum of \( \alpha_i + \beta_j \) should be less than 1.

EGARCH model is described as follows,

\[ \log(h_t) = \alpha_0 + \sum_{i=1}^{q} \alpha_i \frac{|\epsilon_{t-i}|}{\sqrt{h_{t-i}}} + \sum_{j=1}^{p} \beta_j \log(h_{t-j}) \]
\[ \frac{\epsilon_t}{\sqrt{h_{t-1}}} \sim N(0, h_t) \]  

In the model, the coefficient \( \gamma_i \) is known as the leverage effect and indicates the presence of the asymmetric effect. The sum of the coefficients \( \beta_j \) in the model must be less than 1 to provide the stationary condition. In this model, unlike GARCH models, all parameters do not have to be positive. MS-GARCH models were obtained by combining GARCH models with Markov Switching models to reflect the volatility structure of at least two different regimes. In MS-GARCH (p, q) model, conditional mean and conditional variance equations are defined as follows:

\[ y_t = \mu_t^{(s)} + \epsilon_t \]
\[ h_t^{(s)} = \alpha_0^{(s)} + \sum_{i=1}^{q} \alpha_i^{(s)} \epsilon_{t-i}^2 + \sum_{j=1}^{p} \beta_j^{(s)} h_{t-j} \]  

where \( s \) is the state variable that expresses different regime states (Marcucci, 2005, p.6). The MS-GARCH model can be estimated using Maximum Likelihood or MCMC (Markov chain Monte Carlo) estimation methods.

MS-EGARCH (p, q) model, where asymmetric effect is explained by Markov Switching models, is defined as in equation 6:

\[ \log(h_t^{(s)}) = \alpha_0^{(s)} + \sum_{i=1}^{q} \alpha_i^{(s)} \frac{|\epsilon_{t-i}|}{\sqrt{h_{t-i}}} + \sum_{i=1}^{q} \gamma_i^{(s)} \frac{\epsilon_{t-i}}{\sqrt{h_{t-i}}} + \sum_{j=1}^{p} \beta_j^{(s)} \log(h_{t-j}) \]  

For MS-GARCH and MS-EGARCH models, where the existence of two regimes such as gaining and losing, the transition probability matrix is obtained as:

\[ P_{ij} = \begin{bmatrix} p_{11} & p_{12} \\ p_{21} & p_{22} \end{bmatrix} \]
\[ P \left( s_t = \frac{j}{s_{t-1}} = i \right) = P_{ij} \]
where $P_{ij}$ indicates the transition probabilities from regime $i$ to regime $j$.

When the probabilities of transition are examined, it appears that there is a relationship between the transition possibilities as follows:

$$P_{12} = 1 - P_{11}$$  \hspace{1cm} (8)  

$$P_{21} = 1 - P_{22}$$  \hspace{1cm} (9)  

**4. Data and Empirical Results**

In this study, GARCH, EGARCH and MS-GARCH models will be compared and the best model describing volatility will be determined. For this purpose, logarithmic returns obtained from the daily closing prices of BIST 100 index in the period of 6.10.2018-17.12.2018 will use and the models will estimated with the MSGARCH module developed by Ardia et al. (2018) for the R program. The data were obtained from the Finnet Technical Analyst database. The time series graph of the logarithmic returns of the BIST 100 index used in the study is given in Figure 1.

![Figure 1. BIST 100 index log-returns](image)

Figure 1 illustrates that the return series is distributed around zero mean. Especially, volatility in 2008-2009 and 2013-2014 periods is observed to be higher. The descriptive statistics of the return series of the BIST 100 index for the period examined are given in Table 1.
Descriptive statistics show that the return of BIST 100 varies between -11.06373% and 9.425013% and the average daily return is very close to zero with 0.037306%. The standard deviation of the return series is 1.548313%. According to skewness coefficient, the distribution is asymmetric to the left. The fact that the Kurtosis coefficient is greater than 3 indicates that the distribution exhibits a leptokurtic distribution specific to the financial time series. According to the Jarque-Bera normal distribution test, the null hypothesis that the BIST 100 index return series has a normal distribution is rejected.

The Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root test results in Table 1 show that the null hypothesis that the series contains unit root is rejected. The Q and Q^2 values are Ljung-Box Q test statistics calculated for autocorrelation and variance. The test results show that there is no autocorrelation in the 5th, 10th and 15th delay, but the heteroscedasticity exists. In order to estimate the GARCH models used to model volatility in BIST 100 return series, firstly ARMA model type was determined according to the structure of the series and the average equation was obtained. Based on this model, ARCH-LM test was applied and the presence of ARCH effect was investigated. ARCH-LM test results of BIST 100 return series are presented in Table 2:
IS THE VOLATILITY OF BIST 100 INDEX AFFECTED BY REGIME CHANGES?

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Table 2. ARCH-LM Testi Results

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>BIST 100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>T*R²</td>
</tr>
<tr>
<td>LM(5)</td>
<td></td>
<td>219.5143*</td>
</tr>
<tr>
<td>LM(10)</td>
<td></td>
<td>230.4997*</td>
</tr>
<tr>
<td>LM(15)</td>
<td></td>
<td>283.7524*</td>
</tr>
</tbody>
</table>

*, indicate significance at the level 1%.

When the results of Table 2 are evaluated, the null hypothesis which suggests that there is no ARCH effect in the BIST 100 return series at 1% significance level is rejected. In this case, GARCH Models can be used to model conditional variance. In order to model volatility, both the GARCH model and the EGARCH model were estimated up to the 3 lags by using normal, t and GED distributions and the most suitable models were determined. For the determination of the most suitable models, the parameter values of GARCH and EGARCH models, statistical significance, minimum AIC and SC information criteria values were used. Table 3 shows the estimated GARCH and EGARCH models:

Table 3. Estimates Results of The Conditional Variance Models

<table>
<thead>
<tr>
<th></th>
<th>GARCH (1,1) t</th>
<th>EGARCH (1,1,1) t</th>
<th>EGARCH (2,2,2) t</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>0.106897*</td>
<td>0.095590*</td>
<td>0.095552*</td>
</tr>
<tr>
<td>α₀</td>
<td>0.033937*</td>
<td>-0.062516*</td>
<td>-0.010144*</td>
</tr>
<tr>
<td>α₁</td>
<td>0.043890*</td>
<td>0.097235*</td>
<td>0.097713*</td>
</tr>
<tr>
<td>α₂</td>
<td>-0.082900*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>γ₁</td>
<td>-0.047399*</td>
<td>-0.150208*</td>
<td></td>
</tr>
<tr>
<td>γ₂</td>
<td></td>
<td>0.146785*</td>
<td></td>
</tr>
<tr>
<td>β₁</td>
<td>0.939247*</td>
<td>0.981253*</td>
<td>1.762167*</td>
</tr>
<tr>
<td>β₂</td>
<td></td>
<td>-0.764283*</td>
<td></td>
</tr>
<tr>
<td>AIC</td>
<td>3.497842</td>
<td>3.494349</td>
<td>3.483778</td>
</tr>
<tr>
<td>SIC</td>
<td>3.510255</td>
<td>3.509244</td>
<td>3.506121</td>
</tr>
</tbody>
</table>

*, indicates significance at the level 1%.

The coefficients in GARCH and EGARCH models were statistically significant at 1%. All the coefficients in the GARCH model are positive. Since the sum of αi and βi is smaller than 1 in the GARCH model, and also the sum of βi's is smaller than 1 in EGARCH model, the stability condition is provided in the models. The fact that these values are very close to 1 indicates that the volatility persistence is high (Evci and Yılmaz Kandır, 2015, p. 63). The fact that the coefficient of γ₁ indicating the presence of the asymmetric effect in the EGARCH model is negative, indicates that the negative shocks affect the conditional variance more. According to the result of ARCH
test in Table 4, the null hypothesis of homoscedasticity cannot be rejected at %1 level. The analysis shows that the models are successful in modeling volatility.

Table 4. ARCH LM Test Results

<table>
<thead>
<tr>
<th></th>
<th>BIST 100</th>
<th>GARCH (1,1) t</th>
<th>EGARCH (1,1,1) t</th>
<th>EGARCH (2,2,2) t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q(5)</td>
<td>3.759 (0.585)</td>
<td>3.455 (0.630)</td>
<td>2.958 (0.706)</td>
<td></td>
</tr>
<tr>
<td>Q(10)</td>
<td>10.065 (0.435)</td>
<td>8.681 (0.563)</td>
<td>8.336 (0.596)</td>
<td></td>
</tr>
<tr>
<td>ARCH-LM(5)</td>
<td>13.702 (0.017)</td>
<td>13.273 (0.021)</td>
<td>7.115 (0.212)</td>
<td></td>
</tr>
<tr>
<td>ARCH-LM(10)</td>
<td>16.713 (0.081)</td>
<td>18.434 (0.048)</td>
<td>13.010 (0.223)</td>
<td></td>
</tr>
</tbody>
</table>

*, Values in brackets probability values.

Although GARCH and EGARCH models are used to estimate volatility by taking the symmetric and asymmetric effects, the model do not include any regime switching. However, financial time series can be examined with Markov Switching models considering low and high volatility in the period they are examined. Markov Switching models allow for the estimation of volatility by taking into account the different regime effects.

Table 5. Markov Switching EGARCH (1,1) Model Results

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t value</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regime 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\alpha_0$</td>
<td>0.0089</td>
<td>0.0033</td>
<td>2.6620*</td>
<td>3.884e-03</td>
</tr>
<tr>
<td>$\alpha_1$</td>
<td>0.0448</td>
<td>0.0190</td>
<td>2.3562*</td>
<td>9.232e-03</td>
</tr>
<tr>
<td>$\gamma_1$</td>
<td>-0.0531</td>
<td>0.0133</td>
<td>-3.9989*</td>
<td>3.181e-05</td>
</tr>
<tr>
<td>$\beta_1$</td>
<td>0.9828</td>
<td>0.0055</td>
<td>179.4569*</td>
<td>&lt;1e-16</td>
</tr>
<tr>
<td>Regime 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\alpha_0$</td>
<td>0.0568</td>
<td>0.0178</td>
<td>3.1846*</td>
<td>7.248e-04</td>
</tr>
<tr>
<td>$\alpha_1$</td>
<td>-0.0348</td>
<td>0.0245</td>
<td>-1.4196**</td>
<td>7.786e-02</td>
</tr>
<tr>
<td>$\gamma_1$</td>
<td>-0.1237</td>
<td>0.0296</td>
<td>-4.1845*</td>
<td>1.429e-05</td>
</tr>
<tr>
<td>$\beta_1$</td>
<td>0.9701</td>
<td>0.0093</td>
<td>104.2445*</td>
<td>&lt;1e-16</td>
</tr>
</tbody>
</table>

Markov Transition Probability Matrix

|            | t+1|i=1 | t+1|i=2 |
|------------|------|------|
| t| 0.9948 | 0.0052 |
| t=2 | 0.0504 | 0.9496 |

Stable probabilities

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>t=1</td>
<td>0.9065</td>
</tr>
<tr>
<td>t=2</td>
<td>0.0935</td>
</tr>
</tbody>
</table>

*, ** indicate significance at the level 1%, 10%, respectively.
Table 5 shows the estimation results of Markov Switching asymmetric conditional variance (MS-EGARCH) model. The parameters are different and statistically significant in two regimes to explain the difference in volatility. When the transition probability matrix is examined, the probability of staying in the first regime \( P_{11} \) is found 0.9948. The probability of changing from first regime to second regime is 0.0052. This result shows that it takes approximately 192 days to remain in the first regime. Similarly, the probability of staying in the second regime \( P_{22} \) is 0.9496 and the probability of switching from second regime to first regime is 0.0504. The duration of stay in the second regime is also approximately 20 days.

The unconditional probabilities values of the model are the possibility of staying in a stable state that will not change in the long term (Kula and Baykut, 2017, p.102). These probability values are 0.9065 for the first regime and 0.0935 for the second regime. The \( \gamma_1 \) parameter that shows the leverage effect in both regimes is negative. This result indicates that negative shocks in both regimes cause more volatility than positive shocks.

5. Conclusions

In the study, the volatility in the logarithmic return series of BIST 100 index were examined with conditional variance models and it was tried to determine which models provided the best estimation of volatility. For this purpose, descriptive statistics, stability and heteroscedasticity of the BIST 100 were examined with tests. It has been determined that the series has heteroscedasticity and its volatility should be examined with conditional variance models. GARCH and EGARCH models were estimated by using normal, t and GED distributions in modeling volatility. In these models, it was determined that t-distribution GARCH (1,1), EGARCH (1,1,1) and EGARCH (2,2,2) models were the best models.

While GARCH and EGARCH models incorporate symmetric and asymmetric effects to the model, they do not consider any regime switching situation. Volatility can be estimated with MS-GARCH models in at least two different regimes. In this study, MS-EGARCH (1,1) model with two regimes was found to be successful in modeling volatility by using MSGARCH module in R program developed by Ardia et al. (2018). When the transition probabilities in each regime were examined, the probability of being in the first regime was found to be 0.9948. This shows that the persistence of staying in the first regime is high. While the probability of changing from first regime to second regime is 0.0052, the probability of switching from second regime to first regime is also 0.0504. The probability of staying in the second regime is 0.9496, too.

As a result of the study, it is seen that the BIST 100 index volatility can be also modeled with Markov Switching models besides symmetrical and asymmetric models. Estimating volatility taking into account the periods of decline and rise, will give more information about financial markets. Thus, this situation will be effective in making the investment decisions of investors by eliminating uncertainties.

References


IS THE VOLATILITY OF BIST 100 INDEX AFFECTED BY REGIME CHANGES?

Nazan ŞAK


There is a strong view that economics is the academic discipline that best represents the claim of positive science among social sciences. Economics has undergone significant transformations after its emergence as a science. Despite all these transformations, the feature containing positive and normative elements has not changed. While economists from the political economy tradition focus on qualitative studies that relate to other social sciences, especially political science and history, a group of economists adopt the qualitative methods of natural sciences to analyze economic problems. There is a debate among economists on how to understand social reality and what kind of science the economy should be.

Business is a discipline that has declared its relative independence from economics over time. Business is a research field that encompasses a wide range of areas ranging from organizational behavior of individuals to the firm's production and marketing strategies. This book contains articles on essential topics related to these disciplines, which have an inseparable relationship between them. Academicians contributing to the book have produced works on current topics of discussion as well as key subjects that remain important in economics and management.