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DEPARTMENT OF ECONOMICS

THE ROLE OF SMES IN CAPITAL FORMATION FOR POVERTY REDUCTION IN DEVELOPING COUNTRIES: THE CASE OF TURKEY AND AFGHANISTAN

PH.D. DISSERTATION

SULTAN AHMAD TARAKI

SEPTEMBER 2018

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Approval of the Institute of Social Sciences

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Doç. Dr. Seyfullah Yıdırım

Director of the Institute

I certify that this thesis satisfies all the requirements as a thesis for the degree of Doctor of philosophy in the Department of Economics

_____

Prof. Dr. Murat Aslan

Head of Department

This is to certify that I have read this thesis and that in my opinion it is fully adequate, in scope and quality, as a thesis for the degree of Doctor of philosophy.

_____

Prof. Dr. Mesut Murat Arslan

Supervisor

Examining Committee Member

Prof. Dr. M. Murat Arslan (AYBU, Economics) _____

Prof. Dr. Fuat Oğuz (AYBU, Economics)_____

Prof. Arif Ersoy (Istanbul Sabahattin Zaim University,)_____

Prof. Dr. Murat Atan (Ankara Hacı Bayram veli University)_____

Öğr. Üyesi. Dr. Erhan Çankal (AYBU, Management)____________________

Declaration

I hereby declare that all information in this thesis has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work; otherwise I accept all legal responsibility.

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ABSTRACT

THE ROLE OF SMES IN CAPITAL FORMATION FOR POVERTY REDUCTION IN DEVELOPING COUNTRIES: THE CASE OF TURKEY AND AFGHANISTAN

Sultan Ahmad Taraki
Department of Economics
Supervisor: Prof. Dr. Mesut Murat Arslan

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Small and medium-sized enterprises (SMEs) constitute a major part of the economies of both advanced and developing countries. Definitely supporting the SMEs can provide a sustainable and well-adjusted economic growth and development. Thus, SMEs may have a vital role in capital formation and economic prosperity of developing countries. The integral role of SMEs within an economy has become a source of inspiration for many academicians to study SMEs from different perspectives.

This research aims to investigate the role of SMEs in capital formation for poverty reduction in developing countries: the case of Turkey. Subsequently, the research results are used to suggest a proposal strategy for SME development in Afghanistan based on the valuable experiences of Turkey. The successful role of SMEs in capital formation depends on the sectors and the amount invested in the sectors in which the new businesses are established.

In this research unbalanced capital formation theory used as theoretical framework. According to this theory investment in key sectors are more suitable for SME development in capital formation for poverty reduction. To obtain the research objective and determine the Key sectors of the Turkish economy as well as to understand how key sectors evolved in the Turkish economy during the time, the input-output tables of 1973, 1979, 1990, 2002, and 2012 are analyzed. To complete the research and analysis input-output table a new proposal from network theory uses as research methodology. The research finding indicates that the number of key sectors in the Turkish economy has evolved during the time, and these key sectors through backward and forwards effects positively increased the number of SMEs. Hence, they have significant impacts on capital formation in Turkey. For instance, SMEs constitute 99.9% of active enterprises in Turkey and job opportunity for 75.8% for the people. Moreover, the research result uncovered that currently there are 3.524.331 SME in Turkey, 90.973% of them operate in key sectors of the Turkish economy.

ÖZET

Gelişmekte Olan Ülkelerde Yoksulluğun Azaltılması İçin Sermaye Oluşumunda Kobilerin Rolü: Türkiye ve Afganıstan Örneği

Sultan Ahmad Taraki
İktisat Bölümü
Danışman: Prof. Dr. Mesut Murat Arslan

Eylül 2018, 186 sayfa

Küçük ve orta büyüklükteki işletmeler (kobiler) hem gelişmiş hem de gelişmekte olan ülkelerde ekonominin önemli bir bölümünü teşkil ederler. Kobilerin desteklenmesi, sürdürülebilir ve dengeli bir iktisadi büyüme ve gelişmeyi mutlaka sağlayabilir. Bu yüzden, gelişmekte olan ülkelerde kobiler sermaye oluşumu ve ekonomik refah açısında hayati bir rol oynayabilmektedir. Kobilerin ekonomideki önemli rolü, birçok akademisyene kobilerin farklı yönlerini incelemek açısından bir ilham kaynağı olmuştur.

Bu araştırmanın amacı gelişmekte olan ülkelerde kobilerin yoksulluğun azaltılması için sermaye oluşumunda rolünü Türkiye örneği üzerinden incelemektir. Elde edilen sonuçlar, Afganistan'da kobi gelişimi için Türkiye'nin değerli tecrübelerinden faydalanarak bir strateji önerisi oluşturmakta kullanılacaktır. Kobilerin sermaye oluşumunda başarılı bir rol oynaması, yatırım yapılan sektörlere ve bu sektörlere yapılan yatırımın miktarına bağlıdır.

Bu araştırmada dengesiz sermaye oluşumu, teorik çerçeve olarak kullanılmıştır. Bu teoriye göre, bazı kilit sektörlerde yatırım yoksulluğun azaltılması için sermaye

oluşumu bakımından kobi gelişimine daha uygundur. Araştırmanın amacına ulaşmak, Türkiye'nin kilit sektörlerini belirlemek ve zaman içerisinde Türkiye ekonomisinde kilit sektörlerin nasıl değiştiğini anlamak için 1973, 1979, 1990, 2002 ve 2012 yıllarına ait girdi-çıktı tabloları analiz edilmiştir. Araştırmayı ve girdi-çıktı tablosununun analizini sonuçlandırmak için "Ağ Teorisi" araştırma metodolojisi olarak kullanılmıştır. Araştırma bulguları Türk ekonomisinin kilit sektörlerinin zaman içerisinde dönüşüm yaşadığını ve bu sektörlerdeki ileri ve geri bağlantılı etkilerin neticesinde kobilerin sayısının arttığını göstermektedir. Böylece, kobiler Türkiye'de sermaye oluşumuna kayda değer katkı sağlamışlardır. Söz gelimi, kobiler Türkiye'deki tüm işletmeleri yüzde 99,9'unu teşkil etmekte ve tüm çalışanların yüzde 75,8'ini istihdam etmektedirler. Dahası, araştırmamız Türkiye'de 3.524.331 kobinin olduğunu ve bunların yüzde 90,973'ünün kilit sektörlerde faaliyet gösterdiğini ortaya koymuştur.

To My Father

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LIST OF ABBREVIATIONS

SME	Small and Medium size Enterprises
IO	Input-Output
OECD	Organization for Economic Cooperation and Development
EU	European Union
GDP	Growth Domestic Product
EUR	EURO
USD	United State DOLLR
SDGs	Sustainable Development Goals
EC	European Commission
ETF	European Training Foundation
EBRD	European Bank for Reconstruction and Development
SEECEL	South East European Center for Entrepreneurial Learning
LEs	Large Enterprises
LAC	Latin American Caribbean
TuIk	Turkish Statistical Institution
PPP	Public Private Partnership
NGOs	Non-Governmental Organizations
CBOs	Community Based Organizations
FDI	Foreign Direct Investment
OSTIM	Middle East Organized Industrial Zone
SOC	Social Overhead Capital
DPA	Direct Productive Activities
R&D	Research and Development
ADB	Asian Development Bank
KOSGEB	Small and Medium Size Enterprises development Organization of Turkey

IRC	Innovation Relay Center
EIC	European Info Center
BEST	Business Environment Simplification Taskforce
SOP	State Planning Organization
GDCF	Gross Domestic Capital Formation
YOİKK	Coordination Center for Investment and the Investment Environment
KOBI	Small and Medium Size Processing.
KGF	Credit Guarantee Fund

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CHAPTERS

1 INTRODUCTION

The abbreviation of SMEs stands for small and medium-sized enterprises. The notion of SMEs and entrepreneurship development was introduced into the economic growth and development in 1940s with the introduction of targeted policies such as grants, subsidized credits, special tax treatment, and the establishment of governmental agencies to support SMEs (OECD, 2004). Nonetheless, since the 1980s, there has been a long and rather complicated discussion about the role and the contribution of SMEs to economic development. The debate has involved the impact of SMEs on employment generation, economic growth, and poverty reduction as well as the influence of SMEs on income distribution, capital formation for economic development (OECD, 2004).

Economic development as a complicated and multidimensional process involves the entire spectrum of human life and its economic, political, social, cultural, and technological aspects. A developing country must overcome many obstacles, which are originating from a complex set of internal and external forces in order to realize rapid and sustainable economic growth to reduce poverty. All these processes can be realized only through capital formation.

If a country is not able to employ its factors of production efficiently, GDP per capita in such an economy will be low. Since GDP per capita is low, total capital formation for productivity growth of factors of production is insufficient. Hence it is essential to inaugurate an economic infrastructure to realize sufficient capital formation in order to break the vicious circle of poverty. Productivity growth of factors of production has

been realized in the countries those successfully had designed and developed economic institutions to support the process of capital formation in the economy. Any increase in productivity of factors of production will increase aggregate savings as well as the total volume of investment (Ersoy, 2013). Capital can be formed, by saving a proportion of current income for construction of capital facilities in order to produce private goods, public goods, and services for future consumption. So capital formation is the process of saving, financing, and investment. To understand the contribution of each component of the process of capital formation in economic development, we must link the sources of savings (domestic and foreign) to investment (Chung, 2007).

Investment in physical and human capital or both is necessary preconditions for economic growth. In closed economies, only the domestic savings can finance the amounts of investment in the economy. While in open economies investment in one country can be supported by saving elsewhere in the world (foreign savings). However, there is ample empirical evidence that suggests positive links between domestic saving and growth; even though, traditional theoretical approaches often were unsuccessful to identify these linkages. For example, Feldstein and Horoika in 1980 found high correlation rate between domestic saving and domestic investment (Martin & Charles, 1980). Likewise, Lucas (1990) in contrast to the predictions of theoretical models, he pointed out that the direction of net capital flows is not actually from high-income countries to low-income countries.

Similarly, Prasad et al. (2007), put forward the view that low and middle-income countries grow faster, if they had a relatively lower dependency on the foreign savings in the domestic financing capital (Ganioğlu and Yalçin, 2015). Also, Aizenman et al. (2004), through their empirical analysis support this view and suggest that there is no evidence of a growth bonus associated with increasing the financing share of foreign saving. They found that economies with higher self-financing ratios grew significantly faster than those with lower self-financing ratios. Furthermore, Aghion et al. (2009) highlighted the role of national savings in attracting foreign capital and contributing to growth. Aghion in his theoretical framework describes that domestic savings serve as

collateral for attracting foreign capital to low-middle income countries with a lower saving rate (Ganioğlu and Yalçin, 2015).

On the other hand, the volume of investment is critical for capital formation. As the growth theories and the experiences of different countries highlighted, there are many ways that an economy can achieve economic growth and development. The rate of economic growth is depended on the sectors, and investment in those sectors, because the growth rate is not equal among all sectors. Eventually growth maximization is the outcome of allocating more resources to the key sectors of the economy. In other words, the economic relationship between and within the economic sectors are much more important and necessary to understand the economic structure of an economy. Since the key sectors indicate a robust economic relationship between and within the economic sectors; therefore, the identification of key sectors is critically essential to formulate the industrial policy in developing countries.

In this study, I will use unbalanced capital formation theory as the theoretical framework, and to determine key sectors of Turkey the input-output table analysis will use as the research methodology. Then the research will investigate the role of Key sectors in SME development for capital formation and poverty reduction in Turkey. Moreover, I will expand our finding to understand how underdeveloped countries, like Afghanistan, can obtain benefit from the valuable experiences of Turkey in SMEs development, capital formation as well as economic growth and development to eradicate poverty.

Afghanistan as a developing country has accepted market economy since 2001. The government of the Islamic Republic of Afghanistan has adopted a pro-private sector stance and liberal trade regime. According to these economic policies the private sector is considered to be the engine of economic growth and development. Thus, a dominant private sector is needed to achieve economic growth in Afghanistan. Since SMEs sector development is the best way to support the private sector in economies, thus the government has to improve SMEs sector of the country. Currently, the SMEs sector

makes up about 80 to 90% of all Afghan businesses, produces 50% of GDP, and employ 75% of the total labor forces (MoCI Afghanistan, 2015). Therefore, formulating a comprehensive SMEs development strategy seems to play a significant role in capital formation for poverty reduction in Afghanistan.

Despite the SME sector has an important role in the economic development of Afghanistan, the Afghan government did not have a SMEs development strategy until 2009. The SMEs development strategy that has been prepared in 2009 did not implement up to 2011 (Mashal, 2014).

Afghanistan's current SMEs development strategy has some weaknesses. Thus, it could not be considered as a comprehensive strategy. The most significant limitation of this strategy is the ignorance of export. Afghanistan's current SMEs development strategy prioritized six sectors that develop alternative for imports (MoCI of Afghanistan, 2009). Export promotion at least in short-run is not considered as a critical element of the strategy. As the result of these weaknesses, SMEs are faced with many problems and remained in a fragile state (Mashal, 2014).

Afghanistan's strategic location along with world-class enormous natural resources, having a young labor force, and existing large population of SMEs, altogether require global market-oriented SMEs development strategy. The primary objective of this research is to develop a SMEs development strategy for underdeveloped countries like Afghanistan based on Turkey experiences.

Turkey as 16th largest economy in the world, and 6th biggest economy in Europe by possessing large number of SMEs has valuable experiences in SME development. SMEs in Turkey contribute 99.9% of total enterprises, employed 77.33% of Turkish labor forces, provide 63% of total turnover and produced 62.6% of total exports in 2012 (Şener et at. 2014). Hence, I am trying to highlight the role of SMEs in capital formation for poverty reduction in Turkish economy by identifying key sectors of the Turkish economy through intersectoral linkages.

To obtain our objective, I will determine key sectors of the Turkish economy by analyzing input-output tables of its economy since 1973- till 2012. It makes possible to investigate, how the economic structure of Turkey changed over these periods. To complete the study, answers for the following research questions have to be found:

1. Does SME development play an important role in capital formation and poverty reduction in Turkey?
2. Does SMEs development reduce economic disparities in Turkey?
3. How does key sectors development effect on SME development and poverty reduction in Turkey?
4. Whether Turkey SME development policy can be implemented in underdeveloped countries like Afghanistan?

In this research, unbalanced growth theory will use as the theoretical framework. Based on our theoretical framework input-output analyses will be used to identify the sectors that have a higher multiplier effect on the demand and supply sides of the economy. Key sectors provide strong pillars for economic growth and development in each economy. The input-output model along with developments in science and technology provide a good basis for identifying the key sectors in the economies. In this research, the new approach of network theory applies as the research methodology to identify key sectors of the economy.

The government of Afghanistan has implemented many policy reforms to support the private sector through SMEs development since late 2002. Since the implementation of the economic policy reforms, many individuals and research institutions have investigated about the problems of the SMEs in Afghanistan. However, there is no any empirical study about the role of SMEs in capital formation for poverty reduction in Afghanistan. Additionally, SMEs development strategy is not only an academic interest; also, it is helpful for policymakers as well as for poor people of the country.

To formulate a SMEs development strategy based on the key economic sectors of Afghanistan; it is needed to have the input-output tables of Afghanistan's economic sectors. Unfortunately, there is not input-output table related to Afghanistan's economic sectors. Therefore, I have decided to prepare SMEs development strategy based on the experiences of the Turkish economy.

Finally, it assumed that sectors with higher multipliers coefficients in intersectoral (backward and forward) linkages have a higher contribution in SMEs development, job creation, income generation, and hence capital formation as well as poverty reduction in Turkey.

The rest parts of this research organized as follows. The second chapter is related to the capital formation and economic development. The third chapter is devoted to the role of SMEs in capital formation. Chapter four is concerned with the capital formation through SME development in Turkey: Middle East Industrial Zone an Example (STIM). Chapter five is about data analysis for key sectors identification in the Turkish economy and their impact on SME development. Chapter six provides a proposal for SME development in Afghanistan according to sharing economics principles based on the Turkey experiences. Finally, there is a summary and recommendations.

2. CAPITAL FORMATION AND ECONOMIC DEVELOPMENT

There is a direct mutual relationship among economic development and capital accumulation or formation. Without capital formation, it is not possible to achieve the objectives of economic development such as reducing unemployment, realizing economic stability, and improving the standard of living for all citizens, and so on. On the other hand, economic development accelerates the process of capital formation.

The main objectives of economic development are the formation of economic and social overhead capital (or cost) in the economies. These costs cause to improve the production process, which increases the total national product through the provision of more employment opportunities, improve the living situation and reduce poverty (Shuaib and Ndidi, 2015).

Thus, all nations irrespective of their level of economic development in order to meet their economic development objectives, they need capital formation. The notion of capital formation refers the process of building up or stocking the assets of value, to expand the amount of existing source of wealth or generate new sources of further wealth (Ugochukwu and Chinyere, 2013).

The essence of capital formation is equivalent to the accumulation of physical capital stock in an economy through investment on social and economic infrastructures. Any increase in the stock of physical capital can be generated by both gross private capital formation and gross public capital formation. The gross public capital formation accomplishes through two different sources, the government bodies, and the public enterprises (Nweze, 2017). Governments by their autonomous investment in the

infrastructural projects such as education services, public health services, power supply, transportation, construction of airports, highways, roads, water supply and sewerage, sanitation systems development enhance the productivity of private investment (Odhiambo, 2016).

Khan and Reinhart (1990) pointed out that public capital formation can directly influence the rate and productivity of private sector capital formation. Thus, the government has to implement policies to develop an environment in which private capital formation become more profitable because the private sector improvement has a considerable effect on long-run economic growth and hence on the improvement of living standards.

Several empirical researches concerning economic growth have found a strong positive relationship between the ratio of capital formation and the rate of economic growth. Ndikummana (2000) and Hernandez-Cata (2000) separately studied the relation between capital formation and economic growth in Sub-Saharan Africa, Asia, and Latin America. They found a critical relationship among the rations of capital formation and economic growth. The studies reveal that during the 1990s, the ratio of total Gross Domestic Capital Formation (GDCF) to Gross Domestic Product (GDP) in Asia, which had a higher average growth rate than the rest of the world, was 27%, while the corresponding ratios were 20% and 17% in Latin America and Sub-Saharan Africa respectively.

To sum up the relationship between capital formation and economic development; capital formation is not only a result of the investment in capital equipment that leads to an increase in production. Indeed, capital formation provides employment opportunities, improves technological growth, which in turn helps the economies to realize economies of scale in production, and intensifies specialization. Furthermore, capital formation provides mechanisms, tools, and equipment for human capital development. Finally, capital formation expands the market and eliminate market imperfections.

2.1 Capital Formation Theories

Since the end of World War Two, we have been experiencing a worldwide struggle for the improvement of living conditions in less developed countries. Especially after the quick success of Marshall Plan for the rebuilding of the European economies. Since that time several economists who had been directly involved either in the Marshal plan or were in touch with the United Nations or other International Institutions such as the World Bank have put attention on the economic development and poverty reduction in developing countries (Cypher and Dietz, 2014). They were concentrated around the following question; why did some countries have experience of economic development while others that looked with quite similar features did not develop and remained underdeveloped? As a result, two different schools of thought namely Balanced Development and Unbalanced Development theories emerged (Krishna and Perez, 2005).

2.1.1 Balanced Theory of Capital Formation

Several authors have contributed to balanced growth theory like Rosenstein-Rodan (1943), Nurkse (1953), Scitovsky (1954), and Fleming (1955), all these authors are considered as the pioneers of balanced development theory. These scholars argued that underdeveloped countries bounded by a vicious circle of poverty. According to their arguments, in less developed countries manufacturing enterprises have not developed, because in these countries market size is not sufficiently large for their productions. The market size has not expanded because of lower per capita income, and per capita income remained low because industrial firms have not developed. They also claim that individual investment decisions are not able to break the vicious of poverty in these countries. Therefore, they suggest, to break the vicious circle of poverty in undeveloped economies, it is necessary to simultaneously expand industrialization in large part of the economy (Krishna and Perez, 2005).

Each of the contributors of balanced growth model had interpreted this theory according to their view. To some of them, balanced growth means investing in

underdeveloped sectors or industries in order to bring them to the same level as the other sectors of the economy. While for some others, balance growth implies that investment must take place simultaneously in each sector of the economy. However, for the other authors, balance growth means to maintain a balanced development between the industrial and agricultural sectors (Jhingan, 2012).

Balanced growth has a broad concept. Thus, it implies a simultaneous balance between different segments of the economy, such as balanced development among the consumer goods industries, the simultaneous improvement between consumer goods and capital goods industries, the balance between manufacturing and agricultural sectors, the balance between domestic consumptions and foreign trades. Further, it means the balance between social overhead capital and directly productive investments, and balance between vertical and horizontal external economies. Finally, balanced theory suggests the simultaneous and coordinated growth in all sectors of the economy (Jhingan, 2012).

Rodan (1943) via Big Push theory proposed that a big push or a sufficiently large program in the form of a large minimum amount of investment is necessary to solve development challenges in developing countries, and to launch them on the path of economic development (Jhingan, 2012). The core element of this idea is that investments in different sectors support each other in the form of complementary investment. It implies an increase in the production of one sector causes to expand the market size of the others. However, in contrast, if only one sector expands, it cannot be beneficial. While, if many sectors developed simultaneously, each of them could produce a profit. In this way, he wanted to explain the role of coordinated expansion, or a big push, as well as to justify the role of public investment in economic development (Temple, 2005).

The other well-known contributor of balanced growth theory, Nurkse, put more emphasize on presences of vicious circles of poverty in both on the supply and demand sides of the economy in developing countries. He said if these circles are broken then

economic development will follow (Jhingan, 2012). Scitovsky (1954), and Fleming (1955) further clarified some other aspects and the necessary assumptions of the balanced growth theory.

2.1.2 Unbalanced Capital Formation Theory

Hirschman (1958) employed the term of unbalanced growth in his major work on economic development. Since Hirschman's seminal work has published considerably later than the Rodan and Nurkse ideas, hence, their doctrines have some similarities and dissimilarities. First, Hirschman also supported an industrialization strategy; secondly, he has accepted the existence of the vicious circle of poverty in developing economies. Also, he shared an optimistic opinion that less developed countries have significant hidden and talent resources. Nonetheless, in contrast to Rodan and Nurkse ideas, Hirschman advocated a big push for only limited certain key sectors. With the idea that by inducing development in key sectors first, overcapacity would be created in these key sectors, while supply bottlenecks would simultaneously increase production difficulties elsewhere in the economic structure. These bottlenecks will cause new investments opportunities for private sectors to resolve the supply bottlenecks (Cypher and Dietz, 2014). In this way Hirschman deliberately supported the unbalancing of the economy, creating disequilibrium situations, based on the following reasons.

First, Hirschman mentioned that there are limited resources in less developed countries, and this limitation would necessitate prioritizing some areas of the industry over other for the use of limited human and financial investment funds. So, unlike the advice of both Big Push and Balanced growth theories; it is not possible to simultaneously improve all economic sectors in developing countries.

Second: deliberately unbalancing the economy and creating excess capacity in some area and intensifying shortages in other areas, he believed that the pressures created would result in subsequent reactions that would speed the development process by

opening profitable investment opportunities for new entrepreneurs, through backward and forward linkages.

In Hirschman's discussion linkages was an integral part of his analysis. These linkages refer to the effects of one investment on the possibility of new investment at earlier and later stages of production. For example, through forward linkages investment in a firm can motivate new investment in another firm that uses the first firm's output as an input in its production process. Similarly, through backward linkages, one firm's investment can motivate investment in the second firm, which produces input for the first firm (Krishna and Perez, 2005). That is why that Hirschman advocated industrialization in leading sectors instead of simultaneously industrialization in several sectors, and then through backward and forward linkages, the leading sectors spark industrialization to the rest of the economy. This growth is called unbalanced, because it does not occur everywhere, but happens only in specific sectors, which then pulls the others along.

2.2 Unbalanced Capital Formation as the Research Theory

In this research, unbalanced growth theory will be used to determine key sectors of the Turkish economy and we evaluate how key sectors have been changed as the economic structure of Turkey changed over time. Furthermore, this research is interested in analyzing the impact of key sectors in capital formation for poverty reduction through SMEs development in Turkey. Recently this theory widely has been used in the field of economic analysis by many researchers all over the world. Holz (2010) applied backward and forward linkages in Chines economic policy to determine the continued presence of the state with high-linkage sectors and the strategic withdrawal of the state from low-linkage sectors. Jahangard and Keshavarz (2012) identified key sectors of Iran, South Korea, and Turkey by using input-output (IO) tables of these countries. Bekhet (2010) searched how production structure in Malaysia economy changed, as the ranking sectors changed over the period 1983-2000, he used four IO tables, which

has been published by Malaysia Department of Statistics, Bakhet also employed the Leontief model.

Yay and Keçeli (2009) determined the key sectors of Turkey using the application of the General Equilibrium theory. Trinh et al. (2012) studied the multi-interregional input-output model of Vietnam. They used 2001 IO table of Vietnam. Their study covered seven regions and ten aggregated sectors. In this study, they showed type I and type II multipliers from national, single, and inter-regional IO models. IO model used by many researchers for the purpose of calculating national linkages coefficients across the countries.

2.3 Capital Formation as the Main Driver of Economic Growth

A considerable number of studies have investigated to determine the main factors of economic growth and development. The researchers used different conceptual and methodological frameworks, each of them emphasizing to a different set of critical parameters. They proposed various insights into the sources of economic growth and development.

The study of economic growth is an essential subject of economic development and can be done both from theory and empirical perspectives. Empirically, we can analyze the economic growth of single country over a period using time series data; also, the dynamic growth analysis can be studied by taking cross-sectional data from different countries and make comparison among the countries. Moreover, the growth of a country can be analyzed from a theoretical perspective through different growth theories developed by different economic schools (Stern, 1989). In order to show the importance of capital formation in economic development, the research focuses on highly aggregated growth and development model.

There have been three streams of development in growth /development theory during twenty's century. The first stream began with the work of Harrrod (1948), and Domar (1947), or classical growth theory. The second stream is related to the development of

the neoclassical growth model; this wave is associated with the work of Robert Solow (exogenous growth). The third stream that is known as the new growth theory has begun since the mid-1980s with the seminal works of Paul David Romer in 1986, and Lucas in 1988 (Solow, 1994). The primary focus of these developments theories is to determine the main driver of economic growth, and explain the role of capital formation in economic growth and development.

According to these growth theories investment is the most fundamental determinant of economic growth, and since investment is proportional to the stock of capital. Therefore, these models had an emphasis on capital formation by investing in physical capital, human capital, and technical progress.

2.3.1 Capital Formation in Classical Growth Model

The Classical and Keynesian economic growth theory as represented by Harrod-Domar growth theory have emphasized the role of capital formation and various form of technical progress. Harrod-Domar model developed by British economists Sir Roy F. Harrod in 1939 and Evsey Domar in 1946, independently, but their assumptions and results are identical. They founded their theory on the influential work of Keynes who explained why the market might be unsuccessful to provide full employment (Greiner, 2009).

Their growth analysis shows that savings and capital-output rations are the main determinants of growth. In Harrod-Domar analysis, growth is expressed as the outcome of investment to GDP ratios, and productivity of investment. They explained that investment expands both aggregate demand and aggregate supply in the economy. It means that as the amount of investment increase it will expand the gross domestic capital formation, resulting in more businesses will be established and output increases (Masoud, 2014).

In this way, Harrod-Domar analysis shows that both saving rate and capital- output rations are the main determinants of the growth rate. Still, these indicators are amongst

the first aspects that are examined in any proposed or actual growth path (Stern, 1989). According to the Harrod-Domar model, the most obstacle of economic development in less developed countries is the relatively low level of new capital formation in these countries (Masoud, 2014).

2.3.2 Capital Formation in Neoclassical Growth Model

Neoclassical growth theory initially has been developed by both Robert Solow and Swan in 1956 independently. The Solow –Swan general equilibrium model is considered to be a typical example of exogenous growth theory, and now their model is known as neoclassical growth theory (Ho et al. 2007).

Solow in 1956, criticizes classical growth model concerning its assumptions as the model assumes that for producing one unit of output it is necessary to use a fixed amount of each factor of production (labor and capital), as the cause of equilibrium growth. Indeed, this assumption represents a very narrow balance. Solow called it as balance on knife's edge (Sardadvar, 2011). However, the standard neoclassical model solves the mentioned weaknesses of the classical model by creating the output-capital ratio as an endogenous variable. Likewise, labor productivity growth becomes an endogenous variable as well, as the capital-intensity change. While technological changes consider as an exogenous variable. This modification has many advantages in the economy. First of all, these changes provide the adjustment opportunities of capital-output ratio through substitution of capital to labor or vice versa (Solow, 1994).

The founders of this model primarily were interested to represent economic growth as a result of capital formation, and they considered the case of technical improvement briefly in their original papers, but Solow in his famous study (1957) examined technical improvement for the period 1909 - 1949 in the United States. He surprisingly found that a large percentage of the growth in output per labor hour over that period came from technical progress. Here Solow's main conclusion is that technical progress appears to be natural when it comes to scale effects, it causes to change the production function, so does not have any effect on marginal rates of substitution at a given

capital-labor ration (Sardadvar, 2011). To show the relationship between economic growth and capital formation the research will concentrate on Solow economic growth model as the representative of the neoclassical growth model.

Solow in his model highlights that by existing flexible technical coefficient for factors of production there would be a tendency for the capital-labor ratio to modifies itself during the time toward the equilibrium ratio. He describes if the outcome of the initial ratio of capital to labor is high, then capital and output increase than the labor and opposite is true. Solow's study toward an equilibrium path or steady state can be started with any capital-labor ratios.

It can be realized from the Solow model that the problem of economic development and poverty reduction in overpopulated and underdeveloped economies can be solved through capital formation. Since the model describes that in any economy the total output (GDP) is a function of the factors of production (capital, labor), the labor or population continuously increases at an exogenous rate which is not predictable in the model. Therefore, economic improvement and poverty reduction in an overpopulated, poor economy is directly related to capital formation at a higher rate more than the population growth rate.

2.3.3 Capital Formation in Modern Growth Model

Modern (Endogenous) economic growth theories have been developed in response to both theoretical and empirical shortcomings of the neoclassical model. A group of well-known scholars like Romer, Lucas, King, Rebelo and others has developed models in which steady growth can be generated endogenously. According to these models, economic growth can happen without any exogenous technical progress at rates which might be related to tastes and technology parameters and tax policy (McCallum, 1996).

The solution of the various problems of the neoclassical growth model needs to improve the production function in a way that allows for self-sustaining endogenous

growth. Since one of the main drawbacks of the neoclassical model is related to their assumption that long-run growth in per capita income is entirely exogenous. In the lack of exogenous technical improvement, income per capita would be static in the long-run, and this problem arises from the implication of diminishing marginal return to capital (Dornbusch et al. 2011).

Therefore, in order to solve the problem and to provide long-run endogenous economic growth, the related researchers proposed that it is necessary to change the assumption of diminishing marginal product of capital to an increasing or at least to a constant return to capital. The solution was taken place through a radical change in the Solow's model by entering human or knowledge capital in the production function. In this regards the founders of endogenous growth model have developed some important points by focusing on the following three fundamental mechanisms. The basic endogenous growth mechanisms are as follows (McCallum, 1996).

1. The positive externality of physical capital formation
2. Human or knowledge capital formation in the sense of labor-force scales; as Arrow's model indicates that model with increasing return can be compatible with perfect completion if a private return to capital is diminishing.
3. Development of patent system in an imperfect competition market.

These three mechanisms together provide never-ending growth. Romer (1990) pointed out that the firm market power supports the increasing returns to capital. Through a modification in neoclassical production function and its assumptions, the endogenous growth model highlighted many growth opportunities for physical capital and knowledge capital (Dornbusch et al. 2011).

To describe the importance of capital formation in modern endogenous growth theory for economic growth and development, the research is focused on the AK model as the representative of endogenous growth theory.

According to Pack 1994, most of the contributors of the endogenous growth model have represented their theories by using equation $Y = AK$ Romer in 1986 Lucas in 1988, and Rebelo in 1991. In this equation Y is total output, A is known as an expression which shows the factors that affect technology, K indicates total stock of capital formation in the economy, which reflects both physical, knowledge or human capital. In this case, the marginal product of capital is not be diminishing anymore; it is constant. This is achieved by invoking some externality that offsets any propensity to diminishing return. This model highlights that any increase in the rate of capital formation (real investment by firms and in human capital by individuals) could bring about sustained economic growth and development (Pack, 1994)

2.4 The Process of Capital Formation

The process of capital formation encompasses the following three interrelated stages (Abramowitz, 1955):

1. Encouragements to increase the volume of real savings in the economy;
2. Mobilization of savings using financial and credit services institutions;
3. Investment of savings.

As the process of capital formation indicates, capital formation is not an easy task. Particularly in less developed countries, the problem of capital formation becomes two-fold; the first problem is about improving the propensity to saving of the citizens in this group of countries. The second problem is concerning, how to utilize and where should utilize the amount of saving. The answers to these questions lead us to the sources of capital formation, which are categorized into internal and external sources. There are many domestic sources of capital formation in underdeveloped countries that need to improve: growth in GDP, stimulating of domestic savings, and establishing of financial institutions (Jhingan, 2012).

2.4.1 Saving

Saving is the first stage of capital formation. In this step individual households, firms and government institutions set aside a part of their current income or the available resources for future consumptions, or to allocate them for future investment in capital goods like buildings, capital equipment, new businesses, machines, roads, schools, hospital, and so on. Savings provide essential economic effects in any economy both at the household and national levels. For instance: in United States savings protect the households against the life events and help them to increase their wealth. While in national level savings support the financial market in establishing the world largest, and most liquid financial market, and provide a dynamic entrepreneurial economy (Oxford Economics, 2014).

The volume of saving in any economy is related to some factors such the ability to save, will to save of economic units and the incentives of increasing rate of profits and the government's role as a saver. The ability and willingness to save in a country depends on the level of income, the size of the family and the standard of living. Incentives of increasing rate of profits are depended on some incentives that should provide for producers, such as protect them against their international competitors. Finally, the government could save by adopting some fiscal and monetary policies (Zakirhussin, 2012).

2.4.2 Financing

The second step of the capital formation process is the mobilization of savings to investment project through financial institutions. There is a sizeable cross-country empirical evidence concerning the positive relationship between financial market activities and the level of economic development. The studies revile that the share of financial services in economic development increase over time, as the societies' living conditions improve consumers and businesses request better quality financial services (AFMA, 2016).

Financial institutions development plays a significant role in the mobilisation of saving in less developed countries. Since well-functioning financial institutions are not developed in underdeveloped countries, therefore a large percentage of current unspent income in these countries is hoarded in the form of cash, jewels, gold, land, and so on. Thus, to stimulate capital formation in less developed countries, it is needed to establish financial institutions where small savers safely and with high confidence be able to deposit their savings. In this regard, the Central bank can fulfil a significant role by setting up a well-developed capital and money markets (Jhingan, 2012).

2.4.3 Investment:

The third stage of capital formation process is the utilization of saving into productive investment projects. In this stage, entrepreneurs play an important role with their productive investment. They improve production capacities and provide new employment opportunities. Moreover, the productive investment brings about modern production methods, which supports technological progress and helps to realize the economies of large-scale production along with intensifying division of labor and specialization. Finally, productive investment increase machines, tools, equipment, and methods for human capital formation (Jhingan, 2012).

The rate of investment in developing economies is quite low due to some reasons. First of all, in these economies, the factors that determine the level of investment are not developed very well. Indeed, investment increases with any positive changes in the level of savings, and the number of financial institutions to collect and mobilize the savings to investment. However, in these countries savings are insufficient due to the low rate of per capita income and extravagance expenditures. Therefore, the ability and willingness to savings appear to be considerably limited. On the other hand, owing to political and economic instabilities, high-income class and almost all middle-income classes are interested in accumulating certain types of durable consumer goods like jewelry and precious ornament as a form of personal saving and investment. Since these kinds of consumer goods constitute the excellent sort of savings and storage of

values in the countries which are characterized by political instability, inflationary pressures and absent of well-developed financial institutions. Therefore, the level of investment in such countries is inadequate (Rosenberg, 1961).

Consequently, the capacity of developing countries to undertake productive investment seems to be very limited. Thus, such circumstances cause to arise many questions about the capital formation in developing countries. For example, how developing countries will be able to increase the rate of capital formation? How will these countries be able to achieve economic development and breaking the vicious circle of poverty? And so on.

Hirschman (1958) pointed out that the problem of economic development is not just about finding a single key factor such as capital, abilities, information, technology, or institutions and put it into the economic process. In contrast economic development is concentrated to find and realize latent capacities and scattered resources in any national economy. Therefore, the fundamental problem of economic development involves in producing and energizing the entrepreneurship activities to collect the scattered resources, realize latent capacities and know how to efficiently use the economic resources, which are currently using very poorly in the economy (Enders and Harper, 2013).

Economists have long recognized the situation of existing hidden and unutilized resources as well as disguised unemployment as the main characteristics of underdevelopment economies. So, in such circumstances, underdeveloped economies are able to mobilize vast hidden reserves of unskilled labors from the agricultural sector and combine them with underutilized resources. In this way, these countries can form capital, develop entrepreneurship, and provide other prerequisites of economic development (Hirschman, 1960).

According to Hirschman, it is needed to put distinguish between the problem of cyclical unemployment in the developed country and the problem of development in a developing country. During a recession in developed economies unemployed labor

exists side by side with an unutilized capacity of plant and equipment. The solution of the cyclical unemployment problem in developed economies just it is needed to reunite the unemployed labor force with existing unutilized capacities through a binding agent similar Keynesian remedy. While in underdeveloped countries there are disguised unemployment, but there is not existing unutilized capacity. Hence, the problem in underdeveloped economies is structural rather than cyclical (Hirschman, 1960). As it mentioned above in underdeveloped countries, there is not idle capital or skilled worker resources that carry out and to be utilized. Whereas as it pointed out that underdevelopment economies not only have disguised labor force in the agricultural sector, they also have unutilized capacity in savings, latent or misdirected entrepreneurs, and a wide variety of usable skills. Here the task, which has to be done is to combine all of these ingredients; this task is a little bit harder than the recombination of idle factors of production.

2.5 Impact of Capital Formation on Economic Development

Capital formation supports economic development in various ways through a fuller utilization of available economic resources. Efficient allocation of available resources leads to an expansion in the volume of national output, income, and employment. Hence capital formation solves many economic challenges like inflation, trade balance deficits, and makes the economy free from the problem of foreign debts. Developing countries mostly suffer from trade balance deficit. These countries typically export primary products such as raw materials and agricultural products. While their imports comprise manufacturing, semi-manufacturing, and capital goods. Thus, domestic capital formation is considered one of the best solutions for trade balance deficit. In this regard capital formation effects on economic development through the creation of new business formation in import-substitution industries. Import-substitution industries not only reduce the imports of manufacturing and semi-manufacturing commodities also opening many other chances for domestic investors in the other economic sectors of the economy (Jhingan, 2012).

Consequently, by producing various types of consumer and capital goods, the volume of import decreases, and the exports of manufactured goods will start. Therefore, capital formation helps the economy to solve the problems of trade balance deficit, control inflation, and reduce unemployment.

According to Fritsch (2007), capital formation affects economic development by establishing new firms. New firms represent an entry of new capacities into the market, which can affect economic development both directly through the demand side and indirectly via the supply side of the economy.

Supply-Side conditions commonly reflect the willingness and desirability of investors in business formation, here the investors comprise wages, skill, technological change, industrial organization, and overall business environment, which also determine the competitiveness of the industry. While the demand-side conditions include domestic consumptions, international trade, and demand for foreign direct investment (UNIDO, 2014).

2.5.1 Direct Effects of Capital Formation

Capital formation through business development directly stimulates economic development. New business development reduces unemployment via new job creation and increases economic productivity through intensifying competition in the demand side of the economy. Furthermore, capital formation affects poverty reduction by generating new income. The most critical direct impacts of capital formation on economic development can be described, through both new job creation and productivity improvement.

2.5.1.1 Effect through Employment growth in Demand Side

Capital formation through new business creation has a direct impact on local employment growth. The direct effect of capital formation on local employment growth by definition is positive in short-run. This effect refers to the new job

opportunities that create within the new firm for both entrepreneurs and new employees immediately at the first and following years. While the medium and long-run dynamics effects of capital formation on employment growth are related to indirect effects (Delfmann and Koster, 2016).

Birch (1979) was the first scholar that studied the impact of capital formation on employment growth. He found that small and particularly new businesses are the main employment generation in the United States (Fritsch, 2007). Birch study initiated many studies concerning the impact of new business formation on employment growth.

Stel and Suddle (2005), studied the relationship between a new business formation and regional employment growth in the Netherland. They used new regional data for the period 1988-2002. These researchers found a positive direct effect of new firm formation on regional employment growth.

There are also many forms of indirect effects of new business formation on employment generation that may have positive or negative effects on employment. For example, one may think that employment will decrease as a result of competition among existing and new firms. However, there is also a positive effect.

2.5.1.2 Effect through Productivity Improvement

Capital formation through new business formation boosts economic productivity in any economy by intensifying competition between new and existing enterprises. Competition among these entities leads to survival of the most productive firms. Even though overall employment will decline, but new business can foster productivity. This effect of the business formation may not occur immediately in short-run, but it will happen in the medium run. Economic productivity increases due to two different reasons. First new entities intensify competition in the market and hence reduce the market power of existing firms, and induces them to increase their productivities or leave the market. Secondly, just firms with a high degree of competitive advantage will enter the market and successfully continue with their operations (Kritikos, 2014).

As we mentioned above new business formation in overall has a positive effect on productivity, but this effect can sometimes be negative in the initial years, probably because of adjustments to routines and strategies in response to the new entrants. In general, a positive relationship is very strong for firms with high-growth ambitions and an innovative one, and this effect is considerably weaker for firms with low-growth ambitions. Productivity effect describes that competition generally increase the productive use of factors of production and natural resources in an economy that intensifies economic development.

2.5.2 Indirect Effects of Capital Formation

Capital formation through new business formation imposes further effects on economic development. These effects, which are rather indirect in nature steam from intensified competition between new entry and existing firms pertain to the supply-side of the market (Muellar et al. 2007). Indirect effects of capital formation could be classified into the following supply-side effects (Fritsch and Mueller, 2004). Figure 2.1 indicates an overview of the different effects of new business formation on economic development.

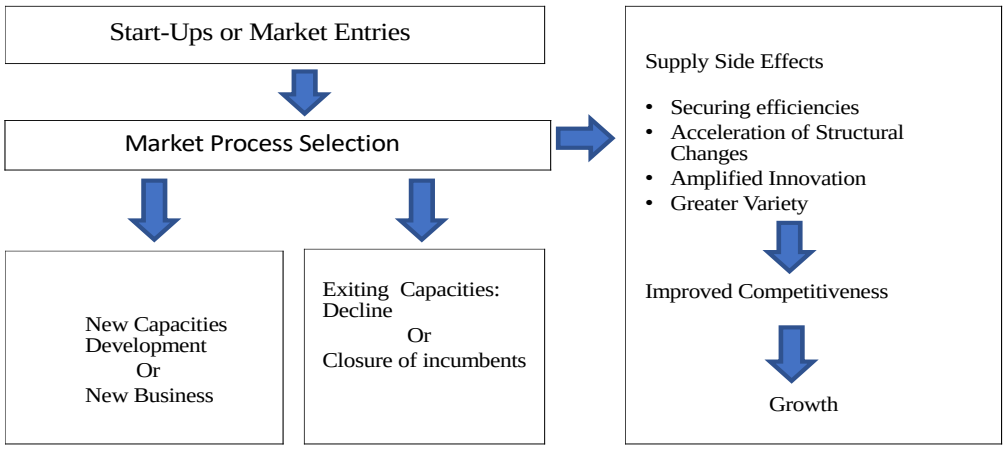

Figure 2.1: New Business Formation and Market Process

Sources: (Fritsch, 2007).

2.5.2.1 Effect Through Securing Efficiency

Securing efficiency in any economy can be protected by establishing a market position in the competitive market. So not only the actual entry, likewise the very possibility of an entry motivates the existing firms to operate more efficiently (Fritsch, 2007).
Kritikos (2014), argues that capital formation via establishing new businesses formation induces the existing firms to secure their efficiency. The newly created firms will try to increase their market share in the domestic market. They can achieve their objectives through the shrinking of the market position of the existed firms in the economy. Hence as a result of new business formation, the market power of existing firms will shrink and be enforcing them to produce more efficiently or leave the market. In such circumstances, only the firms who produce more efficiently than the competitors are able to grow, while inefficient producers have to exit the market.

2.5.2.2 Effect Through Structural Changes

In principle, new businesses formation plays an important role in structural change across sectors and within the manufacturing industry as well as in the relationship of employment growth.

Industrial structural changes generally accomplish by income level of manufacturing enterprises. For instance, as the establishment of new manufacturing firms increased in the market and joined by existing firms, the new firms challenge existing firms and enforcing incumbents to improve their products and production technologies constantly. The firms that do not have enough financial and knowledge resources are not able to undergo necessary internal improvements; thus, they have to leave the market and substitute by the new entrance. This process has been called, creative destruction by J.A. Schumpeter (Fritsch, 2007).

On the other hand, the creative and fittest firms those who are well equipped with adequate financial and knowledge capital remain to survive and governing economic growth, by restructuring their products and production technologies (Koster and

Karlsson, 2009). Impacts of capital formation through new firm formation on structural changes in any economy is manageable by the supply and demand sides conditions.

2.5.2.3 Effect Through Amplifying Innovation

New business formation theoretically has relation with innovations, particularly if new business formation has connected to market creation or new production method (Koster and Karlsson, 2009). There are ample empirical studies concerning essential innovations that have been introduced by new firms. Fritsch and Mueller (2007) found that new firms can play a significant role in driving structural improvement by exploring new markets in which new firms are able to produce diverse good and services through the innovative entry.

Furthermore, a new firm can be developed based on exploitation and exploration methods. As Schmitz (1989) pointed out, new firm formation based on exploitation strategy relies on imitation of an existing business idea, while new firm formation on exploration strategy is always trying to find new ideas. However, it would be better to use resources into both imitation and the direct production of new knowledge methods. In fact, by implementing this method individuals will obtain private benefits through the accumulation of new knowledge (Schmitz, 1989). Capital formation through new business formation amplifies innovations by inducing incumbents to explore new markets or new production methods.

2.5.2.4 Effect Through Product Diversification

Capital formation through new business development dramatically increases consumer satisfaction and protects the markets against economic shocks. If the new entry firms introduce new products, or new techniques of production, which are different from the existing firms in the markets. Thus, newcomers improve economic diversity and lead to greater accessibility and problem-solving methods. Economic diversity increases the probability of growing new suppliers, those supply goods and services that match

better with the consumers' needs and preferences. Improved diversity due to finding new suppliers may encourage and intensifies division of labor as well as stimulates more innovation in other sectors of the economy. Hence, new firm formation creates substantial impulses for economic development (Fritsch, 2007). On the other hand, new business formation also can be motivated through industry development (Backman and Kohlhase, 2013).

According to the knowledge spillover theory of entrepreneurship, the entrepreneurs enlarge their investment based on the knowledge that is produced by the existing firms in the economy. For instance, assume that as a result of the R&D activities of existing firms new knowledge is created, and the incumbents avoid the commercialization of the created knowledge. In such a circumstance, the entrepreneurs will find opportunities to extend their investment in development of new firms based on the existing knowledge, by completing the construction process of new firms based on current knowledge. Then again knowledge and routines are spillover to other sectors of the economy, which causes to create increasingly new businesses in the economy. There are two different basic implementations of this theory. First, in economies with a high rate of knowledge production the rate of new firm formation must be strong. Second, new firm formation disseminates knowledge, and indirectly contribute to products diversifications in the economy (Koster and Karlsson, 2009).

The effects mentioned above are rather indirect in character and bring about supply-side improvements. Therefore, these effects are not only related to the industry in which the new firms are formed, but also these effects may be observed in downstream industries that use the improved supply as an input in their production processes. Moreover, these effects will not remain limited to the region in which new business is developed; they also can appear in other regions. Indirect supply-side effects are considered as the main drivers of competitiveness improvement of the respective industries that may stimulate employment growth and increase social welfare (Fritsch, 2007). The supply-side effects are the reasons why we should expect positive employment effects of the new business formation.

3 The Role of SMEs in Capital Formation

One of the most concerns in economic development is the expansion of a productive private sector in order to increase gross domestic capital formation (GDCF) for poverty reduction. Private sector development may take many different forms, and its outcome may be much different in terms of equitable development and social inclusiveness. One of the most efficient ways of private sector development is the promotion of SMEs instead of large firms. SME development contributes to render a more balanced industrial structure and income equality (Altenburg and Eckhard, 2006).

There are ample kinds of literature concerning the importance of SMEs promotion policy and SMEs contribution in achieving the Sustainable Development Goals (SDGs), through promotion a comprehensive and sustainable economic growth, provision of employment and decent job opportunity for all, sustainable industrial development, encouraging innovation, supporting income equality (OECD, 2017).

According to Biggs (2003), SMEs at least have three unique contributions to economic growth and development. First, and probably the most commonly stated claim is the role of SMEs in employment generation. SMEs provide a large percentage of the new generated job, particularly create employment opportunity at relatively lower capital cost than those generated by large firms. Therefore, SME development policy is more reliable with economic conditions of developing countries for employment generation and poverty reduction. Second, SMEs development is considered as the primary stage for future industrialization. Third, SMEs development advances competition and increase flexibility in the industrial structure of the economy. Consequently, SME development policy promotes a greater economic dynamism and makes faster and cheaper the adjustments process against the economic shocks.

Currently, SMEs constitute the most significant percentage of total enterprises. Thus, this sector is considered as the major source of employment generation and economic growth in almost all economies (Katua, 2014).

SMEs play a crucial role in capital formation through expanding the components of gross domestic capital formation; both gross domestic fixed capital and change the stock of capital market.

3.1 Definition of SMEs

Since the last quarter of the 20th century the term of SMEs widely used in the determination of economic development policies, and it implies that a considerable range of business activities occupies the gap between micro enterprises and large firms. These business activities bring particular economic opportunities and challenges, which are entirely different from those of the two groups. Furthermore, the claim that SMEs development is the backbone of economic growth in both developed and developing economies has become a very hot debate for papers, presentations, and prevalent articles about private sector development. However, the claim that SMEs are the main driver of economic growth most often has been made without any precise data to support the claim, and often without any attempt to know what is an SME. Though both claims as mentioned above are true, however passively acceptances of these claims are more harmful to private sector development in developing countries (Tom and Vaart, 2008).

SMEs consist of a range of different enterprises of various sizes, which are found in a wide range of business activities. SMEs ranking from a single artisan who produces agricultural instruments for a village market, to a little-sophisticated computer engineering or it, can be a firm, which produces software packages for local, national, and foreign consumers, also, it can be a medium size automotive part manufacturing enterprise that supplies its products to multinational automakers enterprises in both national and international markets. The owners of the firms may or may not be rich; the firm may be active in a variety of markets such as urban, rural, local, national, and

international, the firms may be embodied with different level of skills, and capital. The firm may be equipped with different type of technology. It may operate in the formal or informal economy (OECD, 2004). Therefore, having a universally and widely accepted definition for classification of national SMEs is very important and necessary.

Furthermore, the main purpose of SME definition is to provide an instrument for the targeting policies, provision of national statistics on SMEs serves as the foundation for directing state support for SMEs development and targeting a broader range of policy measures.

International development organizations and national governments have defined SMEs separately (Dalberg, 2011). Since there is no any universally accepted definition for SMEs, thus we can think about a national definition as well as an international definition of SMEs.

3.1.1 National Definition of SMEs

National governments define formal SMEs, which are legally registered and operate according to the countries' prevailing law and orders. Different countries use different definitions for SMEs based on their level of economic development. National definition not only differs among the countries, but it also differs between the national economic sectors. For example, small business size standards are much different across industry such as construction, manufacturing, mining, transportation, wholesale trade, retail trade and services (Berisha and Pula, 2015). The size of the firm depends on the market in which the firm operates. For instance, according to UK national SME definition, a small firm is defined as an independent unit, managed by owners or part owners, and having a relatively small market share. So, a firm could be small in one sector where the market is enormous by having too many competitors, while a similar business size could be thought a large business in another sector with fewer operating firms with small market size. Likewise, the national definition of SMEs in North America (the small business act) defines a small business as an independently owned

and operated firm, which is not dominated in its market share but recognizes that the definition will vary within the industries (Lashley, 2009).

Most of the national governments in SME definition commonly used statistical quantity data such as a total number of employees, total annual sales, total assets or annual turnover and the total of the balance sheet in term of their national currency or only they use the number of employees. For example, United State, Canada, and Mexico have used a definition and classification of SMEs based on the number of employees, which varies according to the sectors (Anthony, 2015), Australia for this purpose has used a definition based on the number of employees. Japan has characterised and classified registered SMEs based on the number of employees and investment (assets) that varies across the industries. While the South Korea Republic has defined SMEs based on the number of employees and annual sales and capital (Kushnir, 2006). Turkey has used a definition based on the number of employees and total annual net sales (TuIk, 2016). Bangladesh has used a definition based on employees and fixed capital (Glam, 2010). All criteria that are used by different national government summarised in table 3.1

Table 3. 1: Criteria for National Definition of SMEs

Economy	Business	Criteria	Micro Enterprises	Small Enterprises	Medium Enterprises
United State & Canada		Employees	< 20	20 - 99	100 - 499
Australia		Employees	< 5	< 20	> 20 < 200
Japan	1- Manufacturing, Construction. Transportation	Employees		Up to 20	Up to 300
		Capital			up to ¥ 300 million
	2- Wholesale	Employees		Up to 5	up to 100
		Capital			up to ¥ 100 million

	3- Services	Employees		Up to 5	up to 100
		Capital			up to ¥ 100 million
	4- Retail	Employees		Up to 5	Up to 50
		Capital			up to ¥ 50 million
Turkey		Employees	＜10	＜50	＜250
		Net Sales	1 million TL	8 million TL	Up to 40 million TL
Republic of South Korea	1-Manufacturing	Employees			＜300
		Capital			≤ $ 8 million
	2- Mining, Construction, Transportation	Employees			
		Capital			≤$ 3 million
	3- Seed & Seeding production, Fishing, Electrical	Employees			＜200
		Annual sales			≤$ 20 million
Bangladesh	Services	Employees		25	50
		Fixed capital excluding land		TK 50000 - 500000	TK 0.5 - 10 million
	Business	Employees		25	50
		Fixed capital excluding land		TK 50000 - 500000	TK 0.5 - 10 million
	Industry	Employees		50	150
		Fixed capital excluding land		TK 50000 - 1500000	TK 15 - 200 million

Source: The table is made by the author

3.1.2 International Definition of SMEs

International development organizations like the World Bank, European Union, International Finance Corporation, and Development Banks, each of them has own official definition of SMEs. The representatives of international organizations in the formal discussions concerning SMEs are thinking according to the context of their organization (Tom and Vaart, 2008). Most of these international organizations use a

different statistical definition of SMEs. They usually use the number of employees, the value of sales as well as the total of assets. Some of the international organizations give a very general definition to SMEs (Tom and Vaart, 2008). While some other organizations like the World Bank, the European Union (Berisha and Pula, 2015), and International Finance Corporation (IFC, 2012) give a very detailed definition of SMEs.

In the following table, the criteria used by different international financial and development organizations are summarized.

Table 3. 2: SMEs Definition Used by International Organizations

Institutions	Criteria	Micro Enterprises	Small Enterprises	Medium Enterprises
World Bank	Employees	<10	> 10 ≤ 50	> 50 ≤ 300
	Total Assets	≤100,000	<100,000≤ $30 million	> $ 3 million ≤ 15 million
	Total Annual Sales	≤100,000	<100,000≤ $30 million	> $ 3 million ≤ 15 million
International Finance Corporation	Employees	< 10	10 < 50	50 < 300
	Total Assets	< $ 100,000	<$100.000≤ $30 million	> $ 3 million ≤ 15 million
	Total Annual Sales	< $ 100,000	<$100,000≤ $30 million	> $ 3 million ≤ 15 million
Africa Development Bank	Employees			50
	Total Assets			None
	Total Annual Sales			None

Source: the table is made by the author

Table 3. 3: SMEs Definition Used by European Union

Institution	Criteria	Micro enterprise	Small Enterprises	Medium Enterprises
European Union	Employees	< 10	< 50	< 250
	Annual turnover	≤ € 2 million	≤ € 10 million	€ 10≤ €50 million
	Annual balance sheet total	≤ € 2 million	≤ € 10 million	€ 10≤ €50 million

Source: (Berisha and Pula, 2015)

As the table shows, there are many differences among the above definitions of SMEs given by international financial and development organizations. If we compare the three criteria denoted in above table (numbers of employees, total assets, and total annual sales) we can see substantial difference between World Bank's definition and the European Union (EU), not only differentiations are in the number of employees in medium-sized enterprises, but the most critical inconsistencies are in financial criteria. Besides differences in denomination (EUR/USD), which are reasonable, the financial criteria, which used by the two organizations are much different. The World Bank used total assets and total annual sales, while the European Union used total annual turnover and balance sheet total. The two criteria do not have comparability basis, based on this very reason each country has its national definition of SMEs.

3.2 How Does SMEs Effects on Capital Formation

SMEs affects capital formation through an increase in the physical capital stock of a nation. The national physical capital stock, which is called gross fixed capital formation can be grown by both public and private investments (Shuaib and Ndidi, 2015).

According to Adekunle and Aderemi (2012), some of the current literature has confused the term of investment and capital formation. They argue that investment can take place in the various field of economic activities such as investment in financial assets, human capital development, real assets, and it can be productive or unproductive. Capital formation through additional investment in non-financial assets has been held to boost the value of the economy and increases the gross domestic product by providing further employment opportunity in the economy.

In this regard, SMEs are considered the primary source of capital formation. Recent studies indicate that SMEs constitute 99% of all operating firm, employed 70% of the labor force on average, involve between 50-60% of the value added on average in the OECD economies. In emerging economies, SMEs provide job opportunities up to 45% of employment and produce 33% of national output. However, by considering the

contribution of the informal sector, SMEs' contribution increases to more than 50% of employment and GDP in all economies irrespective of their income level. SMEs development also plays a significant role in economic diversification, which is particularly essential for resource-rich countries (OECD, 2017).

SMEs development boosts domestic capital formation through directing private investment into productive direct investment. Capital formation naturally leads to the production of goods and services, thus provides employment opportunities, generates new income and national output growth.

3.2.1 SMEs Effects in Capital Formation Through Private Investment

Taken individually, a single SMEs have only a little impact in private capital formation. However, private SMEs make up more than 95% of firms all over the world excluding the primary agriculture sector. Hence SMEs have a considerable weight in economic development through private sector investment in productive sectors (OECD, 2004). For example, SMEs constitute 99.8% of active enterprises in the Turkish economy (TuIk, 2016). Likewise, the contribution of SMEs in the total enterprise in the EU Member States is remarkable. The ratio of SMEs in the total enterprise in EU member countries changes from 99.5% in Luxemburg and Germany to more than 99.9% in other member countries like Portugal, Italy, and Greece (Muller, et al. 2015).

Indeed, economic growth in any economy is strongly related to a country's ability to invest and make efficient and productive utilization of its economic resources. In this regard, the SMEs have an essential role both to increase the contribution of private investment in the quantity of domestic capital investment, and to the efficient allocation of resources (Bayraktar, 2003).

SMEs increase the contribution of private investments in gross domestic investment in different ways. SMEs stimulate the establishment of new SMEs through inter-

sectoral linkages. Furthermore, SMEs acquire external capital through mobilization of savings via equity, venture capital, banking credit (Njama, 2013).

The critical factor that supports SMEs to operate more successfully is the accessibility of financial resources. In developed countries, SMEs are protected with numerous funding sources like banking credit, leasing, factoring, stock exchange, venture capital, and so on. Each of these funding resources has their advantage and disadvantages. Among the others venture, capital and equity are the most important source of capital formation in developed and developing countries. For example, there are 800 venture capital funds in the United States, and these funds in 2010 invested nearly $179 billion in 3,276 SMEs (Dalic, 2017). In the Turkish market, venture capital fund is introduced by June 2012. Currently, 323 venture capital funds are supporting SMEs in Turkey (Teker and Teker, 2016).

3.2.2 SMEs Effects in Capital Formation Through Resource Mobilization

SMEs have a unique role in domestic resource mobilization. Thus, SMEs promotion considered to be an important trigger for domestic resource mobilization, both directly through their immediate effect on employment, income generation, and the decentralized provision of goods and services, and indirectly by enhancing productivity and economic growth (Altenburg and Eckhard, 2006).

Domestic resources have two principal sources, which are public revenues and private finance or savings. Public revenues have the variety of sources of finance such as taxes, bond receipts and other sources of public income (Velde, 2014). Public revenue is crucial for equitable development and poverty reduction in developing countries. In fact, these countries need a substantial amount of public investment in health, education in social and economic infrastructures. Therefore, governments of developing countries have to raise their revenues in order to finance demanded services by their citizens, which will enable them to eliminate poverty. The expansion of public revenues is not an easy task for the governments of developing countries. Particularly at a level which is needed to finance all demanded services, without the direct support

of the private sector. Thus, the governments of these countries have to find reasonable and productive solutions for the domestic resource mobilization.

Suryahadi & Adrianto (2007) proposed that a relatively more comfortable solution for the governments in developing countries would be to reform their economic policies. They can approve business-friendly policies, rather than to increase the public revenues to increase the public sector spending. Therefore, the governments of developing countries must promote private sector through SME development policy as soon as possible, because private firms boost government revenues, national income and reduce poverty.

The second major source of a domestic resource is a private saving. Thus, the next problem in developing countries is how to mobilize and efficiently use the private savings. In this regard, the main problem is not related to the low level of private saving, but the major problem is the lack of attention about the effective use of private finance for SMEs development in these countries (Velde, 2014).

According to the World Bank Group and other development institutions, SME development policy is essential for private savings mobilization to increase economic growth and to reduce poverty in developing countries. The World Bank Group approved more than $10 billion for the period (1998-2002) to support SME promotion policy in developing countries. The development institutions argue that SMEs support economic development based on three critical reasons. First, SMEs increase competition and entrepreneurship, thus have a positive externality on economy-wide efficiency, innovation, and total productivity growth. From this point of view, direct support of SMEs by the governments enhance social benefits in the economy. Second, supporters of SME development policy often claim that SMEs are much productive than large firms. Finally, some researchers argue that SME development policy further increases employment than large firm promotion, because SMEs are more labor intensive (Beck et al, 2005).

The SMEs through domestic resources mobilization have a double impact in capital formation: first, SME development encourages business savings and facilitating their most effective utilization. Secondly, private savings mobilization by SMEs stimulates individuals to increase their savings and making their savings available for financing the appropriate growth-promoting investment (Jhingan, 2012). Unfortunately, SMEs in developing economies mostly remained underdeveloped, and face with a number problem.

3.2.3 SMEs Effects on Capital Formation Through Public-Private Partnership

SMEs potentially can play a crucial role in infrastructure development in developing countries through Public-Private Partnerships (PPP). The term of Public-Private Partnership explains a range of feasible relationships between government and private institutions concerning the development of infrastructure and other social services. Moreover, this term presents a framework in which the private sector recognizes the role of government in ensuring that the social obligations are met, and successful sectors and the public investment's objectives are achieved (Asian Development Bank, 2008).

A well-developed public-private partnership allocates the tasks, obligations, and risks between both public and private partners in an optimal way. The public partners in a PPP are public institutions like ministers, departments, municipalities, or state-owned enterprises, while the private partners could be different types of private firms (local, national, or international), NGOs or community-based organizations (CBOs).

The public-private partnership is considered as a desirable alternative policy for developing countries that are mostly confronted with the macroeconomic problem like government budget deficit, excessive public debt, and undeveloped infrastructures. This policy enables the governments of these countries to open the door for private investment and attract them to invest in infrastructure development. In fact, PPP policy supports government budget and reduce the burden of public debt in developing countries (Kahyaoğulları, 2013).

The implementation of PPP policy, which encourages the private investment in public projects not only benefit the government but also provides numerous investment opportunities for private firms. As the Asian Development Bank estimated, infrastructure development in Asia needs $8 trillion during 2010-2020. Thus, the implementation of PPP policy in developing countries provides a considerable investment opportunity for private firms (Vandenberg, 2015).

In Turkey, the implementation of PPP was accomplished in 1994. This policy in Turkey coordinates with a complex network of regulatory such as Treasury and some other institutions involved in the process, like “Ministry of Finance, State Planning Organization, Privatization Administration, Public Procurement Agency, Line Ministries and in some cases the Municipalities." According to Turkey regulation, PPP can be formed in any part of the economy, which needs advanced technology and a significant amount of financial resources.

The contracts of public-private partnership can be taken in many forms, and it depends on the projects. Through the implementation of PPP development policy in developing countries, the private sector has invested up to $64 billion only in infrastructure development project during 2000-2004 (Asian Development Bank, 2008).

Among the various benefits that PPP policy provides for developing countries, this policy can support local capacities and expertise, encourage increased competition, thus facilitates economic growth. To maximize the economic benefits which are produced by PPPs projects, it is necessary to promote the involvement of SMEs in these projects. Although PPPs are mostly large and complex, however, there is some policy mechanism that applied by the government and large firms to encourage the involvement of SMEs in PPP projects. SMEs can actively participate in transportation infrastructure development in the PPP project through subcontracting, SMEs can play a significant role in global value chains through the collaboration between the public and private sector. Furthermore, the SMEs have tremendous opportunities in the

wastewater treatment sector, with small hydro, water treatment, supplying wind power, solar PV, Geothermal and bioenergy, and so on (www.World Bank Group.org).

Since SMEs undertake most of the private sector investment in economic activity throughout the world, therefore these enterprises as the subcontractors of large firms play a significant role in capital formation through PPP system in developing economies.

3.2.4 SME Effects on Capital Formation Through Foreign Direct Investment

Most often argues that the competitiveness and productivity improvement of SMEs in developing countries is related to the capacity development of SMEs through technology modernization. Technology modernization has a broad meaning and involves products, process, and management. Technology development can take place inside of the firm, or it can be obtained from outside sources, including foreign direct investment (FDI) by integrating domestic SMEs with multinational companies through subcontract agreements (Tambunan, 2008). There is a common belief that FDI through multinational companies plays a critical role in SME development of host countries, by providing the subcontractors SMEs with a set of productive assets, which contains long-term foreign capital, entrepreneurship, technology, skills, innovative capacity, managerial knowledge, organizational and export marketing (Lugemwa, 2014).

Mucchielli and Jabbour (2007) pointed out that multinational companies support SME development in host countries through backward and forward linkages, based on two different assumptions. First, multinational firms need to improve the design, the quality of the product and on-time delivery. Therefore, multinational companies mostly impose quality control on the products and support the suppliers by improving their production process and through the provision of reliable information. Second, multinational companies provide technical support to the suppliers through vertical integration.

In economic development literature, FDI is considered one of the most important sources of technological transformation to the national industry in developing countries. Hence the governments of developing countries often are attempted to transfer modern technologies through the provision of subcontracting arrangement between SMEs and large firms and multination companies (Tambunan, 2008). For example, the share of high tech of large multinational companies in the Turkish economy is estimated to be 32%. This significant share of multinational companies has horizontal spillover and competition effects, which causes to expand the market size and improve the competitiveness of Turkish SMEs (Eryiğıt et al. 2012).

3.2.5 SMEs Effects on Capital Formation Through Human Capital

Human capital is considered as a set of intangibles assets like skills, abilities, talents, and experiences, which are built up by a person through the time. The holder of this capital is able to work more efficiently, or will be able to find a job for himself, or can provide job opportunities for others. Human capital in the same way of physical capital can be acquired, preserved, and developed by some sort of investments. Where investment in physical capital is costly in term of direct payment, and for human capital investment can be more costly because of both direct payment and opportunity costs, in term of the individual's time. Human capital like physical generates profit for the holders (Claudia, 2016). Human capital involves all types of investments that are accomplished to increase human abilities including formal education, informal education, on-the-job-training, and learning by doing (Ali et al. 2018)

There are many sources of literature that have revealed that human capital is one of the core element of long-run economic growth through both the level effect of human capital on total production as a result of labor productivity growth and the rate effect by contributing to enhanced competitive advantage through innovation improvement and technological development (Pelinescu, 2015).

Among the others, SMEs have a remarkable and robust impact on human capital development in developing countries. SME increases the human capital via two

different ways. First, these enterprises employ educated professionals, provide them with the opportunity to apply their knowledge and skills in the production process of goods and services, in turn, compensated them with higher salaries and income. In this way, SME creates incentives for investing in human capital formation, irrespective of whether it is affected through formal and informal education. Secondly, SMEs increase human capital through providing professional training to many people through informal education (Altenburg and Eckhardt, 2006).

In Turkey, SMEs play a considerable role in human capital formation through professional training. For example, OSTIM as one of 280 industrial zones in Turkey, through providing job opportunities for more than 65000 workers and establishing eight technoparks has a significant impact in human capital development by providing vocational training (www.OSTİM.org.tr, 2018).

3.2.6 SMEs Effects Capital Formation Through Sectorial linkages

According to our theoretical framework (unbalance growth theory), the channels that SMEs can effects capital formation in developing countries are extensive. The pioneer of unbalanced economic development theory believes that capital formation is not just the outcome of importing advanced technology and putting it in the process of production. While capital formation is a process, which must be formed through the strategy of entrepreneurship development.

Hirschman as the founder of unbalanced growth theory distinguished between two categories of capital formation, the Social Overhead Capital (SOC), and the Direct Productive Activities (DPA). He believes that the distinction between these two categories of capital formation has to be judged, not by their logic, which is far from compelling. In fact, the judgment must be based on their theoretical and practical usefulness. SOC includes those principal services that in the absence of them the function of primary, secondary, and tertiary productive activities is not possible. According to this broad definition, the SOC comprises all public services such as law and orders, education, public health, power supply and water supply, irrigation system,

drainage system and so on. While capital formation through DPA includes different types of private sector investment, which are done in all economic sectors like manufacturing, agricultural, commerce and services sectors (Hirschman, 1960).

In order to accelerate capital formation in developing countries through direct productivity activities, Hirschman encourages private enterprises (SMEs) to invest in leading sectors of the economy. Although he has accepted the existence of vicious circle of poverty in developing countries; However, he argued that industrialisation through some certain key sectors in developing countries are possible, and then these key sectors will positively affect other sectors in the economy, trough backward and forward linkages (Krishna and Perez, 2005).

Hirschman proposed and structured a mechanism for capital formation based on industrial linkages. These linkages refer to the effects of one investment on the profitability of another investment in upstream or downstream of the production process. Therefore, investment by SMEs through forwarding linkages will cause an increase in the investment of others that use the former SMEs output as an input in their production process. Likewise, the same is true for backward linkages that SMEs' investment can motivate private investors to in new SMEs, which produce inputs to other firms (Krishna and Perez, 2005).

Hirschman recognised and appreciated the role of governments in the motivation of capital formation in developing countries. Nevertheless, he recognised that the government is rarely an autonomous agent in capital formation, but the government can alter the pattern of investment by its regulatory interventions. For example, through tariff and taxes. Thus, he says that the structure of capital formation in developing countries is the product of an interaction between private entrepreneurs' activities, individuals and the public sectors who are also responsible for creating specific public-enterprise capital and complementing, regulating, encouraging private capital formation (Krishna and Perez, 2005).

Hirschman formulated a typology of linkages which are affecting capital formation. Some other economists examined this pattern of capital formation and industrialization of developing countries. They also support the idea of investment in leading sectors. They suggest that other things being equal, any sector whose industrialization has a significant role in reducing the production cost of the final good, this sector is a key sector. Investment growth in the key sectors will cause to change the vicious circle of poverty into a virtuous one.

3.3 Role of SMEs in Equitable Economic Development

Over the past decades, the statement that SMEs are the engines of economic growth and development has often been repeated. In addition, also it is asserted that SME development is the primary driver of equitable economic development and poverty reduction in developing countries.

One of the strong reasons, which can support the role of SMEs in providing equitable economic development is industrialization. Historically industrialization has been considered as the most important driver of economic growth and modernization. It has kept its significance for developing economies by providing them with the principal means to increase their capacities and factor productivity. Industrialization process successively supports a sustainable improvement in the standard of living and reducing poverty, on the other hand, manufacturing SMEs through industrial linkages support other sectors in developing economy especially agriculture (Hobohm, 2001).

Mazumdar (2001), popularized the role of SME in the equitable economic development. According to him, SME development helps developing economies in achieving equitable economic development in three different ways. First SMEs increase the role of non-farm employment in agricultural growth, that means a decentralized labor-intensive growth in agriculture sector based on the seed-fertilizer revolution produces new demands and linkages, which causes to motivate the growth of non-farm economic activities in local industries, trades, and services. Secondly, SMEs support non-agricultural household enterprises. Finally, SMEs support modern

manufacturing and service in national economies. He argues that SME development in developing countries accelerates equitable growth and reduces inequality in the distribution of income.

Without any doubt, economic growth and inequality cannot be treated individually. Instead, growth has to be equitable and provide more and equal opportunities for all people. Furthermore, common accessibility to public goods, services, and necessary infrastructures are remarkably important for equitable economic growth (Cities Alliance, 2016).

3.3.1 Role of SMEs in Equitable Economic Growth

SMEs development expected to be an essential and desired equitable economic growth path for developing countries. Mazumdar (2001) described the role of SMEs in generating equitable economic growth based on two arguments: The factor proportion argument and the growth rate argument.

According to factor proportion argument SMEs are accepted to be more labor-intensive than large firms. Thus, this feature of SMEs leads to a choice of technology that more closely resemble the factor market in the economies with a relative scarcity of capital and abundant in the supply of labor. Likewise, based on the growth rate argument, SMEs development is considered to be a fundamental instrument in developing a broad base of entrepreneurship. While large firm development is critically important in the promotion of modern business practices and will be significant in R&D. However, the growth of large firms usually is coupled with the extreme concentration in big cities. This type of industrial concentration increases the public and private costs, threaten to reduce the growth potential of the big cities. In the opposite, SME development can create many growth poles in small town and rural areas, which can serve as the basis for further economic growth in developing countries (Mazumdar, 2001).

There are many studies to reveal the role of SMEs in the equitable economic growth in developing countries. Asian development bank in its report concerning SME development in Pakistan, emphasizes the critical role of SMEs in economic growth, employment generation and ensuring equitable distribution of income. The report emphasized on SME development policy in developing countries. Hence these countries need a suitable industrial foundation to stimulate growth. For instance, Taiwan as a developing country with a vibrant SME sector achieved both record-breaking economic growth and a shallow level of inequality. Likewise, South Korea has obtained economic growth, and reduced inequality as the weight of SME sector increased (Deborah et al. 2015). The SMEs involve 99.9% of the total enterprises and provide about 87.5% of employment opportunities in the South Korean economy (Lee, 2009).

SME sector has consistently recorded a higher rate of growth and employment creation in the industrial sector of developed and developing countries. There is a universal consensus among researchers and policymakers that the significant advantage of SME sector is its employment potential with low capital cost. Particularly in developing countries, SMEs are the only realistic employment source for millions of poor people in urban and rural areas (ICASEPS, 2009). According to EU, SMEs are both socially and economically significant, because these enterprises represent 99% of total enterprises in European union member countries, and provided 99 millions of decent jobs, thus SME significant contribution in entrepreneurship and innovation in EU member countries (Katua, 2014).

SMEs are considered as the major contributor to GDP growth and employment generation in developing economies. For Example, SMEs constitute 99.91% of total enterprises and 97.1% employment, 55.6% of GDP and 59.9% of investment in Indonesia. Likewise, this sector involves 99% of all business units, 20% of GDP 60% of formal employment that is, 56.4 million posts of the job (Papalardo, 2014). Although the contribution of SME in the Turkish economy has mentioned, recent

publication indicates that Turkey as an emerging economy has recorded the fast growth of employment in SME and large firms (OECD and Eurpean Commission, 2016)

3.3.2 Role of SME in Equitable Income Distribution

It is generally, but often implicitly, assumed that economies with a large percentage of SME production in their total GDP probably have more equitable income distribution. It is understandable that the ratio of capital in manufacturing value added substantially increases with a shift toward large enterprises (LEs) development strategy, because of two reasons. First, LEs are capital intensive economic enterprises. Secondly LEs most often operate in an oligopolistic market. These features provide them with a market power to determine price above marginal costs. In such circumstances, the expectation of a sizeable unequal distribution of entrepreneurial income is completely predictable. On the other hand, substantial wage differences among SMEs and LEs means that a large percentage of output produced by SME sector than LEs, this leads to more of the wage bill belongs to workers in lower wage group of labor-intensive enterprises. Thus, this advantageous effects of SMEs on the distribution of labor income could be a strong argument for SME development policy than the efficiency effects (Mazumdar, 2001).

Beck et at. (2005) pointed out that SMEs have the ability to intensify competition, and entrepreneurship thus these enterprises have an external benefit on entire economy efficiency, innovation, and aggregate economic productivities (Beck et al. 2005). Therefore, the policymakers of developing countries have been encouraged in SME sector development through international funding and the results of economic growth analysis, in order to achieve more equitable economic growth and help to minimize the incidence of the high level of poverty (Agyapong, 2010). Since the sustainable growth of the SME sector is vital for enhancing per capita income and consumption, new job generation, and poverty reduction (Snodgrass and Winkler, 2004). As it motioned in the previous section, the World Bank approved more than $10 billion to support the SME sector in developing countries.

Furthermore, there are many shreds of evidence worldwide that show the role of SME development in alleviating the development challenges including inequality of income distribution in the economies. For example, South Africa has been faced with some development problems such as high levels of unemployment, poverty, income inequality, crime, and corruption. According to Fatoki (2014) unemployment rate was 25.2%, the poverty rate in this country 13.8, and its Gini coefficient was approximately 0.65 based on expenditure data, while it was 0.69 based on income, which was one of the highest levels of inequality in the world. Other development challenges like crime and corruption also were remarkable. The country in 2014 was ranked 72nd position out of 177 countries in crime and 42th out 100 countries in transparency. Based on the study, which has been conducted by Asian Development Bank and the Organization for Cooperation and Development in 2014. SME development was proposed to be a basic instrumental solution for development problems of South Africa. Fatoki (2014) analyzed the critical role that SMEs can play in South Africa's development problems. He reached to the same conclusion that SMEs are expected to play an important role in South Africa's development challenges.

3.4 Challenges Faced by SMEs in Developing Countries

SMEs are an integral part of any economy and contributed a critical role in supporting stable economic development. SME development has a significant impact on upholding the economic growth especially that of developing countries. The development of this sector needs a combined effort of private entrepreneurs, government, and financial institutions (Hussain et al. 2012). Although the SME sector is considered vital for economic development in developing countries, the growth of SMEs in these economies is facing some severe challenges.

Plentiful researches have been done to explore the challenges that SMEs are facing in developing countries. Each of the researchers investigated the SMEs challenges from different aspects in their studies. They have identified the problems and proposed the solutions (Majanga, 2015). Among the others, Pandya (2012) divided all challenges

that SMEs are facing in developing countries into two broad categories such as organization specific and system specific. Hussain et al. (2012) have focused on the low accessibility of financial resources, low human resource capability, and low technological capability. The most critical challenges that SMEs are facing in developing countries has described below.

3.4.1 Financing Constraints in Developing Countries

SMEs' insufficient accessibility and cost of finance are mostly considered as one of the most critical barriers to the growth of SMEs in developing countries. Financial constraints are the major challenges that have related to the high rate of SME failures in developing economies (Pandya, 2012). The results of a cross-country empirical survey over 71 countries on SMEs' financing which accomplished by Beck (2007), reveals that the 35% of all SMEs in the sample, mostly developing countries have ranked the cost of finance as the major constraint than the other features of the business environment. Even it was scored higher than the tax rate and macroeconomic instability. However, the other SMEs in the sample also ranked the cost of finance as a substantial obstacle to growth. On the other hand, access to financial resources is ranked as a major restriction on growth by nearly 30% of SME in the sample. In addition, the financial constraint is one of the few features of the business environment that directly affects the firms' growth (Beck , 2007).

Moreover, many other studies indicate the insufficient accessibility of SMEs to financial resources in developing countries. For example, Hussain et at. (2012) describe that SMEs in China achieve merely 12% of their capital in the form of bank loans, while their counterparts in Malaysia and Indonesia acquire 21% and 24% of their capital as banking loans respectively.

As 2012 data shows SMEs access to bank loans in some Asian and Pacific developing countries have improved, especially among the members of Asian SME Finance Monitor countries the ratio of the lending scale of SME to GDP is relatively large. This ratio is 38.9% for South Korea, 33.7% Thailand, 20.1% for Malaysia, while this ratio

remains quite low in other Asian countries. For example, it is 7.8% for Cambodia, 6.7 for Bangladesh, and 4.8% for Kazakhstan (ADB, 2014). However, in Turkey, most of SMEs have access to finance, but the total volume of credit extended to SME are not enough (World Bank, 2011). The share of SMEs in total banking loans is 26% in Turkey (KOSGEB, 2015).

3.4.2 Low Technological Capability

The low technological capability is recognized as one of the main obstacles to SME growth in developing countries. Indeed, low technological capability prevents the SMEs of developing countries from completely grabbing the benefits of modern technology. Owing to this very reason SMEs in developing countries remained with a low level of productivity, low-quality products and exporting to small and local market. In fact, all these massive problems originating from using conventional technology due to the limitation of the human capital (Pandya, 2012).

In the Turkish economy, a low technological capability is one of the most challenges to SMEs growth. Insufficient knowledge and using low levels of technology are prevalent in the SMEs sector of the Turkish economy. A clear majority (89%) of manufacturing SMEs are active in medium-low and low-level technological industry sectors (Karadag, 2015).

3.4.3 Low Accessibility to Human Capital

The SMEs growth or failure does not only depend on the accessibility of financial resources or modern technology. However, the SMEs prosperity and development also related to the abilities and knowledge of the human capital of entrepreneurs and its staff. Human capital helps the SMEs in any economy to increase competitiveness and productivity. Moreover, human capital enhances the innovative abilities of the SMEs (Pandya, 2012).

Unfortunately, one of the major restrictions on SMEs development in developing countries is low human resource capabilities. In fact, human resources in SMEs of developing countries are relatively weak regarding their knowledge in market analysis, marketing skills, product, and process innovations as well as in the field of business planning and financial management. Thus, SMEs are required to design capacity building programmers to enhance the entrepreneurial and managerial skills of their staff to increase the effectiveness of SMEs sectors in developing countries (Hussain et al. 2012).

Turkey as a developing country has a substantial, but unused potential for entrepreneurship development. One of the relevant reasons for refraining from starting a new business in Turkey is lack of technical knowledge concerning the preparation of business plans. Therefore, entrepreneurship is commonly desired, but it seems more difficult for a young entrepreneur. On the other hand, a relatively high rate of social security premiums in Turkey than other developing countries increases the cost of skilled labor in the Turkish economy, in comparison to the counterpart's economies. This problem combined with the low level of employees' technical capability, generate difficulties to improve the competitiveness of SMEs in Turkey (Karadag, 2015).

3.4.4 Low Quality of Managerial Capital

Managerial capital consists of four skills such as administrative skill, technical skill, human skill, and citizenship behavior, all together called managerial capital. Access to such capital is considered as a comparative advantage for all enterprises especially for SMEs (Tonidandel et al. 2012). The managerial structure of SMEs is substantially different from the large firms, in the large firm senior managers have the ability to delegate some of their responsibilities to the second or third level managers. Hence, they have free time to focus on knowledge management. While the situation of SMEs is entirely different from the large firms, in the case of SMEs the managers most often are the owners of the firm, and the process of decision making is much shorter. It

implies that if the SMEs managers equipped with the managerial capital, they can increase the productivity and competitiveness of their enterprises (Nada et al.2012).

Managerial capital can affect the production function of enterprises in two different ways. First, based on the argument that firms with superior managerial input are capable to improve the marginal productivity of the other inputs. Second, managerial capital effects on production functions through its influences on the decision making about the choice of quantitative and qualitative of both capital and labor inputs that firms buy or rent. Thus, if SMEs have limited access not only to physical capital as well as to managerial capital, the manager experiences can solve the administrative problem of the firm and the capital constraint. In order to show the impact of managerial capital on firms' production function, we can incorporate the idea of managerial capital into endogenous growth theory, through the assumption that managerial capital is part of the intercept shifter A, in the production function $y = Ak^{\propto}l^{(1-\propto)}$. This production function explains that a high level of other factors of production cannot increase the level of output if managerial capital is meager in SMEs (Bruhn et al. 2010).

There are evidences that managerial capital in developing countries is relatively lower than developed countries. Therefore, SMEs in developing economies are often poorly managed, which considerably reduces the SMEs productivity and growth. This problem becomes more severe as the size of the firms' increases to 100 employees or more because a larger number of employees necessitates a standard management system (Bloom et al. 2010).

3.4.5 Poor Governance Environment

SMEs' productivities are negatively affected through relatively poor legal and crime prevented systems as well as by corruption in developing countries. Since the performance of legal systems is weak in these countries, hence protection of property rights and enforcing the contracts are mostly problematic. Therefore, anti-trust policy is not strong as it is in developed countries (Tybout, 2000). For example, Yang (2016)

analyzed the impact of governance environment on SME performance in Latin America and the Caribbean (LAC). The region has characterized by a large number of SMEs per capita at the national level, and also LAC contains a higher proportion of SMEs relative to other regions in the world. In his study, he found that in LAC region innovative SMEs are obstructed by poor governance environment.

Paunov (2016) analyzed the impacts of corruption on the ownership of quality certificates and patents by small and large firms. He found that corruption has significantly negative impact on firms' ownership of quality certificates in sectors, which utilize quality certificates more intensively. Şeker and Yang (2012) conducted an empirical study to analyze the effect of bribery on the firm's growth. They found that the growth rate of SMEs severely affected by bribery. Owing to these reasons one of the essential challenges of SME development in developing countries is poor governance environment.

3.4.6 Volatility of Macroeconomic

Economists are principally concerned regarding the high rate of output fluctuation in economies because they believe that output fluctuation is related to other negative characteristics of underdevelopment. The global economic experiences indicate that consumption volatility is even higher than output fluctuation in most of developing counties relative to developed countries. Hence the costs of economic volatility on the economic growth of developing countries appear to be very high. There are many shreds of evidence that a higher economic volatility rate reduces the rate of economic growth. There is no doubt that the high rate of macroeconomic fluctuation tends to reduce investment in physical and human capital (Perry, 2009).

Loayza et al. (2007) pointed out that the negative impact of economic volatility on the economic welfare of developing economies is twofold. This is because not only the impact of macroeconomic volatilities is more significant in developing economies. Moreover, these economies face more macroeconomic vitalities than developed economies. They also believe that macroeconomic volatilities originate from three

different resources such as exogenous shocks, domestic shock, and weaker shock absorbers. Among other negative impacts of macroeconomic volatilities on the economic development of developing countries, Tybout (2000) puts more emphasis on the adverse effect of domestic price fluctuation on SMEs development.

4. Capital Formation through SME Development in Turkey: Middle East Industrial Zone as an Example

SMEs development policy has a significant role in capital formation and economic development. SMEs have a meaningful impact on reducing unemployment, economic growth, and output diversification, etc. Likewise, SMEs progress is considered as the most important element of the product and technical innovation. Moreover, SMEs development policy is suitable to reduce poverty and solve regional and sectorial inequalities in the national economy. Also, SMEs' easy access and exit from the markets increase the flexibility and competitiveness of the economy. On the other hand, SMEs tend to provide job opportunities for low-income and relatively low scale labor force, therefore sometimes they consider as the only source of employment for impoverished regions and rural areas (KOSGEB, 2012).

The Turkish government in the 1990s has begun one of the most important policy goals, which was related to SME promotion, because of the reduction of large enterprises. On the other hand, throughout the EU member countries, SME development found an important position in the agendas of economic growth and development. After that SME development policy become a critical part of the hot debate among Turkish policymakers for economic development. In this manner, the effective and efficient initiatives have gained considerable attention to promote Turkish SMEs' activities in the domestic and global market (Nurrachmi et al. 2013).

During the first decades of the 21st century, the awareness concerning the critical role of SMEs in Turkey has been raised. Hence the government has developed some useful policies and strategies to provide an appropriate business environment for SMEs. At the domestic level, the government established Small and Medium Industry

Development Organization (KOSGEB), initiated the Turkish Scientific and Technological Research Council (TUBTAK), developed SMEs Strategy and Action Plan (2003), opened, the Innovation Relay Center (IRC), built Euro Information Centers (EICs). Furthermore, the government started some other useful projects in favor of SME development such as the e-Transformation of Turkey. This project involved many developments in information strategy such as technical infrastructure, standards, e-Government, and e-commerce (European Commission, 2004). On the other hand, the Turkish government has committed on several international charters and programs including the Bologna Charter (2000), European Charter regarding Small Enterprises (2002), and The Business Environment Simplification Taskforce (BEST) program (OECD, 2004).

Nowadays the role of SMEs in the Turkish economy is considered crucial due to their contribution to overall employment, income generation, improving competition, and technical changes as well as product innovation like any other countries. To understand the impact of recent SMEs development policies and strategies in the Turkish economy, it is useful to present a general picture from the status of SMEs before and after the implementation of these policies. Fortunately, such a picture of Turkish SMEs has given by the OECD organization.

At the beginning of 21st century, the number of enterprises in SMEs sector of Turkey was estimated at 1.2 million. The SMEs constituted 99.8 % of all enterprises, employed 76.7% of labor forces, involved 38% of total investment, 26.5% of value added, approximately 10% of exports and 5% of banking credits. As the data shows, while SMEs sector was dominated in term of employment, this sector had operated with relatively little capital equipment, generated a comparatively low level of value-added, had only a small contribution to exports and their access to banking credit was meager (OECD, 2004).

It is conceivable that before implementing the policies a typical Turkish SMEs had used traditional and simple technology, and they produced only for the internal market.

However, they had to compete with foreign companies, especially with European companies in the domestic market. Indeed, the competition was impossible because the technical level of Turkish enterprises was much lower than the European firms (SPO, 2004). However, by the implementation of SMEs development policies, the picture has changed entirely.

Currently, there are 3.424.331 SMEs in the Turkish economy. SMEs constitute 99.9% of all enterprises in Turkey. These enterprises have a significant contribution to the Turkish economy and their share in the economic activities can be summarized as follows (KOSGEB, 2015).

- The contribution of SMEs in total good and services purchases is 65.5%
- The contribution of SMEs in total revenues is 63.3%
- The contribution of SMEs in total production is 56%
- The contribution of SMEs in total value added is 53.9%
- The contribution of SMEs in gross domestic capital formation is 53%
- The contribution of SMEs in total employment is 75.8%.

4.1 SME Development in Turkey

SMEs development requires a conductive business environment and institutions, also sufficient basic infrastructure service, access to financial credit with a plausible interest rate, equity and venture capital, consultative services and information concerning market opportunity. The SMEs usually have a relatively low level of entrepreneurial knowledge; also, they have insufficient financial resources and administrative skills in accounting, production management, and preparing a business plan. On the other hand, as SMEs mature, they continuously require integrating with the global market (KOSGEB, 2012). Therefore, SME development is a complicated process, as global experiences indicate only a few numbers of governments have succeeded in implementing sustainable strategies for SME development.

In Turkey, several public administrative bodies deal with forming and implementing SME support policies. In fact, the ministry of industry and trade is the principal authority for preparing SME development policies and implements the policies through its associated body, KOSGEB (OECD, 2004). KOSGEB is one of the most important organizations that execute the SMEs development policies in the Turkish Republic. In this context, SMEs development mechanisms that supported by KOSGEB could be divided into two groups; 1) development of SMEs according to KOSGEB support regulation and, 2) development of SMEs through credit support mechanisms (KOSGEB, 2012). SMEs that operate in the manufacturing, trade, and service sectors can benefit from KOSGEB support programs if they have already been registered in the KOSGEB database.

4.1.1 KOSGEB Objectives and Organizational Structure

KOSGEB as the small and medium industry enterprises development organization was founded with the aim to enhance the contribution SMEs in the national economy in 1990. KOSGEB has established in the form of semi-public organization and through its affiliation with the Ministry of Industry and Trade of Turkish Republic provides development services and support programs to SMEs (www.insme.org). This organization with its 88 branches in overall 81 provinces of Turkey realizes the following objectives (KOSGEB, 2015):

- Creating an appropriate business environment for SME development.
- Promoting entrepreneurship activities.
- Facilitating the accessibility of SMEs to financial resources.
- Increasing competitiveness and Innovative activities of the SMEs sector.
- Providing and distributing appropriate information to the SMEs sector.
- Enhancing the accessibility of the SMEs to new markets and globalization.

KOSGEB's organization and its support mechanisms restructured in 2003. According to the new regulations enterprises have been directed to strategic goals based on their

potential capacities and competitiveness power by completing their registration in KOSGEB database. Support mechanisms of KOSGEB can be summarized in the following four scopes

- Screening
- Strategic Road Map
- Support implementation
- Monitoring

From organizational perspective, KOSGEB has two main branches including policymaker and service provider units. Moreover, there exist an internal supporting unit. In this organization, the executive board is responsible for all types of institutional decision-making, which is consisted of the representatives of relevant organizations. (KOSGEB, 2012).

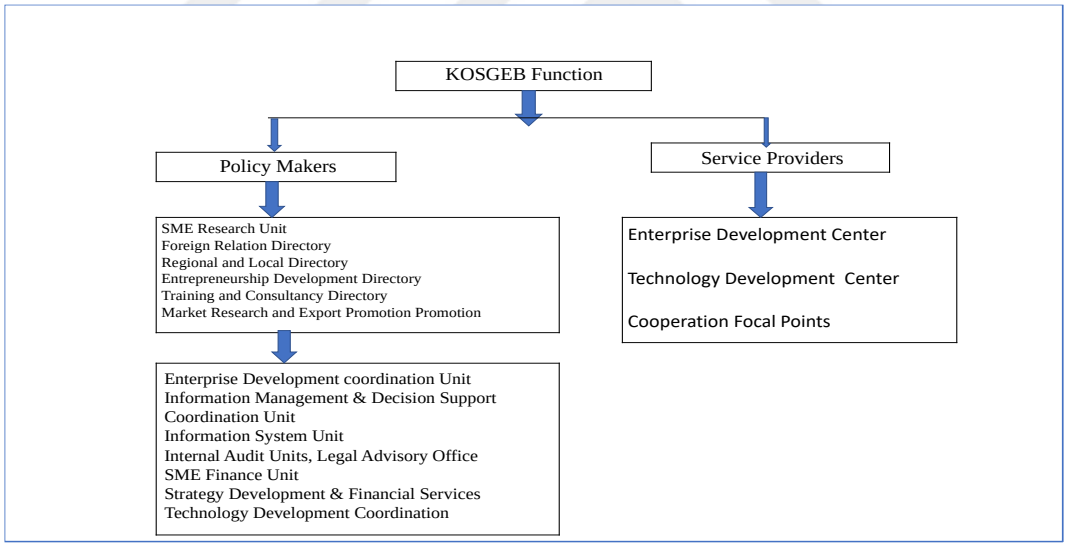

Figure 4.1 Organization structure of KOSGEB

Source (KOSGEB, 2015)

4.2 Special Policies for SME and Entrepreneurship Development in Turkey

Economic integration brought about considerable changes in the social, political, and economic areas, which provided a new global business environment for manufacturing enterprises. The practices of doing businesses are changing through the rapid improvement in communication technology, trade liberalization, trade-related support services, foreign capital circulation, etc. Thus, in such a new global environment, competitive strategies become further relevant to enterprises. As an economy reduces trade barriers and becomes integrated with the global market, national firms must compete with international competitors. In such a circumstance, large firms will overcome the challenges, but it is not possible for SMEs to develop, and compete with large and highly developed foreign firms (Şener et al. 2014).

Therefore, SME development needs specific national policies. SMEs development policies are different from countries to countries and from developed to developing countries, because of variation in government regulations, social and custom values. For instance, governments regulations and their bureaucratic procedures can either simplify the process of SMEs development or restrict entrepreneurship activities (Eniola and Entebagn, 2015).

Şener et al. (2014) pointed out that the Turkish government has developed very well-structured SME development policies, which has been supported by a series of well-established institutions. Turkey scored above average in all measures excluding bankruptcy measures and the operational environment. The high scores of this country indicate that its performance is secure enough in supporting SMEs in the adoption of standards, export promotion, and globalization.

The Turkish government implemented many policies for industrialization of Turkey, but here we are intended briefly describe the most relevant policies of SMEs

development. The policies that the Turkish government has developed could be categorized into the following broad groups.

4.2.1 International Policies to Support National SMEs

Integration in global market needs policies to provide a well-developed business environment and a well-functioning entrepreneurial system. A developed business environment in national level is critically important for countries as well as in regional level to increase SMEs participation in the international market. Integration in the global market also is crucial to enhance SMEs competitiveness, technological improvement, innovative behavior, standardization of the products, good governance and facilitates access to strategic resources (OECD, 2017). Therefore, the Turkish government implemented some policies to increase the participation of Turkish SMEs in the global market. Hence the government of Turkey has committed to jointly subscribes and implementing some of the European Union policies and programs on SMEs development.

BEST Program*:* Turkish Government as a wishful member of the European Union has been joined with one of the EU's action plans, which is called the Business Environment Simplification Taskforce (BEST). This action plan approved in 1997 by the EU in order to foster SME entrepreneurship and compositeness. According to BEST, the EU member countries have committed to share the best practices among the member states in the fields of education and training, access to financial resources, visibility of support services, public administration, employment and working conditions (OECD, 2004).

European Charter for Small Enterprises*:* Turkey and some other candidate nations of EU subscribed to the charter in April 2002. The charter was approved in EC meeting held in Feira of Portugal in 2000. European Charter describes both the reasons why SMEs should be considered especially important as well as the arguments why the Council is determined to support SMEs. The Charter covering all-important areas and

actions to be undertaken relating to the medium and long-terms SMEs development strategy including education and training for entrepreneurs, simplifying the start-up procedure, improved institutions and legislation, skills training, improving online access, getting more out of the single market, progresses in taxation and financial matters, improving SMEs capacities to boost innovation and using advanced technologies, development of e-business and technology firms, more effective representation of SMEs' interests at domestic and global events. Charter subscription considered as a foundation for long-run SMEs development strategy (OECD, 2004).

4.2.2 National Strategies for SME and Entrepreneurship Development

The first national SMEs development strategy of Turkey, which is called SME strategy and action plan (KESP) was prepared in 2003 within the 8th FYDP. Aimed to improve the SMEs' efficiency, increase their share in the value added, and enhancing the SMEs competitiveness in the global market. The vision was to achieve these objectives in market conditions along with the obligations within the scope of international agreements, policies, and programs, which are in progress to provide a well-developed investment environment for SMEs (SPO, 2004).

The SME strategy and action plan (KESP) has been developed to provide strong coordination between the different institutions that support SMEs. Moreover, the Turkish government through (KESP) was eagerly tried to harmonize the Turkish SME development policies with the European Union SMEs' support policies, as it was mentioned in the 2003 Accession Partnership Document (KOSGEB, 2012).

The period (2007-2013) covered the 9^{th} economic plan, during that period the government developed another policy instrument to provide a conductive investment environment for SMEs that is called the Coordination Council for the Investment and the Investment Environment (YOİKK) Action Plans. The Council performs its programs through twelve Technical branches, each of them working on individual issues with participation in national and private institutions (KOSGEB, 2012).

The third SME Strategy and Action Plan developed in 2011 and implemented during 2011-2013. In this strategy, the treatments of the weaknesses were categorized into five areas, 1) development and supporting the entrepreneurship activities; 2) enhancing the SMEs capabilities and improving their Management Skills; 3) supporting the business environment, and the Process of investment in the SMEs; 4) increasing the abilities of the SMEs in conducting R&D and innovation; 5) Simplifying the accessibility to financial resources for the SMEs and Entrepreneurs (KOSGEB, 2012).

Supporting the SMEs' competitiveness is part of the tenth economic development plan has implemented during (2014-2018). In this economic development plan, the government strongly concentrated to increase the SMEs competitiveness (KOSGEB, 2014-2018).

4.2.3 SMEs and Entrepreneurship Support Mechanisms in Turkey

Nowadays all countries around the world have their own SMEs and entrepreneurship support mechanisms, aiming to increase the number and the survival of the SMEs in the economy. In Turkey, all SMEs and entrepreneurship support mechanisms are organized and implemented by KOSGEB and some other public administrative institutions. Thus, these policy instruments can be studied under two broad categories such as the mechanisms those are implemented by KOSGEB, and the mechanisms that apply through other public institutions (KOSGEB, 2014-2018).

4.2.3.1 KOSGEB SMEs Support Mechanisms

KOSGEB is one of the major organizations executing the SME supports mechanisms in Turkey. This organization renders both technical and financial support facilities to SMEs that are operating in the manufacturing, trade, and service sectors if they were registered in KOSGEB’s database (KOSGEB, 2012). Indeed, for SMEs development in developing countries access to the financial resource is vital but not sufficient. Therefore, financial support must be associated with non-financial or technical support facilities to enhance the capacity of competitiveness and productivity of SMEs (Owusu

et al. 2017). The most important technical and financial support mechanisms that are provided by KOSGEB are summarized and described below.

- ***SMEs project Supports Mechanism***: The purpose of this program is to launch a project culture and awareness between SMEs and support the projects prepared by SMEs. The aim is to solve the SMEs specific problems and increase their capacities by using different types of support mechanisms. For example, KOSGEB supports SMEs projects in the field of production, management, marketing, human resources, financial issues and finance, and information management (KOSGEB, 2012).

- ***R&D and innovation Mechanism***: In the field of R&D and innovation programs KOSGEB provides refundable and nonrefundable supports to SMEs and entrepreneurs whose project has been approved by the Evaluation and Decision Board (KOSGEB, 2012). The ratio of R&D expenditure on national income in the SME sector of Turkey during 1990-2013 increased from 0.24% to 0.95 %. However, still, Turkey is behind the levels of the EU and the OECD countries (KSOGEB, 2015).

- ***R&D, Innovation, and Industrial Application Support Mechanism***: this program has been designed to support SMEs and entrepreneurs those have unique ideas in the field of new products, providing new information, and services to facilitate the production and marketing processes of the products, and for supporting innovative activities of SMEs. The purpose of this program is to support the SMEs' high added value R&D projects up to one million TL. These types of support programs are offered in the form of grand and loans (KOSGEB, 2014).

- ***Entrepreneurs Support Mechanism***: KOSGEB applies this program aiming to promote the entrepreneurship culture in the society to increase the employment level. KOSGEB by applying two unique programs such as the Applied Entrepreneurship Training Program and the Entrepreneurship Support Program learns to entrepreneurs how to set up their business (KOSGEB, 2014). Applied Entrepreneurship Training program is the first step of entrepreneurship support program of KOSGEB. In this step the applicants have to participate in applied entrepreneurship training course at least

for 32 hours. The course is open to all and free of charge. At the end of the course, the participants who successfully finished the course, they will receive a certificate. When the applicant obtained the license or started the business, then he/ she can apply for the entrepreneurship support program.

- ***Cooperating-Leaguing Support Mechanism***: this program has been developed for promoting the culture of partnerships and cooperation within the SMEs sector. Through this program, SMEs learn solutions to the problems that SMEs are not able to solve on their own. For example, the problems which are related to financing, weakness in competitiveness, underutilization of production capacity, marketing, and procurement (KOSGEB, 2014).

- ***Emerging Enterprises Market SME Support Mechanism***: KOSGEB by implementing this program supports SMEs which have the potential to develop and grow, by getting the SMEs into the capital market. In the process of getting SMEs into the Istanbul stock exchange market (IMKB) Emerging Enterprise Market (GİP), KOSGEB under this program support SMEs up to 100,000 TL (KOSGEB, 2014).

- ***Technological Support Mechanism***: KOSGEB was founded with an innovative mission, which is to transform the situation of SMEs from the organizations that try to follow the changes, into the organizations, which direct the changes in their foundation laws. Thus, KOSGEB established technical centers, techno parks, consulting centers, institutes, and similar institutions to encourage R&D activities in the industry and put into application. KOSGEB started its R&D and innovation support program with two specialized cooperation protocols. The protocols were signed separately between KOSGEB and universities, and KOSGEB with commerce chambers (KOSGEB, 2014).

Technological support programs consider as the stable support programs of KOSGEB through both the Enterprise Development Center (IGEM) and the Technology Development Center (TEKMER) centers. These support programs, which are based on the BEST practice model of the EU and Asia as well as North America, provide

strong support for new small businesses and to SMEs that are considering improving their production, marketing, and exports capacities (OECD, 2004).

KOSGEB's Financial SME Support Mechanisms: SME development and growth to a large extent related to their abilities to invest in restructuring, innovation, and qualification. Investment requires capital and access to financial resources. Since the inability of SMEs in financing their necessary investment is one of the critical problems that restricts economic growth and development. Therefore, KOSGEB as the major SME development institution in Turkey since 2003 has developed certain mechanisms to mitigate Turkish SMEs financing problem. The most important of KOSGEB's financial support programs are as follow.

- ***Credit Interest Support Mechanism***: This program has been developing by KOSGEB since 2003. The main purpose of this program is to increase the SMEs accessibilities to financial funds. In Credit Interest Support Program, the amounts interest on the loans that are taken by SMEs from the banks is paid by KOSGEB institution. Furthermore, SMEs have been able to obtain credits from banks in favorable conditions. In the case of applying for this program by SMEs, the enterprise is analyzed by both KOSGEB and the bank. This is because the KOSGEB pays the interest amount of the loan, but the principal amount of the loan is repaid to the bank by the benefiting SME during a specified return period (KOSGEB, 2014).

- ***Credit Guarantee Fund (KGF) Mechanism***: Generally, SMEs are faced with inaccessibility to banking loans due to collateral problems. KOSGEB by approving the credit guarantee fund policy solved the collateral problem of SMEs. KGF acts as an intermediary institution and enables SMEs with insufficient collateral to apply for banks credits. This policy has two positive effects on credit accessibility of SMEs in the economy, first increases the number of customers for the financial institutions, and secondly reduce the risk of financial institutions. The share of KGF in total banks credit for SMEs is 75%, while the share of banks is 25% (KOSGEB, 2014).

- ***Start-Up Capital Mechanism for SMEs Support***: This support policy has two components which include start-up grand up to 30,000 TL, and start-up loan without interest up to 70,000 TL. Entrepreneurs can apply for a start-up program during the first two years after the establishment of their business if they have the following conditions:

- The entrepreneurs have Graduated from training programs that implemented by KOSGEB.
- The entrepreneurs have graduated from training programs arranged by the local partner.
- All incubator tenant companies.

Support rations change between 60-80% according to the geographical location of the business and the applicant social group such as women and disabled people of the society (KOSGEB, 2014).

4.2.3.2 SMEs Support Mechanisms by Other Public Institutions

As it mentioned at the beginning of this section that besides of the KOSGEB there are some other governmental departments, which are involved in SMEs development programs of Turkey. These departments provide both technical and financial support for the SMEs sector. For instance, the Economic Ministry of Turkish Republic and some other institutions provide critically important supports to the SMEs sector, which briefly described below:

- ***Exemption of SMEs from Customs Duties and Value Added Taxes***: These types of SME support provide undersecretary of Turkish Treasury. The undersecretary of the Treasury (UT) suggests different measures to improve R&D investment along with other types of investment activities within a general investment support program. According to this program, all machinery and equipment related to the project are exempted from customs duties and value-added taxes (KOSGEB, 2012).

- ***Technical Support Mechanism for SMEs development***: The Economic Ministry of the Turkish Republic under the statement No. 98/10 on State Support for R&D Project, provides funds for R&D support for SMEs through TUBITAK and Technology Development Foundation of Turkey (TTGV). In fact, TTGV as a non-profit institution provides support to R&D and innovative project through financial support of the Turkish Ministry of Economy (KOSGEB, 2012).

- ***Standardization and Accreditation of Business Services***: To certify the improvement of skills that obtain from educational institutions, and training centers in the economy. It is needed to establish and develop a consistent and trustworthy examination and certification system based on international norms of professional standards. Hence the Turkish Vocational Qualifications Authority (MYK) has been established in September 2006. The purpose is that MYK operates according to the EU Vocational Qualification System (KOSGEB, 2012).

SME development plan (2003-2005) had emphasized on the expansion of the local and regional clustering programs in SMEs sector of the Turkish economy. The aim was to form clusters within organized industrial zones, industrial zones, and small industrial estates. The main purpose of clustering plan was to support fashion and textile, automotive, footwear, leatherwear, and furniture industries. Turkish Ministry of Commerce and Industry prepared a project proposal concerning cluster analysis and submitted to the EU (OECD, 2004).

The Turkish National Clustering policy was begun in March 2007 by the economic support of the EC. The last working on clustering and networking of SMEs in Turkey was started under the project of SME Coordination and Clustering in February 2011 and lasted until August 2013. This project implemented and financed as collaborated project between the Ministry of Economy, the Ministry of Science Industry and Technology, the Turkish branch of European Research and Consultancy Company (CECORYS Turkey) and the European Union (Çelik et al. 2013).

- *Financial Support Mechanism for SMEs development*: There are some companies and institutions those provide financial assistance for SMEs. The institutions support SMEs are as follow:

SME Venture Capital Investment Trust: The Corporation of SME Venture Capital Investment Trust established in 1990 aimed to support the SMEs in the following areas (KOSGEB, 2012):

- Support SMEs in economic activities.
- Invest in SMEs on their existing business or a new one.
- Sharing the risk of investment.
- Offering consultancy and training services.

- ***Istanbul Venture Capital Investment Trust***: IVCI was founded between several institutions such as European Investment Fund, Technology Development Foundation of Turkey, Development Bank of Turkey, Garanti Bank, and National Bank of Greece in Luxemburg in 2007. The primarily objective of IVCI is to facilitate the improvement and expanding the capability of companies that invest in venture capital in Turkey. IVCI is a financial institution that could be considered a fund of fund (KOSGEB, 2012).

- ***G43 Anatolian Venture Capital Fund***: This organization was established under the program of IVCI with the help of the European Investment Fund to encourage investment in most underdeveloped regions of Turkey (KOSGEB, 2012).

- ***Emerging Companies Market program for SME Support***: This SME development program was started as a specific market within Istanbul stock exchange as a platform, where securities are issued in order to collect financial funds from the capital market for the companies that they have potential capacity for growth and development (KOSGEB, 2012).

4.3 Middle East Organized Industrial Zone (OSTIM) as a Model for SME and Entrepreneurship Development in Turkey

Middle East Organized Industrial Zone (OSTIM) is one of the 280 organized industrial zones in Turkey (KSOGEB, 2015). Historically the concept of organized industrial zone development (OIZ) turns back to the planned economy period of Turkey which started at the 1960s. In fact, the industrial sector was recognized as the key sector of the Turkish economy in1960s. This realization led the government to establish the first OIZ of Turkey in Bursa province in 1962 (Güzeloğlu, 2016).

It is obviously clear that in a planned economy pursuing of the development plan had an ordering role for public sector and guiding role for the private sector. During the planned economy the government implemented import substitution economic policy, and subsidized policy had supported national enterprises. These powerful support policies encouraged the private investors to come together and establishing small industrial complex (SIC) and OIZs in various regions of Turkey. This industrialization policy had provoked the mentality of sharing economics in Turkey. On the other hand, the government motivated entrepreneurs to establish the SIC and OIZ in different provinces and parts of the country. As a result, the OSTİM was instituted in 1967 by a group of Turkish entrepreneurs based on the sharing philosophy of costs and benefits (Ersoy , 2013).

The OSTIM model was developed by private entrepreneurs according to their culture and believes and made it one of the leading production areas in Turkey as well as in the world. Nowadays this model has become a pattern for SME development in the region, national and international levels (www.OSTİM.org.tr, 2018).

SMEs development based on OSTIM model has several economic advantages for the countries in which capital is relatively scarce, especially in less developed countries. Ersoy (2013) summarized the economic advantages of OSTIM based model as follows:

1- Implementation of Sharing Economic policy will cause to mobilize unemployed human and natural resources of the countries.

2- In the case of foreign direct investment in Sharing Economics framework, technological improvement will increase, benefit and losses share equitably among the parties.

3- The model increases competition in the market and reduces the monopolistic propensities. In addition, the market price mechanism supports the efficient allocation of economic resources.

4- By applying such a model like OSTIM, infrastructure services are developed and supply jointly through foundations or semipublic institutions to provide opportunities for the SMEs to compete with the large monopolistic firms.

5- In such a model the required budget for research and development will be financed jointly by participating SMEs. Thus, technical improvement would be sustainable, and the production cost will be lower.

6- Implementation of this model will restructure the legal system of the economy according to the principles of the Sharing Economics in order to eliminate all obstacles that restrict the freedom of entrepreneurs

7- This model will increase cooperation among the firms in sharing their knowledge about production engineering, methods of production and collective experiences. It will enhance the SMEs' abilities to improve their capacities continuously.

8- This model provides a joint marketing institution, which helps the SMEs in obtaining their needs at a lower price and promoting their final product in the national and international market.

9- This model helps the SMEs in designing new projects, arranging new contracts and agreements.

10- This model promotes clustering method among the SMEs aimed to increase cooperation and solidarity among production units in marketing for their production at the global market.

11- This model provides training facilities for the labor force in order to improve their practical knowledge and abilities.

12- This model arranges cooperation and teamwork among SMEs, research organizations, and universities.

13- This model promotes a new method of the capital formation based on Sharing Economic principles which is much different from socialism and capitalism.

4.3.1 Development of OSTİM

Generally, OIZs have both economic and political importance in all societies. From the economic point of view, OIZs is vital regarding new investments, provision of job opportunities and regional development. On the other hand, OIZs is also considered as an effective policy instrument for planned, systematical industrialization and environmental policies. Worldwide entrepreneurs' experiences indicate that firms those are located in OIZs have much better performance and are more competitive than the firms which operate outside of the OIZs. Therefore, the choice of a right location of OIZs, designing a professional administrative structure, providing support mechanism by governments are essential to improve the efficiency and performance of the OIZs. All OIZs could be categorized into two groups such as OIZs that involve large enterprises and OIZs which consists of SMEs (OSTIM, 2013).

OSTIM established as SME development cooperative in 1967, by a group of entrepreneurs who advocated the philosophy of sharing costs and benefits according to parallel interest method. The founders of the OSTIM proposed that if the people come together, combine, and use their factors of production in the form SMEs, they will contribute a significant role in the process of industrialization and economic

development in the country. With this view, the founders of OSTIM bought 5 million square meters of land in the North West part of Ankara (Ersoy, 2013).

After seven years of preparation time, the actual construction of OSTIM's shops and workplace started in 1975. The construction phase of OSTIM had completed in the 1980s. The cooperative's shareholders moved to OSTIM complex and started their production process in the mid of 1980 (www.OSTİM.org.tr). Fast growing construction process of the OSTIM, conveys the success of its founders in developing one of the largest industrial centers in Turkey.

An innovative team of entrepreneurs manages OSTIM since 1992. The new board of directors followed the roadmap of the OSTIM's founders along with their belief and courage. The recent managerial team has emphasized to improve the competitiveness of OSTIM companies both in national and international levels. They accomplished the infrastructures of the areas such as the construction of roads and buildings, development of water supply, constructing of sewage and rain waters, establishing a power supply, and environmental development. The new board of directors of OSTIM developed modern projects to enhance the productivity and competitiveness of enterprises in the industrial zone. Furthermore, they have negotiated with the governments since the establishment of the zone to encourage them in establishing their institutional branches in OSTIM (Ersoy, 2013).

Based on the efforts of the creative managerial team, and consequently considerable improvement in the competitiveness of the firms and infrastructures development during the 1990s and onward. OSTIM has obtained the status of OIZ from the Ministry of Industry and Trade of Turkey in 1997. Industrial Zone is the goods and services production zones, which are formed through the allocation of specific areas and equipped with required infrastructure for industrial development. The aim is to ensure that manufacturing activities are accomplished in suitable areas that enable the industrial sector to locate and develop according to a pre-defined plan while preventing environmental problems (Elci, 2013).

Nowadays OSTIM considers as an industrial city by having 17 main Sectors, 139 lines of business, thousands of diverse products, 6200 actives of SMEs in seven clusters. Moreover, provided job opportunities for more than 65000 employees with different levels of skills. The OSTIM is considered as a developed ecosystem by having strong relations with 18 high-quality universities, eight techno parks and 12 regional industrial zones (www.OSTİM.org.tr).

Out of 6200 OSTIM's member enterprises, 69% of them are manufacturing, and 31% are service provider companies. In manufacturing field 46% of the firms are operating in metal sheet working, 42% of them produces different forms of machines, 8% are active in the processing of plastic and rubber, and remaining 4% producing chemical production (www.OSTIM, 2010).

The OSTIM's 17 industrial sectors are as follows (Ersoy , 2013), and (www.OSTİM.org.tr):

1- Machine and machine parts
2- Metal processing
3- Electric and electronics
4- Construction machine
5- Automotive
6- Building and Construction
7- Plastics and rubber
8- Healthcare Equipment
9- Packing, paper, Print, and Stationary
10- Food and industrial Kitchen
11- Urban Furniture and Landscape
12- Chemical material
13- Technical apparatus and Equipment
14- Informatics Technology
15- Textile and Leather

16- Food Processing Industries
17- Defense industry, and

From all 6200 active enterprises in OSTIM, only 20% of them are exporters, and a significant portion of the companies are suppliers to the large firms of Turkey (Elci, 2013).

4.3.2 Institutions that Support SMEs in OSTIM by Providing Services

OSTIM by having a visionary management system leads toward spreading and perfection through the development of supportive services, provision of necessary inputs and improvement of infrastructures. The OSTIM is recognized as a leading SME development area in regional, national, and international based model through the provision of service beyond expectation (www.OSTİM.org.tr). In fact, the OSTIM board of directors has developed many institutions which support SMEs by providing services such as research and development, presentation services, international trade, consultancy services and some other institutions (Ersoy, 2013). The most important institutions that support SMEs in OSTIM are as follows (www.OSTİM.org.tr) and (Ersoy, 2013):

1- Electricity and natural gases
2- Land Development and Infrastructure
3- Fairs and Events Organization
4- Environmental and Security Services
5- Security Services
6- Human Services
7- Customer Relations
8- Communication Network
9- Press and Public Relations
10- Workplace Opening and Operating License
11- OSTIM Employment Office
12- Educational institutions

13- OSTIM Management Authority
14- OSTIM Investment Company
15- OSTIM Research and Development
16- Labor Health and Labor Security Services
17- OSTIM Foundation
18- OSTIM Finance and Business Company
19- Training Services
20- Vocational High Schools
21- Apprentice Training and Education Foundation
22- Vocational Training Center (METEM)
23- Power Plant of 35 MW
24- Techno-City with the Middle East Technical University
25- Quality Production and Branded Production Unit
26- Matching and Development Center
27- Units of Cluster Project.

4.3.3 OSTIM as a Pattern of Capital Formation Based on Sharing Economy

The dynamic and sustainable economic development has required a constant increase in productivity of factors of production by directing the income surpluses into the process of capital formation. Indeed, economic development can be achieved through capital formation. On the other hand, the development of a well-designed capital formation process enables the policymakers of developing countries to break the vicious circle of poverty. Capital formation has been developed during the history through two different approaches: Sharing Economics, and Monopolistic Economics (Ersoy, 2013).

The OSTIM model of SME development is a unique example of the capital formation based on the doctrines of sharing economics. According to the principles of sharing economics. The owners of the factors of production bring their human and economic resources together in order to establish a business based on their joint agreement and

parallel interest. The agreement will be arranged according to their written or oral free wills and consents. Since the OSTIM has founded by a group of investors, who had the sharing mentality of the cost and benefits (Ersoy, 2013). Therefore, they formulated the first SMEs development cooperative based on sharing economics principles in Turkey (www.OSTİM.org.tr).

Currently, OSTIM is recognized as one of the largest OIZ in the world on cooperative base and parallel interest. The model has become a well-known pattern for SME development in the regional, national, and international levels (www.OSTİM.org.tr).

OSTIM as a cooperation-based model embraces all producers, who can utilize the services and desired to accept the responsibility of the membership of the organization irrespective to their gender, social, racial, political, religious, and ethnical groups.

Cooperative organizations provide a powerful tool for achieving economic objectives in an integrated and competitive global economy. Cooperatives are built on a unique viewpoint that together, a group of people or entrepreneurs are able to achieve economic objectives that none of them is able to achieve individually (Bello, 2010).

Cooperative based economies heavily rely on free-market institutions, since market institutions determine cooperation, the division of labor and coordinate the producers and the users of the products.

If the market institutions were functioning freely, they would work according to the law of demand and supply. Thus, they do not give misinformation to the producers and consumers. While the bureaucratic or capitalist monopolistic powers initiate many obstacles in the way of the market institutions to change their directions. Thus, the capitalists and monopolistic political interventions prevent the efficient operation of market institutions. In opposite, the sharing economics' principles support the market institutions to operate more efficiently (Ersoy and Altundere, 2017)

OSTIM industrialization model contributes a considerable role in capital formation through SME development. Since this model of SMEs development provides various types of financial and nonfinancial support to the SMEs. Particularly financial support of SMEs via interest-free credit is remarkable. Numerous empirical literatures describe the importance of finance in economic growth and development. Recent scientific studies have shown that financial development along with intermediation institutions are the main factors in capital formation for economic development and poverty reduction. Although, the relationship between financial sector improvement and economic development is conceivable. However, a high degree of financial sector development in any society automatically cannot be considered as an indicator for poverty reduction. Indeed, besides the financial sector development, the accessibility to financial resources is critically essential for poverty reduction (Mohiedin et al. 2012)

Despite the importance of financial service accessibility in the eradication of poverty, still, approximately 4 billion people in developing and emerging economies are unable to use financial services. The reason is that a significant portion of the population of these economies earns their income from self-employed or micro-enterprises such as farmers, artisans, taxi drivers, homeworker in the informal sectors. Hence micro-enterprises and SMEs are regarded as economic opportunities for employment and income generation. These enterprises are not in a position to capitalize on that opportunities. They need investment and working capital to initiate or develop their business. Thus, the demand for financial resources in MSMEs is very high. Unfortunately, formal financial institutions in developing countries and mainly commercial banks do not serve to the MSMEs, because of some economic reasons such as the high costs of small transactions, the absence of traditional collateral, lack of other required documents, and geographic isolation (Rabobank, 2005).

In addition, some other groups of entrepreneurs voluntarily exclude themselves from the banking system, because of interest payment. Since paying interest is in conflicts with their religious, ethical, or moral value system, as well as due to the existing of a

higher interest rate. As a result of the difficulties mentioned above, low-income people in these countries may find themselves in a poverty trap (Mohiedin et al. 2012)

OSTIM model represents a much suitable method of capital formation and poverty reduction through SME development in developing and less developed economies. The model supports MSMEs based on the principles of sharing economics into two different ways. First, this model voluntarily brings the owners of factors of production together to share their human and economic resources in order to establish a business according to their free will and parallel interest (Ersoy, 2013). Secondly, the OSTIM model has developed many institutions that support MSMEs of the cooperative's members in various ways under the principles of solidarity and cooperation (www.OSTİM.org.tr). Consequently, OSTIM model as a successful method of capital formation through SME development in Turkey has changed a considerable idle area to an island of capital and a spring of wealth.

Recently the OSTIM model has accepted as a regional development model by many scholars and the governments. Nowadays the model is applied by private investors of some developing countries to establishing a similar OIZ like OSTIM. They use direct consultancy and commercial experiences of OSTIM authorities. The countries who are intended to establish such OIZ are Egypt, Iraq, Georgia, Kazakhstan, Azerbaijan, Saudi Arabia, Tanzania, and some other African countries (OSTIM Industrial investment& Business Inc) and (Ersoy, 2013)

4.3.4 Impacts of OSTIM Model on Economic Development and Poverty Reduction

OSTIM model promotes industrialization through SME development and facilitates the process of economic growth and development, ultimately breaks down the vicious circle of poverty through physical, human, and social capital formation (www.OSTİM.org.tr).

In production process any improvement in factors of production certainly related to the technological development and the novelty of production methods. However, recently besides of the physical and human capital, social capital has been recognized as a productive factor of production. Social capital does not have a universal meaning to be acceptable by all disciplines because it has many aspects. Thus, social capital is an idiom which is a combination of all society's confidence level and the capital, which is an economic asset (Eroğlu and Kangal, 2016). Social capital consists of three components such as moral obligations and norms, social values (trust), and social networks (voluntary associations) (Siisiainen, 2000). Fukuyama describes social capital as a power which emerges as a sense of confidence in society. Douglass North defines social capital as the informal institution (Eroğlu and Kangal, 2016).

In this regard, the OSTIM model, plays a critical role in the social capital formation, because the model through voluntary participation of entrepreneurs in joint venture economic activities provides a considerable level of social capital in the society. On the hand, the OSTIM model has been developed based on the synergy and the power of cooperation under the principle of sharing economics. The functioning of sharing economics requires the existing of two fundamental conditions. First, it is necessary to establish law and order in each step of social activities. Secondly, the costs and benefits must be shared justly among the parties according to their free will and voluntarily agreement (Ersoy and Altundere, 2017). Thus, OSTIM as successful model of capital formation serves its 6200 SMEs and more than 65000 employees through the one-stop office in the form of OSTIM OIZ. Therefore, developed a number of institutions to support SMEs.

OSTIM model fulfills a crucial role in human capital formation through vocation education and training centers. OSTIM Education Center is relatively small, but a very dynamic organization. The organization is responsible for coordinating the education programs according to the education requirement of the region. The education center has to prepare the education strategy, manage the trainers and develop education conditions in the region (OSTIM, 2013). Currently, in OSTIM, there are maney

training and education facilities such as an apprenticeship school, three vocational high schools two regional universities and eight techno parks (www.OSTİM.org.tr).

In addition to the 6200 independent member enterprises, OSTIM founded project-based management under the brand name of OSTIM Investment Inc. in 1998 in order to provide active cooperation among the SMEs. This institution accomplished its economic activities in different business sectors within OSTIM SMEs Industry Center. This organization has been performed a significant role in capital formation for the breaking down of the vicious circle of poverty. OSTIM OIZ only through this organization has invested just in big projects more than $35 billion during 2000 - 2017 (www.ostimyatirim.com.tr). These enormous amounts of investment show the important contribution of OSTIM model in economic development and breaking the vicious circle of poverty in Turkey. Thus, it will be a beneficial model for other developing economies as well as for less developed economies.

4.3.5 Impacts of OSTIM Model on Demand and Supply Sides of The Market

In the recent century, the world is in the stage of a global marketplace. In such circumstance's goods, services and factors of production can be exchanged in anywhere in the world and use by all market participants. However, in the global market because of some economic reasons advanced countries and their firms have a good position than developing countries and their related firms. Therefore, business clustering was conceptualized for the purposes to increase the competitiveness and productivity of the industries, products, services as well as the labor force of developing countries, and is utilized as a method to enables all participants in the global market to compete, cooperate and growth with each other. Thus, clusters are interrelated systems among private and government sector units like firms and institutions. Generally, a cluster includes a group of enterprises, suppliers, services providers, related institutions, such as testing and quality control institutions, educational institutions, vocational training schools, commercial institutions,

distributors, and membership in a specific field (Konrad-Adenauer-Stiftung (KAS), 2015)

According to the United Nations Industrial Development Organization (UNIDO) clusters are sectoral and geographical concentrated organizations that produce and supply a variety of related or complementary goods and services. These organizations face similar economic challenges and opportunities (Zeinalnezhad, 2011).

OSTIM in 2007 started clustering studies by performing a special project in order to evaluate the global competitiveness level of OSTIM. The project was accomplished through the direct assistance of professional institutions and universities. The outcome of the study highlighted the international competitive power of OSTIM in whole active sectors of the region (OSTIM, 2013). As a result, OSTIM created a succession of SME clustering in the following fields (www.OSTİM.org.tr):

1- OSTIM Medical Industry Cluster.
2- OSTIM Rubber Technologies Cluster.
3- Work & Construction Machine Cluster.
4- OSTIM Defense and Aviation Cluster.
5- Anatolian Rail Transportation Systems Cluster.
6- OSTIM Renewable Energy and Environmental Technology Cluster.
7- Communication Technology Cluster

4.3.5.1 Impacts OSTIM Model on Demand Side

OSTIM's SME development model effects on the demand side of the market through strong inter-sectoral linkages or collective efficiency (www.OSTİM.org.tr). Researchers have been utilized the term of collective efficiency in order to describe the positive effects of the cluster on SME development in both developed and underdeveloped countries (Mawardi et al. 2011).

Collective efficiency can be defined as competitive advantages, which derived from local positive externalities and joint actions. Nadvi (1996) distinguished between passive and active collective efficiencies. He expresses that SME clustering brings two advantages; those which capture by producers and those which need joint effort (Schmitz, 1999). Schimtz (1999) clarified that joint actions can happen in the form of horizontal and vertical cooperation. Horizontal cooperation links the firm with its competitors independently or collectively. While vertical cooperation links the firm backwardly with the suppliers and forwardly with its buyers. He also found several horizontal cooperation like joint purchasing of inputs, joint manufacture development, joint advertising, and marketing activities in local, national, and global markets. Also, he highlighted other joint actions such as sharing of production facilities and equipment, exchanging information, preparing exhibitions etc. Vertical cooperation can appear in the form of sub-contracting among SMEs and large firms, also between the SMEs and their supplies (Mawardi et al. 2011).

In OSTIM model there are many institutions that provide collective efficiencies through horizontal and vertical cooperation. For example, the OSTIM Electric & Gas Operation and Maintenance department are responsible for supplies qualified electric energy at a lower price for all member companies. Likewise, OSTIM Finance and Business company, OSTIM research and Development institution, OSTIM Employment Department, Clustering Units, and some other institutions support SMEs in OSTIM Organized Industrial Zone (www.OSTİM.org.tr).

4.3.5.2 Impacts of OSTIM's Model on Supply Side

OSTIM's SME development model by clustering SMEs supports cooperation and competition among member enterprises because the founders of the model believe that cooperation and competition are the two critical principles of SME development. The OSTIM model constantly encourages the member clusters in the participation of a large project and provides financial support in order to increase their market share in the local, national and international markets (www.OSTİM.org.tr).

The OSTIM's member companies actively operate in domestic and foreign markets and supply their products by using the following supply methods.

1- Direct supply: In OSTIM model every single firm has own independent sales and marketing departments. They supply their goods and service under their own commercial brand.

2- Indirect Supply (Vertical Cooperation): Since OSTIM model has been developed based on the principles of solidarity and cooperation, therefore according to this model all producers' companies are arranged into seven clusters. Thus, each company operates in a specific cluster and actively participate in the joint production of final goods and services, which supply in local, national or the international market.

3- Subcontracting in the large project: in a subcontracting method, the subcontractor is an independent supplier with full control over development, design, and method of production, but the firms are interested to enter a subcontracting agreement to expand the domain of the market and maximize their profits.

Recent experiences of the global market also show that SME cannot anymore concentrate on export and import activities. The SMEs must participate in business activities through cooperation and subcontracting or they may have the opportunity to act in foreign direct investment (Konrad-Adenauer-Stiftung (KAS), 2015).

Since it is a very hard task for SME to find opportunity as a subcontractor in the large project. OSTIM model facilitates the process of subcontracting in large projects by developing project-based management philosophy through the establishment of two large partnership projects. The OSTIM Industrial Investment & Business Inc. and OSTIM Spare Parts Inc. aim to support SMEs via participation in large projects. The OSTIM Industrial Investment & Business company with 1800 partners was established in 1998 and now it has 2000 partners (www.OSTİM.org.tr). The company's shares are traded on the Istanbul stock exchange (BİST) since June 2013 (www.ostimyatirim.com.tr, 2018).

The other partnership project is OSTIM Spare Parts (OSP). This is a well-known and top-quality brand name in the supply of replacement spare parts in the world. This company through highly educated and trained staff of member companies offers innovative solution to the buyers in the world class, by providing a wide product portfolio of 14.000 different items. OSP supplies high-tech replacement spare part to high qualified companies in the global market such as Caterpillar, Komatsu, Volvo, and other customers. This company exports to more than 50 different countries by %100 export sales, that means each step of production takes place in member companies, but export processes are accomplished in one single center, which is OSP (www.ostimyatirim.com.tr, 2018). These companies support the member SMEs through subcontracting activities in the large project.

Based on above-mentioned complex supply method of OSTIM, and existing strong regional and national inter-sectoral and inter-industrial linkages among SMEs in OSTIM OIZ it is very hard or even impossible to find the exact amount of OSTIM's total output or the total amount of export. However, one of the possible ways to visualize the role of the OSTIM OIZ in the supply side of the market is to focus on OSTIM partnership projects. Although OSTIM partnership projects indicate only a small fraction of OSTIM total production, it will give us an image to realize how big would be the OSTIM outputs.

OSTIM Investment & Business Inc. which operates under a project-based management philosophy provides dynamic cooperation between SMEs in OSTIM OIZ. The company supplies technical, financial, managerial, marketing, and informational supports for all enterprises in OSTIM (OSTIM Industrial Investment & Business Inc, 2010). This company is one of the well-known address of OSTIM products in global market. For instance, The OSTIM Industrial Investment & Business Inc. received an offer from the Iraq Ministry of Education through its partnership Hasnawi Company, which is an Iraqi based company in 2010. According to this contract, OSTIM was recognized as the supplier of educational material to the Iraq

Ministry of education for five years between 2010-2015 (OSTIM Industrial Investment & Business, 2012).

Furthermore, the company provides subcontracting partnership for SMEs in manufacturing, construction, export as well as in portfolio investment in the capital market. Thus, the company's revenues consist of four classes such as (rental income, domestic trade, export, other revenues) (OSTIM Industrial Investment & Business, 2012). The following table indicates total sales of the company during 2011-2016.

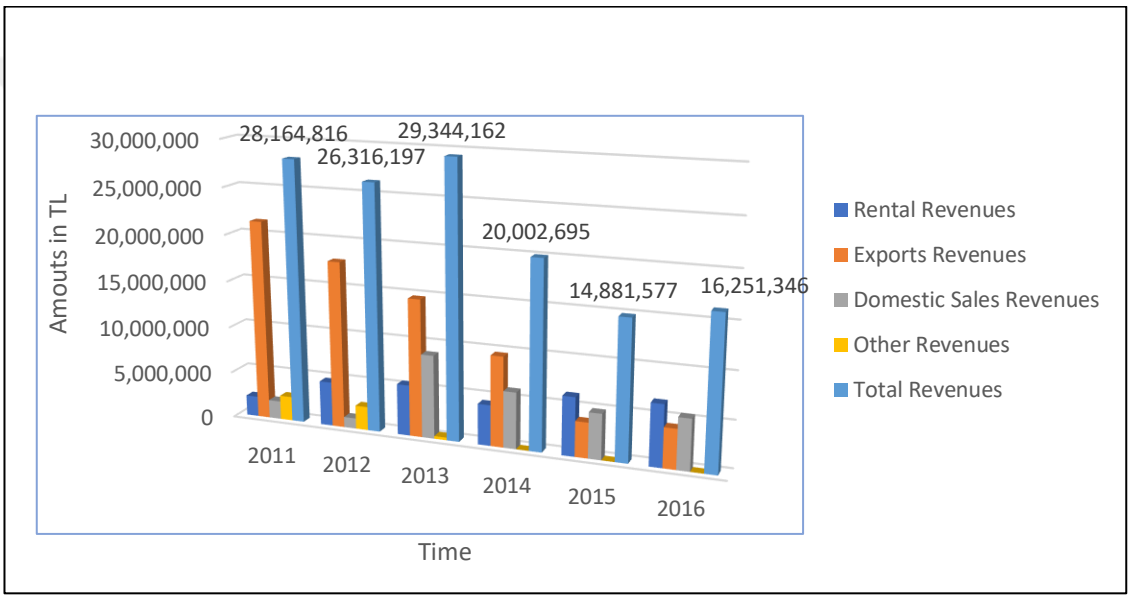

Figure 4.2 Total Revenues of OSTIM Industrial Investment & Business Icn. During 2011-2016

Source: the author deliberately obtained from OSTIM Industrial Investment & Business annual reports

As the above table indicates only this company invested 134.960.793 TL in the different project of OSTIM during 2011-2016 in order to provide a dynamic cooperation among different types of SMEs in OSTIM. As we know that autonomous investment stimulates depending investment in upstream and downstream industries and boost the amount of investment in the economy. Thus, this part supports our theory that entrepreneurs play a critical role in economic development and poverty reduction in developing countries.

5. Identification of Key Sectors and SME Growth in Turkey

Turkish economics' policymakers have been trying to improve economic productivity of the Turkish economy to eliminate the productivity gap between the Turkish economy and advanced economies. To do so, they need to find answers to the questions such as; which sectors are critical for accelerating the economic productivity of Turkey? Also, which sectors make the Turkish economy unproductive?

However, there is a common sense that large distortions in key sectors cause productivity gap among economies. Traditional development theories have viewed distortions problems between agriculture or industry sectors. While modern development theories highlight the distortions problems in services, such as those with the presence of informality. Hence, it is still a big question that which sectors are able to explain the productivity gap between the countries (Leal, 2015).

The most recent development theories suggest that the source of underdevelopment and unproductivity of economy is not only because of the absence of economic resources such as physical capital, scaled works, entrepreneurship, or unique ideas. Misallocation or misuse of economic resource in developing countries is quite enough to explain a considerable part of economic productivity gap among developed and developing countries (jee and Moll, 2010).

Leal (2015) made two main relevant arguments about the source of unproductivity in developing economies. He argues the determination of the sectors which makes developing economies unproductive is important not only to understand which sectors have the highest rate of unproductivity gap with regard to the leading sector but also identifying of the degree of influence of each sector is vital. The degree of influence is characterized by sectorial linkage to each sector with the rest of the economy in

input-output relationships. Some specific sectors have a crucial role in the input-output linkages because these sectors are the most important suppliers of intermediate inputs in the economy. 2) Secondly, he argues that in developing economies there are sector-specific distortions faced by enterprises, which does not have a direct relation with low productivity in industry level, but these sectorial distortions potentially could be a source of misallocation. Thus, they affect total productivity. Typical examples of these types of distortion are policies or market structures.

In the case of Turkey, lack of industrial policy during the transition period stalled the process of industrial development that Turkey was able to achieve and improve its productivity by avoiding misallocation of resources during 1980-2000. It was realized that lack of industrial policy interrupted the process of industrialization and technical improvement in the Turkish economy. Thus, the government of Turkey returned to industrial policy through preparation a comprehensive industrial policy in 2003. This policy was prepared based on the horizontal (functional) approach (İyidoğan, 2012). The main objectives of Turkey's new industrial policy were the promotion of SMEs and entrepreneurship development. Within this policy, the government of Turkey obligated itself to develop plans and projects in ten areas, which were required by the European Charter (Bascavusoglu-Moreau and Colakoglu, 2011).

By implementing the industrial policy and SME development strategy. The Turkish economy has achieved sizable improvement in labor productivity along with a change from the more old-fashioned exports such as textile to medium-level technology products like automobiles and other electronic apparatus. While the percentage of high-tech products in total exports of Turkey remained relatively lower than its counterpart countries. Furthermore, the manufacturing sector of Turkey became more depended on foreign raw material and intermediate goods. On the other hand, Turkey needed to avoid the middle-income trap. This situation required a reconsideration of Turkish industrial and technical policies (Yağcı, 2017).

The evaluation process of technical and industrial policy indicated that integrated industrial policy, which is a combination of both horizontal and vertical industrial policies could be an appropriate industrial policy for Turkey (İyidoğan, 2012). This is because integrated policy enables Turkey to avoid the middle-income trap by channeling economic resources in key sectors of the economy.

Identification of key sectors in the economy and their study gives an opportunity for policymakers and researchers to determine the sectors, which have high multipliers effect on both demand and supply sides of the economy. Hence, they are considered as the pillars of economic growth and development in the economies (Munz et al. 2008). To determine the key sectors of the Turkish economy, the New Proposal of Network Theory (multilevel indicators) is applied to analyze input-output tables of Turkey.

5.1 Methodology

Economic growth and development models describe different approaches that a country can grow, but their achievements directly are related to the sectors and the amount of investment in those sectors. Investment in each economic sector does not provide an equal growth rate (Jahangard & Keshatvarz, 2012). Modern studies have largely emphasized that key sectors have a significant role in accelerating the process of economic development and modifying the industrial structure of the economy. Thus, it is essential to allocate a large amount of investment in the key sectors of the economy (Hazari, 1970).

Efforts on the determination of key sectors in national economies based on domestic information, through the analyzing of national input-output tables, are numerous all over the world. However, one of the well-known of these efforts is related to the work of Meller and Marfan (1981). They investigated the relevance of small and large enterprises on employment in developing countries. Likewise, Cuadrado and Aurioles (1984) used the Andalusian economy's input-output table (1980) to analysis inter-sectorial relationships.

Muniz et al. (2005) used Andalusia economy's input-output table to identify key sectors of that economy. They concentrated on the social network theory and computed total, immediate and mediative effects. They found remarkable results that the productive relations are not organized around high-technology industries, which is found to be the main deterrent to the growth and promotion of productive relations. They updated their method in 2008 by using Spanish IO and the EU IO for 1995 (Sanchez-Juarez et al. 2015). The updated model of Muniz et al. (2008) is known as a new proposal from network theory that applied in this research to determine key sectors of the Turkish economy.

The application of a new proposal from network theory, which also called multilevel indicator in input-output analysis concentrates on industrial linkages through three complementary effects and influences index. Hence this method is the extent of the traditional viewpoint of polarized growth sectors. The authors chose the label of multilevel indicators, because of the threefold level of the proposed analysis of key sectors and assume a generic label that collects three effects. Total effects define the relative total influence of a sector on the rest of the economy. Immediate effects indicate the immediacy of the implementation of the total effect. The meditative effects show the importance of specific sectors as transmission links of total effects produced by others (Muniz et al. 2008).

5.1.1 Total Effects

As the title of this indicator denotes, total effects evaluate the overall effect of a sector and its relative impacts on other sectors in the economy. In the field of input-output analysis total effects basically determined by the number and length of the existing roads between the sectors through specified productive relationships (Sanchez-Juarez et al., 2015).

Total effects are determined from a Markovian matrix $\tilde{A} = \{\tilde{a}_{ij}\}$ in which the relations between network nodes such that $\widetilde{A} \geq 0$ are collected, and each of its rows sums is equal to one (Jahangard & Keshatvarz, 2012).

$$\sum_{i=1}^{n} = \tilde{a}_{ij} = 1, \qquad \forall_i = 1, \ldots\ldots, n \tag{1}$$

In fact, this matrix is the stochastic normalized matrix of technical coefficients, so there is a Markov chain of n states where the matrix $\widetilde{A}$ gathers the transaction probabilities of one to another. In this sense, the Markov chain can be interpreted as a random walk for the weighted graph of the normalized coefficients stochastic matrix $\tilde{A} = \{\tilde{a}_{ij}\}$ where the weight $\tilde{a}_{ij}$ is attributed to the arc between the *i*th and *j*th nodes of the value graph.

Friedkin (1991) represented, how the initial opinion of individuals Y^1 are evolved into final opinion $Y^{(t+1)}$ via a process that reflects the tendency to social ($\propto$) and inter-personal $(\tilde{a}_{ij})$ influences. The process can be shown through the following equation (Muniz et al., 2008):

$$Y^{(T+1)} = \propto \left(\tilde{a}_{i1} {Y_1}^{(1)} + \cdots + \tilde{a}_{in}\, {Y_n}^{(t+1)}\right) + \ (1 - \propto) {Y_i}^{(1)} \qquad 0<a<1 \tag{2}$$

The matrix form of equation (2) is:

$$Y^{(t+1)} = \propto \tilde{A}\, Y^{(t)} + (1 - \propto) Y^1 \tag{3}$$

By assuming that certain conditions are verified, then the initial opinions are transformed into an equilibrium solution such that:

$$Y^{\infty} = \left(I - \propto \tilde{A}\right)^{-1} (1 - \propto)\, Y^1 \ = VY^1 \tag{4}$$

In equation (4), V collects the effects generated between network notes. So V is equal to:

$$V = \left(I - \propto \tilde{A}\right)^{-1} (1 - \propto)$$

In general expression, the process of new opinion formation could be connected to the mechanism by which the total amount of goods and services to satisfy a final demand increase is determine exogenously. The total production will be at the equilibrium

level, if the total output is equal to the total amounts of final demand and the sectoral influences. If the initial outline is developed through input-output model, the expression could be derived

$$X_i = \propto (\tilde{a}_{i1} X_1 + \cdots + \tilde{a}_{in} X_n) + (1 - \propto) d_i \quad (5)$$

In equation (2) , X_i and d_i reflect production and final demands for sector i respectively, $(\propto)$ offers a weighting that allows the effect of an exogenous change in the demand to be measured. In fact, $(\propto)$ is a sectorial relations weighting, and $\tilde{a}_{i1}$ is a technical coefficient, which is normalized by the sum of the row of matrix A. It is obvious that $\tilde{a}_{i1}$ takes values between 0 and 1 and the sum of each row of $\tilde{A}$ matrix is equal to one. The different weight attributed by the weighting $\propto$ to the final and intermediate demand allows the study of the influence that is supported by exogenous changes and/or relations between sectors for the leading sector. The influence weight is crucial to the development of economic policies. Determination of total effects will be primarily related to the length and number of the path between sectors through the relation (Jahangard and Keshatvarz, 2012).

Consequently, based on the input-output model V is equal to:

$$V = \left(I - \propto \tilde{A}\right)^{-1} (1 - \propto) = \left(I + \propto \tilde{A} + \propto^2 \tilde{A}^{-2} + \propto^3 \tilde{A}^{-3} + \cdots\right)(1 - \propto)\ 0 < \propto < 1 \quad (6)$$

In equation (6), V refers to the total effect, which determines by the inverse Leontief matrix that is weighted with the coefficient $\propto$. Where $\propto$ is enter-sectorial relation weighting that allows the influence of power among the sectors and it has to be standardized. $\tilde{A}$ denotes the regulated input-output coefficient matrix, in brief, the total effect of a given sector on the other sectors in the economy is a weighted sum of the number of different channels that connect them in the network, while individual channels are weighted according to their size and the power of constituent links.

One can confirm that under the hypothesis $\lim_{k \to \infty} \tilde{A}^k = \tilde{A}^\infty$, $\propto$ approach to unity.

$$\text{V} = \lim_{\alpha \to 1} -\left(I - a\tilde{A}\right)^{-1} (1 - a) = \tilde{A}^\infty = W \quad (7)$$

So if $\propto$ increase to 1, V may reach to W, under definite conditions of matrix $\tilde{A}$. By given condition, matrix V approaches to the limit of $\tilde{A}$, in this circumstance the total effect is fixed for each *i*th sectors. Therefore, matrix W takes the form of a stationary state.

$$W = \begin{bmatrix} W_1 & \cdots & W_n \\ \vdots & \ddots & \vdots \\ W_1 & \cdots & W_n \end{bmatrix} \quad (8)$$

If a converge to zero, in other words if there is not additional information about weighting value a, then the total effect of each sector (TEC_j) is:

$$TEC_{(j)} = \frac{\sum_{i=1}^{n} V_{ij}}{n} = \frac{\sum_{i=1}^{n} W_{ij}}{n} = W_j \qquad \forall j = 1 \dots n \quad (9)$$

Or in matrix term: $t = \acute{V}\Phi$ (10)

In the above equation t is an $(n\ X\ 1)$ vector, $\Phi = \left(\frac{1}{n}\right)$ it is also a $(N\ X\ 1)$ vector, and $\acute{V}$ is the transposed matrix of V. So, the total effect of sector j is equal to the mean of the elements of column j in matrix V. The transposed matrix of V is the average of column elements of matrix V. Thus, the total effect of *j* with respect to all the economy will be more relevant on the size of this value.

There is some similarity between the classical approach in the IO model and the total effect indicator based on the social network theory.

Rasmussen (1956) applied the sum of the normalized columns of the inverse Leontief matrix to measure backward linkages of the sectors in the economy, however, for calculation of total effects index, he used the sum of the columns of the inverse Leontief matrix (Muniz et at., 2008).

The Rasmussen coefficients can be therefore considered as a particular case where the influence coefficient matrix $\propto$ has not been specified. Likewise, Augustinovics (1970) by using the Ghosh model specified the forward linkages from the sum of the rows of

the inverse distribution coefficients. Furthermore, it is possible to calculate total effects indicators in an identical approach of forward linkages (Jahangard and keshtvarz, 2012).

5.1.2 Immediate effects

Immediate effects measure the speed of transmission of the sectorial total effects in the network (Sanchez-Juarez et at., 2015). The analysis of immediate effects is a critical feature in the estimation of economic policies. The sectors, which their effects are transmitted over a lengthy sequence of economic relations, have a less economic impact than sectors with a high number of direct linkages. This critical feature determined by the index that is called immediate effects. Immediate effects are quantified from the Markov chain of $\tilde{A}$ matrix. In this sense, the Markov chain can be interpreted as a random walk for the weighted graph of the stochastic matrix of the normalized IO coefficients $\tilde{A} = [\tilde{a}_{ij}]$ and as mentioned above the weight $\tilde{a}_{ij}$ is attributed to the arc between the *i*th and *j*th sectors of the valued graph. Thus there is a Markov chain of n states where the matrix $\tilde{A}$ gathers the transaction probabilities of one sector to another so that the element (*i*,*j*) of the transition matrix of kth step $(\tilde{A}^k)$ will show the probability of passing from the *i*th sector to *j*th sector in kth steps exactly. From this stochastic, the immediacy of *j*th sector effect in the network can be determined by the length of weighting of the economic transaction sequences for the relation's strength (Muniz et al., 2008).

$$\mathrm{M} = \left(I - Z + E\hat{z}_{dg}\right)\hat{q} \tag{11}$$

In the above equation, $\hat{q}$ is a diagonal matrix with the elements of $q_{ji} = \frac{1}{w_i}$, and E is an (nxn) unity matrix, and $\hat{Z}_{dE}$ is a diagonal matrix of Z. While Z is the fundamental matrix whose expression is:

$$\mathrm{Z} = \left(\mathrm{I} - \tilde{A} + \tilde{A}^{\infty}\right)^{-1} \tag{12}$$

In equation (12) $\tilde{A}^{\infty}$ match with the matrix W that collects the process stationary state $(w_1, \ldots, w_n)$ effects are determined from a Markovian matrix $\tilde{A} = \{\tilde{a}_{ij}\}$ in which the relations between network nodes such that $\tilde{A} \geq 0$ are gathered and each of its rows sums to be equal to one (Jahangard and Keshtvarz, 2012)

Immediate effects (IEC) are expressed as the reciprocal of the mean length of sequences of relations from one sector to another (Muniz et al., 2008)

$$IEC_j = \left(\frac{\sum_{i=1}^{n} m_{ij}}{n}\right)^{-1} \forall j \qquad (13)$$

where m_{ij} are the quantity element of each column of matrix M.

The matrix form, immediate effects can be determined by $r = n\,\gamma$ (14)

Here $\gamma = (\gamma_j) = \left\{\frac{1}{\sum_{i=1}^{n} m_{ij}}\right\}$ which is an (nx1) vector

Immediate effects take into account the extent and strength of the sequences of productive relations (Muniz et al. 2008). As the IEC be larger, it means that the total effects of the sector tend to increase more rapidly, and the sector is less dependent on intervening sectors.

5.1.3 Mediative effects:

Mediative effects refer to the importance of given sectors as instruments of the transmission of total effects. The basic assumption of this measure is that sectors involved in many of the paths linking other sectors can affect the relations that occur along these paths. These sectors facilitate the operations and economic interconnections, so these sectors work like crossroads in the system and constitute key points for the entire development of the economy. For estimating the mean length of the sequences of productive relations, the previous matrix M can be decomposed in the number of steps from sector *j* to sector *i* via other intermediate sectors (Sanchez-Juarez et al. 2015).

$$m_{ij=\sum_{k=1}^{n} t_{(j)ik}} \qquad i \neq j \neq k \tag{15}$$

Where $t_{(j)ik}$ is the ikth entry in the matrix T in:

$$T_j = \left(I - \tilde{A}_{(j)}\right)^{-1} \tag{16}$$

In equation (16) $\tilde{A}_{(j)}$ is a matrix which built from deleting the *j*th row and column of the matrix $\tilde{A}$. Mediative effect of sector *j* shows the importance of sector *j* as a transmission link or a crossroad in the economic network relations. The following formula uses to calculate the meditative effect.

$$MEC_{(j)} = \frac{\sum_{k=1}^{n} \bar{t}_{(k)j}}{n} \tag{17}$$

$$\text{where } \bar{t}_{(k)j} = \frac{\sum_{i=1}^{n} t_{(k)j}}{n-1} \qquad i \neq j \tag{18}$$

which gather the contribution of sector j in the transmission of the effects of sector k. This effect can be measured in a matrix form where: $T = \left\{t_{(k)j}\right\} \rightarrow C = T\Phi$

$$\text{Here } \Phi \text{ is an (nx1) vector with the elements of } \frac{1}{n} \tag{19}$$

5.1.4 Influence index:

The present measures of total effects, immediate effects, and meditative effects altogether indicate the three important and complementary structural features where the sectorial influence weighting plays a relevant role. In the case of absence of any additional information, the applied assumption is a coefficient $\propto$, which has an equal value for all sectors, and its value is near to one ($\propto \rightarrow 1^{-}$). However, this hypothesis is considered excessively restrictive in the input-output case, because the exogenous changes in the network would affect each sector differently. The existence of a different coefficient for each sector seems a reasonable assumption in an economic universe, where the agents have a very different degree of influence and the final and intermediate demand weight can have an unequal dominance in sectorial production

necessities induced by variations in the final demand. This analysis would allow the differentiation of coefficients between sectors ($\propto_i$) by the purpose of distinguishing the sector propensity to sectorial influences. Determination of ($\propto$) that is also known as the influence index is necessary because this index allows researchers to know the influence capacity generated by the sectors in the input-output table (Jahangard and Keshatvarz, 2012).

Under this assumption, the new model specified as

$$X_i = \propto_i (\tilde{a}_{i1} X_1 + \cdots + \tilde{a}_{in} X_n) + (1 - \propto_i) di \tag{20}$$

Or it can be expressed in matrix terms:

$$\mathrm{X} = \hat{S}\tilde{A}X + (I - \hat{S})d \tag{21}$$

Here $\hat{S}$ presences a diagonal $(n\ X\ n)$ matrix that gathers the influence coefficients of each sector:

$$\hat{S} = \begin{bmatrix} \propto 1 & \cdots & 0 \\ \vdots & \ddots & \vdots \\ o & \cdots & \propto n \end{bmatrix} \tag{22}$$

$\tilde{A} = \{a_{ij}\}$ is a $(n\ X\ n)$ matrix which represents the normalized technical coefficients. $X = \{X_i\}$ and $d = \{d_i\}$ are also (n x 1) vectors that represent production and final demand of sector i, respectively. Leontief standard model is:

$$X_i = (a_{i1} X_1 + \cdots + a_{1n} X_n) + d_i \tag{23}$$

$$\mathrm{X} = AX + d \tag{24}$$

The determination of the output level from the equivalence between these two models is:

$$\hat{S}\tilde{A}X + (1 - \hat{S})d = \mathrm{AX+d} \tag{25}$$

Alternatively, we can show in matrix terms:

$$\hat{S}\left(\tilde{A}X - d\right) = AX \tag{26}$$

Final demand can be found through the equation $d = X - AX$, and by inserting the final demand in equation (26) instead of d, then:

$$\hat{S}\left(\tilde{A} + A - I\right) X = AX \tag{27}$$

It is more useful to eliminate auto-consumptions of sectors as an integrant part of the degree of influence. If the auto-consumptions eliminated, the system of equations is:

$$\begin{pmatrix} a_1[(a_1X_2 + \cdots + a_{1n}X_n) + (\tilde{a}_{12}X_2 + \cdots + \tilde{a}_{1n}X_n)] \\ a_n\begin{bmatrix}(a_{n1}X_1 + \cdots + a_{n(n-1)}X_{n-1}) \\ + (\tilde{a}_{n1}X_1 + \cdots + \tilde{a}_{n(n-1)}X_{n-1})\end{bmatrix} \end{pmatrix} = \begin{pmatrix} a_{12} + \cdots + a_{1n}X_n \\ \cdots \\ a_{n1}X_1 + \cdots + a_{n(n-1)}X_{(n-1)} \end{pmatrix} \tag{28}$$

As mentioned earlier the normalized technical coefficients are $\tilde{a}_{ij} = \frac{a_{ij}}{\sum_{j=1}^{n} a_{ij}}$ then sectorial influence weighting coefficient can be found as follow (Muniz et al.2008):

$$\propto_i = \frac{1}{\left[1 + \left(\frac{1}{\sum_{j=1}^{n} a_{ij}}\right)\right]} \tag{29}$$

It is a measure related with the direct effects of sector i$\left(\sum_{j=1}^{n} a_{ij}\right)$on the rest of the productive sectors and allows the total effect generated for the sector to be recalibrated. In this new scenario, total effects must be revised.

Considering expression X= $\hat{S}\tilde{A}x + \left(1 - \hat{S}\right)d$ so our next equation is

$$\text{X} = \left(1 - \hat{s}\tilde{A}\right)^{-1}(I - \hat{s})D \tag{30}$$

where V is equal to: $V = \left(I - \hat{s}\tilde{A}\right)^{-1}(I - \hat{s})$ (31)

So revised total effects of *j*th sector are: $TEC_j^{*} = \frac{\sum_{i=1}^{n} v_{ij}}{n} \quad \forall_i, j$ (32)

This index will offer a more exact valuation of the impact of the sectors in the network. Multilevel indicators and the sectorial influence index allow the identification of sectors that work as crossroads in the economic structure.

5.2 Identification of Key Sectors in the Turkish Economy

To determine the key sectors of the Turkish economy, the multilevel indicators method is applied to the respective 1973, 1979, 1990, 2002, and 2012 input-output tables.
The results that obtained from the multilevel analysis are presented below within individual graphic representations. The data used supplied by Turkish Statistical Institution. The input-output tables have 64 active branches for the years of 1973, 1979, 1990; IO tables for 2002 and 2012 have 94 active branches. The IO tables are classified according to the statistical classification of economic activities of the European countries (European Industrial Activity Classification) (NACE Rev.2). Hence, the IO tables of 1973, 1979, and 1990, have been classified into 13 sectors, which are represented in table 5.1. While the IO tables of 2002, and 2012 are categorized into 20 economic sectors that are shown in table 5.2.

Table 5. 1: Classification of the 1973, 1979 and 1990 IO Tables of the Turkish Economy According to NACE Rve.2

Codes	Economic Sectors of IO tables 1973, 1979 and 1990 of Turkey	Classification of economic sectors according to NACE Rev.2	Division
A	Agriculture, animal husbandry, forestry, and fisheries	Agriculture, Forestry, and Fishing	01+02+03
B	Coal mining, crude petroleum and natural gas production, iron ore mining, non-ferrous ore mining, non-metallic mineral mining, stone quarrying	Mining and quarrying: Mining of coal lignite. Extraction of culture petroleum and natural gas. Mining of iron ores Other mining and quarrying. Mining support service activities.	05+06+07+08+09
C	Manufacturing sector:	Manufacturing:	10+11+12

	Slaughtering and preserved meat, Canning and preserving of fruits and vegetables. Manufacture of vegetable and animal oil and fat, grain mill products, sugar. Manufacturing of other food products, Alcoholic beverage, soft drinks and carbonated water industries, tobacco manufactures, ginning. Manufacture textiles. Manufacture of wearing apparel. Manufacture of leather and fur products. Manufacture of footwear, Manufacture of wood and wood products. Manufacture of wood furniture and fixtures. Manufacture of paper and paper products, Printing and Allied industries. Manufacture of fertilizers. Manufacture of drug and medicines. Manufacture of other chemical products. Manufacture of refineries. Manufacturing of petroleum and coal products. Manufacturing of rubber products. Manufacture of plastic products. Manufacture glass and glass products. Manufacturing of cement. Manufacture of other non-metallic mineral products. Manufacture of iron and steel. Manufacture nonferrous metal, Manufacture of fabricated metal products. Manufacture of machinery except electrical. Manufacture of agricultural machinery and equipment. Manufacture electrical machinery. Manufacture of shipbuilding and repairing. Manufacture of railroad equipment. Manufacture land transport vehicles and equipment. Manufacture other transport equipment. Other manufacturing industries.	Manufacture of food products. Manufacture of beverage. Manufacture of tobacco products. Manufacture of textiles. Manufacture of wearing apparel. Manufacture of leather and related products. Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting material. Manufacture of paper and paper product. Printing and reproduction of recorded media. Manufacture of coke and refined petroleum products. Manufacture of chemicals and chemical products. Manufacture of basic pharmaceuticals products, and pharmaceutical preparations. Manufacture of rubber and plastic products. Manufacture of other non-metallic mineral products. Manufacture of basic metals. Manufacture of fabricated metal products, except machinery and equipment. Manufacture of computer, electronic and optical products. Manufacture of electrical equipment. Manufacture machinery and equipment n.e. c. Manufacture of motor vehicles, and semi-trailers. Manufacture of other transport equipment. Manufacture of furniture. Other manufacturing Repair and installation of machinery and equipment.	+13+14+15 +16+17+18 +19+20+21 +22+23+24 +25+26+27 +28+29+30 +31+32+33
D	Electricity, gas manufacture and waterworks	Electricity, gas, steam, and air-conditioning supply	35
F	Building construction, other construction	Construction: Construction of buildings, Civil engineering. Specialized construction activities.	41+42+43

G	Wholesale and retail trade	Wholesale and retail trade; repair of motor vehicles and motorcycles	45+46+47
H	Railway transport, other land transport, water transport, air transport	Transportation and storage	49+50+51+52+53
I	Hotel and restaurant	Accommodation and Food Services	55+56
J	Communication	Information and Communication: Publishing, audiovisual, and broadcasting activities, telecommunication, IT, and other Information services	58+59+60+61+62+63
K	Financial and Insurance activities	Financial institution and Insurance activities	68
L	Ownership of dwellings	Real estate activities	64+65+66
M	Personal and professional services	Professional, scientific, and technical activities: Legal, accounting, management, engineering, technical testing and analysis activities, scientific research and development, other professional, scientific, and technical activities.	69+70+71+72+73+75
O	Public services	Public administration and defense, compulsory social services.	84

Source: The table is mad by the author

Table 5. 2: Classification of the 2002 and 2012 IO Tables of the Turkish Economy According to NACE, Rve.2

Codes	**Economic Sectors of IO tables 2002, 2012 of the Turkish economy**	**Classification of economic sectors according to NACE Rev.2**	**Divisions**
A	Agriculture, animal husbandry, forestry, and fisheries	Agriculture, Forestry, and Fishing	01+02+03
B	Mining of coal and lignite; extraction of peat. Extraction of crude petroleum and natural gas; Service activities incidental to oil and gas extraction excluding surveying. Mining of uranium and thorium ores. Mining of metal ores. Other mining and quarrying.	Mining and quarrying	05+06+07+08+09
C	Manufacturing sector: Manufacturing of food products and beverages. Manufacture of tobacco products. Manufacture of textiles. Manufacture of wearing apparel; dressing and dyeing of fur. Tanning and dressing of leather; manufacture of luggage, handbags, saddlery,	Manufacturing: Manufacturing of food products, beverages, and tobacco products. Manufacture of wood, paper products and printing. Manufacture Coke, and refined petroleum products.	10+11+12 +13+14+15 +16+17+18 +19+20+21 +22+23+24 +25+26+27 +28+29+30 +31+32+33

	harness, and footwear. Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials. Manufacture of pulp, paper, and paper products. Manufacture of wood and wood products. Manufacture of wood furniture and fixtures. Publication, printing, and reproduction of recorded media. Manufacture of coke, refined petroleum products and nuclear fuels. Manufacture chemicals and chemical product. Manufacture of rubber and plastic products. Manufacture of other non-metallic mineral products. Manufacturing of basic metals. Manufacturing of fabricated metal products, except machinery equipment. Manufacture of machinery and equipment n.e c. Manufacture office machinery and computers. Manufacturing electrical machinery and apparatus n. etc.. Manufacture of radio, television and communication equipment and apparatus. Manufacture of medical, precision, and optical instruments, watches and clock. Manufacture of motor vehicles, trailers, and semi-trailers. Manufacture of other transport equipment. Manufacture of furniture; manufacturing n.e.c.	Manufacture of chemicals and chemical products. Manufacture of pharmaceuticals products, medicinal chemical and botanical products. Manufacture of basic metals and fabricated metal products, except machinery. Manufacture of computer, electronic and optical products. Manufacture of electrical equipment n.e.c, Manufacture of transport equipment. Other manufacturing and repair and installation of machinery and equipment.	
D	Electricity, gas, steam, and hot water supply	Electricity, gas, steam, and air-conditioning supply	35
E	Recycling, Collection, Purification, and distribution of water. Sewage and refuse disposal and similar activities	Water supply; sewerage, waste management and remediation activities	36+37+38+39
F	Construction	Construction: Building construction, other construction	41+42+43
G	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale services of automotive fuel. Wholesale trade and commission trade, except of motor vehicles and motorcycles. Retail trade except of motor vehicles and motorcycles; repair of personal and household goods.	Wholesale and retail trade, repair of motor vehicles and motorcycles	45+46+47
H	Land transport; transport via pipelines. Water transport. Air	Transportation and storage	49+50+51+52 +53

	transport, railway transport, other land transport, water transport, air transport		
I	Hotel and restaurant	Accommodation and Food Services	55+56
J	Post ant telecommunication.	Information and Communication: publishing, audiovisual, and broadcasting activities, telecommunication, IT, and other Information services	58+59+60+61 +62+63
K	Financial intermediation, except insurance and pension funding. Insurance, Insurance, and pension funding, except compulsory social security. Activities of auxiliary to financial intermediation.	Financial institution and Insurance activities	68
L	Real estate activities.	Real estate activities	64+65+66
M	Computer and related activities. Research and development.	Personal, scientific, and technical activities: legal, accounting, management, engineering, technical testing and analysis activities, scientific research and development, other professional, scientific, and technical activities.	69+70+71+72 +73+74+75
N	Supporting and auxiliary transport activities, activities of travel agencies. Renting of machinery and equipment without operator and of personal and household good. Other business activities.	Administrative and support service activities.	77+78+79+80 +81+82
O	Public administration and defense; compulsory social security.	Public administration and defense, compulsory social services.	84
P	Education	Education	85
Q	Health and social work	Human health and social work Activities	86+87+88
R	Activities of membership organization n.e.c. Recreational, cultural, and sporting activities.	Arts, Entertainment and Recreation	90+91+92+93
S	Other services activities	Other service activities	94+95+96
T	Private household with employed person Activities of households as employers, undifferentiated goods, and services, producing activities of households for own use.	Activities of households as employer, undifferentiated good- and services-producing activities of household for own use.	97+98

Source: The table is made by the author

5.2.1 Analysis of 1973's Input-Output Table of the Turkish Economy

The first representations (Figures 5.1, 5.2, and 5.3) refer to the total effects, immediate effects and mediative effects respectively under the assumption of influence coefficient ($\propto$) has equal value for all sector and tend to the unit ($\propto \rightarrow 1^{-}$). It is a hypothesis applied in scenarios in which there is no additional information. However, the revised total effects are represented in Figure 5.4. The figure is formed by using concentric circles. The sectors that are located in the center of the figures will have strong effects on the economic development of Turkey in the period of 1970s. while the sectors far from the center had relatively weaker effects in the economic development of Turkey in that period.

Total Effects: as the name of this indicator implies, total effect measures the total impacts of a sector and their virtual influence on the other sectors in the economic system. The outcomes of the analysis of input-output table 1973 of the Turkish economy is shown in Figure 5.1. The figure indicates all sectors according to their relative impacts on the economic development of Turkey. The position of economic sectors in the concentric circle shows their relative influence on the rest of the economy.

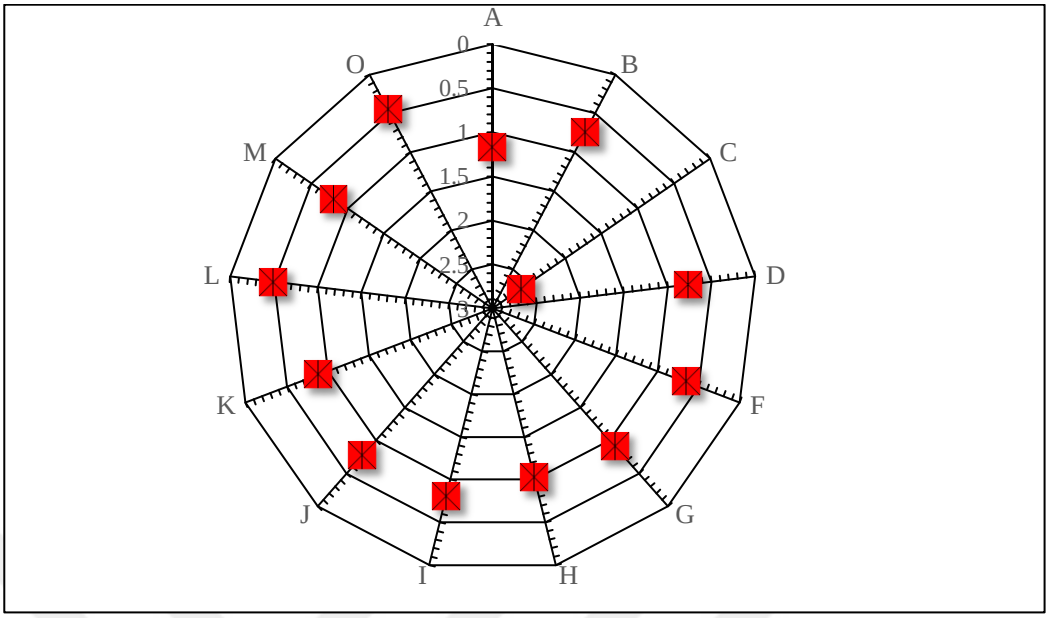

Figure 5.1: The Total Effects of Economic Sectors of Turkish Economy in 1973

Source: Author own elaboration from 1973's Input-output of Tukey

According to figure 5.1 the sectors such as manufacturing (C), agricultural, animal husbandry, forestry, and fishing sector (A), transportation and communication sector (H), wholesale, retail and retail trade, repair of motor vehicles and motorcycles sector (G)**,** had the highest rate of total effect in the economic development of Turkey during the 1970s.

Immediate Effects: Immediate effects that refer to the speed of transmission of the sectorial total effects in the network of Turkish economy in 1973 are illustrated in Figure 5.2.

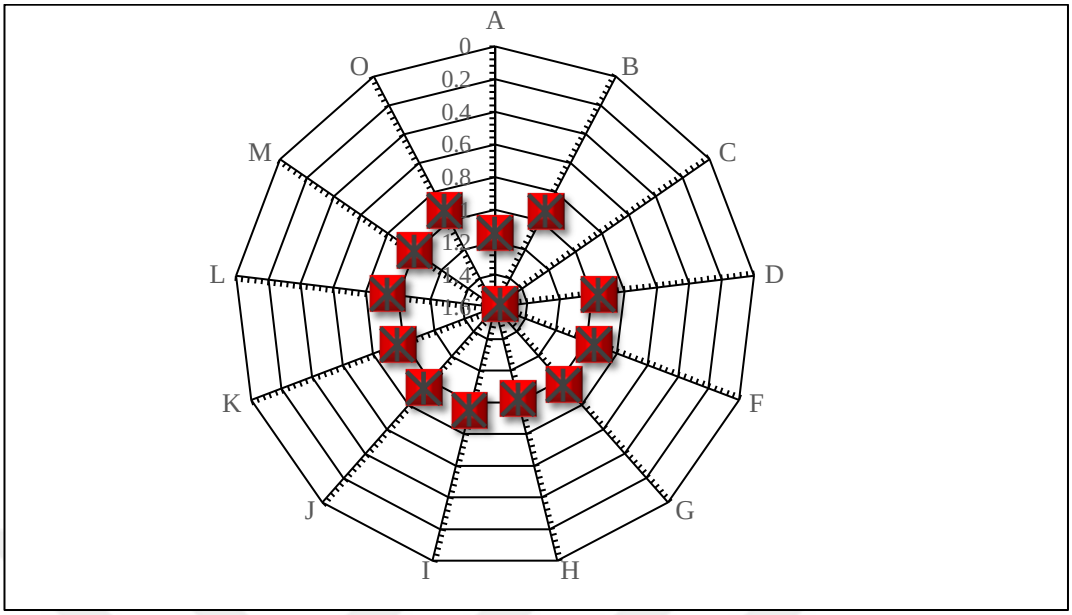

Figure 5.2: Immediate Effects of Economic Sectors of Turkish Economy in 1973

Source: Author own elaboration from 1973's Input-output table of Turkey

Based on Figure 5.2 among all other economic sectors just only the sectors like sector C Manufacturing sector (C), agriculture and animal husbandry, forestry, and fishing sector (A), transportation and communications sector (H) as well as Personal, scientific and technical activities sector (M) are able to transmit the impact of total effect of the key sectors on the rest of the Turkish economic. Therefore, these sectors played an important role in employment, and resource mobilization of Turkish economy in 1973.

Meditative Effect: This indicator shows impacts of some specific sectors, which had operated as a crossroads and connectors in the network system of the Turkish economy during the 1970s are indicated by Figure 5.3.

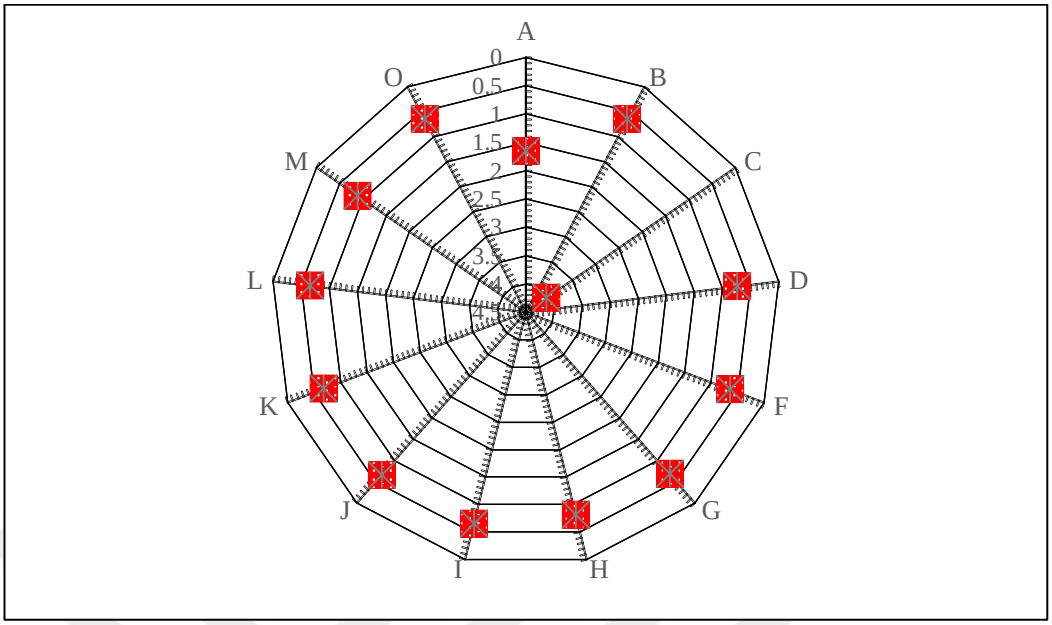

Figure 5.3: Mediative Effects of Economic Sectors of Turkish Economy in 1973

Source: Author own elaboration from 1973's Input-output table of Turkey

As the above figure illustrates the sectors such as the manufacturing sector (C), agriculture and animal husbandry, forestry, and fishing sector (A), including transportation and communication services sector (H), and personal, scientific, and technical activities sector (M) were operated as the crossroad in the transition of total effect in the rest of economic sectors of Turkish economy in 1997s.

Influence Index (Revised total effects): Until now the effects are calculated under the assumption that influence coefficient ($\propto$) whose value is equivalent for all economic sectors and tends to one ($\propto \rightarrow 1^{-}$). However, as mentioned earlier, this assumption is extremely restrictive in the input-output model, because any exogenous changes in the network system of the economy will affect economic sectors differently. The determination of a different influence index for each sector enables the researcher to represent the dominance capacity generated in an input-output table. This weighting will consequently affect the total effect that a sector can generate on the rest of the economy, and allows a better fit in the total impact value. Diverse influence index for

each sector of the IO table 1973 of the Turkish economy is computed and illustrated in Figure 5.4.

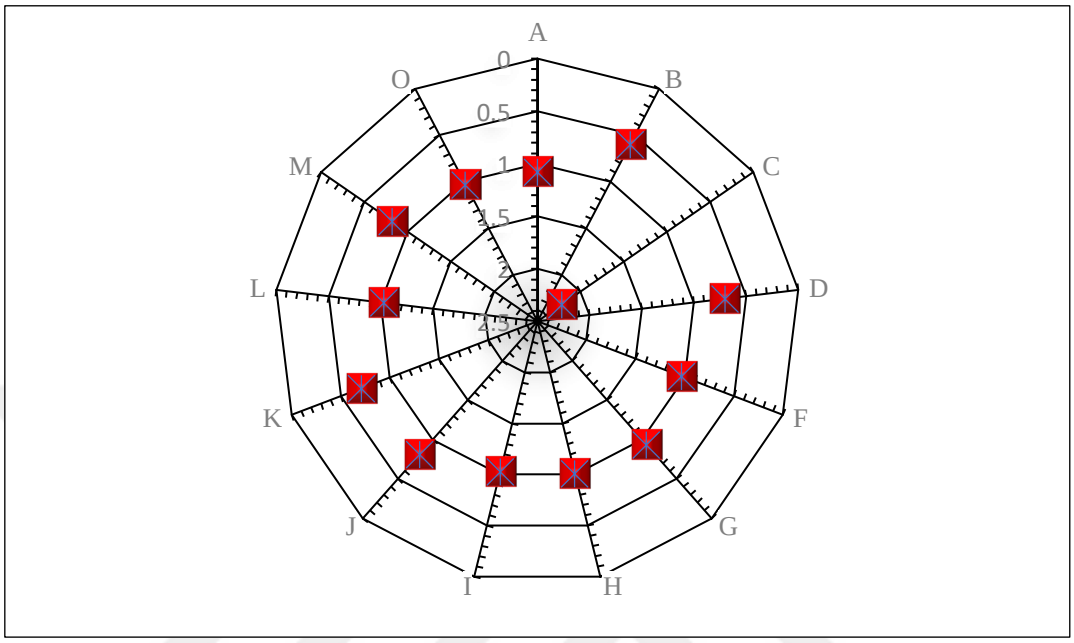

Figure 5.4: Revised Total Effects of Economic Sectors of Turkish Economy in 1973

Source: Author own elaboration from 1973's Input-output table of Turkey

The results show that different weight of influence index changed the total effects of the economic sectors in the economy. Figure 5.4 shows the revised total effects of some economic sectors have increased in Turkey economy. Consequently, as Figure 5.1 indicates only economic sectors which include (A, C and H) had enjoyed from the high total effects. While by computing different influence index for each sector (revised total effects) which illustrated in Figure 5.4 shows the total effects of economic sectors like agriculture and animal husbandry, forestry, and fishing sector (A), manufacturing (C), transportation and storage (H), construction sector (F), wholesale and retail, repair of motor vehicles and motorcycle sector (G), accommodation and food services sector (I), real estate activities sector (L), and the sector of public administration and defense, compulsory social Security (O) increased, and the sectors with higher revised total effects in the economy are regarded as key

sectors, because these sectors are the major supplies in the Turkish economy based on the 1973 IO table analysis.

5.2.2 Analysis of 1979's Input-Output Table of Turkish Economy

The second illustrations (Figures 5.5, 5.6, and 5.7) are related to the analyzing of total effects, immediate effects, and mediative effects respectively for key sector identification in Turkish economy using 1979's input-output table of that country. These analyses are accomplishing under the assumption that influence coefficient ($\propto$) has an identical value for each economic sector and it tend to the one ($\propto \rightarrow 1^{-}$).

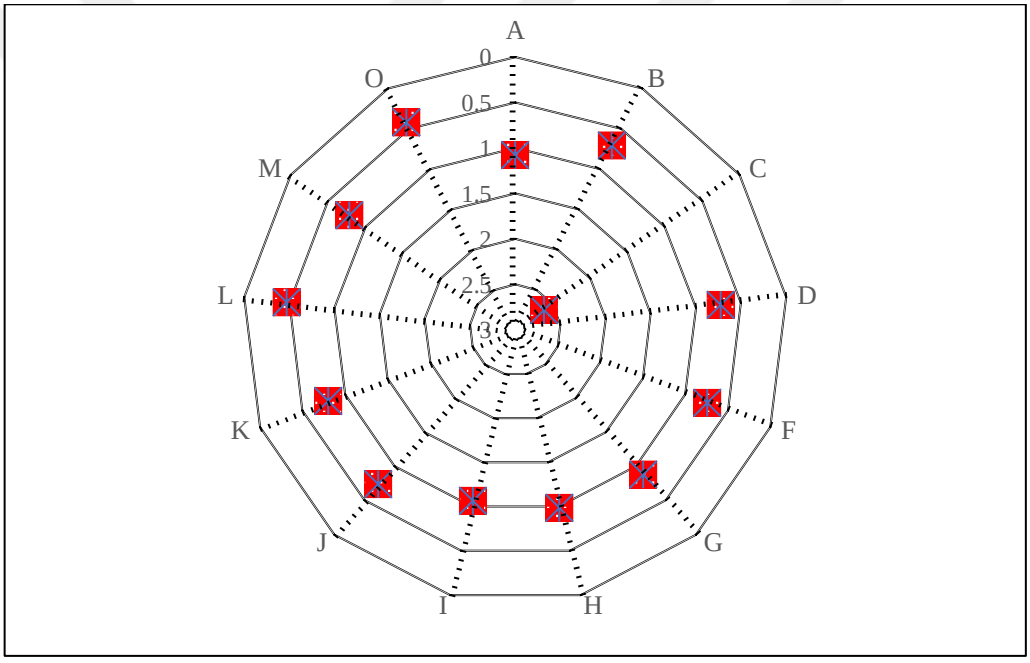

Figure 5.5 Total Effects of Economic Sectors of Turkish Economy in 1979

Source: Author own elaboration from the Input-Output table of Turkey

Total Effects: to identify the total effect of each economic sector on the economic development of Turkey during 1979 necessitates to analysis 1979's input-output table of Turkey. The analytical results of total effects of economic sectors from 1979 IO table are shown in Figure 5.5. Our estimations indicate that sectors like manufacturing sector (C), agriculture and animal husbandry, forestry, and fishing sector (A),

accommodation and food services activities (I), transportation sector (H), had the highest total effects on the rest of Turkish economy in 1979.

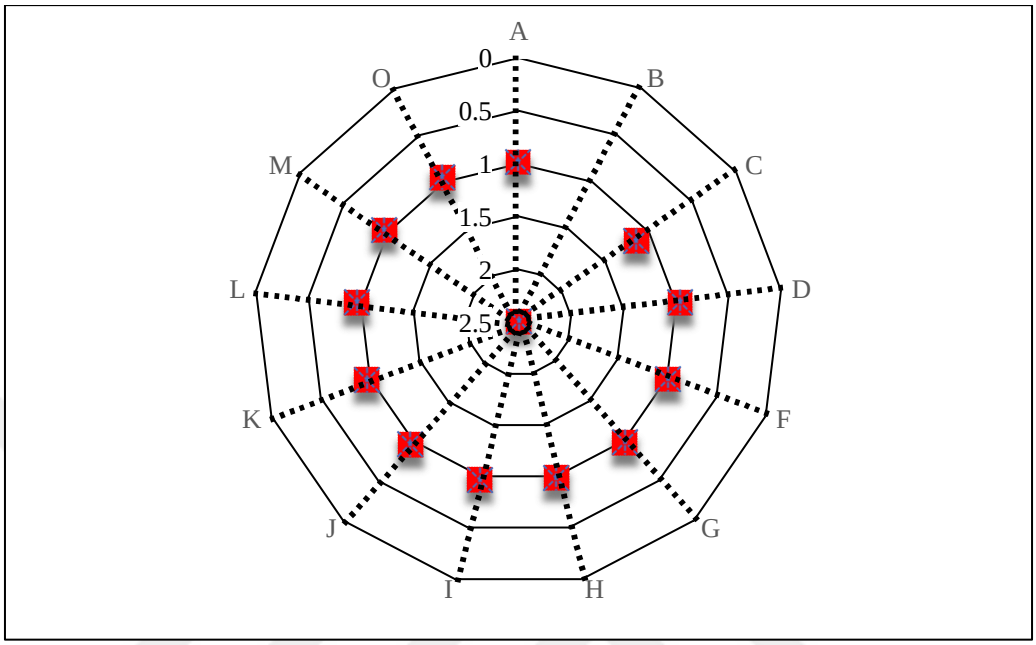

Figure 5.6: Immediate Effects of Economic Sectors of Turkish Economy in 1979

Source: Author own elaboration from the Input-Output table of Turkey

Immediate Effects: the above Figure 5.6 illustrates the immediate effects of economic sectors in the Turkish economy that obtained from the analysis of 1979's IO table of the Turkish economy. The figure indicates critical changes in the position of economic sectors for immediacy transmission of the total effects on the rest of the economy. The results show that agriculture and husbandry, forestry, fishing sector (A) to some extent had lost its position on immediacy effects. While this sector has enjoyed the higher total effect, but it has no easy access or immediacy to all productive sectors available in the economy. However, the mining sector (B) achieved a higher position in immediate effects than the other economic sectors. Hence based on the analysis of 1979's input-output table of Turkish economy only two sectors such as mining sector (B), and manufacturing sector (C) has the highest immediate effect than the other economic in the Turkish economy, thus were able to transmit the total effect on other productive sectors in the Turkish economy.

Meditative Effects: The third step for key sector determination by using the multilevel indicator method is the identification of mediative effects of economic sectors of Turkey. These effects are identified by analyzing the IO tables. In this regard the 1979 IO table of the Turkish economy analyzed, and the results are presented in Figure 5.7.

As it is observable in Figure 5.7 that the economic sectors such as accommodation and food services (I), manufacturing sector (C), agriculture and husbandry, forestry, fishing sector (A) have the greatest mediative effects than the other economic sectors. These sectors play the role of the crossroad in connecting the network of Turkish economic system during 1979.

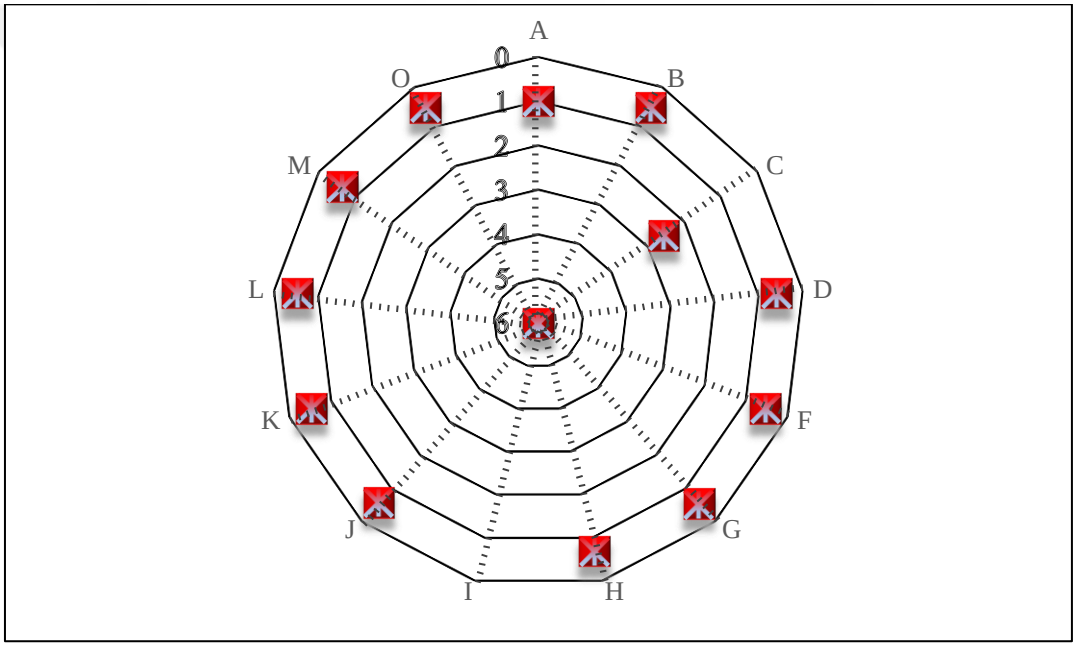

Figure 5.7: Mediative Effects of Economic Sectors of Turkish Economy in 1979

Source: Author own elaboration from Input-Output of Turkey

Influence Index (Revised Total Effects): So far in our analysis, it was assumed that influence index coefficient ($\propto$) equally effects to all economic sectors and its value tend to one ($\propto \rightarrow 1^{-}$). Indeed, any exogenous change in the economic system will affect economic sectors differently. Therefore, determination of a diverse influence index for each economic sector is needed for any research in IO table analysis to

represent the dominance capacity produced in an IO table. This weighting will change the total effects that an economic sector can produce on the economy.

The research results represent that by computing diverse influence coefficient for available economic sectors in 1979 IO table of the Turkish economy, the total effects of some economic sectors increased. As Figure 5.8 indicates the sectors who gained higher total effects in the economy are as follows: agriculture and animal husbandry, forestry, fishing sector (A), manufacturing sector (C), accommodation and food services (I), construction sector (F), real estate activities, and public administration and defense; compulsory security sector (O), real estate activities sector (L).Thus these sectors are considered as the leading or key sectors because they were able to provide a strong inter-sectoral linkage in the economic system of Turkey during 1979.

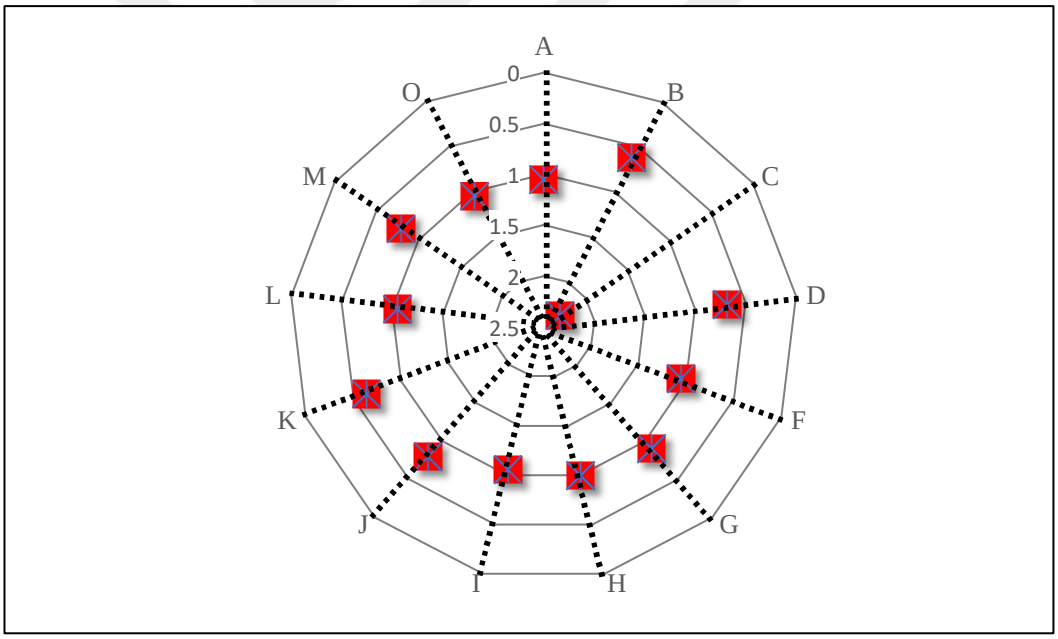

Figure 5.8 Revised Total Effects of Economic Sectors of Turkish Economy in 1979

Source: Author own elaboration from Input-output of Turkey

5.2.3 Analysis of 1990's Input-Output Table of Turkish Economy

The third part of the research analytical section is devoted to the process of key sector identification in Turkish economy using 1990's input-output table. To determine key

sectors in the first step, we need to calculate the total effects, immediate effects, and mediative effects by assuming that the influence coefficient $\propto$ equally affect all economic sectors and its value tends to the unit $(\propto \rightarrow 1^{-})$.

The analytical results of the three complimentary effects have been represented via the Figures (5.9, 5.10, and 5.11). The figures show the results of the total effects, immediate effects and mediative effects of productive sectors of the Turkish economy in 1990.

Total Effects: to find the total effect of each economic sector of the Turkish economy during 1990, it is needed to analysis IO table 1990 of this country. The related IO table analyzed, and its results are depicted in Figure 5.9. The findings confirm substantial improvement in total effects of the wholesale and retail trade sectors in the Turkish economy. These total effects modifications mainly related to economic policy changes. At the begging of the 1980s, the government of Turkey completely modified its economic policies from the planned economy toward economic liberalization. Through this economic policy modification, the government provided more opportunities for private sector development by shrinking the government interventions in the economy. Therefore, 1980s can be regarded as a good switching period toward modernization of Turkey.

The analytical outcomes of the 1990's IO table of the Turkey economy which is shown in Figure 5.9 reveal that among all available productive sectors in 1990' IO table. The sectors such as agriculture and animal husbandry, forestry, fishing sector (A), manufacturing sector (C), wholesale and retail trade, repair of motor vehicles and motorcycles sector (G), and transportation and storage sector (H) are the sectors that have highest total effects on the rest of the Turkish economy in 1990.

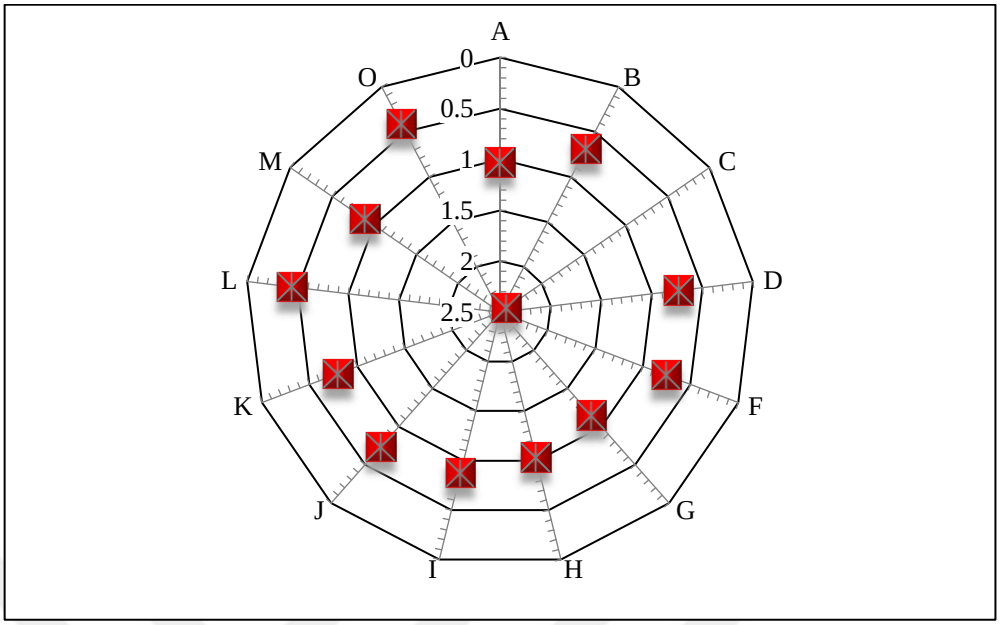

Figure 5.9: Total Effects of Economic Sectors of Turkish Economy in 1990

Source: Author own elaboration from Input-Output Table of Turkey

Immediate Effects: Figure 5.10, which obtained from the analysis of 1990's input-output table of Turkish economy indicate the immediate effect of economic sectors in the Turkish economy in1990.

The results indicate that agriculture and animal husbandry, forestry, fishing sector (A), transportation and storage sector (H) slightly lost their position in the transition of total effects on the rest of the economy. However, the manufacturing sectors (C), and trade sector: wholesale, and retail trade, repair of motor vehicles and motorcycles sector (G), have the highest immediate effects than the other economic sectors in the Turkish economy in 1990. These economic sectors had the ability of the immediacy transmission of the total effects on rest sectors of the Turkish economy.

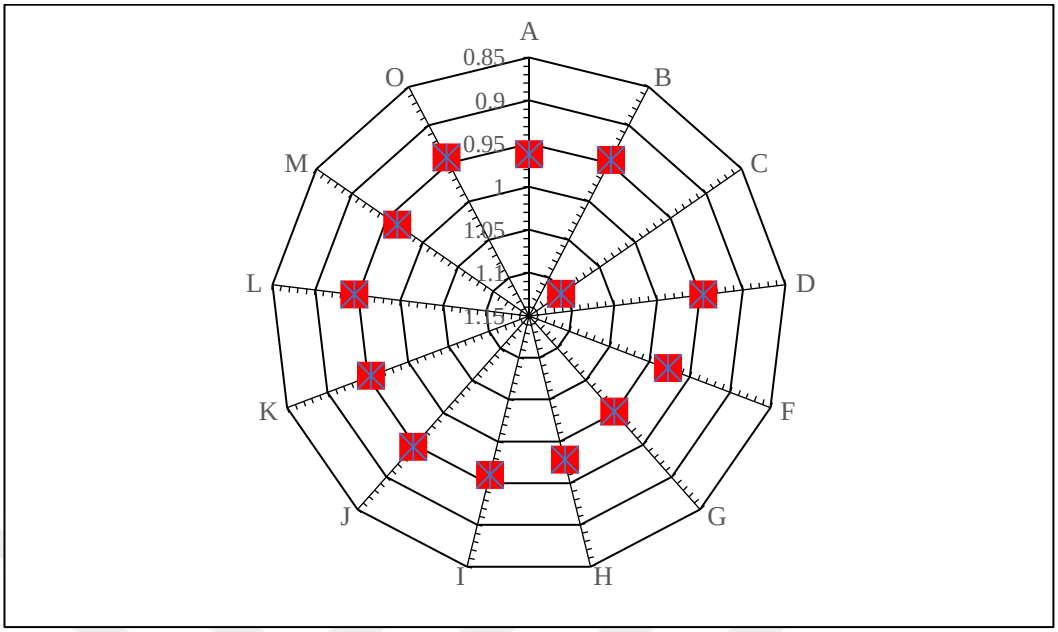

Figure 5.10: Immediate Effects of Economic Sectors of the Turkish Economy During 1990

Source: Author own elaboration from Input-Output of Turkey

Meditative Effects: Figure (5.11) shows the mediative effects of productive sectors in the Turkish economy throughout 1990. The outcomes indicate that the following productive sectors were able to play as a crossroad in the network system of the Turkish economy in 1990.

Our results show that agriculture and animal husbandry, forestry, fishing sector (A), and manufacturing sector (C), have the highest mediative effects on Turkish economy throughout 1990, while sector G slightly lost its position. That means the sectors mentioned above except sector (G) had the position to play a central role in connecting the economic network of Turkey during 1990.

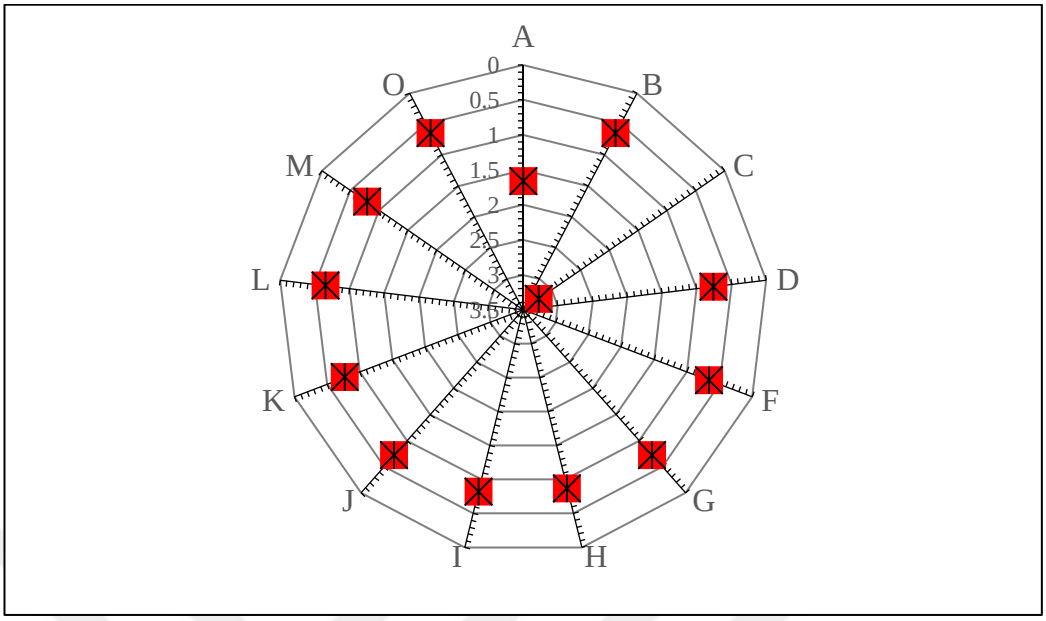

Figure 5.11: Mediative Effects of Economic Sectors of Turkish during in 1990

Source: Author own elaboration from Input-Output Table of Turkey

Influence Index (Revised Total Effects): Each economic sector has a specific weight on the supply and the demand sides of the economy. Therefore, determination of the different influence index for each economic sector provides opportunity to investigators to uncover the dominance capacity produced in an IO table. Computing diverse influence index for each economic sector will change the total effects that an economic sector can produce on the economy.

According to the Figure 5.12, sectors such as agriculture and animal husbandry, forestry and fishing sector (A), manufacturing sector (C), construction sector (F), transportation and storage sector (H), wholesale and retail trade, repair of motor vehicles and motorcycles sector (G), accommodation, and food services sector (I), real estate activities sector (L), and public administration and defense; compulsory social security sector (O) all of these sectors by having the highest revised total effect are considered as the leading sectors in the Turkish economy during 1990.

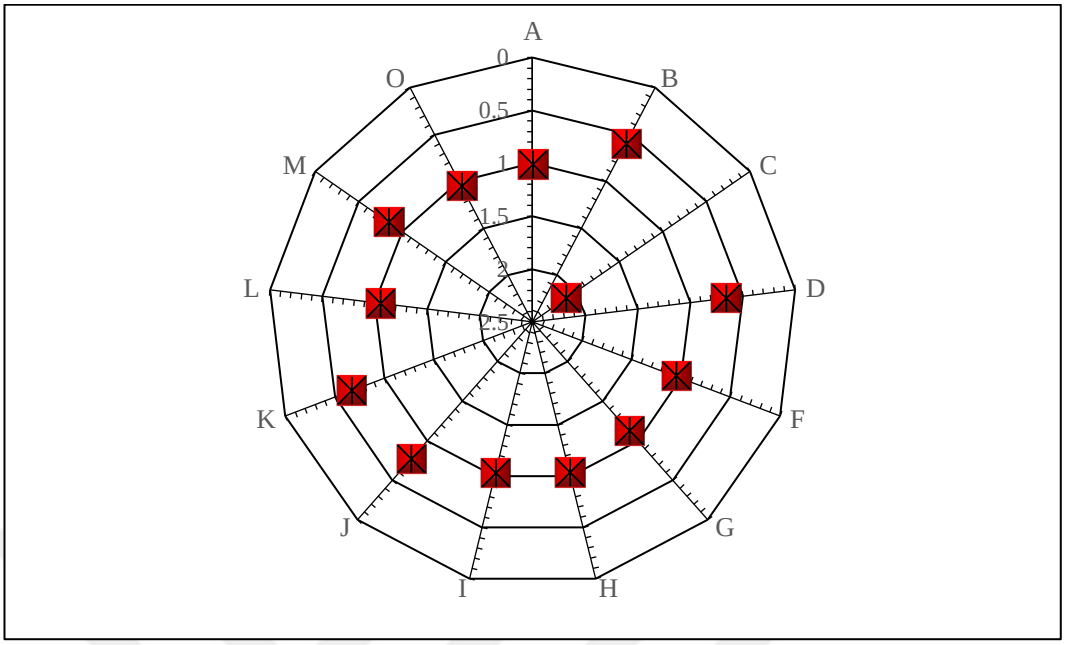

Figure 5.12: Revise Total Effects of Economic Sectors of Turkish Economy in 1990

Source: Author own elaboration from Input-Output Table of Turkey

5.2.4 Analysis of 2002's Input-Output Table of Turkish Economy

The fourth part of the input-output analysis is related to the key sector identification using 2002's Input-output table of Turkey economy under the assumption that influence index coefficient equally effects to all economic sectors. As the analysis shows, there is considerable expansion in the 2000 input-output table of the Turkish economy. During this period the IO has been expanded from 64 to 95 sectors. Hence in this section, the IO table of the Turkish economy is classified into 20 economic sectors. The expansion of the IO table conveys a considerable development in the number of key productive sector in the Turkish economy. Therefore, this period can be regarded as a switching point toward industrialization of Turkey.

Total Effects: The consequences of Turkey's 2002 IO table analysis is represented via Figure 5.13. The figure shows that the following sectors had the highest total effects overall economic sectors of Turkey in 2002.

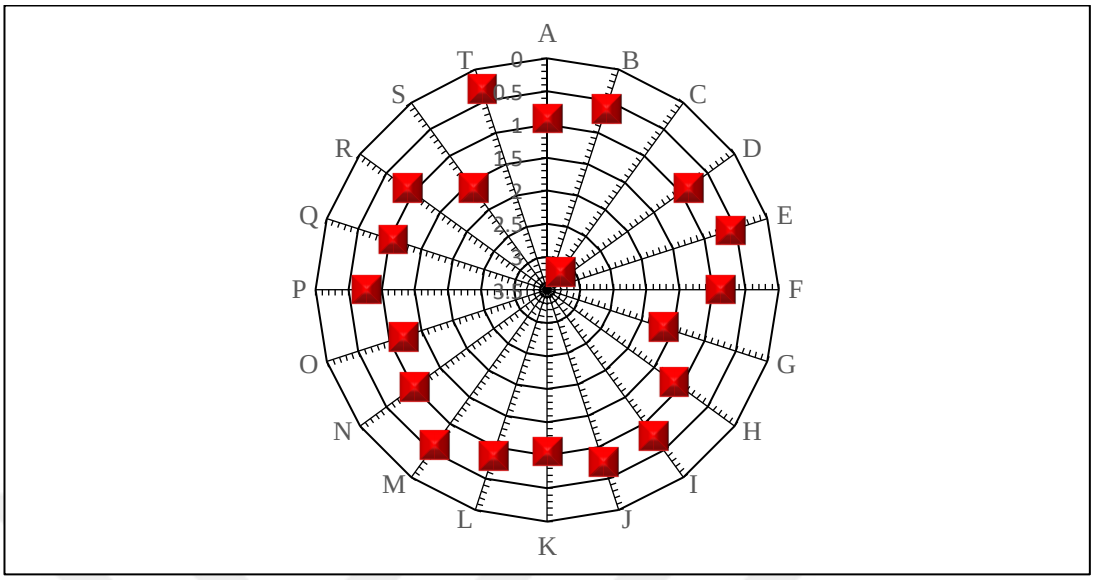

Figure 5.13: Total Effects of Economic Sectors of Turkish Economy in 2002

Source: Author own elaboration from Input-Output Table of Turkey

According to Figure 5.13 the sectors such as manufacturing sector (C), wholesale, and retail trade, repair of motor vehicle and motorcycles sector (G), transportation and storage sector (H), financial and insurance activities sector (K), administrative and support services activities sector (N) , public administration and defense; compulsory services sector (O), human health and social work activities sector (Q), other services activities sector (S), all of these sectors had the highest total effects on the rest of the Turkish economy in 2002.

Immediate Effects: The results of the 2002 IO table of Turkey concerning the identification of the immediate effects of productive sectors in the Turkish economy is shown in Figure 5.14.

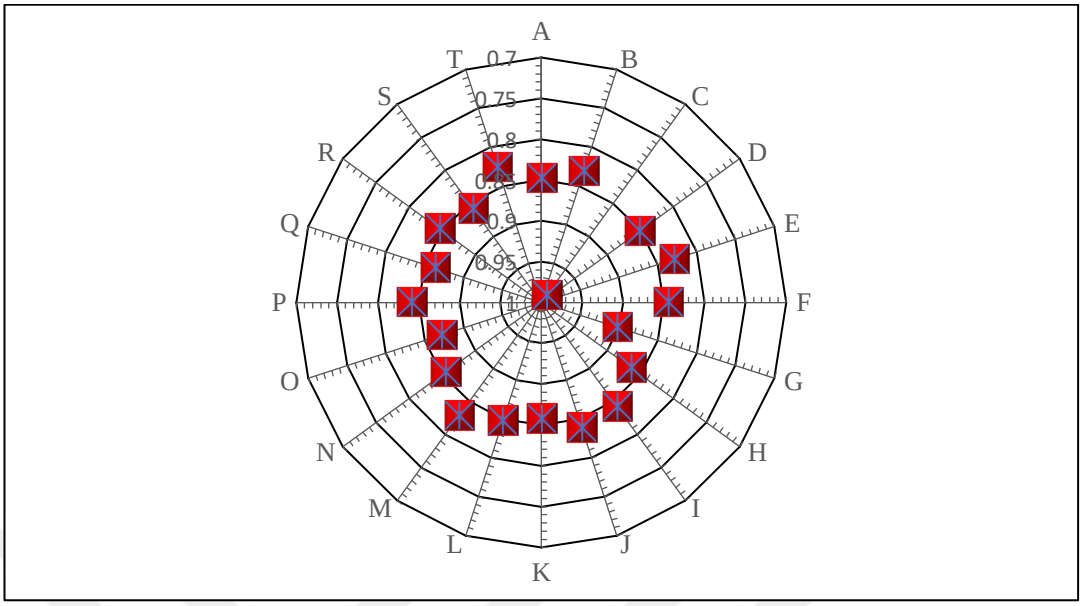

Figure 5.14: Immediate Effects of Economic Sectors of Turkish Economy in 2002

Source: Author own elaboration from Input-output Table of Turkey

The results indicate that the sectors such as, manufacturing sector (C), electricity and gas, steam and air condition sector (D) , wholesale, and retail trade, repair of motor vehicle and motorcycles (G), transportation and storage sector (H), financial and insurance activities sector (K), administrative and support services activities (N), public administration and defense; compulsory services sector (O), human health and social work activities(Q), and other services activities sector (S) have the immediacy ability of transmission the total effects on other sectors in the economy.

Meditative Effects: The analytical consequences of 2002 IO table of Turkish economy related to the determination of mediative effects is illustrated in Figure 5.15.

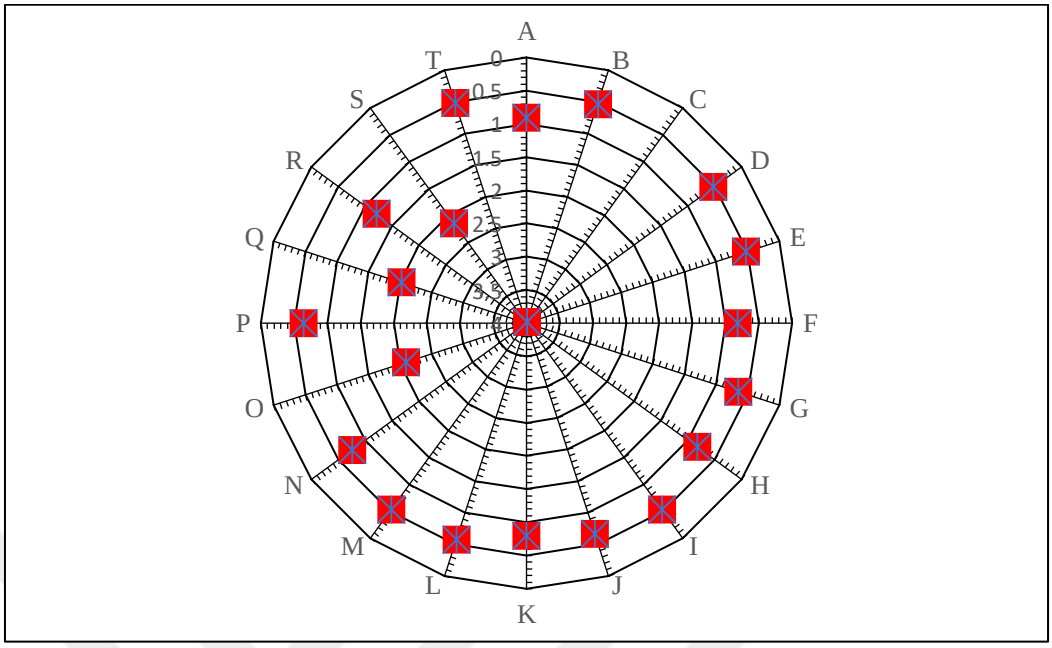

Figure 5.15: Mediative Effects of Economic Sectors of Turkish Economy 2002

Source: Author own elaboration from Input-output Table of Turkey

As Figure 5.15 shows, the sectors such as agriculture and animal husbandry, forestry, fishing sector (A), manufacturing (C), construction (F), wholesale and retail trade, and repair of motor and motorcycles sector (G), transportation and storage sector (H), Financial and insurance activities sector (K), administrative and support services activities (N), public administration and defense; compulsory services sector (O), human health and social work activities(Q), other services activities (S) were able to play the role of crossroads in the economic network of the Turkish economy.

Influence index (Revised Total Effects): The three indicators (total effects, immediate effects, and mediative effects) are computed under the assumption of influence index ($\propto$) equally affect all productive sectors in the economy. In fact, this hypothesis employed in circumstances in which there is no statistical information about the influence index of individual sectors, and it is not common in IO model. Indeed, any external changes will affect differently on economic sectors. Thus, different influence index for each available economic sector of 2002 IO table of the Turkish economy is computed. The results are illustrated in Figure 5.16.

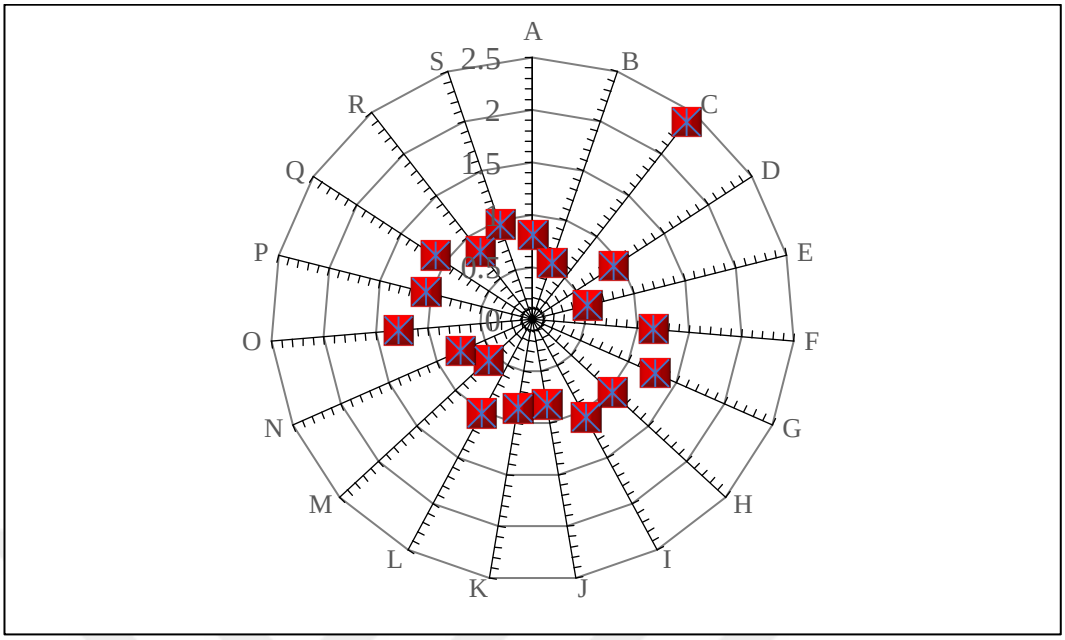

Figure 5.16: Revised Total Effects of Economic Sectors of Turkish Economy in 2002

Source: Author own elaboration from Input-output Table of Turkey

By computing diverse influence index for each productive sector, the total effects of some sectors will change. The sectors those who lost their total effects are included, agriculture and animal, husbandry, forestry, fishing, sector (A), administrative and support services activities sector (N), and the other services activities sector (S). The sectors whose total effects have increased are as follows: the education sector(P), personal, scientific, and technical activities sectors(L).

As the Figure 5.16 reveals, the sectors such as sector manufacturing (C), electricity and gas, steam and air condition sector (D), construction sector (F), wholesale and retail trade, and repair of motor and motorcycles sector (G), transportation and storage sector (H), accommodation, and food services sector (I), real estate activities sector (L), public administration and defense; compulsory services sector (O), education sector (P), human health and social work activities sector (Q) have the highest total effects on other economic sectors. Thus, they are considered as the key or leading sectors in Turkish economy during 2002.

5.2.5 Analysis of 2012's Input-output Table of Turkish Economy

The fifth part of the input-output analysis is concerned to the identification of total effects, immediate effects and mediative effects for determination of key sector in the Turkish economy using its 2012 IO table. These analyses are accomplishing under the hypothesis that influence coefficient ($\propto$) equivalently affects all economic sectors of the economy and its value tends to one.

Total Effects: The outcome of the 2012 input-output analysis of Turkey economy, which is related to total effects determination has shown via Figure 5.17. The figure reveals the sectors those who had the strongest total effect on the rest of the Turkish economy in 2012.

Our findings show the sectors with more effective total effects are included, manufacturing sector (C), electricity and gas, steam, and air condition sector (D), construction sector (F), wholesale and retail trade, repair of motor vehicles, and motorcycles sector (G), transportation and storage sector (H), human health and social work activities sector (Q). These economic sectors had the highest total effects on the rest Turkish economy during 2012.

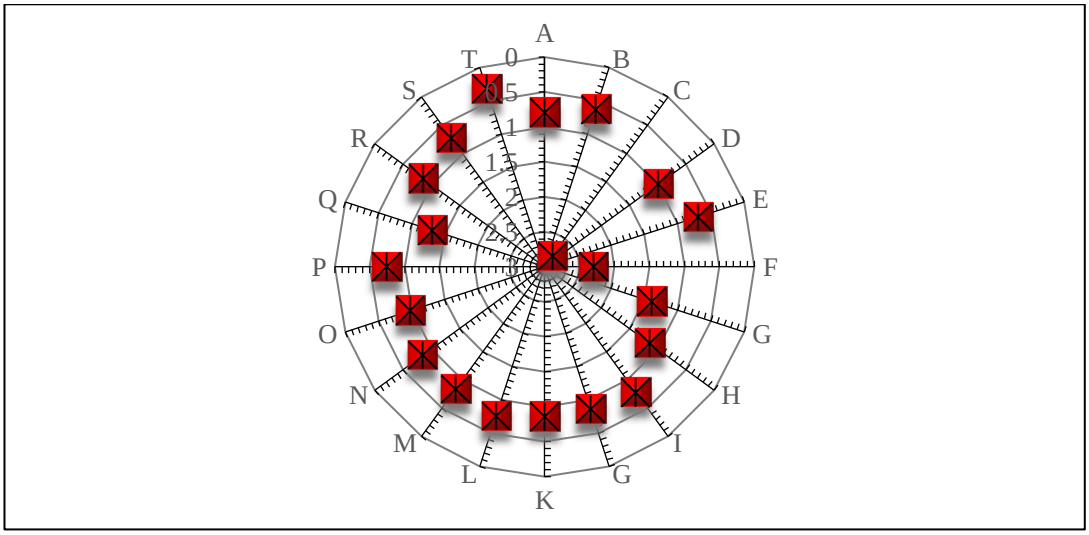

Figure 5.17: Total Effects of Economic Sectors of Turkish Economy in 2012

Source: Author own elaboration from Input-output Table of Turkey

Immediate Effect: The analytical results of the 2012 IO table of Turkish economy related to the determination of the immediate effects of economic sectors on Turkish economy in 2012 is depicted in Figure 5.18. The figure identifies that the following sectors had the immediacy ability for transmission of total effects on the rest of the economic sectors in the Turkish economy in 2012.

According to Figure 5.18 the economic sectors that had the highest immediate effects are included, manufacturing sector (C), electricity and gas, steam, and air condition sector (D), construction sector (F), wholesale and retail trade, repair of motor vehicles, and motorcycles sector (G), transportation and storage services sector (H), human health and social work activities(Q).

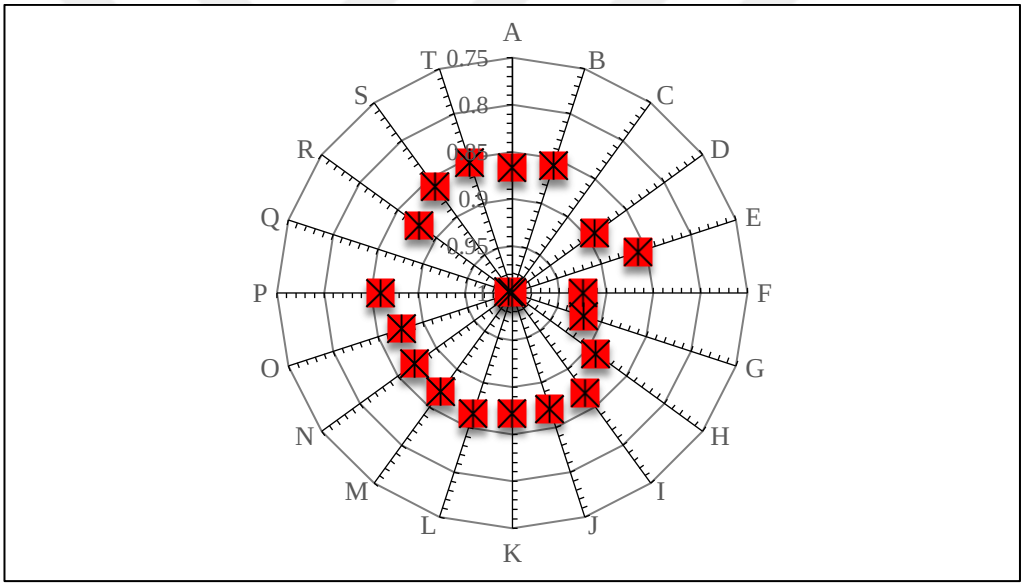

Figure 5.18: Immediate Effects of Economic Sectors of Turkish Economy in 2012

Source: Author own elaboration from Input-output Table of Turkey

Meditative Effects: The outcomes of the 2012 input-output analysis of the Turkish economy about mediative effects of economic sectors have shown in Figure 5.19.

The figure illustrates that the following sectors such as agriculture and animal husbandry, forestry, fishing; manufacturing sector (C), electricity and gas, steam and air condition sector (D), construction sector (F), transportation and storage sector (H), human health and social work activities sector (Q), arts, entertainment and recreation sector (R), were able to perform as a crossroad in the economic network of Turkey in 2012.

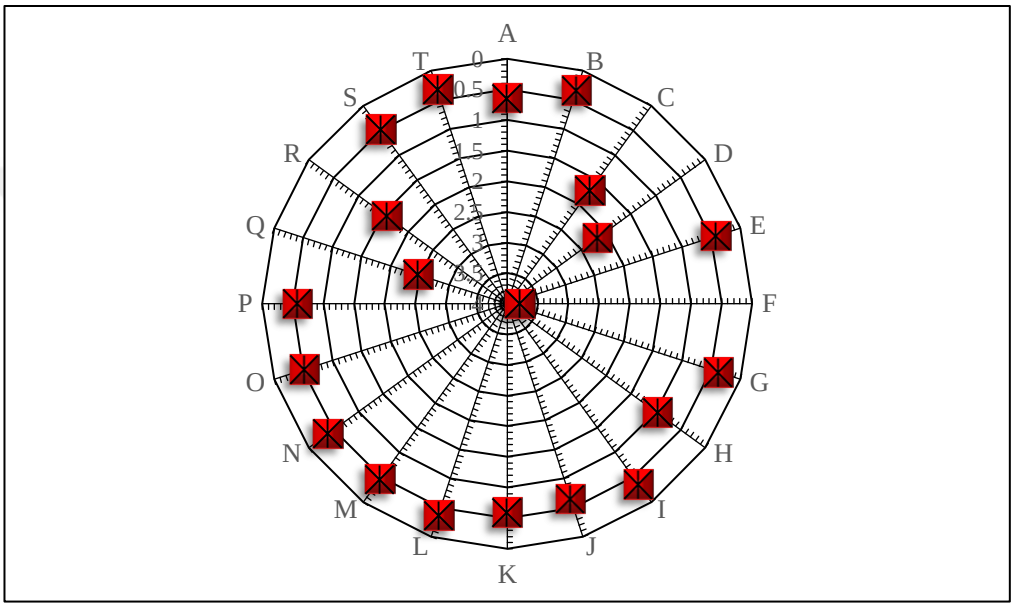

Figure 5.19: Mediative Effects of the Economic Sector of Turkish Economy in 2012

Source: Author own elaboration from Input-output Table of Turkey

Influence Index (Revised Total Effects): In this section different influence index is computed for each economic sector, and the results are represented in the Figure 5.20.

As Figure 5.20 indicates by computing diverse influence coefficient for each economic sectors the total effects of the economic sectors have changed. the sectors who has got the highest revised total effect are as follows: manufacturing sector (C), electricity and gas, steam and air condition sector (D), construction sector (F), trade sector: wholesale and retail trade, repair of motor vehicles, and motorcycles sector (G), transportation and storage sector (H), accommodation and food activities sector (I), public

administration and defense compulsory social security sector (O), education services sector (P), human health and social work activities sector (Q), arts, entertainment and recreation sector (R), other services activities sector (S), Activities of households as employer sector (T). The sectors who obtained the highest total effects in the economy are considered as the leading sectors of Turkish economy in 2012.

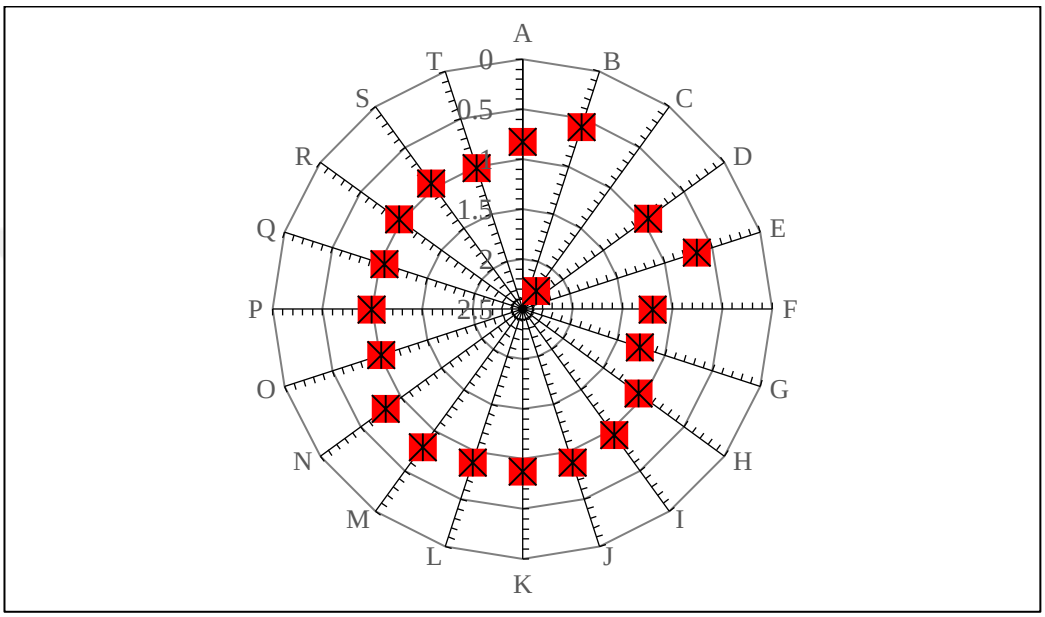

Figure 5.20: Revised Total Effects of Economic Sectors of Turkish Economy in 2012

Source: Author own elaboration from Input-Output Table of Turkey

5.3 Findings from Input-Output analyses

The theoretical framework of this research expresses that the focal point of economic development in any economy is to determine unutilized economic capacities and scattered resources. Thus, the fundamental problem of economic development is related to generate and energize the entrepreneurship activities in the economy. The aim is to efficiently combine the idle capacities with scattered resources, and prevent from misallocation of economic resources.

Recently misallocation of economic resources has been emphasized in development literature as an explanation for the large productivity gap among the countries.

Misallocation of economic resources increases as sector-specific distortions take place in the economy. Since developing countries suffer from massive misallocation of economic resources as a result of sector-specific distortion, therefore these economies need to develop appropriate industrial policies.

The experiences of industrialization in advanced economies indicate that there are different types of industrial policies that a country can choose to promote industrialization, reduce sector-specific distortions as well as to prevent misallocation of economic resources. However, each of these industrial policies has entirely different outcomes. Some countries have prepared their industrial policies through the direct involvement of the government in the production process. Thus, there are limited opportunities for the private sector development in such industrial policies, which called old-style industrialization. While some other nations have designed their industrial policies based on the mechanisms that provide more incentives to the private sector investment and a limited role for the government intervention in the production process. These types of industrial policies are called modern industrial policies. Industrialization experiences of around the world reveal that modern industrial policies are more successful in the process of capital formation for poverty reduction. Thus, developing countries need to build industrial strategies based on the incentives mechanism for the private sector investment, aimed to create a private sector-led economic diversification. These policies affect the productivity of highly interconnected key sectors of the economy.

Turkey as a developing county has implemented different industrial policies to prevent the misallocation of economic resources and reduces the productivity gap between Turkey and advanced economies. To identify and evaluate the evolutionary process of the key economic sectors and their impact on SMEs development in the Turkish economy the IO tables of 1973, 1979, 1990, 2002 and 2012 of this country by using a new proposal from network theory method have analyzed. To determine key economic sectors through this input-output analysis method, it is essential to determine which sectors have the most significant productivity gap with respect to the leading sector.

Also, it is needed to compute the influence index of each economic sectors separately. Hence it will be natural to think a sector with both a large productivity gap and a significant degree of influence as a key sector. By applying this method to the analytical part of the research, we obtained different results from the analysis of each IO table of the Turkish economy. The results have been shown in the following tables, and through the comparison of the results, one can find that the number of key economic sectors increased in the Turkish economy by improving the economic structure of this country during 1973- 2012.

Table 5.3 shows the analytical result of the 1973 IO table of the Turkish economy. the analytical result of this IO table shows that the economic sector such as agriculture and animal husbandry, forestry, and fishing sector (A), manufacturing (C), transportation and storage (H), construction sector (F), wholesale and retail, repair of motor vehicles and motorcycle sector (G), accommodation and food services sector (I), real estate activities sector (L), and the sector of public administration and defense, compulsory social Security (O) sectors with higher productivity gap and the highest degree of influence are regarded as the key economic sectors based on 1973's IO table.

Table 5.3: Analytical Results of the 1973 IO Table of the Turkish Economy

Code	Total Effect	Immediate Effects	Mediative Effects	Influence Index
A	1,164350827	1,165688	2,13046785	1,24377666
B	0,740221979	0,952643	0,84378835	0,85093004
C	2,610205275	1,59151	5,2415403	1,98982047
D	0,768679774	0,976358	0,95541927	0,89512506
F	0,658767976	0,966963	0,8395019	1,03092239
G	0,915031878	0,981417	0,87246725	1,15578084
H	1,023118962	1,038197	1,05372656	1,2087345
I	0,812463068	0,962226	0,8395019	1,33350658
J	0,764788352	0,954124	0,8395019	0,98456638
K	0,884288763	0,976485	0,87247484	0,756344
L	0,497390533	0,950641	0,8395019	1,03092239
M	0,811410783	1,012341	1,13940688	0,93719293
O	0,450564346	0,945108	0,8395019	1,03092239

Source: The Author own elaboration from 1973 Input-Output Table of Turkey

Table 5.4 represent the analytical outcomes of the1979's IO table of the Turkish economy. The analytical results of this IO table highlight that the sectors like animal husbandry, forestry, fishing sector (A), manufacturing sector (C), Construction sector (F), accommodation and food services (I), transportation and storage sector (H), real estate activities sector (L), and public administration and defense; compulsory security sector (O) are accepted as the key sectors in the Turkish economy.

Table 5.4: Analytical Results of the 1979 IO Table of the Turkish Economy

Code	Total Effect	Immediate Effects	Mediative Effects	Influence Index
A	1,081943606	0,983718318	1,46649114	1,0507218
B	0,715913606	2,495431424	0,75379373	0,62748449
C	2,616521254	1,142745897	3,70214034	2,30088804
D	0,724974839	0,957330142	0,8422217	0,68015035
F	0,740856909	0,986607183	0,74733499	1,05402924
G	0,878505462	0,981513673	0,75965162	0,90029016
H	0,981870398	0,984970058	0,98536588	0,99123613
I	1,063105272	0,965224988	8,65180151	1,0546238
J	0,729636026	0,958391112	0,81998012	0,79017114
K	0,805740145	0,970657399	0,75903362	0,63930904
L	0,46826105	0,960434124	0,74733499	1,05402924
M	0,78368395	0,96201137	0,88545646	0,80303734
O	0,425899528	0,955512065	0,74733499	1,05402924

Source: The Author own elaboration from 1979 Input-Output Table of Turkey

By comparing the analytical results of IO 1973 and 1979 of the Turkish economy, we do not see any improvement in the number of key sectors during the 1970s. One of the main reasons could be the implementation of the same industrial policy. Since the Turkey was ruled under the planned economy during 1970s, thus, there was not any development in the number of key sectors in the Turkish economy during the 1970s.

Table 5.5 illustrates the analytical outcomes of the 1990 IO table of the Turkish economy. As the outcomes show, the sectors that have selected as the key sectors are included agriculture and animal husbandry, forestry and fishing sector (A), manufacturing sector (C), construction sector (F), transportation and storage sector (H), wholesale and retail trade, repair of motor vehicles and motorcycles sector (G),

accommodation, and food services sector (I), real estate activities sector (L), and public administration and defense; compulsory social security sector (O).

When we compare the analytical outcomes of 1979 and 1990 IO table of the Turkish economy; we will find an improvement in the number of key economic sector in the Turkish economy. Since at the beginning of 1980s the Turkish government radically changed its economic policy from planned economy to market economy, because of the liberal economic policy trade sector became one of the key sectors in the economy. However, because of the absence of specific industrial policy and some economic problems during the economic liberalization of Turkey in the 1980-1990, the number of key sectors slowly developed.

Table 5.5: Analytical Results of the 1990 IO table of the Turkish Economy

Code	Total Effect	Immediate Effects	Mediative Effects	Influence Index
A	1,03491098	0,96235642	2,137987241	1,18604912
B	0,69451107	0,94591256	0,843131407	0,85300992
C	2,42564132	1,10538809	4,160852688	1,83751643
D	0,73818906	0,94657927	0,971948821	0,86804522
F	0,756762	0,97746794	0,84159181	1,05145931
G	1,14697868	1,001384	0,922678836	1,21839964
H	1,02881053	0,97800491	1,121537228	1,15621509
I	0,86958298	0,95967232	1,056950155	1,2621064
J	0,73123222	0,9468996	0,925066674	0,8646975
K	0,79632962	0,95362097	0,992860098	0,69138959
L	0,44323668	0,94545704	0,84159181	1,05145931
M	0,88937092	0,96400392	1,013237988	0,9170114
O	0,41917691	0,94279224	0,84159181	1,05145931

Source: The author own elaboration from 1990 Input-Output Table of Turkey

Table 5.6 illustrates the analytical results of the 2002 IO table of the Turkish economy. The outcomes show a considerable improvement in the number of key economic sectors in Turkish economy, which is observable from table 5.6.

According to the analytical results of 2002's IO table the sectors like manufacturing (C), construction sector (F), wholesale and retail trade, and repair of motor and motorcycles sector (G), transportation and storage sector (H), accommodation, and

food services sector (I), real estate activities sector (L), public administration and defense; compulsory services sector (O), education sector (P), human health and social work activities sector (Q) are recognized as the key economic sectors in the Turkish economy. Therefore, this period is regarded as a switching point toward industrialization of Turkey.

Table 5.6: Analytical Results of the 2002 IO Table of the Turkish Economy

Code	Total Effect	Immediate Effects	Mediative Effects	Influence Index
A	0,91228552	0,84811022	0,913230649	0,803199506
B	0,626381616	0,83095882	0,533446765	0,568143251
C	3,171683391	0,98906385	3,98591012	2,383499269
D	0,873378607	0,85112604	0,521553705	0,920956135
E	0,592783022	0,82866935	0,532369457	0,537773521
F	0,882153127	0,84404607	0,827805503	1,149307082
G	1,651280132	0,90257151	0,644966873	1,275626429
H	1,132747623	0,86405585	0,824461836	1,029549851
I	0,771316117	0,8419316	0,528022227	1,060136565
J	0,755054628	0,83861553	0,663055652	0,824990938
K	1,060080383	0,85721692	0,795104468	0,859396111
L	0,856253071	0,84754928	0,570963474	1,02484206
M	0,598726312	0,82881039	0,530939282	0,57408916
N	1,006176311	0,85517858	0,75021715	0,753381425
O	1,206003779	0,87189636	2,088705176	1,28928878
P	0,769363372	0,84097358	0,643927439	1,055052976
Q	1,041591739	0,86348009	2,023427028	1,112637155
R	0,884142931	0,84660389	1,206200011	0,820488932
S	1,602001785	0,85815505	2,14606147	0,957640854
T	0,307499185	0,82613503	0,521180827	0,803199506

Source: The author own elaboration from 2002 Input-Output Table of Turkey

By comparing the results of the IO tables of 1990 and 2002, we will find that 2002's IO table has been expanded from 64 economic sector to 95 sectors. This improvement of the IO table directly increased the number of economic sectors, and conveys a substantial development in the number of key sectors in the Turkish economy.

Table 5-7 illustrates the analytical outcomes of the 2012 IO table of the Turkish economy. During the period between 2002 and 2012 the government of useful industrial policies in order to facilitate the process of industrialization in Turkey. Thus,

as the economic structure of the Turkish economy improved, the number of key economic sectors in the Turkish economy increased too.

Table 5.7: Analytical Results of the 2012 IO Table of the Turkish Economy

Code	Total Effect	Immediate Effects	Mediative Effects	Influence Index
A	0,795488313	0,86671316	0,649214744	0,82503743
B	0,630543664	0,8578779	0,337855066	0,58433293
C	2,813400825	0,99956859	1,711198987	2,27200747
D	0,991649332	0,89155239	2,182281947	0,95126543
E	0,686104983	0,85946525	0,421870207	0,6698066
F	2,301147809	0,92490518	3,79661339	1,19782624
G	1,3857886	0,91980059	0,371158765	1,26881673
H	1,141406011	0,88992421	0,96167734	1,06722247
I	0,783799914	0,86843927	0,357356662	0,94645597
J	0,860549294	0,87045447	0,64775827	0,88542128
K	0,856265318	0,87192503	0,584595749	0,8763751
L	0,757023374	0,8655299	0,359060135	0,88511475
M	0,839972612	0,86994527	0,455718606	0,79830917
N	0,839840661	0,8718941	0,385473818	0,80376418
O	0,98024679	0,8771862	0,510475238	1,01410148
P	0,742944735	0,86049999	0,573071761	0,98663662
Q	1,304825406	0,99660097	2,46880932	1,0440652
R	0,855001506	0,87759477	1,563325689	0,97167307
S	0,723465691	0,86120597	0,493769137	0,94021715
T	0,32446022	0,85412915	0,324115339	1,01155072

Source: The author own elaboration from 2012 Input-Output Table of Turkey

Through a comparison of the analytical outcomes of the IO tables of 2002 and 2012 we will easily find that the number of key economic sectors considerably increased in 2012. This development mainly related to specific industrial policies that the Turkish government implemented since 2003. The government introduced a horizontal industrial policy in 2003, and then in order to avoid the middle-income trap by channeling the economic resources in key economic sectors of the economy the government applied integrated industrial policy.

Finally, our findings based on the theoretical framework of this research bring us to a conclusion that, the identification and investment in the key sectors are the most efficient way of SME promotion in developing countries. particularly in Turkey,

because the existing of remarkable numbers of key sectors in the Turkish economy has a significant impact on capital formation for poverty reduction through private sector development. The Private investors through their investment in key sectors of the economy in the form of SMEs provide new employment opportunities, generate new income, and diversify the products.

On the other hand, since developing countries do not have sufficient human skills, physical capital as well as material resources to simultaneously investment in a number of complementary industries. Thus, unbalanced development strategy which supports investments in key sectors rather than simultaneously investment in all economic sectors is considered as a suitable SME development approach in developing countries. Investment in key sectors provides new investment opportunities for private investors because any investment might have both backward linkage and forward linkage effects. Forward effects encourage investment in downstream stages of production and backward effects induces investment in upstream stages of production. This SME development policy is possible by deliberately unbalancing the economy. The aim is to keep alive rather than eliminating the unbalances. Thus, investment in leading economic sectors of the economy leads to further SME development in developing countries.

The research findings have been supported by KOSGEB information concerning the distribution of SMEs in economic sectors. According to the SMEs classification Turkey had 3,524,333 active enterprises with less than 250 employees in 2013, out of which 3,206,214 or roughly 91% of the SMEs were operated in key economic sectors of Turkish economy. Table 5.8 indicates the distribution of enterprises in Turkish economy.

Table 5. 8: Distribution of Enterprises by Sector and Number of Employees

SECTOR (NACE Rev.2)	**Number of Enterprises by Number of Employees**				
	0-9	10-49	50-249	0-249	>250
A–Agriculture, Forestry and Fishery	28.619	1.537	211	30.367	22

B - Mining and quarrying	5.475	1.437	352	7.264	60
C –Manufacturing	371.608	44.668	8.882	425.158	1.627
D- Electricity, Gas, steam and hot water production and distribution	3.931	418	167	4.516	62
E – Water supplying; Sewer, Waste Management and Treatment Activities	3.044	384	103	3.531	81
F – Construction	210.095	36.027	7.115	253.237	510
G - Wholesale and retail trade; repair of motorized vehicle, motorbike	1.189.401	47.583	4.272	1.241.256	472
H – Transportation and storage	548.578	10.929	1.387	560.894	219
I – Accommodation and Restaurant Services Activities	290.907	12.715	1.597	305.219	307
J - Information and Communication	37.877	2.401	426	40.704	86
K –Activities on Finance and Insurance	24.702	1.026	161	25.889	75
L –Activities on Real Estates	49.662	1.562	160	51.384	15
M – Vocational, Scientific and Technique Activities	182.344	9.697	738	192.779	117
N –Administrative and Support Services	39.727	5.382	2.840	47.949	876
P – Education	21.307	6.284	885	28.476	345
Q - Healthcare and social services	37.682	3.995	870	42.547	291
R –Culture, Art, Entertainment, Resting and Sports	33.470	837	138	34.445	13
S –Other Personal Services	224.781	3.672	263	228.716	32
TOTAL	**3.303.210**	**190.554**	**30.567**	**3.524.331**	**5.210**
Distribution of enterprises by scale	**%93,6**	**%5,4**	**%0,9**	**%99,9**	**%0,1**

Source: (KSOGEB, 2015)

6 Proposal for SME Development in Afghanistan Based on Turkey Experiences

Turkey as a historical and currently a large economy has valuable experiences in industrial sector especially on SME development. Turkey with a GDP of $841.21 billion and exporting $141.21 billion in the global market has been ranked as the 17th largest economy in term of GDP and 29th largest exporter country in 2016 respectively (www.knoema.com). In achieving such a robust ranking of Turkey in the world economy, the SMEs with 1-249 employees have a contribution of 59.2% in the total exports, 75.8% of employment, 54.1% of wage and salary income, and 53.9 % in value added. Hence a significant role in economic growth and poverty reduction of Turkey (www.turkstat.gor.tr, 2018). All of manufacturing SMEs operate in 280 organized industrial zones (OIZs), which are located in deferent parts of the country (KOSGEB, 2015).

Above mentioned that Turkey has developed different methods of industrialization during economic development and has valuable experiences in SME development. Recently many developing and underdeveloped countries such as Mongolia, Kazakhstan, Ukraine, Palestinian, Egypt, Azerbaijan, Iraq, and some other countries are interested, and they want to use the experiences of Turkey in private SME sector development (www.anahtar.sanayi.gov.tr, 2012).

One of the unique SME development methods of Turkey is called OSTIM SME development model. The OSTIM model has been developed by a group of Turkish entrepreneurs based on the principles of sharing economy since 1967. The founders of OSTIM came together and proposed the OSTIM SME development cooperative at the end of the 1960s. They started their business activities based on cooperation and competition in the mid of the 1980s by establishing and managing joint venture

enterprises according to their common belief and worldviews. Nowadays OSTIM evolved to an SME city with its own well-known international brand value and recognized as a solution center not only for the domestic needs but also for the global customers and subcontractors (www.turkstat.gor.tr).

Since the OSTIM model has been recognized as a pattern of capital formation for poverty reduction by many economist (Ersoy, 2013). I strongly propose the implementation of the OSTIM model for Afghanistan private SME sector development. Indeed, I have realized strong compatibility between the objectives of Afghanistan's (2015-2020) SME development strategy and the OSTIM SME development model. In fact, Afghanistan SME development strategy has built based on the following components (MoCI ASMED, 2015):

1- Implementation of a well-established value chain approach.
2- Improvement the accessibility of SMEs in financial resources.
3- Simplifying the registration process of SMEs.
4- Development of necessary infrastructure for SME.
5- Coordinating governance and policy support for SME.

Afghanistan SME development strategy does not describe that based on which specific, functional, and practical mechanism the authorities will implement their plan. Thus, there are many questions about the success of this strategy. Therefore, I think there are serious shortcomings in the strategy itself and needs a complete improvement. Furthermore, in the action plan (2015-2020) of SME development which is prepared by Afghanistan's SME Development Directorate (ASMED) has predicted several ways to support SMEs, while most of the anticipated mechanisms do not have any compatibility with the current economic situation of Afghanistan. For example, the loan guarantee policy for SMEs development is one of the mechanisms that ASMED has predicted to support SMEs. Currently, this mechanism is very risky for the Afghan government. Thus, it is not a functional way.

The second mechanism that ASMED has planned for the SMEs support is the implementation of the SMEs credit accessibility policy according to Islamic Sharia. ASMED tries to implement this policy through the encouragement of the commercial banks in providing credit services for the SMEs based on Islamic Sharia (MoCI ASMED, 2015). This policy is an advantageous mechanism, but its implementation is not easy. In a conventional financing method commercial banks are not interested in serving the SMEs in developing countries, and the SMEs commonly are known as the non-bankable customers to the banks, because these enterprises do not have adequate collaterals to obtain loans from the banks (Mohiedin etal. 2012).

Here I powerfully recommend the OSTIM SME development model for Afghanistan. I do believe that it is possible for Afghan entrepreneurs to develop a cooperative base SME development method based on the sharing of benefit and cost principles, and according to their believes and worldview. Implementation of this model allows our entrepreneurs to justly mobilize human and natural resources and actively increase their contributions to national economic growth and development.

6.1 Role of SMEs in Economic Development of Afghanistan

Afghanistan has accepted market economy since 2001. In this economy, the private sector plays a significant role in economic prosperity and SMEs are considered as the engine of economic growth and development (Mashal, 2014). In Afghanistan SMEs with less than 100 workers represent 80 to 90 % of all economic enterprises, these enterprises produce 50% of GDP, 75% of employment (www.MoCI.gov.af, 2018). In Afghanistan SMEs development is vital because of two main reasons; first, to reduce the high unemployment rate of the economy. Secondly, to achieve economic growth and development to alleviate poverty.

Currently one of the most significant challenges that Afghanistan's economy is faced is the high unemployment rate. This problem becomes worst as the economic growth rate goes down and the fertility rate of population increases. According to the Afghanistan Poverty Status Update report, Afghanistan has the fastest increasing

population rate (above five children per woman), highest dependency rate, and the largest young population among the South Asian countries. Afghanistan's population structure causes noticeable challenges in public finance and the labor market. It is estimated that each year 400,000 new workers joint to Afghan labor force, and the government must establish 400,000 new jobs in order to accommodate new workers. As a result, it is estimated that currently 1.9 million of Afghans labor force to be unemployed and the unemployment rate in this country reaches 22.6%. Afghanistan's unemployment rate severely increases among the specific social groups. For example, the unemployment rate is 27.9% among the youths, increase to 36% among the women, and the unemployment rate increases to 45.6% among the people who are below the age of 25 years (MoE and The World Bank, 2017).

The information mentioned above indicates that a strong private SME sector development is critically important to reduce the unemployment rate in Afghanistan. On the other hand, huge unemployment youth bulge with a low rate of wages is considered to be a complementary factor for SME development in Afghanistan to increase economic development and reduce poverty.

Furthermore, sustainable economic growth and poverty reduction in the country needs a robust private sector through SME development. Otherwise, economic growth will be very fragile, and poverty reduction is not possible. For example, Afghanistan has experienced steady economic growth from 2001 until 2012. which is called transition period. The transition period is a particular time in recent history of Afghanistan that the security responsibility of the country transferred from international military forces to Afghan military forces. Indeed, real GDP grew at an average rate of 10.5% between 2005-2012. The main reason for the real GDP growth in Afghanistan was not related to real economic sectors development. However, the growth was fueled by the presence of the international community and their troops in Afghanistan, which has caused a huge amount of spending. In fact, during this period a significant portion of the service sector such as construction and logistics services grow through the military and development aid (Mashal, 2014). However, by completing the transition period,

as the international troops began to withdraw, growth in GDP significantly declined from 10.9% in 2012 to -1.7% in 2014. Resulting poverty increased from 35.8% in 2012 to 39.1% in 2014 (MoE and The World Bank, 2017).

This point leads us to a conclusion that sustainable economic growth is not possible without constant improvement in gross national capital formation. Particularly in a market economy, it is not feasible to achieve the goals of economic growth and development in the absence of a comprehensive private sector development strategy.

6.2 SME Development in Afghanistan

While SMEs play an important role in Afghanistan's economy in term of GDP growth and employment generation, but this country did not have a precise definition of SMEs and a comprehensive strategy for SME development up to 2009. Even, the SME development strategy which was developed in 2009, was not implemented until the formation of SME development directorate in 2011. Afghanistan SME Development Directorate (ASMED) was formed within the Ministry of Commerce and Industry in 2011 with 12 staff, and currently, has 24 employees. ASMED is responsible for coordination of activities concerning SME development in Afghanistan (Mashal, 2014).

ASMED carries specific objectives such as, increasing the competitiveness and productive power of SMEs in a free market framework, development of modern institutions and infrastructures for SMEs, enhancing the SMEs accessibility to resources, entrepreneurship development and particularly supporting and promoting women entrepreneurship, cluster development, focusing on untapped sectors of the economy, supporting research & development activities through connecting SMEs with academic institutions (www.MoCI.gov.af, n.d.).

ASMED supports SMEs by fulfilling the following functions (www.MoCI.gov.af):

1- Implementation and monitoring the SME strategy and industrial policy.

2- Supporting all industrial parks in the country to improve the infrastructures and increase the number of industrial parks.
3- Organizing and applying programs to stimulate the SMEs to formalize their operations.
4- Contribution in development and implementation of regional and multilateral trade and transit agreements.

Recently Afghanistan accepted a general definition for SMEs. According to this definition, the SMEs are characterized by two criteria the number of employees and the amount of investment.

Table 6. 1: SMEs Classification in Afghanistan

Enterprises	Number of workers	Manufacturing sector Investment in plant	Services Sector Investment in Equipment
Miro Enterprise	1-5	Up to AFN 2.5 million	AFN 1 million
small	5 – 19	AFN 2.5 –5 million	More than 2 million AFN
Medium	20 – 99	AFN 5 –10 million	More than-5 million AFN
Large	More than 100	More than 10 million	More than 5 million AFN

Source: www.MoCI.gov.af

According to the above definition, currently, almost all enterprises in the rural area and a considerable proportion of business units in urban centers of Afghanistan are SMEs with different level of formalization (Naithani, 2006). It is estimated that 90% of Afghanistan's SMEs have less than five employees, and a large percentage of those are self-employed enterprises (Ghiasy et al. 2015). In addition, the informal economic sector is the dominant sector in the Afghan economy in term of both economic activities and employment generation. It is also estimated that currently, 80-90% of economic activities occur in the informal sector (AISA, 2012).

In term of employment generation, the informal sector has a significant role. The contribution of the formal sector in employment generation is meager, which is only 29% of total employment in Afghanistan. The share of formal private sectors is estimated at only 9% and remaining related to the public sector (Ghiasy et al. 2015).

The total contribution of Afghanistan's industrial sector in total GDP was 21.5 % in 2016-17. Most of the Afghan industrial enterprises produce for national market consumption (Afghanistan Central Statistic Organization, 2016-17). The manufacturing sector in Afghanistan is underdeveloped, export-orientation is low, a clear majority of producers except some agro-processors are heavily dependent on the foreign raw material. Investment in the manufacturing sector is seen to be very risky, with more substantial upfront and fixed investment, lower growth rate, dependence on a more complex production supply chain (Ghiasy et al. 2015).

To increase the contribution of industrial sectors in total GDP, employment generation as well as resource mobilization, the Afghan government has decided to establish industrial parks. Currently, there are 25 industrial parks from which 9 of those are operational, 10 under construction and 6 of those are still in the planed stage. These industrial parks are located in major cities of Afghanistan like Kabul, Nangarhar, Kandahar, Heart, Balkh, Helmand, and some other provinces (www.afghaneconomics.com, 2017).

6.3 Challenges that SMEs are Faced in Afghanistan

SMEs in Afghanistan are in a fragile situation. The main reason for this weakness is mostly related to lack of attention in SME development in the past due to prolonged war and political instability in the country. Owing to this reason currently SMEs are faced with various challenges. All challenges can be ranked into two categories of macro and micro levels.

6.3.1 Macro Level Challenges of Private Sector Development in Afghanistan

In Afghanistan like any other less developed countries, SMEs are faced with many challenges, which cannot be solved by the managers of SMEs, such as political instability, government regulations, competitions, unfriendly business environment, the national economic condition of the countries, etc.

Political instability is one of the most challenges that SMEs are faced in Afghanistan. The annual peace report (2017 Fragile States Index), ranked Afghanistan as the 9th high alert country out of 187 countries while in 2015 it was classified as 8th country on the list of top fragile states, it means Afghanistan has improved its position by one step (www.fundforpeace.org, 2017). Furthermore, as Afghanistan's enterprises survey report, which was conducted in 2014 by the World Bank indicates that for the Afghan private sector the problem of political instability was the most significant problem. Indeed, it was considered as the biggest business environment obstacle (The World Bank, 2014).

In addition, a poor business environment is another obstacle that prevents the flourishing of private SMEs in Afghanistan. Despite that Afghanistan's business environment has improved substantially since 2001. The government continually has been trying to improve business institutions, eliminating barriers to trade, and simplifying procedures for business registration and has developed an effective legal framework for private investment; still, this country acquired 160th position out of 183 countries in the world Doing Business Indicators in 2012 (AISA, 2012). However, Afghanistan lost its position in Doing Business index 2018, which has been ranked 183th out of 190 countries (World Bank Group, 2018). It shows that Afghanistan has to improve stronger the conditions of doing business environment.

Moreover, private sector development suffers from the high level of corruption. Unfortunately, Afghanistan was ranked as the world's most corrupt countries. According to the World Corruption Perception Index in 2016 Afghanistan was ranked as 15th the most corrupt country in the world and 8th highest corrupt country in Pacific Asia (www.transparency.org, 2018). Indeed, lack of functional policies to encourage SMEs to record their economic activities and the existing complicated bureaucracy and corruption caused that a large percentage of SMEs, which is estimated to be 70-80% remained informal.

6.3.2 Micro-Level Private Sector Development Challenges

Many studies reveal the SMEs' firms level challenges that SMEs in Afghanistan are confronted, and these challenges hindered the success of SMEs in this economy. According to Mashal (2014) and (Ghiasy et al., 2015), the most important of these challenges are as follows:

- Low level of competitiveness.

- Limited access to credit.

- Lack of industrial level energy.

- Lack of quality control and creativity.

- Limited product diversity.

- Limited access to markets.

- Low level of marketing activities.

- The absence of research and development.

- Inadequate infrastructure.

- Low accessibility to skilled workers.

- Low level of managerial skill.

6.4 Sharing Economy as a Fundamental Remedy for SME Development in Afghanistan

The phenomenon of the sharing economy, which has experienced sizable development since the 2008 financial crisis is not a new concept. The knowledge of the sharing economy has been existed for thousands of years. However, the internet has supported the sharing economy in developed countries in recent years through a more

straightforward connection between customer and providers and reducing of transaction costs (Callton, 2017).

The term of the new sharing economy has described differently by the economists and scientific institutions. For instance, Cody Carlton (2017) describes the sharing economy as an economic model in which people borrow or rent assets, goods or services that are belonged to other people. Institute for Sustainable Futures (ISF) describes the sharing economy as an economic model that involves the sharing of physical, financial, human capital among a number of individuals without transferring possession, through a digital platform in order to generate value at least for two parties (Retamal and Dominish, 2017). These classifications of sharing economy seems to be very narrow.

However, the concept of sharing economy is a form of socio-economic ecosystem that develop everywhere by sharing of productive factors such as human, physical, and financial resources, and can take place in various forms of shared creation such as shared production, distribution, trade, and goods and services among different individuals and enterprises (Ernst et al. 2015).

Islamic Economics also heavily relies on sharing economy based on the parallel interest of the owner of factors of production. This school of economic clearly believe that poverty is neither the result of natural resource scarcity nor due to the absence of appropriate harmonization between the method of production and distribution. While instead, Islamic economy recognized that poverty is a problem, which arises as a result of unused economic resources, unutilized capacities, extravagancies expenditures, and refusing the payment of what lawfully belongs to the poor (Mohiedin et al. 2012).

Islamic Economics for economic prosperity and poverty reduction explicitly emphasizes financial inclusion through the principles of cost-benefit sharing and redistribution of wealth. Cost-benefit sharing principles which include mudarabah, musharakah, murabahah, and ajarah. While redistribution principle is zakah (Mohiedin et al. 2012). These cost-benefit sharing tools represent different types of contracts that

form the basis of a variety of Shariah Compliant substitution instruments to current financing solution of conventional corporate and trade (www.islamicfinanceaffairs.wordpress.com, 2007).

Recently researchers estimated that globally there are $5.35 trillion idle and underutilized resources that could be used in different economic activities like trade, exchange, and sharing (Retamal and Dominish, 2017).

In the case of Afghanistan, there are a significant amount of idle and unutilized physical, financial, and human resources. As has been mentioned in the previous discussions about 80-90% of Afghan SMEs, operate in the informal economic sector. Moreover, 22.6% of Afghan labor force are unemployed. While the unemployment rate substantially increases to 27.9 among the youths and sharply jump to 45.6 among the youth with bellow 25 years old.

Financial inclusion, which is considered as a critical element for business development in Afghanistan economy like any other economy. Formal financial inclusion in Afghanistan is not very strong because of the existing a dominated informal financing.

Formal sources of finance that consist of all commercial banks, microfinance institutions, and other financial institutions have developed significantly since 2002. Presently there are 17 active commercial banks including three public commercial banks, and five foreign bank branches. The commercial banks offer both conventional and Islamic banking services (AISA, 2012). In addition to the commercial banks and their 750 branches in all 34 provinces, 9 formal microfinance institutions operate in 23 provinces of Afghanistan (Vanore and Marchand, 2012).

Nevertheless, the formal financial sector does not play an important role in SMEs sector development in Afghanistan. This sector considered to be very liquid. As the data indicates total deposit amounts of commercial banks in 2012 was $3.6 billion, while total banks loan was $828 million in 2012. In the same year, there were only 2.653 million deposit accounts, but just 67,742 of creditor accounts were in the whole

banking system out of 30 million of Afghanistan population. The data shows only less than 10% of the Afghan population are using banking deposits services. According to the World Bank information, just 5.7% of the Afghan enterprises have a banking credit, and 2.2% of firms are able to use banking credit services for financing purposes (The World Bank, 2016).

Consequently, the above information reveals that financial inclusion in Afghanistan is very low because of voluntary and involuntary exclusions. Voluntary exclusion occurs because of a high interest rate which is between 18-20% for SMEs, sizeable collateral which is 200% of the loan, and religions conflicts (AISA, 2012). Involuntary exclusion occurs because 90% of Afghan SMEs are micro and they are considered as non-bankable enterprises.

To conclude all discussion mentioned above indicates that there are vast amounts of idle and underutilized physical, financial, and human resources in Afghanistan that we can efficiently use under the philosophy of sharing economy.

6.4.1 Role of Sharing Economy in Capital Formation and Private Sector Development in Afghanistan

Sharing economy in a country like Afghanistan in which 99.7% of its population is Muslim could be a common method. However, the official application of sharing economy as an economic model for the capital formation and private sector development in Afghanistan turns to 1930s, with the doctrines of Abdul Majid Zabuli the first National Economic Minister of Afghanistan (Koplik, 2015). Since the 1930s this method is prevalent in both the formal and informal economic sectors of Afghanistan (AISA, 2012).

Abdul Majid Khan Zabuli (1896-1998) was a well-known entrepreneur in the country. He had established the first joint-stock company in Afghanistan in 1924 before his official work as the economic minister of Afghanistan (Koplik, 2015). Zabuli with a group of Afghan entrepreneurs founded the first joint-stock enterprises to facilitate

trade between Afghanistan and the Soviet Union. He lived in Moscow as the representative of their company during 1924-1929 (Fry, 1974).

According to Azizi and Haruna (2007), when King Mohammad Nader Shah in October 1929 took the power of the government and became king in Afghanistan, the Afghan economy was very in disorder. In addition, there were not official military, police, and paper currency. Transportation and communication facilities were in traditional level and unreliable. There was no industrial activity, except few handicrafts and meager trade. The central government did not have complete control over the country. The economic resources were destroyed by different types of conflicts among the ethnics, tribes, and religious groups. Thus, the King Mohammad Nader Shah immediately sought to implement nationalistic economic policy. The Afghan king in his extraordinary speech, which is called Khate-i-Mashi, had put a great emphasis on the development of vast natural resources, misfortunes elimination, unemployment reduction, improvement of economic conditions and making the economy as a self-sufficient economy in the region.

In 1929 the King directly invited Abdul Majid Zabuli into Kabul and wanted him to design an economic development strategy to encourage all Afghan people toward economic activities (Sugarman et al., 2014). Zabuli returned to Afghanistan in 1929, and he met with the king. In the first meeting, the king mentioned that all essential economic activities such as import, export, transportation, brokerage, and everything else are in the control of foreigners, but our people are doing the simplest economic activities like shopkeeping. This situation is not tolerable anymore, and we must find solutions to cut off the control of foreigners in our economy (Koplik, 2015). Zabuli accepted the orders and stayed for a few months in Kabul to prepare the strategy. In the strategy Zabuli had proposed the foundation of a bank to issue paper currency, giving credit and facilitates economic development. The King had supported the Zabuli's economic development strategy, but he refused the establishment of the bank because of the religious conflicts. Finally, the strategy was completed based on Public Private Partnership according to the principle of sharing economy in 1930 (Fry, 1974).

Although, Zabuli was interested in establishing a bank, because of religious conflicts instead of the bank he proposed the foundation of an investment company based on public-private partnership principle (Koplik, 2015). However, the company was established in 1930 under the brand name of Shirkat-i-Sahmi-i-Afghan. The Shirkat started its economic activity with a total capital of AFs 2,5 million, out of which, the government financed AFs 1.7 million, and the private investors financed the rest. However, in 1931 again Zabuli had put emphasize to evolves the company into a bank. Consequently, the King gave him permission of foundation of the bank. However, the bank must operate according to the principles of the interest-free loans. Instead of charging an interest rate on the loans, they had found a unique solution which was called pule ticket (money ticket). Based on that principle loans had given without interest, but the debtors had to buy a stamp (money ticket), to be attached to each repayment receipt in order to compensate the bank profit rather than paying interest (Fry, 1974).

In 1932 Shirket-i-Sahami-i-Afghan evolved to Bank-i-Milli Afghan. The Bank immediately increased its capital to AFs7.1 million and then to AFs 60 million in 1937. As the result of the government supports, bank-i-millie Afghan grew very fast during the 1930s and onward (Sugarman et al., 2014). During 1930s bank-i-millie Afghan operated as a monopolist institution to regulate the foreign trade and foreign exchange rate, as well as the expansion of international trade and industrial development. Consequently, the bank becomes a major investor in manufacturing, trade, and banking sectors in the country. Thus the bank capital continuously increased year by year (www.pdf.usaid.gov, 1991). According to Fry (1974), the bank capital reached to AFs 500 million by 1950, then to AFs 519 million in 1952 and to AFs 839 million in 1972, and the bank's stockholders increased to 2000 stockholders. By 1947 the bank had invested in 125 private trading and industrial companies. Also, bank-i-milli Afghan in 1939 cooperated with the Afghan government in the establishment of the central bank in Afghanistan which is called (Da Afghanistan Bank) and then, bank-i-millie Afghan had played a critical role in the development of banking system in Afghanistan.

Bank-i-millie Afghan continued its investment in large trading and industrial enterprises. The most important of these enterprises was include the sugar refining, textile manufacturing, cement ginning, spare part producing company (Jangalak), edible oil extraction companies. Also, the bank continued to be the major investor in export promotion through its joint-investment in many large joint-stock trading companies like Karakul skin Exporting Company, Wool Exporting Company, Carpets Exporting Companies, the Cotton Companies, and several other companies (www.pdf.usaid.gov, 1991).

Ultimately Bank-i-Milli Afghan in 1976 with its nine domestic branches and six foreign branches in New York, London, Hamburg, Karachi, Peshawar, Chaman, and with total assets of $51 million and had $19 million reserves including its subsidiaries industrial companies were nationalized (www.pdf.usaid.gov, 1991).

6.5 New Zabulian Doctrine Based on OSTIM Model for Capital Formation through SME Development

Afghanistan as a less developed nation has experienced different official methods of capital formation for poverty reduction during its recent history. New Zabulian Doctrine is proposed and formulated according to the experiences of OSTIM SME Development Model. Indeed, New Zabulian Doctrine as a community development model has designed based on the business cooperative method by establishing a voluntary and autonomous cooperative based institution under the brand name of Afghan Industrial Investment & Business development union. In order to develop the first organized industrial zone in Afghanistan.

To realize the importance of capital formation for poverty reduction through SME development according to OSTIM Model in Afghanistan, I prefer, to have a general landscape in the different capital formation models that have implemented in Afghanistan since the 1930s.

6.5.1 Historical Overview on Capital Formation Strategies in Afghanistan

The first capital formation strategy for economic development and poverty reduction was prepared by Abdul Majid Zabuli and his team in 1930, according to the principle of sharing economy in the form of public private partnership (Fry, 1974).

The second strategy of capital formation was introduced in 1955. This strategy had emphasized on a strong role of government in business control. The aim was to increase the government contribution in the economy by shrinking the leading role of Bank-i-Melli Afghan, which followed a laissez-faire economic policy in promoting the private sector in Afghanistan. For instance, the state had put pressure on bank-i-milli Afghan to sell 51% of its stock in different businesses to the government. Based on this strategy public banking system had developed, and some ministries was established commercial and specialized banks in the country to compete with bank-i-millie Afghan (Sugarman et al., 2014, and Fry, 1974).

The third strategy was announced, by the Afghanistan Prime Minister Dr. Muhammad Yousuf in 1963. He renewed national constitution, and according to the new constitution, he developed and declared the third economic development strategy. The strategy was developed based on five-year-development plans. This economic development strategy put more emphasis to further supporting and encouraging the private sector. The strategy pursued in subsequent time until the end of the royal political system of Afghanistan in 1973 (Sugarman et al., 2014).

In 1973 Sardar Mohammad Daoud abolished the monarchy governance system and introduced republic system in Afghanistan. He ruled the country through decree with complete control on the economy until issuing a new constitution in 1977. According to this constitution, the president of the Republic of Afghanistan focused on socialist economic principles in 1977. Therefore from 1977 till 2002, which is called lost time for the Afghan private sector, the government did not develop a written capital formation strategy based on private sector development (Sugarman et al., 2014).

The fourth strategy of private sector development was built based on market economy and according to capitalism mentality during the first decade of the 21st century. Following the political developments in late 2001 the government of Afghanistan officially committed to develop an inclusive and productive private sector in a competitive environment of the market economy. Through the 2002 National Development Plan, the government committed in the creation of sustainable economic growth through a competitive private sector, which becomes both the motor of economic growth and a tool for social integration (Ghiasy et al. 2015).

Through this commitment it can be realized that the private sector is regarded as the engine of economic growth and development and a tool of poverty reduction in Afghanistan. Since at the heart of the private sector is SME development, thus the government has been trying to support the SMEs sector. Consequently, in 2009 SME development strategy was prepared by the Ministry of Commerce and Industry of Islamic Republic of Afghanistan, but implemented in 2011 (Mashal, 2014). I ranked this strategy as the fourth private sector development strategy in Afghanistan.

However, after 16 years and devoting a massive amount of foreign aids, unfortunately, this sector neither has been the engine of economic growth nor became a tool of social inclusion. By contrast, the contribution of the Afghan private sector remained very low at an estimated rate of 10-12% of the total GDP. The private sector was not able to generate enough new job opportunity for existing and new entrants to the labor market, the contribution of private sector in formal employment is estimated to be only 9%, so unemployment rate remained very high at a rate of 22.6% of the Afghan labor force, and 45.6% of the young population. Financial inclusion is worst, and it is less than 10% of the total population basis, and only 5.7% of the firm has access to the banking system (The World Bank, 2016).

Poverty increased from 36.5% in 2011-2012 to 39.1% in 2013-2014. The government tries to improve private sector situations through institutions improvement. For example, in 2016 the government approved the Public-Private Partnership, and

established the executive committee on private sector department, and promoting cooperation between public and private sectors; also, the government emphasizes on private sector reform priorities (ADB, 2017).

With a simple comparison of the various methods of capital formation strategies, which have been implemented based on different mentalities such as sharing economy, socialism, and capitalism in Afghanistan since 1930. We will be found that the most suitable capital formation strategy in Afghanistan can be a capital formation strategy based on the sharing economic principles. Since the principles of the sharing economics have more compatibility with the economic, social, and religious mentality of the Afghans citizens.

Hence, Afghanistan needs a conductive SME development strategy to link all economic sectors together, mobilize different types of idle economic resources, increase employment, and reduce poverty. To develop such a useful SME development strategy, it is necessary to take into account many aspects of Afghanistan's economy. Therefore, I suggest a new SME Development strategy, which is very similar to Zabulian capital formation model. Hence, I named the suggested strategy as the New Zabulian Doctrine for capital formation and economic development. Both strategies (Zabulian and New Zabulian) getting up from one root which is sharing economy, but with different methods.

6.5.2 New Zabulian Doctrine for Capital Formation

This Model is a community development method based on cooperative. Indeed, the term of cooperative and its model is common in Afghanistan. Nevertheless, proposing an SME development model through a business cooperative is entirely new in Afghanistan.

For the purpose of this model, it is necessary to clarify the terms of community and the community development. A community is defined as different groups of people who are living in a specific location or place. The place could be a neighborhood city

or a country. In our model location or place is defined as the different provinces of Afghanistan in a decentralized method.

Community development is described, differently by different economists. Some economist defines community development as a process that supports a community to maintain itself socially, economically, and environmentally. Other groups of economists see community development as a cooperative effort of the local people to increase the control on their socio-economic destiny. Nevertheless, other groups of economists define community development as a process that community members attempt to achieve their priorities, or they try to achieve the goals, which is established by themselves, usually based on their common geography, common experiences, or based on their common values and believes (Majee and Hoyt, 2011). Though their perspectives are not the same, it can be realized from their descriptions that there is a general agreement among the economist concerning to community development that it has to involve the community members and meet their needs.

In New Zabulian development method the community members are Afghanistan citizens. The primary need of Afghan people is poverty reduction, through the achievement of the following goals:

1- Reducing the rate of unemployment.
2- Reducing trade unbalances either through export expansion or import substitution.
3- Increasing financial inclusion.

When the people specified their needs and the goals, the second step is to seek how to obtain their needs and achieve their goals in a market economy?

At first glance, the answer would be that our problems could be solved by accelerating our community development through private sector expansion and promoting SMEs growth. However, as the shreds of evidence show SMEs in Afghanistan are in a fragile state. Therefore, the number of registered private enterprises remained very low. According to Ghiasy et al. (2015), the total number of formal private enterprises in

Afghanistan were 65000 enterprises in 2014, though, they themselves were suspected about the reality of the data. They argued that the figure may not correctly indicates the myriad businesses that may be registered with local governments or with municipalities, even the data may not be updated.

On the other hand, the contribution of formal private SME in export is only 10% of imports (ADB, 2017). The role of registered SMEs in job creation is very poor, just 9% of Afghan formal labor force are salaried workers. As we noted before, financial inclusion of private sector is too low, a large percentage of SMEs are considered as nonbankable economic units, so they excluded from the using of banking credits in their project. The voice of SMEs is quite low. Therefore, this sector is faced with ample of problems at both macro and micro levels.

Consequently, the private sector improvement in Afghanistan needs a powerful SMEs development strategy. This strategy will mobilize the vast amount of idle domestic resources such as human, natural, financial, and social capitals to provide a strong inter-industrial and inter-sectoral linkages; to connect the domestic SMEs with national and international economic institutions; to stimulate further private investment; and to increase the voice of SMEs and reduce their ample problems.

To develop a strong private sector through SME development in Afghanistan business cooperative would be the most efficient method. This model helps the Afghans policymakers in the establishment of organized industrial zones like OSTIM model in Afghanistan. This model would be the most efficient method in the utilization of idle economic resources and provides powerful inter-sectoral linkages as well as links the local SMEs with domestic and foreign large firms. Investigation about the role of business cooperative in SME development is not a new phenomenon. It is approximately more than a century that researchers have been talked and written about the role of cooperatives in economic development. While many researchers have long recognized the vital role of different forms of capital assets such as human, natural, physical, financial, and social assets in community development, in fact relatively few

numbers of the scholars have expressed the role of cooperative in the formation of these assets, especially in communities which have limited resources.

Business cooperative develops social networks among the SMEs, improves their access to financial capital, enhances SMEs political influences, and supports them to increase their voice, in turn, facilitate human capital development. Furthermore, cooperative help the SMEs in reaching outside resources, which are critically important for SME development.

To clarify the role of business cooperative in SMEs development I use the arguments of Woolcock and Narayan (2000), in their investigation about the role of business cooperatives in capital formation through SMEs development, they distinguished between two types of social capital (bonding and bridging) that produce by business cooperatives. Bonding means horizontal social capital, refers a powerful social linkage (network, norm, and trust) that grow between homogenous firms. Horizontal linkages among the SMEs enable them to maintain their routine activities. However, a strong bonding social capital among SMEs with limited resources will not probably equipped them with enough resources to get ahead. On the other hand, the business cooperatives connect their members SMEs with outside resources by providing bridges. These types of linkage are critically important for SME development in less developed countries (Majee and Hoyt, 2011)

Business cooperatives are supported nearly by almost all religious in all economic system. Today business cooperative actively operates almost throughout the world. For example, there is more than 29000 business cooperatives in the United States. They actively operate nearly in all sectors, employed more than 850,000 workers, by having $3 trillion of the asset, and they produce more than $500 billion annual revenue (Majee and Hoyt, 2011).

In European Union member countries there are 250,000 business cooperatives with 163 million members, employed 5.4 million workers, (www.European Commission.com). The total annual turnover of business cooperatives in EU member

countries is €1,004.83 billion (Cocolina and team, 2016). Cooperative further supported by Islamic laws, because cooperative business provides the opportunity to individuals and SMEs to contribute their roles in the society and enable them to obtain loans from the pooled of the fund without paying interest rate.

Roadmap of New Zabulian Doctrine: Implementation of New Zabulian Doctrine for private sector development and poverty reduction through SME development suggests, the mobilization of Afghanistan's idle resources through foundation a voluntary and autonomous association such as Afghan industrial investment & Business development union. The establishment of this institution makes enable the investors to mobilize their idle financial, physical, human, and social resources into prioritized economic sectors. The autonomous investments in the selected key sectors produce various type of linkages effects like backward effects and forward effects in different economic sectors. These linkages encourage new investment in upstream and downstream industries. In addition, stimulates investment in other sectors by providing inter-sectoral linkages. Thus, constituting of business cooperative mobilize Afghans idle resources, increase employment, generate new income, enhances the contribution of SMEs in total GDP. Hence reduce poverty.

6.6 Policy Recommendations for SMEs Development in Afghanistan

The first primarily task of the Afghan government, and its international partners for private sector development through SMEs promotion is to create an enabling economic environment in which a dynamic, legal private sector could thrive, building confidence in the stability of the economy, and encouraging the private investment in the SMEs sector of the economy.

There is not any doubt that the international community and global organizations through their technical and financial aids have supported the government of Afghanistan in lunging several policy reforms to provide a conductive business environment. Despite experiencing significant reform, poor governance, confusion, lack of transparency in the tax system, and the low rate of financial inclusion have

restricted the development of formal SMEs sector in Afghanistan. Thus, to facilitate the process of formal SMEs development in Afghanistan, the following policies are recommended.

- ***Expand Afghanistan's Small and Medium-size Enterprises Development (ASMED):*** SME development Directorate established in 2011 within the Ministry of Commerce & Industries of Islamic Republic of Afghanistan. ASMED operates as part of the General Directorate of Private Sector Development. This directorate is responsible for collaborating with private sector stakeholders and other government agencies to implement SME development strategies. The SMEs constitute 80-90 of all Afghan business and generates 50% of the GDP and provide job opportunities for more than 75% of Afghan labor force. Thus, ASMED has a great responsibility in private sector development in Afghanistan, but currently, ASMED with 24 staffs operates in Kabul without any branches in other provinces.

As Turkey experiences in SME development indicate, the Afghanistan government needs to support ASMED directorate by coordinating different stakeholders like universities, financial institutions, investors, civil societies, etc. ASMED should also develop reliable SMEs development strategies and action plans. Moreover, it is necessary that ASMED establish its branches at least in large cities of the country.

- ***Development of Business Cooperatives*:** There is a common belief that effective development can take place through cooperation and partnership. Individuals always have limited capital, knowledge (know-how), and capacity. However, through cooperation and mutual responsibility, people can achieve more and reach the goals which are not possible to achieve individually. In Afghanistan, individual investors have limited financial ability to invest in productive sectors. Therefore, the development of business cooperatives like OSTIM plays a critical role to pool capital and invest in programs that stimulate economic development and reduce poverty.
- ***Development of Organized Industrial Zones*:** Organized industrial zones support SMEs by providing huge economic and technical opportunities. The OIZs help to

integrate knowledge, experience, and talent of workers, engineers, and entrepreneurs in different manufacturing companies. OIZ continue their economic activities in at least optimum levels owing to the skilled labor and management at recession periods or lack of capital. This is because in organized industrial zones firms have strong backward and forward linkages. Thus collaborative, cooperative, and integrated industrial zone provide not only economic but also political, cultural, and social befits.

- ***Development of Clusters and network of SME*:** in present time, trade liberalization and globalization processes have considerably increased consumers expectation and competition between the firms. To respond to the increased pressures by globalization process and benefit from global market opportunities in less developed economies like Afghanistan, policymakers have to increase the SMEs competitiveness through the development of clusters and network of SMEs.
- ***Project support Program of SMEs*:** through project support program the government launches a project culture and awareness between SMEs and support the projects prepared by SMEs. The aim is to solve the challenges of SMEs and increase the SMEs capacities by using different support mechanisms. All SMEs support mechanism (technical and financial) are needed for SME development in Afghanistan because Afghan SMEs are confronted by multilevel bottlenecks including management, marketing, finance, and information management etc.
- ***Technological Support*:** One of the most important challenges of the SME sector in Afghanistan is their poor technological foundation that has negatively affected the quality of goods and services, the prices, and competition in the local and global markets. Hence, government and other stakeholders should give maximum attention to develop and support the technological foundation of SME sector in Afghanistan. Government and SMEs should invest more in research and development. To support research and development the SMEs should integrate with higher academic and research institutions.
- ***Provide Interest-Free Credit***: Many entrepreneurs in Afghanistan do not use credit from formal financial institutions. This is because most banks and other conventional financial institutions use interest for credit. Due to cultural reasons, a large number of

SMEs are not benefiting from the existing financial and credit system. For example, only 2.2% of firms in Afghanistan use credit from banks. On the other hand, 80-90% of Afghan SMEs operate in the informal sector. Therefore, government and other stakeholders should devise a system that can provide credit to SMEs based on the principles of profit loss sharing.

7 Summary

This study mainly focuses on the role of SMEs in capital formation for economic development in developing countries, particularly in Turkey. Economic development as a multidimensional process encompasses the entire spectrum of human life such as economic, political, social, cultural, and technological aspects. Developing countries have many impediments which are originating from a complex set of internal and external forces in order to realize rapid and sustainable economic growth and poverty alleviation. All these processes can be realized through the capital formation in physical and human capital or both.

Capital can be formed by saving a specific proportion of current income for the development of capital facilities in order to produce private good, public goods and services for future consumption. Thus, capital formation is the process of saving, financing, and investment. Investment in physical and human capital or both is necessary for economic growth and development. In order to investigate the role of SMEs in capital formation, this research has started with the brief review of the theories of capital formation. The objective of this research is to find the answers for the following research questions

1. Does SME development play an important role in capital formation and poverty reduction in Turkey?
2. Does SMEs development reduce economic disparities in Turkey?
3. How do key sectors affect SME development and poverty reduction in Turkey?
4. Whether Turkey's SME development policy can be implemented in underdeveloped countries like Afghanistan?

Turkey, as the 16th largest economy in the world and 6th biggest economy in Europe, has unique experiences in SMEs development by possessing a remarkable number of

SMEs. Thus, this study also intends to expand the findings to propose an SME development strategy for Afghanistan based on the experiences of the Turkish economy.

This research also investigates the role of SMEs in capital formation for poverty reduction through the capital formation theories and data analysis using the input-output research method. The capital formation theories of economic development have received growing attention since the end of World War two as a framework for poverty reduction in less developed countries. Developmentalists concentrated around the questions why did some countries experience fast and sustained economic development while others, with quite similar features, did not develop with the same magnitude and speed? Consequently, two schools of capital formations namely balanced and unbalanced capital formation emerged. Although these schools have completely different ideas about capital formation and poverty reduction, both of them support industrialization strategies for breaking the vicious circle of poverty.

Balanced capital formation theory advocates a large amount of investment in comprehensive economic sectors to start the process of development in developing countries. However, unbalanced capital formation theory supports investment in limited key sectors of the economy. This research used the unbalanced capital formation theory as the theoretical framework. This is because the unbalanced theory is suitable for the developing countries which face enormous capital scarcity. To give a strong theoretical foundation regarding the role of capital in economic growth, the research also investigated the importance of capital formation in classical, neoclassical, and modern growth theories. All the growth theories have highlighted the impact of capital formation as the core element of economic growth.

Capital formation is the process of energizing entrepreneurship activities to collect the scattered resources which require legalizing latent capacities and know how to use the economic resources efficiently. Therefore, the research has focused on the process of capital formation, which includes the process of savings, financing, and investment.

Moreover, the study has concentrated on the impact of capital formation on economic development. Capital formation stimulates economic development both directly and indirectly. The direct impact of capital formation operates through employment creation in demand side and productivity improvement. The indirect impact works through the supply side of the market which stimulates economic development by increasing efficiency, structural changes, and amplifying innovation.

The expansion of the private sector in order to increase gross domestic capital formation (GDCF) through SMEs promotion is gaining growing attention in economic development literature. For this reason, this study has concentrated on the role of SMEs in capital formation for poverty reduction.

The private sector can be developed in different forms, but the outcomes are profoundly different regarding equitable development and social inclusion. The promotion of SMEs is considered, to be the most efficient ways of private sector development by both scholars and policymakers, than through the promotion of large-scale firms. To prepare a comprehensive SME development strategy, it is necessary to have a clear definition of SMEs which given by different national governments and international organizations. Subsequently, this study has highlighted how SMEs effect capital formation. SMEs effect on capital formation through the expansion of physical capital stock. Recent studies reveal that SMEs constitute 99% of total operating firms around the world, employ an average of 70% of labor force, involve between 50-60% of value added on average in OECD countries. In emerging economies, SMEs provide job opportunities up to 45% of employment and produce 33% of GDP. If the informal sector includes the contribution of SMEs will be much higher. It will increase to more than 50% of employment and GDP in all countries irrespective of their income levels. The effect of SMEs on capital formation operates through different mechanisms such as private investment, resource mobilization, the public-private partnership, encouraging FDI, human capital formation, and sectoral linkages.

In addition, the study describes the role of SMEs in equitable economic development. One of the strong reasons that support the role of SMEs in equitable economic development is the positive role of SMEs in industrialization. In this part, the research focuses on the role of SMEs in equitable economic growth and equitable income distribution. The research also discusses the most significant challenges faced by SMEs in developing countries. This research also dealt with the contribution of SMEs in capital formation and poverty reduction in the Turkish economy by using the Middle East organized industrial zone (OSTIM) as a case study of SMEs

development model in Turkey.

SME promotion policy in Turkey has begun in the 1990s by establishing small and medium industry development organization (KOSGEB). However, because of some economic and political challenges, there was no significant implementation of SMEs development policy until 2003. Therefore, the contribution of SMEs sector in capital formation for economic development of Turkey was considerably low before 2003. For instance, according to recent estimation in 2000 SMEs constituted 99.8% of all enterprises, and employed 76.7 % of labor force, involved 38% of total investment, comprised 26% value added, approximately 10% of total exports and 5% of banking credits. As the data shows the SMEs sector was dominated in term of employment during 2000, but they evidently operated with comparatively little capital equipment, generated relatively low levels of value added and had only a small contribution to exports and receive only a marginal share of the funds mobilized by the banking sector. By implementing specific SMEs development policies, the contribution of SMEs in capital formation and poverty reduction of Turkey considerably increased in the last 15 years. Currently, there are 3.424.331 SMEs in Turkey which constitutes 99.9% of all economic units in Turkey.

All SMEs in Turkey operate in organized industrial zones (OIZ). There are 280 OIZs all over the country, and OSTIM is just one of the well-known OIZ in Turkey. Historically the creation of OIZ turns back to the planned economy period of Turkey

which started in 1960. OSTIM was established by a group of Turkish entrepreneurs based on the sharing philosophy of costs and benefits in the north-west of Ankara in 1967. Currently, there are 6200 SME, produces thousands of diverse products and provide job opportunities for more than 65000 employees with different level of skills through 17 main sectors and 139 lines of business. The OSTIM is considered as a developed ecosystem by having strong relationships with 18 universities, 8 technoparks, and 12 regional industrial zones. Subsequently, the research further investigated about OSTIM as a pattern of the capital formation based on sharing economy. The research attempted to analyze how the OSTIM model affects economic development and poverty reduction. By using the input-output table of Turkey, the research identified key sectors and their impact on SME development in the Turkish economy. The input-output table included data for the years of 1973, 1979, 1990, 2002 and 2012. In order to complete the analytical part a new proposal from network theory used as the research mythology.

In the last part of the study, a proposal is made on SME development in Afghanistan based on Turkish experience. Because of its ample experience in SMEs development, Turkey is considered to be a model for the development of SMEs in Afghanistan and other less developed countries. In 2016, Turkey had 280 OIZs in the different part of the country which includes OSTIM which is found to be more suitable for the economic and social conditions of Afghanistan and other developing and less developed countries.

8 References

Aytül. G, and Yalçın, C. (2015). Domestic Saving-International gap and growth: Across-country panel study. *CEntral Bank Review*(Onlie), 39-63.

Abramowitz, M. (1955). Introduction to Capital Formation and Economic Growth. In N. B. Research, *Capital Formation and Economic Growth* (pp. 1-16). USA: Princeton University Press.

ADB. (2014). *ADB-OECD Study on Enhacing Financial Accessibility for SMEs:Lessons From Recent Crises.* Asian Development Bank. Mandaluyong-Philippines: Asian Development Bank.

ADB. (2017). *Afghanistan, 2017-2021 Achiving Inclusive Growth in a Fragil and Conflict-Affected Situation.* Asian Dvelopment Bank, Research and development. Asian Development Bank.

Adekunle, A. K. and Aderemi, A. K. (2012). Domestic investment, Capital Formation and Population Growth in Nigeria. *Developing Country Studies, 2*(7), 37-46.

Afghanistan Central Statistic Organization. (2016-17). *2016-17, Afghanistan Statistical Yearbook.* Central Statistic Organization: Islamic Republic of Afghanistan, Publication & Survey. Kabul- Afghanistan: Afghanistan Central Statistic.

Afghanistan Regional Economic Coopration. (2010). Small to Medium Enterprise Paper. *Afghanistan, Four Regional Economic Coopration.* Istanbul, Turkey.

AFMA. (2016, January 09). Financial Sector, Capital formation and Productivity. *Australian Financial Markets Association*, 1-25.

Agyapong, D. (2010, December 12). Micro, Small and Medium Enterprises' Activities, Income Level and Poverty Reduction in Ghana- A Synthesis of Related Literarure. *International Journal of Business and Management, 5*(12), 196-205.

AISA. (2012). *Essential Fact on Economic Performance and Investment in Afghanistan.* Afghanistan Investment Support Agency, Research & Statistics Department. Kabul - Afghanistan: Afghanistan Investment Support Agency.

Aizenman, J., Pinto, B., & Radziwill, A. (2004, June). *Sources for financing domestic capital is foreign saving a viable option for developing countries.* NBER. Canbridge: NBER working paper series.

Alberto, A. (2003). The Size of Countries: Does it Matter? *Journal of the European Economic Association*.

Ali, M., Egbetokun, A., and Memon, M. H. (2018). Human capital,Social Capabilities and Economic Growth. *Economies*, 1-18.

Altenburg, T., and Eckhard, U. (2006). *Productivity Enhancement and Equitable Development: Challenges for SMEs development.* German Development Institute, UNIDO Research programme. Vienna: Gernam Development Institute.

Aminu Mamman, A. M. (2015). Small and Medium Sized Enterprises (SMEs) and Poverty Reduction in Africa. UK: Cambridge Scholar publishin.

Andre Van Stel, K. S. (2005). *The Impact of New Firm Formation on Regional Development in the Netherlands.* Scientific Analysis on of Entrepreneurship and SMEs. Zoetermeer: Scientific Analysis on of Entrepreneurship and SMEs.

Anthony, C. (2015). *Employment and Payroll Summary: 2012.* Statitics of U.S. Businesses, U.S. Department of Commerce, Economic and Statistics Administration. Usited States Census Bureau.

Asep Suryahadi, D. S. (2006). *Agricaltural Demand Linkages and Multipliar in Rural Indonesia.* Jakart: SMERU Research Institute.

Asian Development Bank. (2008). Recent Experience with Infrastructure Privatization and PPPs. In K. Felsinger, & N. M., *Public-Private Partnership Handbook* (Vol. 2, pp. 7-10). Mandaluyong, Philippines, The Philippinnes: Asian Development Bank.

Azizi, M. N., and Haruna, S. (2007). What, How and Why Happened in Afghanistan?: A Study of Political Economic History of Early 20th Century. *Okayama University Economic Journal , 38*, 1-19.

Backman, M., and Kohlhase, J. (2013). *The Influence of Diversity on the Formation, Survival and Growth of New Firms.* The Royal Institute of Technology: Central of Excellence for Science and Innovation Studies, University of Houston, Department of Economics. Jönköpıng, Swenden: CESIS.

Bakare, V. O. (2014). *Economic Development.* National open University of Nagira.

Bascavusoglu-Moreau, E., and Colakoglu, M. (2011). *Impact of SME Policy on Inovation Capacities: The Turkish Case.* Middel East Technical University, Science and Technology Policies Research Center . Ankara: Science and Technology Policies Research Center.

Bayraktar, B. (2003, January). The role of Private Sector Investments in the Economic Performance of OIC Member Countries. *Journal of Economic Cooperation, 24*(1), 63-110.

Beck, T. (2007). *Financing Constraints of SMEs in Developing Countries: Evidence, Determinants and Solution.* Tilburg University, Financing innovation-Oriented Businesses to Promote Entrepreneruship. Unknown.

Beck, T., Demirguc-Kunt, A., and Levine, R. (2005). SMEs, Growth, and Poverty: Cross-Country Evidence. *Journal of Economic Growth, 10*(3), 199-229.

Bekhet, H. A. (2010, January). Ranking sectors of the Malaysian economy: Input-Output Approach. *International Business Research, 3*(1), 107-130.

Bello, D. A. (2010, 01 09). The Role of Coopperative Societies in Econmi. *MPRA*, 1-29.

Berisha, G., and Pula, J. S. (2015, March). Defining Small and Medium Enterprises: A critical review. *Academic Jornal of Business, Addministrative Law and Social Scinces, 1*(1), 17-28.

Biggs, T. (2003). Is Small Beautiful and Worthy of Subsidy? Literature Review Introduction. *IFC Project Developent Facilities.* Washington: IFC. Retrieved from Semantic Scholar.

Bloom, N., Mahajan, A., Mckenzie, D., and Roberts, J. (2010, May). Why Do Firms in Developing Countries Have Low Productivity? *American Economic Review, 100*, 619-623.

Bruhn, M., Karlan, D., and Schoar, A. (2010, May 02). What Capital is Missing in Developing Countries? *American Economic Review*, 629-633.

Callton, C. (2017). The Sharing Economy in our Modern Society. *Coursework*.

Chinyere, U. S. (2013). The impact of capital formation on the growth of nigirain economy. *Research Journal of Finance and Accounting, 4*(9).

Chung, Y.-l. (2007). *South Korea in fast lane: Economic development and capital formation* (Vol. 1). New Yark, USA: Oxford University Press.

Cities Alliance. (2016). *WIEGO*. (C. Alliance, Producer) Retrieved May 2018, from Cities Alliance: https://www.citiesalliance.org

Claudia, G. (2016). Human Capital. In G. Claudia, C. Diebolt, and M. Haupert, *Handbook of Cliometrics* (Vol. 5, pp. 55-86). Berlin, Germany: Heidelberg.

Cocolina, C. Q., and European cooperative team. (2016). *The Power of Cooperation.* European Commission, Coopertaive Europe. Brussels: European Commission.

Cypher, J., and Dietz, J. L. (2014). Developmentalist Theories of Economic Development. In J. L. James Cypher, *The Process of Economic Development* (Vol. 5, pp. 141-167). New York, Madison Ave, USA: Routledge.

Çelik, A. K., Talaş, E., & Akbab, A. İ. (2013, August 28). ASectoral Hierarchical Clustering of SMEs in Turkey with Respect to Geral Support Programs. *Review of European Studies, 5*, 841918-7181.

Dalberg. (2011). *Report on Support to SMEs in Developing Countries Through Financail Intermediaries.* Dalberg. Geneva: DAlberg.

Deborah, M. B., Mercy, O., & Oluwaseun, A. D. (2015). A review of the Impacts SMEs as Social Agents of Economic Librations in Developing Countries. *INternational Review of Management and Business Research, 4*(3), 903-914.

Delfmann, H., and Koster, S. (2016). The effect of new business creation on employment growth in regional population decline. *Springer, 56*(1), 33-54.

DFID. (2008). *Growth-Building Jobs and Prosprity in Developing Countries.* Department for International Development. London: Department for International Development.

Dornbusch, R., Fischer, S., and Startz, R. (2011). *Macroeconomics* (international edition 11 ed., (Vol. 4). New Yark, USA: McGRAW- HILL.

Dwight. H Perkins, S. R. (2013). *Economic Development* (7th ed.). New York, United State of America: Norton.

Edinburgh Group . (2013). *Growing the Global Economy Through SMEs.* Edinburgh Group.

Eehard Berner, G. G. (2012). Helping a Large Number of People Becoming a Little Less Poor: The Logic of Survival Entrepreneurs. *European Journal of Development Research*.

Elci, S. (2013). Training in SMEs in the Industrial Zone of OSTIM, Ankara, Turkey. In *OECD Skills Studies: Skills Development and Training in SMEs* (Vol. 10, pp. 141-146). Paris, France: OECD.

Enders, A. M., and Harper, D. A. (2013). Capital formation and Interventionist Dynamic in Development in Development Economics. (pp. 1-46). New York: Department of Economics, University of Aucklandm, and NEw York Universoties. Retrieved 2016 йил 29-05, from econ.as.nyu.edu.

Eniola, A. A., and Entebagn, H. (2015). Government Policy and Performance of Small and Medium Business Management. *International Jornal of Academic Research in Business and Social Sciences, 5*(2222-6990), 237-248.

Erhard Berner, G. G. (2012). Helping a Large Number of People Become a Little Less Poor: The Logic of Suvival Entrepreneurs. *European Journal of Development Research*.

Ernst and Young global Limited. (2015). *The Rise of the Sharing Economy: The Indian Landscape.* Ernst & Young global Limited. Kolkata - India: Ernst & Young global Lmited.

Eroğlu, İ., and Kangal, N. (2016). Can Social Capital Be the New Dynamics of Economic Development. *Annales Ethics in Economic Life, 19*(10.18778/1899-2226.19.4.04), 51-66.

Ersoy, A. (2013). An organizational model for captal formation in African countries: The case of Middle East Organized Industrial Zone (OSTIM). *Turkish- African Relation: Toward Economic, Political and Social Understanding*, (pp. 95-113). Ankara, Turkey.

Ersoy, A., and Altundere, M. B. (2017, 02 25). The Market Institutution and the State in Islamic Economics: From Past to Present and Future. *International Journal of Economics, Management and Accounting*, 253-284.

Eryiğıt, N., Demirkaya, H., and Özcüre, G. (2012). Multinational Firms as Technology Determinants in the new era Developing Countries: Survey in Turkey. *8th International Strategic Management Conference. 58*, pp. 1239-1246. Ordu-Turkey: Procedia-Social and Behavioral Sciences.

European Commission. (2004). *2004 Regular Report on Turkey's Progress Towards Accession.* Commission Of The European Communities. Brussels: European Commission.

Fabio Papalardo, L. C. (2014). Small and Medium Enterprises in Brazil: A Comprehensive Study of the Manager's View of the Business. *International Conference. 2*, pp. 82-89. Ajaccio, France: Paulista University-UNIP.

Fatoki, O. (2014). The Role of Small and Medum Enterprises in Allevating the Development Challenges Fasing South Africa. *Mediterranean Journal of Social Sciences, 5*(2023-2117), 270-277.

Friedkin, N. E. (1991). Theoretical Froundations for Centrality Measures. *American Journal of sociology, 96*, 1478-1504.

Fritsch, M. (2007). How does new buiness formation affect regional development. *Springer, 30*, 1-14.

Fry, M. J. (1974). *The Afghan Economy: Money, Finance and The Critical Costriants to Economic Development.* (C. A. Nieuwenhuuze, Ed.) Netherland: Leiden E. J. Brill.

Güzeloğlu, A. (2016). *Lexology*. Retrieved Ocak 28, 2018, from https://www.lexology.com/library/detail.aspx?g=10ae5eb0-f22f-4182-89a6-1c4f80756a41

g20 Information centre. (2014). *www.g20.utoronto.ca*. Retrieved January 2, 2018, from Comperhensive growth strategy Turkey - G20 Information Centre

Galvez-Nogales, E. (2010). Agro-based cluster in developin countries: staying competitive in a gloalized economy.

Gerxhani, K. (2002). The Informal Sector in Developed and Less Developed Countries. In K. Gerxhani, *The Informal Sector in Trasition: Tax Evasion in an Institutional Vacum.* University of Amsterdam.

Ghiasy, R., Zhou, J., and Hallgren, H. (2015). *Afghanistan's Privare Sector: Status and Ways forward.* Stockholm International Peace Research Institute. Solna-Sweden: Internatinal Council of Swedish Industry.

Glam, M. (2010). *Small and Medium Enterprise (SME) Credit Policy & Programmes: SMEs & Special Programme.* Bangladesh Bank, SME & Special Programmes Department . Dhaka: Bangladesh Bank.

Greiner, A. (2009). Models of Economic Growth. In A. Greiner, and W.-B. Zhang, *Mathematical Models in Economics* (Vol. 2, pp. 46-74). Oxford, United Kigdom, UK: UNESCO.

Hazari, B. R. (1970). Empirical Identification of Key Sectors in The Indian Economy. *Jstor, 52*, 301-305.

Henning, F. N. (2011). Inter-Industry Linkages in Local Economies. *51st ERSA Congress in Barcelona.* Barcelona.

Hernandez-Cata, E. (2000). *Rising Growth and Investment in Sub-Saharan Africa: What Can Be Done?* International Monetary Fund, African Department. IMF.

Hirschman, A. O. (1960). The strategy of Economic Development. In A. O. Hirschman, *The strategy of Economic Development* (3 ed., Vol. 10, p. 4). Massachusetts, United State of America: new haven Yale Univesity Press.

Ho, S., J.Kauffman, R., and Liang, T.-P. (2007). A growth theory perspective on the international diffusion of electronic commerce. *Electronic Commerce Research and Applications, 6*(3), 237-259.

Hobohm, S. (2001). Small and Medium-sized Enterprises in Economic Development: The UNIDO Experience. *Journal of Economic Cooperation, 22*(1), 1-42.

Holz, C. A. (2010). The unbalanced growth hypoyesis and the role of the state: The case of China's state-owned enterprises. *Division of Social Science*(R1, R11, R15, R58, O1, O11, O2, O53, P21), pp. 1-57.

Hooley, R. W. (1968). the measurment of capital formation in underdeveloped countries. *Jstor,(vol 49*, pp 199-208)

Howell, G. (2006). *Federation of Southern Cooperatives: Land Assistance Fund*. Retrieved April 2018, from www.federationsoutherncoo.com:

Hussain, f., Akhter, W., and Farooq, Z. (2012). SMEs Development and Failure Avoidance in Developing Countries through Public Private Partnership. *African journal of Business Managemant, 4*(1993-8233), 1581-1589.

ICASEPS. (2009). The Role of SMEs on Poor Power Empowerment: Lessons Learned and Sharing Experiences. In H. P. I Wayan Rusastra (Ed.), *Agicultural Technical Cooperation working Group Workshop* (pp. 1-213). Bali-Indonesia: Asian-Pacific Cooperation.

IFC. (2012). *Interpretation Note on Small and Medium Enterprise and Environmental and Social Risk Management.* International Finance Corporation. IFC.

Irena Dalic, S. B. (2017). The Role of Venture Capital in The Develoment of SME Sector. *Journal of Appied Econmics*, 58-69.

İyidoğan, S. (2012). Turkey's New Industrial Policy Orientation: A Proposal For an Integrated Industrial Policy. *TODAIE's Review of Public Administration,, 6*(34347), 39-69.

Jahangard, E., and Keshtvarz, V. (2012). Identifying keysectors for Iran, South Korea and Turkey Economies: A network theory approach. *Iranian Economic Review, 16*, 42-63.

James A. Schmitz, J. (1989, Jun 03). Imitation, Entrepreneurship, and Long-Run Growth. *Journal of Political Economy, 79*, 721-739.

Jee, A. V., & Moll, B. (2010). Why Does Misallocation Persist? *American Economic Journal: Macroeconomics, 2*, 189-206. Retrieved December 16, 2017, from MIT Economics: www.economics.mit.edu/files/3847

Jenkins, C. N. (2007). *The Role of Financial SErvices Sector in Expandind Economic Opportunity.* Hardvard University, Harvard Kennedy School of Government. Harvard University.

Jhingan, M. (2012). *The Economics of Development and Planning* (40th ed., Vol. 28). Delhi, India: Vrinda Publications (p) LTD.

Joao Pedro Azevedo, A. A. (2014). *Pathways to the Middle Class in Turkey : How Have Reducing Poverty and Boosting Shared Prosperity Helped?* The World Bank, Poverty Reduction and Economic Management Team. The World Bank.

Johnson, A. (1936). Capital Formation. *The American Economic Review, Vol. 26*, pp 126-128.

Kahyaoğulları, B. (2013). Public-Private Partnership in Developing and Developed Coutries: The UK and Turkish Cases. *Journal of Faculty of Economic and Administative Sciences*, 243-276.

Kaplinsky, R. (2011). *Commodities For Industrial development: Making Linkages Work.* United Nations Industrial Development Organization, Development Policy, Statistics and Research Branch, Vienna.

Karadag, H. (2015). The Role and Challenges of Small and Medium-Sized Enterprises (SMEs) in Emerging Economies: An Analysis form Turkey. *Business and Management Studies, 1*(2), 179-188.

Katua, N. T. (2014). The Role of SMEs in Employment Creation and Economic Growth in Selected Countries. *International Journal of Eduecation and Research, 2*, 461-472.

Khan, M. S., and Reinhart, C. M. (1990, November). Private Investment and Economic Growth in Developing Countries. *World Development, 18*(1), 19-27.

Konrad-Adenauer-Stiftung (KAS). (2015). *SME Clustering: Finding the Right Business Partners and Improving the Business Environment for SMEs.* Konrad-Adenauer-Stiftung. Crete, Greece: Konrad Adenauer Stiftung.

Koplik, S. (2015). Afghan Economic Policies in the 1930s. In S. Koplik, *A Political and Economic History of the Jews of Afghanistan* (Vol. 5, pp. 114-136). Afghanistan: Brill Online Books and Journal.

KOSGEB. (2012). *Enhancing The Competitiveness Of SMEs In Turkey*. Republic of Turkey Small and Medium Enterprises Development Organization, SMEs Development. Ankara: KOSGEB.

KOSGEB. (2014). *Action Plan of Working Group on SMEs.* Small and Medium Enterprise Development. Ankara: Organization of The Black Sea Economic Cooperation.

KOSGEB. (2014-2018). *TUrkish Entrepreneurship Strategy & Action Plan.* Small and Medium Sized Enterprises Develiopment Organization. Ankara: KOSGEB.

KOSGEB. (2015). *2016-2020 Strategic Plan.* Small and Medium Enterprise Development Organization, Publicity Small and Medium Enterprise Development Organization. Ankara: KOSGEB.

KSOGEB. (2015). *SME Strategy and Action Plan 2015-2018.* Small and Medium Zise industry development organization. Ankara: KOSGEB.

Koster, S., and Karlsson, C. (2009). *New Firm Formation and Economic Development in a Globalizing Economy.* The Royal Istitute of Technology, Centre of Excellence for Science and Innovation Studies. Georgr Mason University.

Krishna, K., and Perez, C. A. (2005). Ubalance Growth. *Canadian Journal of Economics, 38*, 832-851.

Kritikos, A. S. (2014). *Evidence-based policy makeing*. (I. I. Economics, Producer)

Kumar, M. S. (1997). Public and Private Investment and the Growth Process in Developing Countries. *Oxford Bulletin of Economics and Statistics*.

Kushnir, K. (2006). *How Do Economies Define Micro, Small and Medium Enterprises (MSMEs).* International Finance Corporation. IFC.

Lashley, D. L.-R. (2009). Entrepreneurs and Small Firm Ownership. In D. L.-R. Lashley, *Entrepreneurship and Small Business Management: in the Hospitality Industry.* Oxford, UK: Elsevier Ltd.

Leal, J. (2015). *Key Sectors in Economic Development: a Perspective From Input-Output Linkages and Cross-Sector Misallocation.* Leibniz Information Center for Economics. Mexico City: Bank of Mexico.

Lee, K. W. (2009). *Productivity Increase in SMEs: With Special Emphasis on in-Service Training of Workers in Korea.* Social Protection & Labor: The World Bank. Seol-Korea: KDI School of Public Policy and Management.

Levine, R., & Renelt, D. (1992, September). A sesitivity Analysis of cross-country Growth Rgressions. *The American Economic Review, 82*.

Liedholm, D. C. (1998). The Dynamics of Micro and Small Enterprises in Developing Countries. *World Development, 26*, 61-74.

Liesbeth Colen, M. M. (2008). *Foreign Direct Investment as an Engine For Economic Growth and Human Development: A Review of the Arguments and Empirical Evidence* . LICOS Center for Institutions and Economic Performance. Leuven Center for Glibal Governance Studies.

Loayza, N. V., Ranciere, R., Serven, L., & Ventura, J. (2007, October 4). Macroeconomic Volatility and Welfare in Developing Countries: An Introduction. *The World Bank Economic Review, 21*, 343-357.

Lugemwa, P. (2014, August 20). foreign Direct Investment and SMEs Growth: Highlighting The Need For Absorptive Capacity To Support Linkages Between Transanational Corporations and SMEs in Developing coutries. *International Journal of Economics, and Management Sciences, 2*, 245-256.

Majanga, B. B. (2015). An analysis of Bottlenecks to SMEs growth in Developing Countries: A Case of Malawi. *European Journal of Business and Management, 7*(24), 176-185.

Majee, W., & Hoyt, A. (2011, March 04). Cooperatives and Community Development: A Perspective on The Use of Cooperative in Development. *Journal of Community Practice, 19*, 48-61.

Ministry of Development. (2014). *The Tenth Development Plan (2014-2018).* Ankara: Republic of Turkey Ministry of Development.

Martin, F., & Charles, H. (1980). Domestic Saving Internatinal Capital Flows. *The Economic Journal, 90*(358), 314-329.

Mashal, M. (2014). *Small and Medium Enterprises Development and Regional Trade in Afghanistan.* Public Policy and Administration Afghanistan, Research and Evaluation Unit. Kabul- Afghanistan: University of Central Ssia.

Masoomeh Zeinalnezhad, M. M. (2011). The Role of Clusters and Networks in Development of Industrial SMEs. *International Conference on Business and Economics Research. 1*. Kuala Lumpur, Malaysia: IACSIT Press.

Masoud, N. (2014). A contribution to the theory of economic growth: Old and New. *Journal of Economic and International Finance, 6*(3), 47-61.

Mawardi, M. K., Choi, T., and Perera, N. (2011). The Factors of SME Cluster Developments in a Developing Country: The case of Indonesian Clusters. *World Conference* (pp. 408-408). Stockolm, Sweden: Unisersity of Wollongong.

Mazumdar, D. (2001, February 09). Small-Medium Enterprise Development in Equitable Growth and Poverty Alleviation. *Asia and Pacific Forum on Poverty* (pp. 1-29). Manila: Asian Development Bank.

McCallum, B. T. (1996). Neoclassical VS Endogenous Growth Analysis: An Overview. *NBER, 84*(4), 41-71. Retrieved 2016, 21-May, from www.nber.org/papers/w5844.

Meghana Ayyagari, A. D.-K. (2011, Dec 6). Firm Innovation in Emerging Markets: The Role of Finance, Governance, and Competition. *Journal of Financial and Quantitave Analysis, 46*.

Ministry of Economy. (2017). *Focus Business Turkey.* Ankara: Rebulic of Turkey Ministry of Economy.

MoCI Afghanistan. (2015, Dece 12). *Ministry of Commerce&Industries Islamic Repulic Of Afghanistan*.

MoCI ASMED. (2015). *SME Development Strategy.* Ministry of Idustry and Commerce, SME Development Directorate. Kabul- Afghanistan: Islamic Republic of Afghanistan Ministry of Industry and Commerce.

MoCI of Afghanistan. (2009). Afghanistan's SME development stratey.

MoE and The World Bank. (2017). *Afghanistan Poverty Status Update: Progress at Risk.* Kabul- Afghanistan: Islamic Republic of Afghanistan Ministry of Economy and The World Group.

Mohammad Amin, A. I. (2014). *Use of Foreign Intermediate Inputs in Developing Countries: Determinants and effects.* World Bank Group.

Mohammed Sani Abdullahi, P. L. (2015). The Effect of Finance, Infrastructure and Training on the Performance of Small and Medium Scale Enterprises (SMEs) in Nigeria. *International Journal of Business and Techopreneurship, 5*, 421-452.

Mohiedin, M., Iqbal, Z., Rostom, A., and Fu, X. (2012). The Role of Islamic Financing Financial Inclusion in Organization of Islamic Cooperation (OIC) Countries. *Islamic Economic Studies, 20*, 55-120.

Mucchielli, J. L., and Jabbour, L. (2007). Technoloy Transfer through Bacward Linkages: The Case of the Spanish Manufacturing Industry. *Journal of Applied Economics, 10*, 115-136.

Muellar, P., Van, A., and Storey, D. J. (2007). The Effects of New Firm Formation on Regional Development Over Time: The Case of Great Britain. *Small Business Economics, 30*(1), 59-71.

Muniz, A. S., Raya, A. M., and Carvajal, C. R. (2006). Key Sectors. A New Proposal From Network Theory. *46th Congress of the European Rejional Association.* Volos, Greece: European Regional Science Association (ERSA).

Muniz, A. S., Raya, A. M., and Carvajal, C. R. (2008). Key Sectors: A New Proposal from the Ntwork Theory. *Regional Studies, 42*, 1013-1030.

Nada, N., Ghanem, M., Mesbah, S., and Turkyilmaz, A. (2012). Innovation and Knowledge Management Practice in Turkish SMEs. *Journal of Knowledge Management, Economic and Information Technology, 2*(1), 248-465.

Naithani, S. (2006). *Small and Medium Enterprises, Economic Growth, and Civil Society Involvement in Afghanistan.* Ministry of Commerce and Industry, Private Sector Development Directorate. Kabul- Afghanistan: Agency Coordination Body and for Afghan Relive (ACBAR).

Ndikummana, L. (2000). Financial Determinants of Domestic Investment in Sub-Saharan Africa: Evidence from Panel Data. *World Development, 28*(2), 381-400.

Njama, G. J. (2013). *Effect of Venture Capital Financing on The Growth of Small and Medium Sized Enterprises in Kenya.* School of Business, Business Administration. University of Nairobi.

Nowbutsing, B. (2009). FDI, Domestic Investment and Economic Growth: A Theoretical Frameworke. *The 7 Globelics International conference. 3*. Dakar: Gergia Institution of Technology.

Nurrachmi, R., Samad, K. A., and Foughali, I. (2013, May 8). The Development of SMEs in Turkey. *MPRA*(64817), pp. 1-22.

Nweze, N. P. (2017, February 2). Domestic Investment, Capital Formation and Economic Growth in Nigeria. *International Journal of Research in Social Sciences, 7*(2249-2496), 41-65.

Odhiambo, N. M. (2016, 11 17). Public and Private Investment and Economic Growth: A Review. *Journal of Accounting and Management, 2*, 25-42.

OECD. (2000). *Small and Mediu-Size Enterprises: Local Strengh, global Reach.* Organisation for Economic Co-operation and Development. OECD.

OECD. (2004). Promoting Enterpreneurship and innovative SMEs in global economy. *OECD conference of Ministeries. 2*, pp. 1-59. Istabul. Turkey: Organization for Economic Coopration and Development.

OECD. (2004). *Small and Medium-Sized Enterprises In Turkey Issues and Problem.* Organisation For Economic Co-operation and Development. paris: OECD.

OECD. (2006). *Promoting Private Investment for Development.* Prise, France: Organisation for Economic CO-operation and Development.

OECD. (2017). *Enhacing the Contribution of SMEs in a Global and Digitalised Economy*. Organization for Economic Cooperation and Development, Meeting of The OECD Council at Ministrial Level. Paris: OECD.

OECD; European Commission. (2016). *SME Policy Index: Western Balkans and Turkey 2016 - Assessing the Implementation of the Small Business Act For Europe.* Organisation for Economic Cooperation and Development. OECD iLibrary.

Okyay Ucan, A. A. (2016, June). The Relationship Between Export and Economic Growth in Turkey. *European Scientific Journal* .

OSTIM. (2013). *Power of SMEs in Development & OSTIM Experience.* OSTIM Industrial Investment&Business Inc, Project Coodination Department of OSTIM Industrial Investment & Business Inc. Ankara -Turkey: OSTIM.

OSTIM Industrial Investment & Business. (2012). *Annual Activity report.* Ankara: OSTIM yatırım.

OSTIM Industrial Investment & Business Inc. (2010). *Annual Activity Report.* OSTIM Industrial Investment & Business. Ankara: OTIM Yatırım.

OSTIM Industrial Investment & Business Inc. (2001). *Annual Activity Repot 2011.* OSTIM yatırım. Ankara: OSTIM Industrial Investment & Business.

OSTIM Investment&business Inc. (2012). *Company Profile.* Ankara- Turkey: OSTIM Industrial Investment & Business Inc.

Owusu-Ansah, W., and Cudjoe, G. A. (2017). The Effect of Non-Financial Support Services on Small and Medium Enterprises (SMEs) Development in a Developing Economy. *International Journal of Business, Humanities and Technology, 7,* 20-30.

Oxford Economics. (2014). *Another Peny saved: the economic Bnefits of higher US Household Saving.* Oxford economics. Washington DC: US Saving Forum.

Pack, H. (1994). Endogenous Growth Theory: Intellectual Appeal and Empirical Shortcomings. *Journal of Economic Perspective, 8*(1), 55-72.

Pandya, V. M. (2012). Comparative Analysis of Development of SMEs in Developed and Developing Countries. *International Conference on Business and Management* (pp. 426-433). Phuket- Thailand: Gujrat National Law University.

Patrice Muller, C. C., and Hope, K. (2015). *Annual Report on European SMEs 2014/2015: SMEs Start Hiring Again.* The University of Manchester Institue of Innovation Research, Economics. London: European Union.

Paunov, C. (2016). Corruption's Asymmetric Impacts on Firm Innovation. *Journal of Development Economics, 118*(C), 216-231.

Pelinescu, E. (2015). The Impact of Human Capital on Economic Growth. *Proceda Economics and Finance, 13*(13,050711), 184-190.

Perry, G. (2009). Causes and consequences of High Volatility in Developing Countries. In G. Perry, *Beyond Lending: How Multilateral Banks Can Help*

Developing Countries Manage Volatility (Vol. 1, pp. 1-14). Washington, D.C., USA: Center for Global Development.

Qazi Abdul Subhan, M. R. (2013). Innovation in Small and Medium Enterprises (SMEs) and Its Impact on Economic Development in Pakistan. *proceeding of 6th International Business and Social Sciences Research Conference.* IDubai, UAE: Bahria University.

Rabobank. (2005). *Access to Financial Services in Developing Countries.* Rabobank, Rabobank Financial Institutions Department. The Nederland : Rabobank.

Reeg, C. (2013). *Micro, Small and Medium Enterprises Upgrading in Low-and Middle-Income Countries A Literature Review.* German Development Institute, Bonn.

Retamal, M., and Dominish, E. (2017). *The Sharing Economy in Developing Countries.* The Institute for Sustainable Futures. Sydney: University of Technology Sydney.

Robert E. LUCAS, J. (1988). Onthe Mechanics of Economic Development. *Journal of Monetary Economics* .

Robu, M. (2013). The Dynamic and Importnatce of SMES in Economy. *The USV Annals of Economics and Public Admistration, (volume 13,* pp 84-89), University of Lasi, Romania.

Rocha, E. A. (2012). Them Impact of the Business Environment on the Size of the Micro, Small and Medium Enterprise Sector; Preliminary Findings From a Cross-Country Comarisonttry. *Economics and Finance.* Japan: Kobe University .

Romer, P. M. (1968). Increasing Returns and Long-Run Growth. *The Journal of Political Economy, 94.*

Rosenberg, N. (1961). Capital Formation in Underdeveloped Countries. *American Economic Association, 11*(64), 706-715.

Rudiger Dornbusch, S. F. (2011). *Macroeconomics* (11 ed.). (11, Ed.) New York, USA: McGraw-Hill.

Saavedea-Chanduvi, G. E. (2007). *Informality Exit and Exclusion.* The World Bank, Latin American and Caribbean Studied. Washington, D.C.: The World Bank.

Saleh, K. (1997). The measurement of gross domestic fixed caital formation in Indonesia. *Capital Stock Canference.* Jakarta: Central Bureau of Statistics.

Sanchez-Juarez, I., Garcia-Andres, A., and Revilla, D. (2015). Identification of Key Productive Sectors in the Mexican Economy. *Expert Journal of Economics, 3*, 22-39.

Sardadvar, S. (2011). Neoclassical Growth Theory and Standard Model. In s. Sardadvar, *Economic growth in the regions of Europe: Theory and Empirical Evidence from a Spatial Growth* (Vol. 2, pp. 9-22). Vienna, Austria: Aspriger Company.

SAVİ, F. Z., & YILDIRAN, C. (n.d.). *www.academia.edu*. (Karabük University) Retrieved March 30, 2018, from Karabük University:

https://www.academia.edu/18279539/ANALYSIS_OF_ENTREPRENEURSHIP_SUPPORT_PROGRAM_WITHIN_EXPECTATIONS_OF_ENTREPRENEURS_AND_DETERMINATION_OF_LEVEL_OF_SUCCESS_ON_ENTREPRENEURSHIP_TEST_OF_KOSGEB_APPLIED_ENTREPRENEURSHIP_EDUCATION_APPLICANTS

Schmitz, H. (1999). Collictive Efficiency and Increasing Returns. *Cambridge Journal of Economics, 23*, 465-483.

Schneider, F. (2004). *The size of the Shadow Economies of 145 Countries all over the world: First Results over the Period 1999 to 2003.* Forschungsinstitut Zur Zukunft der Arbeit Institute for the study of Labor . Bonn: University of Linz and IZA.

Schultz, T. W. (1961). Investment in Human Capital. *The America Economic Review, 51*.

Shuaib, I. M., and Ndidi, D. E. (2015). Capital formation: Impact on the economic development of Nigeria 1960-2013. *European Journal of Business and Accountancy, 3*(2056-6018), 23-40.

Siisiainen, M. (2000). Two Concepts of Social Capital: Bourieu vs Putnam. *ISTR Fourth International Conference "The Third Sector: For What and for Whom?"*. Dublin-Ireland: University of Jyvaskyla.

Snodgrass, D. R., and Winkler, J. P. (2004). *Enterprise Growth Initiatives: Strategic Directions and Options.* U.S. Agency for International Development, Economic Growth, Agriculture, and Trade. Maryland: USAID.

Solow, R. M. (1994). Perspectives on Growth Theory. *The Journal of Economic Perspectives, 8* (1), 45- 54.

SPO. (2004, January). *SME Strategy and Action Plan.* State Planning Organization. Ankara: Republic of Turkey Prime Ministery State Planning Organization. Retrieved November 29, 2017, from YOIKK:

http://www.yoikk.gov.tr/dosya/up/eng/SME%20strateyg%20and %20action%20planpdf

Stel, A. V., and Suddle, K. (2005). *The Impact of New Firm Formation on Regional Development in the Netherlands.* Scientific Analysis on of Entrepreneurship and SMEs. Zoetermeer: Scientific Analysis on of Entrepreneurship and SMEs.

Stern, N. (1989). The economics of Development: A Survey. *The Economic Journal, 99*(397), 597-685.

Sugarman, E., Stephens, A., Narayan, R., Retting, M., Au, U., and Schaeffer, S. S. (2014). History of Commercial Law in Afghanistan. *An Introduction To Commercial Law of Afghanistan* (Vol. 2, pp. 27-65). Standford: Stanford Law School.

Suryahadi, D. S., and Adrianto, B. (2007). *The Impact of Private Sector Growth on Poverty Reduction: Evidence from Indonesia.* The SMERU Research Institute. Jakarta: The SMERU Research Institute.

Suryaningrum, D. H. (2012). Knowledge Management and Performance of Small and Medium Enterprises in Indonesia. *International Journal of Innovation and Technology, 3*.

Şeker, M., and Yang, J. S. (2012, April). *How Bribery Distorts Firm Growth: Differences by Firm Attributes.* The World Bank, Emtrepreneurship and Innovation; and Enterprise Analysis Unit. Washington DC: Research Suppotr Team.

Şener, S., Savrul, M., and Aydın, O. (2014). Structure of Small and Medium-Sized Enterprıses in Turkey and Global Competitiveness Strategieseness Strategıes. *10th International Strategıc Management Conference* (pp. 212-221). ıstanbul: Procedia-Social and Behavior Sciences.

Şener, S., Savrul, M., and Aydın, O. (2014). Structure of Small and Medium-Sized Enterprises in Turkey and Global Competitiveness Strategies. *10 th International Strategic Management Conference* (pp. 212-221). Istanbul: Procedia-Social and Bbehavioral Sciences.

Taşkın, T. (2014). GDP Growth in Turkey: Inclusive or Not. *Central Bank Review, 14*, 31-64.

Tambunan, T. (2008). *Foreign Direct Investment, Local Small and Medium Enterprises and Technology Transformation in Developing Countries: A Story From Indonesia.* Univesity of Trisakti, Economics. Jakarta: Center for Industry and SME Studies.

Teker, S., and Teker, D. (2016, October). Venture Capital and Business Angels: Turkis Case. *12th International Strategic Management Conference. 12th*, pp. 630-737. Antalya, Turkey: IŞık University.

Temple, J. (2005). Balanced Growth. In J. Temple, P. Aghion, S. Durlauf, & L. B. Durlauf (Ed.), *Handbook of Economic Growth* (Vol. volume 1A, pp. 555-677). Narth Holland: University of Bristol.

The World Bank. (2014). *Afghanistan Country Profile: Enterprise Surveys.* World Bank Group, International Finance Corporation. Region:South Asia: International Finance Corporation.

The World Bank. (2016, October). *Documents & Report*. (The World Bank Group) Retrieved March 16, 2018, from The World Bank:

http://documents.worldbank.org/curated/en/584381476781571691/Afghanistan-Country-snapshot

Tom, G., and Vaart, H. V. (2008). *Defining SMEs: Aless Iperfect Way of Defining Small and Medium Enterprises in Developing Countries.* Small Enterprise Assistance funds. Brooking Global Economy and Development.

https://www.brookings.edu/wp-content/uploads/2016/06/09_development_gibson.pdf

Tonidandel, S., Braddy, P. W., and Fleenor, J. W. (2012). Relative Importance of Managerial Skills for Predicting Effectiveness. *Journal of Managerial Psychology*, *27*(0268-3946), 636-655.

Trinh, B., Kobayashi, K., Quang, T. N., and Viet, P. N. (2012, May 31). Multi-interregional economic impact analysis based on multi-interregional input-

output model consisting of 7 regions of Vietnam. *Journal of finance and investment analysis, 2*, 83-117.

TuIk. (2016). *Small and Medium Sized Enterprises Statistic*. Retrieved April 2018, from Turkish Statistical Institute: http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=21540

Tybout, J. R. (2000). Manufacturing Firms In Developing Countries: How Well Do, And Why. *Journal of Economic Literature, 38*, 11-44.

Ugochukwu, U. S., and Chinyere, U. P. (2013). The Impact of Capital Formation on The growth of Nigerian Economy. *Research Journal of Finance and Accounting, 4*(ISSN 2222-1697), 36-42.

Ugwuegb S. Ugochukwu, U. P. (2013). The Impact of Capital Formation on the Growth of Nigerian Economy. *Research Journal of Finance and Acounting, 4*.

UNDP. (2013). *National Human Development Report.* United Nations Development Programme. UNDP.

UNIDO. (2014). *Sustaining Employment Growth: The role manufacturing and structural cange.* London: United Nations Industrial Development Organization.

Vandenberg, P. (2015). *ADB Institute*. Retrieved May 2018, from Asian Development Bank: https://www.adb.org/sites/default/files/publication/174089/adbi-pb2015-4.pdf

Vanore, M., and Marchand, K. (2012). *Afghanistan Remittance Overview and Trends.* International Organization for Migration. Kabul - Afghanistan: International Organization for Migration (IOM).

Velde, D. W. (2014). *The Power of Evidence and Ideas*. (Overseas Development Institute) Retrieved April 2018, from Evidence. Ideas. Change:

https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9030.pdf

World Bank Group. (2018). *Doing Business 2018.* A World Bank Group Flagship Report, The World Bank, Washington DC.

World Bank. (2011). *Turkey: Improveing Conditions for SME Growth Finance and Innovation.* The World Bank, Private and Financial Development. European and Central Asia Region: World Bank.

World Trade Organisation. (2016). *World Trade Report 2016*. WTO. Switzerland: World Trade Organization .

www.afghaneconomics.com. (2017, May). *Afghanistan: Office of Economic Advisor*. Retrieved March 2018, from Investment Opportunities:

http://www.afghaneconomics.com/Invest.html

www.anahtar.sanayi.gov.tr. (2012, Ağustos 28). *anahtar*. (S. v. Türkey Cumhuriyati. Bilim, Producer) Retrieved March 03, 2018, from Organızed Industrıal Zones : http://anahtar.sanayi.gov.tr/tr/news/organized-industrial-zones/84

www.European Commission.com. (2018). *growth: Internal Market, Industry, Entrepreneurship and SMEs*. Retrieved April 09, 2018, from European Commission:

https://ec.europa.eu/growth/sectors/social-economy/cooperatives_en

www.fundforpeace.org. (2017). *Fragile States Index*. (The Fund for Pease) Retrieved March 2018, from The Fund for Peace:

https://reliefweb.int/sites/reliefweb.int/files/resources/951171705-Fragile-States-Index-Annual-Report-2017.pdf

www.islamicfinanceaffairs.wordpress.com. (2007, May 25). *Islamic Finance Affairs*.

Retrieved March 2018, from

https://islamicfinanceaffairs.wordpress.com/2007/05/25/islamic-finance-basics-what-is-murabaha-ijara-and-musharakahmudarabah/

www.knoema.com. (2016). *World Data Atlas*. (World regional statistics, Producer, & knoema) Retrieved March 01, 2018, from knoema:

https://knoema.com/atlas/topics/Economy/National-Accounts-Gross-Domestic-Product/GDP

www.MoCI.gov.af. (2018, March 05). *Islamic Republic of Afghanistan Ministry of Commerce & Industries*. (S. Directorate, Producer, & Ministry if Commerce & Industries) Retrieved March 05, 2018, from Directorate:

http://moci.gov.af/en/page/directorates

www.MoCI.gov.af. *SME's Directorate*. Retrieved March 2018, from Ministry of Commerce & Industries- Islamic Republic of Afghanistan: http://moci.gov.af/en/page/6024

www.Organized Industrial Zones.tr. (2012). *Kankınmada anahtar verimlık.* Retrieved Ocak 28, 2018, from Türkey Cumhuriyati Bilim, Sanayi ve Teknologi Bakanlığı:

http://anahtar.sanayi.gov.tr/tr/news/organized-industrial-zones/84

www.OSTIM. (2010, January 01). *OSTIM Medical Industry Cluster*. Retrieved Fabrevery 02, 2018, from OSTIM:

http://www.clusterobservatory.eu/eco/uploaded/pdf/1286522102926.pdf

www.OSTİM.org.tr. (2018). *Organized Sanayi Bölgesi*. (OSTIM, Producer) Retrieved 03 28, 2018, from OSTİM: http://www.ostim.org.tr/history-265

www.ostimyatirim.com.tr. (2018, February 20). *osp.com.tr*. (O. I. business, Producer) Retrieved February 20, 2018, from

http://www.osp.com.tr/Pages.aspx?page=1&lng=en

www.pdf.usaid.gov. (1991, February). *pdf.usaid.gov*. (N. A. Venture, Producer) Retrieved March 29, 2018, from USAID: https://pdf.usaid.gov/pdf_docs/PNABL958.pdf

www.transparency.org . (2018, February 21). *Transparency International*. Retrieved March 11, 2018, from Corruption Perceptions Index 2017:

https://www.transparency.org/news/feature/corruption_perceptions_index_2017

www.turkstat.gor.tr. (2018, February 28). *Small and Medium Sized Enterprises Statistic*. Retrieved March 02, 2018, from Turkish Statistical Institution:

http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=21540

www.weforum.org. (2017, December 13). *World Economic Forum*. Retrieved March 16, 2018, from https://www.weforum.org/agenda/2017/12/when-is-sharing-not-really-sharing/

Yang, J. S. (2016, November 08). *Enterprise Surveys*. Retrieved May 2018, from World Bank Group: https://www.enterprisesurveys.org

Yay, G. G., and Keçeli, S. (2009). The intersectoral linkage effects in Turkey economy: An application of static Leontief Model. *Panoeconomicus, 3*, 301-326.

Yağcı, M. (2017, Spering). The Political Economy of AK Party Rule in Turkey: From a Regulatory to a Developmental State? *Insight Turkey, 19*, 89-113.

Zakirhussin. (2012). *Zakirhosin21*. (I. A. Zakir, Producer) Retrieved April 20, 2018, from Business Studies: https://zakirhussain21.files.wordpress.com/2012/09/process-of-capital-formation.pdf