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**INNOVATIVE ENTREPRENEURSHIP AND
ECONOMIC GROWTH: A CASE STUDY OF
TURKEY AND SELECTED COUNTRIES**

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**INNOVATIVE ENTREPRENEURSHIP AND
ECONOMIC GROWTH: A CASE STUDY OF
TURKEY AND SELECTED COUNTRIES**

Yüksek Lisans Tezi

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Bu Tez tarafımızca okunmuş, nitelik ve içerik açısından bir Yüksek Lisans tezi olarak yeterli görülmüş ve kabul edilmiştir.

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ABSTRACT

INNOVATIVE ENTREPRENEURSHIP AND ECONOMIC GROWTH: A CASE STUDY OF TURKEY AND SELECTED COUNTRIES

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Innovation and entrepreneurship are terms that researchers have been trying to define the terms clearly for years. However, despite this lack of consensus, these concepts and innovative entrepreneurship have already become some countries' main growth strategy, in each country's own way. While these strategies reflected positive impact on economic growth of those countries, Turkey's growth in last four decades has raised doubts. To research how the lack of Turkey's economic growth correlated with innovative entrepreneurship, four countries selected(USA, China, India, South Korea) by their unique growth histories and compared with the key aspects of macro leveled innovative actions, with using case study methodology.

Keywords: Innovation, entrepreneurship, innovative entrepreneurship, economic growth

ÖZET

İNOVATİF GİRİŞİMCİLİK VE EKONOMİK BÜYÜME: TÜRKİYE VE SEÇİLMİŞ ÜLKELER ÜZERİNE BİR ÇALIŞMA

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Girişimcilik ve İnovasyon Yönetimi (İngilizce)

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İnovasyon ve girişimcilik kavramları araştırmacılar tarafından uzun yıllardır tanımlanmaya çalışılmaktadır. Ancak tanımlar konusunda bir fikir birliği olmamasına rağmen; bu kavramlar ve inovatif girişimcilik, her biri kendi tarzında olmak üzere halihazırda bazı ülkelerin büyüme stratejisinin temelini oluşturmaktadır. Bu stratejiler ülkelerin ekonomik büyümelerine olumlu olarak yansırken, Türkiye'nin son kırk yıldaki büyümesi kuşku uyandırmaktadır. Türkiye'nin ekonomik olarak yeterince büyümemesinin inovatif girişimcilikle olan ilişkisini araştırmak için, kendine has büyüme hikayeleri olan dört ülke seçilmiştir (ABD, Çin, Hindistan, Güney Kore) ve Türkiye ile bu ülkeler arasındaki makro seviyedeki inovasyon aksiyonları vaka analizi metodu kullanılarak karşılaştırılmıştır.

Anahtar kelimeler: İnovasyon, girişimcilik, inovatif girişimcilik, ekonomik büyüme

TABLE OF CONTENTS

TABLES	vii
FIGURES	viii
ABBREVIATIONS	ix
1. INTRODUCTION.....	1
2. LITERATURE REVIEW	2
2.1 INNOVATION.....	2
2.1.1 Definition of Innovation.....	2
2.1.2 Importance of Innovation	3
2.1.3 Diffusion of Innovation	4
2.1.4 Measuring Innovation.....	5
2.2 ENTREPRENEURSHIP.....	6
2.2.1 Definition of Entrepreneurship.....	6
2.2.2 Success Factors and Indicators	8
2.2.3 Changing Role of Entrepreneurship	9
2.3 INNOVATIVE ENTREPRENEURSHIP	10
2.3.1 Definition of Innovative Entrepreneurship.....	10
2.3.2 Aspects of Innovative Entrepreneurship	11
2.3.3 Relation with Economic Growth	13
2.4 ECONOMIC GROWTH.....	14
2.4.1 Definition of Economic Growth	14
2.4.2 Measurement of Economic Growth.....	15
2.4.3 Factors Lead to Economic Growth	16
3. METHODOLOGY	18
3.1 METHOD DEFINITION	18
3.1.1 Measuring Economic Growth	18
3.1.2 Defining and Measuring the Key of Economic Growth.....	18
3.1.3 Countries to Compare	19
3.2 DATA REVIEW	22

3.2.1	Research & Development.....	22
3.2.2	Value Added Manufacturing	23
3.2.3	High Technology Companies	24
3.2.4	Tertiary Education	25
3.2.5	Researchers in R&D	26
3.2.6	Patents.....	27
4.	RESULTS & DISCUSSION.....	29
5.	FURTHER RESEARCHES	33
6.	CONCLUSION.....	35
	REFERENCES	37

TABLES

Table 2.1: Bloomberg's innovation criteria and indicators	6
Table 3.1: Chosen countries and statistics in 1975 and 2014	21



FIGURES

Figure 2.1: Acceptance level of innovation	4
Figure 3.1: GDP rankings of chosen countries	21
Figure 3.2: Research and development progress of chosen countries	22
Figure 3.3: Value added manufacturing progress of chosen countries	23
Figure 3.4: High technology companies progress of chosen countries.....	24
Figure 3.5: Tertiary education progress of chosen countries	25
Figure 3.6: Researchers in R&D progress of chosen countries	26
Figure 3.7: Patents progress of chosen countries	27

ABBREVIATIONS

OECD: Organization for Economic Cooperation and Development

IFC: International Finance Corporation

GDP: Gross Domestic Product

GNP: Gross National Product

USD: United States Dollar

R&D: Research and development

1. INTRODUCTION

This research aims to investigate the correlation between innovative entrepreneurship and economic growth at country level, with stress on Turkey's case. Economic growth is one of the major issues that countries are facing and in order to achieve higher GDP rankings in the world, surely countries need to act better than competitors and average. With lastly announced reports, Turkey has been keeping the position around 20th in economic growth rankings for forty years and has an underwhelming place in innovation indexes. For this reason, there are plenty of researches made domestically to define the obstacles behind Turkey's growth but not in any innovative entrepreneurship view.

This research's field of work is mostly out of survey, rather according to literature. The definitions and measurement methods of innovation, entrepreneurship, innovative entrepreneurship and economic growth are hot topics for academics and professionals for a long time, and although there are some of common knowledge, mostly there are not specified and broadly understandings about the topics yet.

One other aspect is the framework of this study. It is easy to say that there are a lot of academics and degree candidates trying to find some major indicators about Turkey's historical and current economic growth pattern and situation, moreover trying to assume the future but both the unsure ecosystem about these topics and being a relatively new topic; innovation and entrepreneurship aspects are yet untouched.

Despite the ambiguities, this study aims to find the correlation between Turkey's four decades of flatness in economic growth and innovative entrepreneurship penetration for the country. For this aim, this study firstly focuses on clarifying the definitions and measurement methods of these fuzzy notions such as innovation, entrepreneurship and economic growth. Then, in the light of these assumptions, four countries with four different cases in the past are compared with Turkey's case in order to make consistent deductions about the correlation between economic growth and innovative entrepreneurship.

2. LITERATURE REVIEW

2.1 INNOVATION

2.1.1 Definition of Innovation

Innovation is a specific tool of entrepreneurship, which leads the entrepreneur to establish wellness with raising current sources' potential or developing new sources in order to reach the goal. Therefore, innovation is an idea, an application or an item that can be perceived as new. Thus, innovation is a process that also contains all parts from the very beginning of the innovative suggestion up until its commercialization. Such process has been defined as both organizational and individual decision aspects that are connected with many sourcing criteria (Drucker, 2002).

Innovation is a very diverse area of study, hence there are many different definitions of innovation. The main reasons of this are having different industrial views, industrial development and even major actors. Yet, there have been many differing definitions in the last a few decades.

To exhibit the differences of the meanings of innovation and to achieve the improvement of a complete definition, it is offered a couple of cases of meanings of innovation where some underline distinctive parts of innovation and others are committed to a discipline. In 1965, Thompson basically states that "Innovation is the generation, acceptance and implementation of new ideas, processes, products or services". Furthermore, a few decades later from Thompson, very similar definition is made by West and Anderson in 1996 as "Innovation can be defined as the effective application of processes and products new to the organization and designed to benefit it and its stakeholders". However, some like Kimberly (1981) defined innovation as a different perspective with differing forms as "There are three stages of innovation: innovation as a process, innovation as a discrete item including, products, programs or services; and innovation as an attribute of organizations". Moreover, Van du Ven et al. (1986) and Damanpour (1996) introduce an extra term as "newness" by suggesting that

if the pure idea's perception is new for the people who are in contribution, it should be defined as innovation, even though it is an imitation. There are also some other variations for describing innovation, with the contribution of different industries, like Plessis noted in 2007 as knowledge is being more and more essential in business; therefore, knowledge management is incremental for producing market driven products and processes in order to reveal the business as innovation. Lastly, as Nord and Tucker stated the last era's star industry, technology, has gained a position in the definition of innovation since a new innovative product should offer a relation with new technology (Baregheh, et al., 2009).

2.1.2 Importance of Innovation

'Not to innovate is to die' literally illustrates the essential position of innovation in the celebrated quote of Freeman (Freeman & Soete, 1997). Drucker clarifies the importance of innovation by stating that a firm without innovation, in an era that requires high level of adaptation to the new circumstances, would face the threats like waning and even disappearing (Drucker, 2002). So that, in an environment in which customers' needs and desires are changing rapidly, firms need innovation in order to stay strong and to remain profitable. Even many countries made this policy as their main aim because innovation is the key of the metrics like economic growth, employment and welfare (Drucker, 2002).

Innovation is crucially essential for companies simply because it represents the power of competence. As the products are getting more and more familiar in the market and the market getting globalized, new ways of economic chain lead companies to innovation. What is more, companies also need more productivity, more effective performance, maintaining and strengthening their position in the market, having more awareness, being more profitable, raising the number of the products they offer and motivate their employers; which can be all gained by being an innovative company. In sum, the major benefits of innovation for companies, societies and economics might take form in three main aspects. Firstly; market advantages for company level; such as competence advantages, cost decreasing, raised market share and being more profitable.

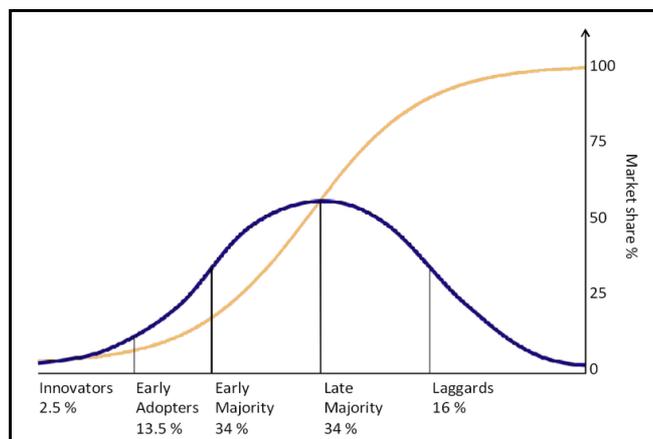
Secondly, customer level satisfaction; such as raising the core level of satisfaction, offering more qualified products. Lastly, macro level benefits; such as increasing employment standards, welfare, living standards, having a role in economic growth, revealing new raw materials and raising entrepreneurship (Uzkurt, 2008).

2.1.3 Diffusion of Innovation

Diffusion of Innovation is a framework for examining an innovation within the whole progress. Briefly, it resolves how and why the change happens. This framework may be defined as different societies' or individuals' questions, ways of thinking or techniques. Diffusion is the progress of any innovation that is integrated with the ongoing change; after a time spent by community.

In whole, the Diffusion of Innovation is the acceptance and adoption of an innovation as being best practice with declining all others without an innovation (Rogers, 2003). Four components of Diffusion of Innovation contain innovation, time, pathways of conversation and social frameworks. The acknowledgment of an innovation has been influenced by scepticism. Alterations may regularly occur as a moderate and distressing procedure, whereas this has required some effort before diffusion became successful. Particular social conversation pathways are vital for diffusion. Public frameworks eventually choose to make an innovation in order to get used to with their way of life.

Figure 2.1: Acceptance level of innovation



Source: Rogers, E.; Diffusion of Innovation; 2003

Diffusion of Innovation happens in different levels, starting with information and then it continues with influence, choice, execution and lastly affirmation. Information identifies with the straightforward comprehension of the fresh innovation. Influence is a decisive approach. Choice is firmly adjusted to engagement that takes place before execution. Affirmation is dictated by the affirmative results that may be supportively used.

The last segment is stated by the Diffusion of Innovation is a characterization framework of adopters. Innovators tend to quickly grasp an innovation and early adopters effortlessly admit the difference. On the other hand, greater part of early adopters has normally required additional time; while late larger part of adopters transparently show that they are dubious, however in the long run these people will get into the innovation once the most of the community has adopted this innovation. People who are more compliant with the existing conditions are defined as laggards (Trahan, 2013).

2.1.4 Measuring Innovation

In the last decade, Bloomberg has announced a ranking of nations, which is done yearly, named as Bloomberg Innovation Index. The report offers which nations are the most innovative, with relation of six different criteria, with each criteria has its own scores and are identically averaged to sort nations. The research is made for over 200 countries, although the lack of valid data for each country for each category ends with announcing only for 69 countries. This data is gathered from reputable institutions such as The World Bank, International Monetary Fund or Swiss Federal Statistics Office. The criteria set used by Bloomberg is listed below (Bloomberg, 2015):

Table 2.1: Bloomberg's innovation criteria and indicators

No.	Criteria	Indicator
1	Research & Development	Ratio of R&D spending in GDP
2	Manufacturing	Value added production per capita
3	High Technology Companies	% of hi-tech companies in the nation, over the world
4	Post Secondary Education	% of second degree alumni enrolled in third degree
5	Research Employees	Workforce in R&D, PhD candidates etc.
6	Patents	Patents per 1 mio people / 1 mio \$ of R&D exp.

Source: Bloomberg Innovation Index, 2015

What is more, Organization for Economic Cooperation and Development (OECD) announces an annual innovation report, briefly focuses on mostly industrial effects of innovation. The main subjects are innovation and economic performance, international innovation performance and comparison, infrastructure of innovation and knowledge, human resources in innovative businesses, main aspects of businesses related to research and development and innovation, internationalization of innovation, cooperation between industry and researchers and management of innovation in institutional level (OECD, 2012).

One other institution that announces reports about innovation is International Finance Corporation (IFC), which is in The World Bank group. IFC briefly focuses on new market creations, women penetration in business environment, leading new ways of business models and new technology support in their reports (IFC, 2012).

2.2 ENTREPRENEURSHIP

2.2.1 Definition of Entrepreneurship

Up to today, there have been many different definitions made for entrepreneurship. Yet, there is still no consensus for the definition in the academic society. Therefore, this ambiguity is still alive and the definition itself is the one of the main points of interests for many different disciplines from all social sciences and political sciences. With regard to ambiguity over entrepreneurship, it creates more desire and need among the researchers in order to clarify the concept. Various disciplines are studying

entrepreneurship from different points of view and offering different kinds of definitions, which are always missing some essence of the others.

Schumpeter's definition of creative destruction majorly leads the researchers with their definition because of the definition's conceptual view for entrepreneurship. Schumpeter defines creative destruction as the main truth lies behind capitalism. Briefly, with the power of new products, markets, production methods and organizations, which are pushing and sustaining capitalism, are the creators of fresh eras and destroyers of older eras, that stands on revolutions as the main essence of every financial structure living (Schumpeter, 2008).

In a conceptual view, entrepreneurship is a kind of mindset in the beginning. It basically defines the motivation and capacity of a person's ability to capture an opportunity or creating a new value in order to get into the business to gain economic success on this subject. This mindset leads the entrepreneur to use creativity or innovations in order to get into a new market or gain position in an existing market. In this way, creativity, optimizing conditions around the whole environment and ability to take risks became the key attributes for entrepreneurs (Dom, 2000).

The definition of entrepreneurship falls into two separate concepts of approaches. The former belongs to 1988 and demonstrates that entrepreneurship is the production of new associations. As an example, if the innovator utilizes his current company to popularize his development, that should not be associated as entrepreneurship, in this context. Then again, the second classification claims that entrepreneurship is the way of producing new financial actions and movements. For this context, any innovation might be popularized by existing or recently founded companies or over exchanging them for displaying (Wiklund & Dahlqvist, 2001).

To put it plainly, the meanings of entrepreneur and entrepreneurship are yet the main issue of insistent controversy and as an outcome, these definitions are not yet completely characterized. Numerous researchers have claimed their individual thought on entrepreneurship; considering all of them, no general agreement related to the meaning of entrepreneur has been reached. Accordingly, this absence of agreement goes

as a boundary to the advancement of the context of entrepreneurship. For now, most researchers have characterized the area of entrepreneurship just by noting who the entrepreneur is and what the entrepreneur is capable of. That includes the dominant part of scientists have overlooked to decide favorable circumstances or to solve the inquiry “how”. These kinds of circumstances may occur in various essences; an open door for the open markets, just like the formation of creative data or factor markets like looking for fresh actors (Bendixen & Migliorini, 2006).

In any case, researchers in the area of association are responding in depth to the three inquiries that are focusing on clarifying the context of entrepreneurship (Bendixen & Migliorini, 2006):

- Why, when, and how appropriate circumstances for the making of product and services appear?
- Why, when, and how a few individuals but not the rest find and accomplish these circumstances?
- Why, when, and how diverse methods of activity are utilized to misuse entrepreneurial circumstances?

2.2.2 Success Factors and Indicators

In the entrepreneurship ecosystem, not only the definition has clarified and had a consensus but also the success indicators are a matter of opinion. Though, how successful an entrepreneurship can be measured by growing speed and ratio, sales and profit margins, strength of business itself, engagement of consumers and total satisfaction.

To achieve success, Critical Success Factors are defined for institutions and entrepreneurs in order to help gaining success during their process to grow their companies and ideas. This notion focuses on primary actions to take for an institution in order to achieve sustainable growth and achieving goals. The process aims to clarify the

needs that the company to achieve and organizing them in an order and tune (Bullen & Rockart, 1981).

The factors are defined in three main concepts as founder factors, service factors and external factors. With achieving success on these concepts, it is expected for the institutions to achieve success.

Founder factors include four main steps, which are achievement, risk taking ability, locus of control and networking capabilities. Service factors are related with the aspects of the usage of the service that is offered; such as guaranteed benefit, responsiveness, the whole product experience, easiness and servicing factor. Lastly, governmental factors have a direct and significant relation with the success, especially in countries that are politically unstable; such as differing laws and regulations may end with tough situations to face for, or tax policies, legal obstacles for specific industries and import / export regulations; which may hurt entrepreneurs (Sebora, et al., 2009).

2.2.3 Changing Role of Entrepreneurship

Clark states that entrepreneurship is getting improved in many aspects worldwide and being improved in three major contexts. Firstly, entrepreneurship is getting more and more worldwide. Many emerging countries are following the majors and investing in entrepreneurs such as grants or differing encouragements. Secondly, “design thinking” is the new wave of entrepreneurship, which is focused not the product itself but the problems to solve. For instance, going outside and following what people are doing for a particular reason in an absurd and particular way is a growing way for entrepreneurs to come up with a business idea. Shortly, it is focused not only the profit, but also lead for a better life quality (Clark, 2013).

In another view, Schumpeter’s aforementioned definition describes the balance status of economy is exceptional and with the formation of balance, economy again inclines into incoordination. For instance, in an entrepreneurial view, after an innovation of an entrepreneur goes high and gains reputation, imitators would get into the same market and with the expected market status, the closer getting to the point of economic balance

would lead to the less profit. Therefore, a new entrepreneur comes with a new innovation (or modification of the previous) would gain the same benefits as the previous entrepreneur and same chain goes on with the imitators. This innovative processes are the creative destruction which fed by entrepreneurs and with this theory, it is possible to foresee that the more entrepreneurs would lead the more economic growth, within a capitalist framework as of the era (Wong, et al., 2005).

2.3 INNOVATIVE ENTREPRENEURSHIP

2.3.1 Definition of Innovative Entrepreneurship

As definition, innovative entrepreneurship refers both innovation and entrepreneurship terms. Characterizing innovation, in an economic view, it is mentioned to the whole procedure of creating another item, changing it to charm customer desires and afterward handling the operations and showcasing it (Baumol, 2010). Therefore, innovation should be original as well as must reveal worth. At the point when connected to entrepreneurship, specialists have endeavored to separate entrepreneurs these are creative from other, more regular types of enterprises just like that ones which are replicating. For instance, imitative business visionaries characterized as with no trouble thinking of the innovations for their organizations: they just duplicate what other companies have achieved. Being certain to pick a plan of action as live in the market is the most appropriate to that kind of companies' visions, backgrounds and hobbies. Then again, an innovative business gives another product, service or creates and utilizes new techniques to deliver or reveal existing products and services for less money and more benefit (Baumol, et al., 2009). Just about the description, imitative entrepreneurs will be more regular than imaginative entrepreneurs and maybe because of the prevalence of the previous and experimental studies concentrate on comprehension imitative entrepreneurs and their related backgrounds (Mayhew, et al., 2012).

Provided that the business idea is not creative, those organizations as of now in the market will have an aggressive edge over the ordinary business idea and business itself. They are the ones who have clients as of now, they have the involvement with supply

sources and they know the major and minor details of the product or service itself, they are surely understood and have a reputation in their ecosystem. Though the entrepreneur as a newcomer, are most certainly not. To put it plainly, the competitors have every one of the favorable circumstances, and the entrepreneur has a number of obstacles compared to them. Thus, to enter the market, it is almost a must to have an innovative concept. Most likely the inventive component of the product or service is the most urgent accomplishment for survival (Mayhew, et al., 2012).

2.3.2 Aspects of Innovative Entrepreneurship

According to Faltin, there are seven major aspects of innovative entrepreneurship, to reach the whole sides of innovative entrepreneurship. These aspects are not only leading to success but also helps gaining a vision and culture around whole organization as a whole (Faltin, 2001).

Finding Something Existing:

One description amongst the most exact of the others indicates how a significant number of entrepreneurial thoughts are discovered. However, finding a new thing that already available sounds like a dilemma. To reach the context of being able to find something that once exists, is about to see another potential in something which is admitted once before.

Utilization, not Convention:

It is a behavior that approaches to the portrayal of the entrepreneur with an innovation view of new products and services. The guideline peruses accordingly as giving up the tradition and entirely focusing the utilization. There is dependably a pretty much traditional method for doing business. Therefore, it is not as a matter of course that the most ideal approach to do it. New innovative products and processes might be accessible. Requirements might have changed.

Combining once again:

A man who faces social issues and needs to accomplish something rapidly in order to get over these issues is some kind of a creative act. As in art, creative accomplishment rarely needs being fixated by a thought. Boldness and determination are main drivers to dispatch new thoughts and final achievement is not usually accomplished without those drivers. Even if one makes a leap forward in the industry or marginally figures out how to persevere depends intensely on the nature of the idea with which one enters the competitive zone.

Reintegrating Functions:

Combining utilizations is comparable. It may be known exceptionally well but it differs foundation for everything. There are many areas such as malls, religious areas, society centers etc. Everything has its own particular capacity. So then, basically if the materials may be utilized for other than the main reason, this situation may lead rapidly getting rid of a big part of costs. Actually, if the environment is examined, it is easy to find out that none of the things had one and only role for utilization ever since it was there.

Turning a trouble into a profitable opportunity:

Troubles are an undeniable reason of open doors for entrepreneurship. During the time while others just seeing the trouble, an entrepreneur may be there to look for the solution in order to achieve and succeed against the trouble. Know-how leads that knowing the answers doesn't always desire them directly, especially if everyday individuals have taken a look at it once before. Most probably, the particular solution is waiting around elsewhere but near.

Integrating enjoyable work:

As defining the job definitions, it does not have to be a mainstream and boring description even for the beginning. Repeating and ability needed kind of jobs may become boring or hard to achieve work for someone but with a wise touch to divide, that same definition may become inspiring and gain their desire to know for the others.

Bringing visions to life:

History shows that just like many artists tried to continue their own way of art and ended with being declined by the community and having problems to gain money; entrepreneurs who depend on their innovation had the same issues with the artists. Therefore, it became like an ordinary thing for an entrepreneur to face various obstacles in the beginning and achieving one by one in order to construct the structure of the vision and adjusting the demands for the future, with counting on the innovation and trying hard enough.

2.3.3 Relation with Economic Growth

With the view of creative destruction, Wennekers and Thurik offer a framework in order to connect and define the steps inside the connection of entrepreneurship and economic growth. Therefore, this connection is described as conditions as a predecessor linked to entrepreneurship, which is connected to intermediate linkages like innovation or market condition and lastly leads to economic growth (Wennekers & Thurik, 1999). Furthermore, there are other researches claims the significance between high potential total entrepreneurship activities of countries have a correlation with economic growth of the countries (Wong, et al., 2005).

The conditions may occur as individually or normatively, or even organizationally. In deep, country's culture on both people and companies such as being approachable, enthusiastic, confident with each other and sympathized with risk takers are effective on the step through entrepreneurship. What is more, in organizational view, legal occasions like country's restrictions on taxing, property owning or inner procedures are again the step before entrepreneurship.

For entrepreneurship, the enthusiasm for innovation is the key activity for this step to reach through further steps. Also, readiness for market conditions, ability to correspond the micro or macro roles and being able to open for business partnerships are other key activities for this step of the framework.

With the third step, intermediate linkages are gaining importance that includes gaining a more important role in platforms such as local and global competitive markets and having the courage and ability to take risks such as new innovative products or bright ideas, in order to take the position of ongoing companies, just like as it is defined in creative destruction.

Lastly, economic growth comes with gaining the position in the global markets and being more productive; with surely placing sustaining best practices of entrepreneurships and desiring to achieve new successes in new markets and products or services (Wennekers & Thurik, 1999).

2.4 ECONOMIC GROWTH

2.4.1 Definition of Economic Growth

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another (Investopedia, n.d.). A nation's economic growth might be characterized as a lengthy time period ascend in ability to support progressively different monetary products to its populace, that developing size in light of improving innovation and the corporate and ideological changes that it needs. Each of the three segments of the definition are vital. The supported ascent in the need of products is the aftereffect of economic growth, how it is recognized. In spite of a couple of nations able to own some sort of raw asset to a different country, increasing technology is the lenient origin of the economical growth, yet that is just a promising and a vital condition for itself but not adequate. If technology would have utilized productively and broadly, and to be sure if its own advancement is to be prompted by utilize, governmental and ideological modifications should be made to create the impact on the correct utilization of developments created by the rising supply of human information (Kuznets, 1973).

2.4.2 Measurement of Economic Growth

Yet, there is still no consensus in academic environment about measuring economic growth with a specified indicator. However, for the neoclassical view of economics, Gross Domestic Product (GDP) is one of the most common and useful indicators for calculating the growth of a nation's economics (Barro, 1996). Briefly, GDP defines the monetary value of all consumer products and services that are all built domestically during a specified period, in another words the general calculation of a country's total economical actions (OECD, 2002).

Gross National Product (GNP) may also indicate the economic growth. GNP is also defined superficially similar as GDP, only differing by not calculating the borders but calculating the nationality (Investopedia, n.d.).

One other comparison for measuring is standard of living and quality of life that is mentioned by Fontinelle, in her article. Briefly, standard of living is about the general wellness criteria such as class difference, number of work hours to obtain vital needs, or even GDP and inflation rates, for a defined community. Although standard of living has standardized indicators, quality of life is much more tangible and related to the availability of basic human rights for the chosen community, such as equalities and freedoms (Fontinelle, n.d.).

Even though the six noteworthy qualities of economic growth is characterized by Kuznets in 1973, those attributes are still generally genuine. The first is characterized as the development of per capita product of populace, which is depicted as the most evident one. The second one is the rate of ascend in productivity. Third is the rate of basic change of the economy, which might be portrayed as movements with ascending sizes of profitability and productivity. As fourth, structures and culture of the society and their belief system is depicted keeping in order to characterize the society's capacity to overcome modernization. Fifth quality is portrayed as being innovatively and technologically equivalent or superior to the competitor countries; yet even in 1973, Kuznets says that this characteristic loses its sense because of the modernization and "one world" methodology. Finally, distribution of growth and development over the

country is depicted all together not just utmost innovation and development for a nearby group, but also integrate the advantages to entire society (Kuznets, 1973).

2.4.3 Factors Lead to Economic Growth

Another unmistakable element of the economic growth is a refreshed enthusiasm for the connections between money related frameworks and the agile financial advancement. Hypothetically, some of the models explain components by which the economical system might influence long time development, focusing on that economic markets empower little investors, that these industries allot funding to the best return use, and that economic brokers toughly overcome issues of unfavorable choices in credit markets. Empirically, it is shown that various economic indicators are actively in a positive correlation with economic growth. Therefore, economists claim that governmental institutions related with economical organizations would have a vital impact on a long time for economic growth (King & Levine, 1993).

One other indicator that mentioned as partly correlated with growth is level of democracy. It is defined as from the dictatorial level, the more democracy and political rights rise, the more economy grows, although the growth is not fully continuous and after a level of democracy, the growth starts reducing again (Barro, 1996).

According to Borenzstein et al.'s research, it is found that foreign direct investment has a significant correlation with economic growth. Foreign direct investment means briefly satisfying the new market needs of successful companies' actions into new countries as new marketplaces and investing in the country such as founding new offices or production areas. The main benefit of the country, which also leads to economic growth, is importing the huge know-how in exchange of offering new markets and productive work force (Borenzstein, et al., 1998).

Lastly, Acemoglu et al. describes that the inclusiveness of economic and political institutions are significantly influential on economic growth. They advocate only democratic states that assure the rule of law and have inclusive institutions can incentivize entrepreneurship and innovation. On the other hand, in autocracies that have

extractive institutions, people have no incentive for investment and innovation.
(Acemoglu & Robinson, 2012).



3. METHODOLOGY

3.1 METHOD DEFINITION

3.1.1 Measuring Economic Growth

As it is mentioned before, there are dissidences on measuring economic growth. Although some researchers offer measuring differing indicators, the very well known one is GDP. Though, in order to gain historical rankings and sort countries correctly, annual GDP at market prices would satisfy the research. What is more, the USD (United States Dollar) currency covers ongoing currency volatility on market prices and gives a nominal result for the research.

Furthermore, the only billions of USD would be hard to indicate the country's situation itself. In order to see the growth and the share taken from the whole world economy, GDP rankings in the whole countries are chosen to see historical development, between each country's true competitors and performance.

Briefly, the assumption for this research is that annual worldwide ranking of country GDP's on market prices in USD are the main indicator of economic growth.

3.1.2 Defining and Measuring the Key of Economic Growth

Many different factors lead change in each country's economic growth, some dramatically, some marginally. As it is mentioned before, there is no consensus on these major indicators either, and discussed by such economists and researchers for a long time.

In this indecisiveness, this research aims to find the economic importance of innovative entrepreneurship in a country basis view. As a factor, many important economists mentioned the importance of innovative entrepreneurship in a country's growth. Starting from Schumpeter's creative destruction definition, many academics and

economists agree that innovation should be a key for the ongoing economic system and must be sustainable and supported. Since the very beginning of this century, innovation ought to become one of the key values of countries to grow, and supported by both governmentally and institutionally in order to destruct the older products and services and to replace with newer ones.

However, the next step is how to measure innovation and innovative entrepreneurship. For this, Bloomberg's six main criteria are taken in order to see countries' innovation performance. As it mentioned before, the criteria set is research and development (R&D), manufacturing, high technology companies, education, research personnel and patents. These six criteria are taken in order to sort countries in a historical view to correlate their economic growth.

3.1.3 Countries to Compare

In order to see the countries' growth and compare them, the time period is set as four decades. The GDP market prices (USD) data starts from 1975 till 2014, and shown as rankings below as five-year periods till 2000, then after 21st century, yearly data is used. The data, gathered from The World Bank, is chosen in order to gather valid and meaningful data, and to cover and analyze further topics such as innovation and entrepreneurship coherently. Although this research is made in 2016, the institution is still not able to announce the whole data related to 2015, so then the finest and latest data is belonging to 2014.

This research mainly focuses on Turkey's situation, which is the nation of the author. Turkey has an interesting position in the GDP rankings, which is surprisingly stable, 20st in 1975 and 18th in 2014. In four decades, it is seen that there are no dramatic changes and only slight moves for upper rankings, but there are a lot of countries changed their situations, some gone below to Turkey and some gone above. For this research, in order to compare how effective was the innovative actions and economic growth of Turkey during this period, four different nations are chosen.

Korea Republic (also known as South Korea) is chosen as the first country. The main reason lies behind the selection is the dramatic rise in GDP rankings. In the very beginning of the data period, South Korea had been 30th, though, in these four decades, South Korea showed an incredible rise in their rankings, which is currently 13th. What is more, this research is focused on Turkey as it mentioned before, and it is sure that South Korea made some significant and major actions to climb to these rankings, though it is such a topic to investigate what if innovative entrepreneurship has any role in their economic growth.

The second country is People's Republic of China (mentioned as China in further parts). China also holds more or less the same reason with South Korea, but in another tier. China's GDP ranking starts with 8th and ends with 2nd after four decades. This case though has some points to focus on, such as indeed the greater ranking leads the harder getting better position.

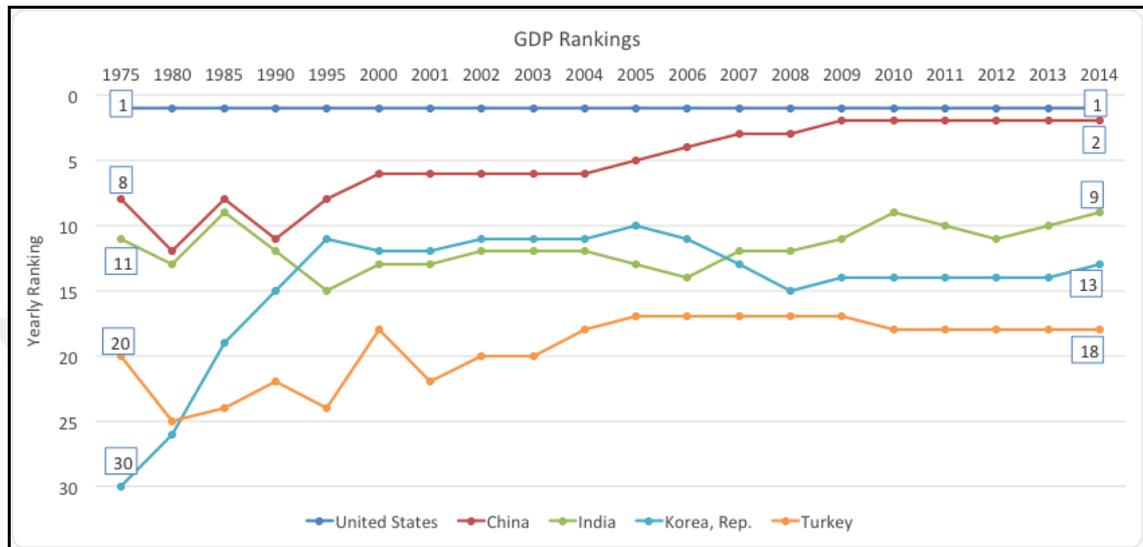
The third country to compare is chosen as India, because of the ability to keep and even to slightly raise their GDP ranking position in four decades. Indeed, it is tougher to protect the position in the higher rankings, India was in 11th rank in 1975 and in 2014 India has 9th rank. What is more, they did not face any dramatic position changes during these four decades, rather than Turkey.

Fourth and last country is taken just because this country is the "role model". United States is the whole time leader of the GDP rankings, not even one time the country has faced a marginal decrease in the rank. Since United States is the leader of all four decades of GDP rankings, it is also a case to research and compare with the main focus, Turkey, what they did on innovative entrepreneurship and how different their actions are.

As it seen in the figure below, in the last decade, it is possible to say that all chosen countries have a pattern. It may be told that United States has been working for saving their position; China is trying to become greater since 1990 and achieving higher ranks is surely tougher in greater positions; South Korea made a huge jump in the four decades and now trying to raise their rank steadily; India had some troubles in past but

trying to stabilize their position. For Turkey, it may be told that the country has faced the same decrease pattern with India and China till 1995 but then in the 21st century, there is not any increasing pattern, even though facing slight decreases.

Figure 3.1: GDP rankings of chosen countries



Source: The World Bank, 2015

Table 3.1: Chosen countries and statistics in 1975 and 2014

Country Name	1975		2014	
	GDP(billion \$)	% in World	GDP(billion \$)	% in World
United States	1,689	28.7%	17,419	22.4%
China	161	2.7%	10,355	13.3%
India	100	1.7%	2,049	2.6%
Korea, Rep	23	0.4%	1,410	1.8%
Turkey	45	0.8%	798	1.0%
World	5,884		77,845	

Source: The World Bank, 2015

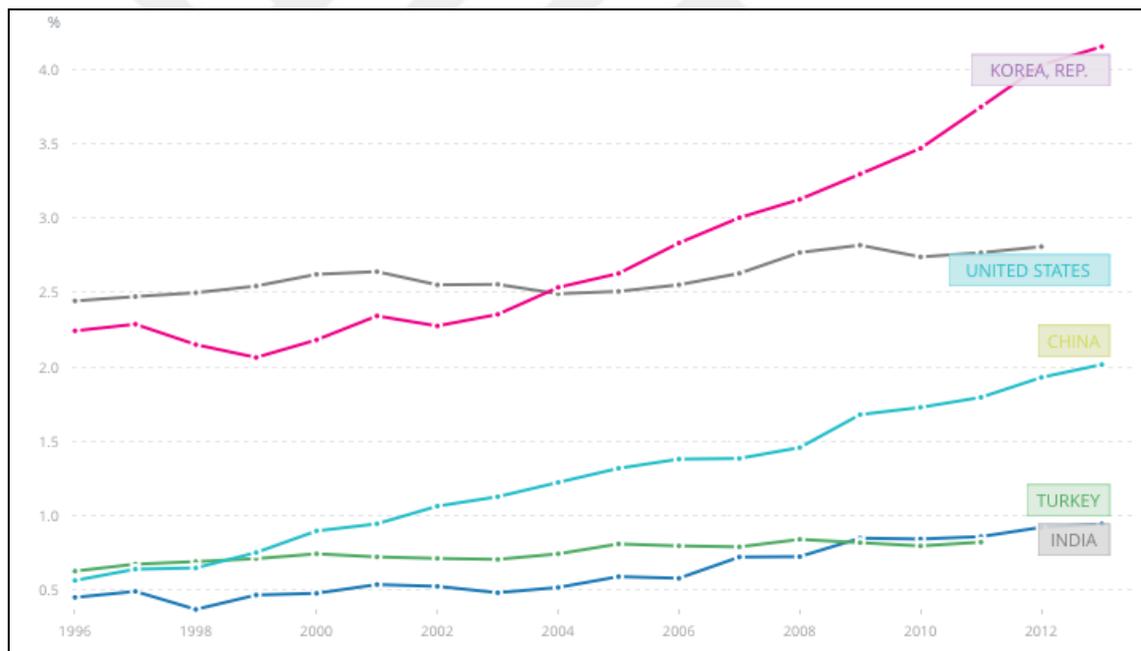
3.2 DATA REVIEW

As it mentioned before, the five chosen countries are going to compare with Bloomberg's six different innovation criteria, in order to be able to understand nations' innovativeness and comment on the relations between economic growths.

3.2.1 Research & Development

As first criteria, research and development is measured for countries. To measure the given importance validly, research and development expenditures are taken as percentages of GDP. The data is taken from The World Bank for between 1996 and 2013; although United States and India have data up to respectively 2012 and 2011.

Figure 3.2: Research and development progress of chosen countries



Source: The World Bank, 2015

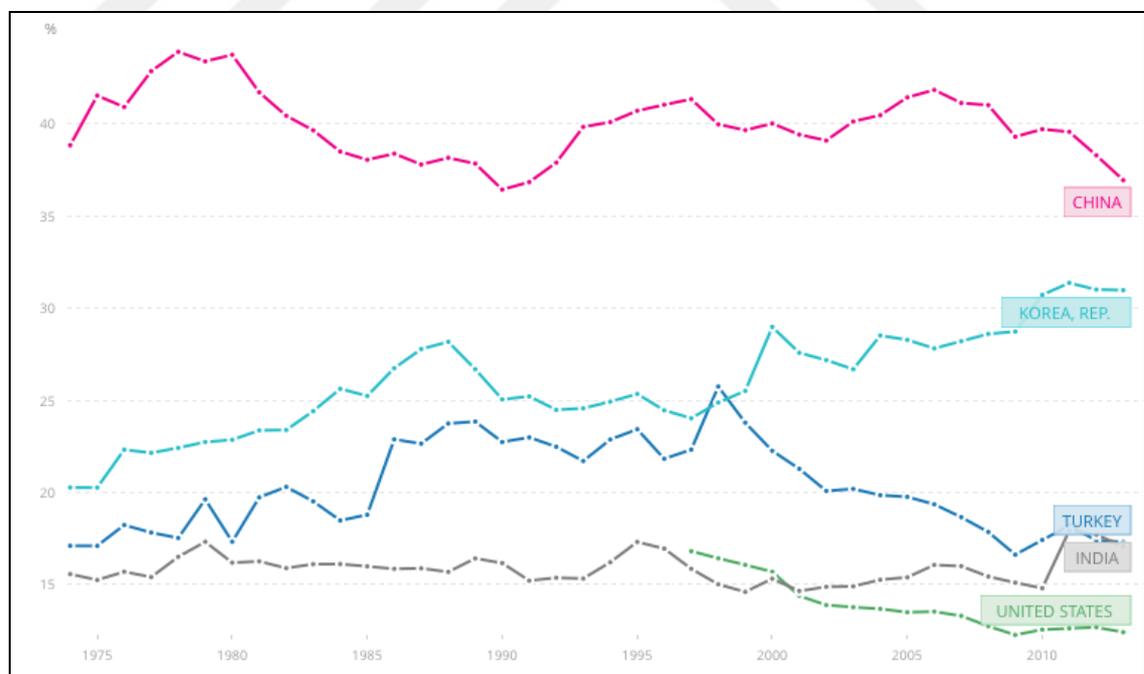
As it seen in the figure, South Korea shows a rising pattern in expending for research and development, as more than doubling the share in GDP. China is another country which shows a rising pattern for more than one decade, with showing their will to research and development by multiplying the share almost four times, even starting

from less share than India. United States goes with a stable pattern in time but their expenditure share is first among four until 2004, and then South Korea is second behind it. India is also showing another stable pattern and supporting with less than one percent of their GDP. Lastly, Turkey doubles the share in almost two decades but the share of expenditures in GDP is still less than one percent.

3.2.2 Value Added Manufacturing

Value added manufacturing's share in GDP is taken as second aspect of innovativeness across countries. In order to measure manufacturing's effect on country's total innovativeness, value added manufacturing is chosen. This basically separates R&D manufacturing and serial manufacturing of products such as fast moving consumer goods or food. The data is gathered from The World Bank, from 1975 until 2014, which covers four decades. The only missing point is United States, their data contains only last two decades.

Figure 3.3: Value added manufacturing progress of chosen countries



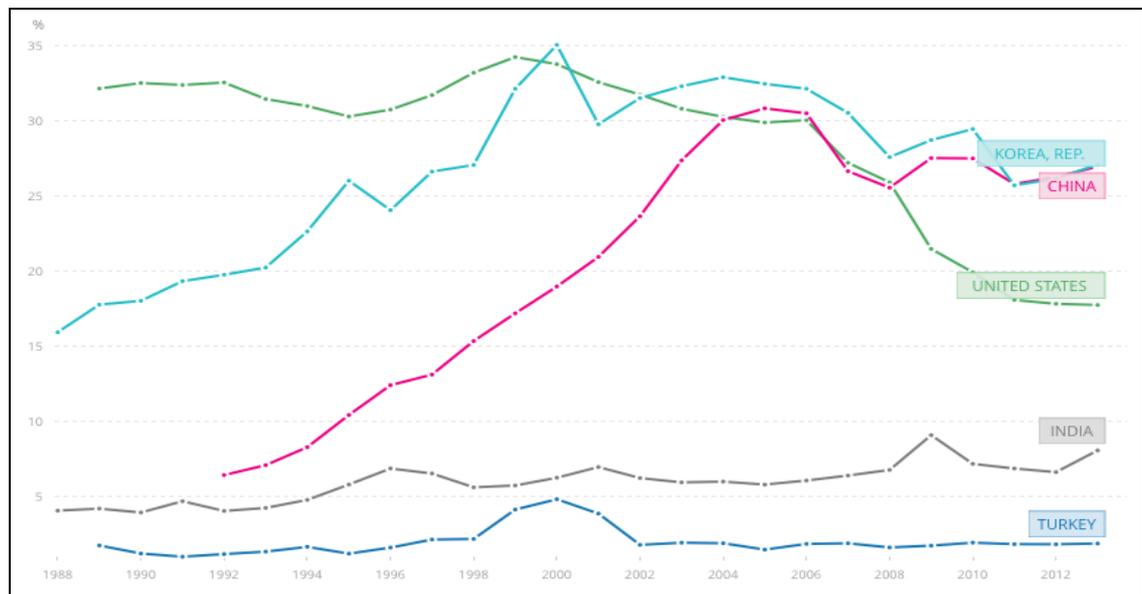
Source: The World Bank, 2015

The graph shows that China gains more than one of third of their GDP from value added manufacturing ever since. South Korea has a rising pattern of gaining an important share from value added manufacturing, starting from one fifth to one third of their GDP. Although United States has data for only last two decades, it is obvious to see the decrease pattern. India shows a stable pattern during this period until the last decade but in 2012 the country is managing to get above of Turkey. Finally, Turkey has an almost straight rising pattern until 1998 with all time high as 25% (which is greater than South Korea in that time); but after that, the value added manufacturing's share in GDP dramatically and straightforwardly decreases continuously until 2010s and even decreases into the all time least with 16%.

3.2.3 High Technology Companies

To measure the importance and growth of high technology companies, the high technology exports' share in total manufacturing exports are taken, from 1988 to 2013 from The World Bank. To see how innovativeness integrated into the total manufacturing culture of the country, this share would be a good indicator for countries.

Figure 3.4: High technology companies progress of chosen countries



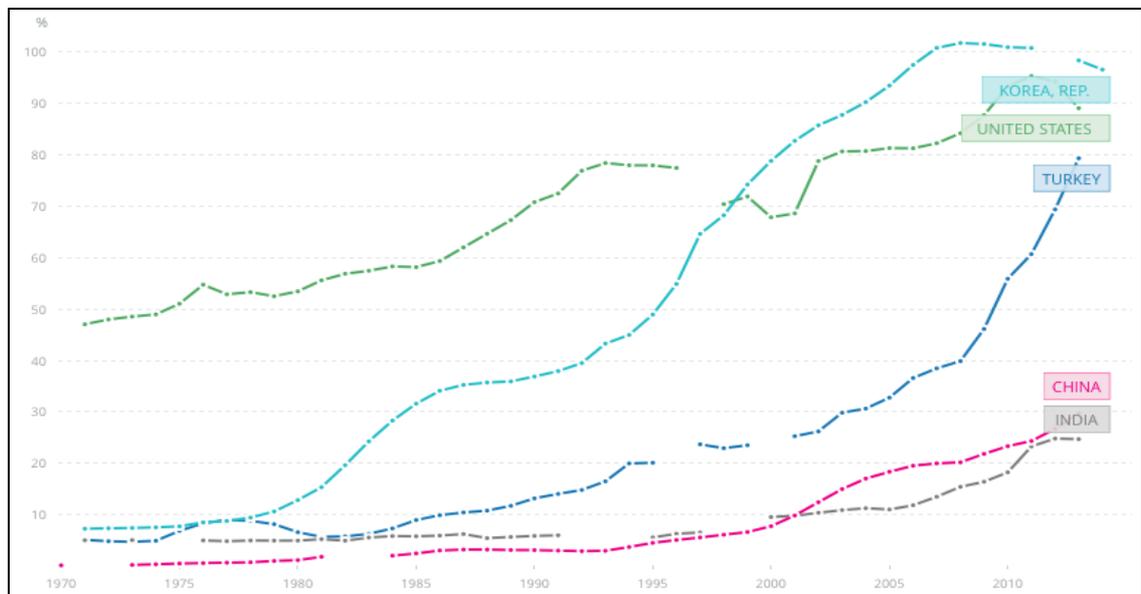
Source: The World Bank, 2015

The figure shows that Turkey is indeed the worst performer in including high technology in the total manufacturing export. It is almost always around 1% for around three decades and not goes even close to 5%, which is the general pattern of India. China and South Korea show an important increase until the middle of 2000s and then slightly decrease and reach almost same point, slightly more than one of four of their total manufacturing export. During the decreasing time of South Korea and China's, United States, who is the former leader of five joins the decreasing pattern and continuously decreases the share in whole, halves in one decade.

3.2.4 Tertiary Education

For measuring education, The World Bank's gross enrollment ratio of tertiary degree percentage is taken between 1970 and 2014. This ratio shows the percentile of students who are enrolled the third level degree (in other words, post secondary education or universities) over the students who started from the very first degree. However, the data may have seen as high as (or even more than) 100%, that means the data over there includes repeating students and ongoing enrollments.

Figure 3.5: Tertiary education progress of chosen countries



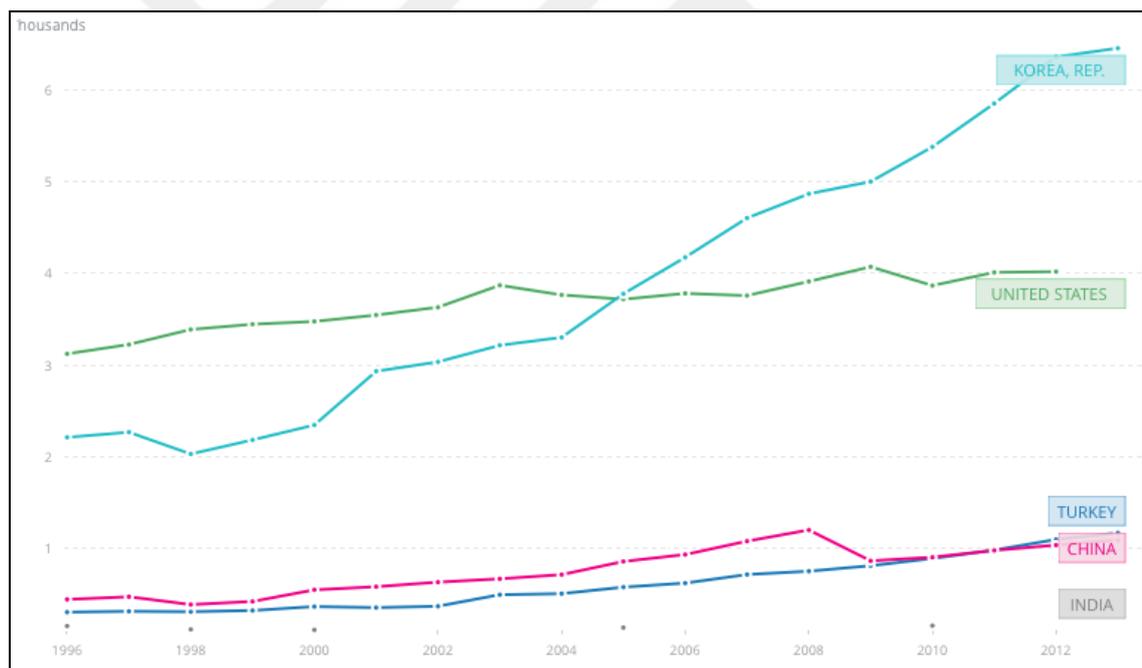
Source: The World Bank, 2015

It is clear to see that Turkey and South Korea has the most vertical curves for increasing level of education over years. United States also has a high level of education since the very beginning, so then a less but stabile pattern they have. What is more, China and India has almost the same pattern in the last four decades, and in compare of South Korea and Turkey, starting with similar (less than 10%) percentiles, but significantly less raise is seen for China and India in last four decades.

3.2.5 Researchers in R&D

This data contains the number of both professionals working on innovation and postgraduate students (such as doctorate candidates) per a million of population of each country. The data is gathered from The World Bank between 1996 and 2013.

Figure 3.6: Researchers in R&D progress of chosen countries



Source: The World Bank, 2015

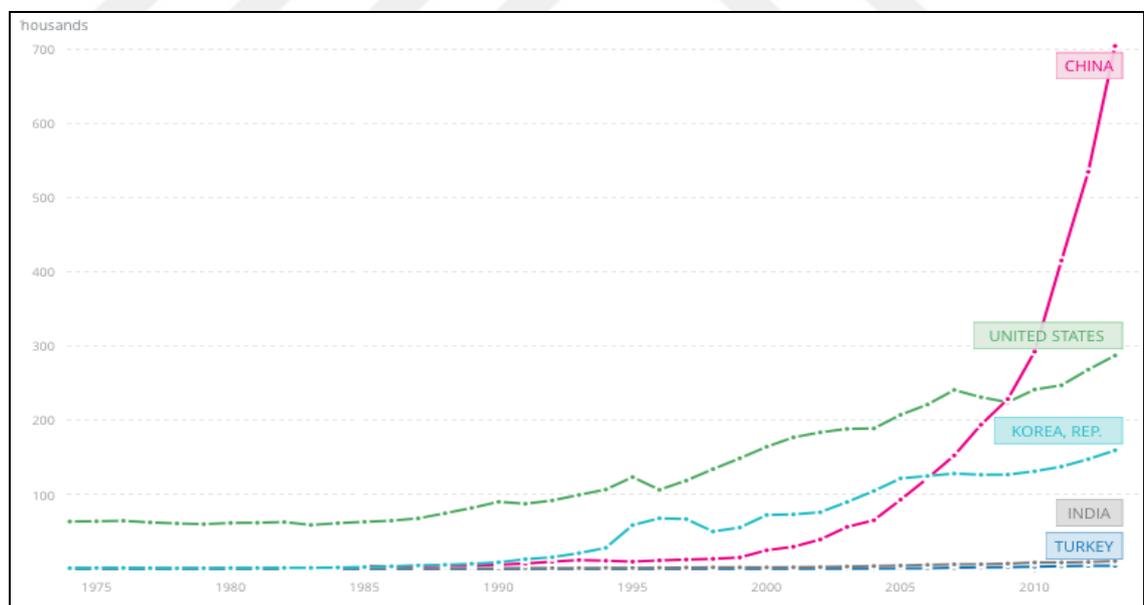
It is clearly seen that South Korea has the significant raising pattern and this pattern strongly overlaps with research and development expenditures, as it mentioned before. South Korea triples the number of researchers in less than two decades, like no other four countries had made. United States is another country which preserves the number

of people in two decades, although in the mid 2000s, South Korea takes the lead. However, the stability is also important on that level. Turkey and China performs almost the same pattern but both starting and ending points of the number of researchers are concerning in comparison with United States and South Korea. Even though, these two countries made about one thousand researchers in one million of population from almost none. Lastly and unfortunately, India's data is lacking for more than half of the time period, but both the remaining data and watchable pattern are underwhelming besides the other four.

3.2.6 Patents

The number of patent applications made from a country by residents indeed shows how innovative a country's people are because patents briefly taken for reserving the rights of an innovative way of solution, such as a product, a process or a service. The data is gathered from The World Bank between 1975 and 2014.

Figure 3.7: Patents progress of chosen countries



Source: The World Bank, 2015

Even in the first look, it is simply clear that there lies a success. Chinese people make more than 700.000 patent applications in 2014, and the increase of this number in two

decades is such an acceleration. China makes this number from nothing two decades ago and now doubles United States and triples South Korea. Despite the incredible success of China, the achievements of United States and South Korea should not be ignored. Over four decades, United States is the only country that is not starting from nothing and what is more, the country continues the rise with tripling the number of patent applications in time. South Korea is the one also starts from nothing and in the last two decades, the country shows almost the same rising pattern alongside United States. Lastly, for Turkey and India, the results shown in four decades are nothing but worrying. These two countries start with nothing in 1975 and after four decades in 2014 ends with still almost nothing. Again, all countries except United States are starting with nothing and South Korea and China are achieving incredible rises, but however alongside these two countries, Turkey and India cannot put any action on the field in patent application area.

4. RESULTS & DISCUSSION

In the previous part, four countries chosen for their different kinds of qualities shown in GDP rankings over four decades in order to compare with Turkey and these countries are examined in terms of Bloomberg's six different innovation indicators. Even every country has made some significantly better actions rather than the others, there are certain definite truths that deserve to be reported.

First of all, United States simply proves that why the country is the "role model" of GDP rankings once more in an innovative entrepreneurship view. Briefly, the main reason is being "the early bird of innovation" amongst others. Even though United States is not performing such vertical increases performed by each country in at least a few of the indicators; but in each of six indicators, it is easily seen that "the United States already did it". In fact, the only decreasing indicator seen is manufacturing, but it may be explained by simply with outsourcing, the era of technology (like technology companies such as Google or Facebook) or decreasing hardware industry. The fact is, according to the data gathered, United States achieved the innovative entrepreneurship and the other four countries are trying to catch up with United States. All United States needs is maintaining continuity, and it seems that the country managed to do it for four decades.

Secondly, China made probably the toughest rise in GDP rankings in four decades but some of the innovation indicators indeed explains how the country did it. As it mentioned before, China quadruples their share of GDP between five countries in four decades and it is not a surprise to see this with their achievement in value added manufacturing, high technology companies in the country, and surprisingly incredible rise in patent applications, which the whole three of them are relatively correlated and supporting each other and shows the more importance given on innovative entrepreneurship returns the more dramatic rises in GDP rankings. Additionally, China's interest in research and development cannot be ignored or underestimated; especially with the positive patterns in R&D expenditures, tertiary students and research

personnel, therefore there is another country that redefined the positive pattern of the indicators.

South Korea shows the most dramatic increase in GDP rankings in four decades with 17 steps, and with this research; investing into innovative entrepreneurship can be seen as the answer and the key behind this success. First things first, South Korea shows a significant rise in each innovation indicator, for almost the whole time period, just like their GDP ranking. In this view, after the civil war and separation; it would be true to say that South Korea studied United States and their success well and started performing as soon as possible. Afterwards, in such a short time, South Korea multiplies their whole indicators with a great momentum and dominate not only between these five countries but also whole world about research and development. It is so obvious to say that not only starting from nothing and ending up with leaving United States behind, but also being able to catch at least the same momentum in every area of innovation is a great achievement, and which significantly shows the importance of innovative entrepreneurship's importance in growth with the correlation in time.

Beside the previous three countries, India unfortunately has not revealed any impressive and significant values or patterns on innovation indicators. For the whole six indicators, India at the most have marginal positive patterns, but even these ones may be understood as not any results of country's specific investments but only the tiny reflections of the world's differing trends. In sum, that strong stability and slight baby steps in the area of innovative entrepreneurship may be correlated with the least change in GDP rankings in four decades.

In the end, with the light of the other four countries with four different sets of patterns, it may be easily told that Turkey is doing some things right and some things wrong in innovative entrepreneurship. Firstly, it would be harsh to expect to challenge with United States in sudden, but there is an example of South Korea in long term, who made almost everything for the sake of innovative entrepreneurship correctly in four decades. According to data, there is an inconsistency in Turkey's case. In six indicators, the greatest achievement for Turkey is education. It is easy to say that Turkey has a great exponential rise in tertiary education level and achieved to the same tier with South

Korea and United States. This is a great success, but the inconsistency lies here: with the higher level of education, the correlations with innovative entrepreneurship and economic growth of South Korea and United States is clear, which can be seen in GDP rankings either; so then there is something done definitely inadequate or wrong in Turkey.

Significantly, Turkey has a great number of students in tertiary degrees. But the main question is, what are these students doing after graduation. There is not even a slight improvement in patent applications, high technology companies and research and development expenditures. That obviously means these great number of students are not getting into innovative entrepreneurship. So then, the next question may occur as Turkey is in a way similar to China. But oppositely, Turkey cannot perform a positive pattern in time in value added manufacturing, on the contrary it is decreasing for almost two decades, which is the peak time of tertiary education. Lastly, the final question may be asked as these students may continue research and become research personnel as privately or being doctorate candidates. However, in this area, Turkey has the same rising pattern with China, which is way too lower values of tertiary degrees, in comparison with Turkey. In the end, the data only shows the numbers of students enrolled, therefore no lights of quality or value addition of the education. So then, according to these results, the education system of Turkey must be questioned.

In sum, it may be said that innovative entrepreneurship has a positive correlation with economic growth for the cases of five countries. United States is the innovator of innovative entrepreneurship and their continuity is the key. South Korea is surely the best “imitator of innovation”, as they are doing what was key for United States’ continuous success for decades. What is more, they found the “state of art” of economic growth as innovative entrepreneurship and their investment is obvious. China is the ultimate for value added manufacturing, and working hard to become more innovative, as it is clear with their number of patent applications, high technology companies and rise in R&D expenditures. India is the one case that has no relation in any aspects of innovative entrepreneurship, that is seen in their four decades of run in GDP rankings and in the end they are in the same point. But for Turkey, there is a light for innovative

entrepreneurship comes from the penetration of higher degrees of education, different than India. However, the main problem is finding these students and motivating them into innovative entrepreneurship in order to gain and sustain economic growth. For now, there are numbers of highly educated students which do not serve any significant purpose on Turkey's economic growth, as it is easily seen in GDP rankings within a four decades' period.



5. FURTHER RESEARCHES

In this research, four countries with different stories are examined in an innovative entrepreneurship view in order to investigate the almost no increase in Turkey's GDP ranking in four decades' time. There are of course some assumptions and limitations while holding this research.

Firstly, GDP rankings over four decades are taken in order to compare the economic growth over time. However, although GDP at market prices is a very common indicator in examining economic growth, there are other major indicators as well. Hence, other indicators such as Foreign Direct Investments, GDP per capita, value added industry shares or Gross National Income may be used as growth indicators. Although, not only rankings but also growth performances may be used in order to see some other aspects as well.

Secondly, this research mainly uses Bloomberg's six innovation criteria as reviewing the cases of correlations between countries' innovativeness and economic growth. However, there are other organizations such as Global Entrepreneurship Monitor, Global Innovation Index or The World Bank that are announcing reports related to entrepreneurship and innovation as well. Therefore, other indicators may be applied and admitted in order to research innovative entrepreneurship across countries in a greater aspect.

Thirdly, this research contains four countries with four different stories in order to compare the things they have done and what Turkey has done and hasn't done in four decades. The number of countries may be increased in order to reach more consistent results or the four decades of research may be increased to obtain a better angle of view, if possible.

In sum, for further researches, other performance indicators for economic growth and innovative entrepreneurship may be chosen to have differing aspects and frameworks.

Moreover, the number of countries compared may have risen in order to widen the sample space with the result of more specific deductions.



6. CONCLUSION

In this research, innovation is defined firstly in order to highlight the importance for individuals, institutions and countries; such as being the key for social welfare, economic growth and the base of competence in each marketplace. However, since innovation is not a tangible thing to measure, there are no consensus in academics and professionals to measure reliably. Nonetheless, Bloomberg measures innovation in six aspects and puts in a framework in order to announce most innovative countries annually.

Just like innovation, even the definition of entrepreneurship is not a topic that has made a consensus. Since Schumpeter's creative destruction definition, each academic adds a new aspect to entrepreneurship with looking from different frameworks and in the end the definition is always maintaining progress. Beside the definition, entrepreneurship gained such importance in years with being a key item for economic balance, growth, pushing effect to innovation and creating a connection between entrepreneurs, institutions and so on.

With being a key for many aspects, innovative entrepreneurship became a standalone topic to research. Since entrepreneurship lies on solving a problem in a new way, innovation is the key solution for this. For entrepreneurs, innovating a new product, service or technology is only the first step of the whole. Innovating is not the only part, there is a whole product life cycle to manage and innovation is needed in every aspect of business. The ultimate point is being a visionary and sustaining innovation with knowing that being a key for economic growth, and destructing if necessary, just like creative destruction defines.

Like the other topics in this research, there is still no consensus for indicating and measuring economic growth exactly. However, most common way to measure and compare countries' performance in a period is calculation the total Gross Domestic Product at market prices, which briefly defines whole value addition made inside a country's borders.

With gathering aforementioned topics, this research focuses on the relation between innovative entrepreneurship and economic growth of countries. This research pinpoints Turkey's situation, which was almost in the same GDP ranking in four decades. To compare Turkey, four different countries are chosen because of their different actions in that period. To be able to study differing aspects, United States is taken as the model student of the world, all time best in GDP rankings, China is chosen because of their toughest increase in the GDP rankings, from 8th to 2nd. South Korea is chosen because of the dramatic rise in their rankings, even after the civil war South Korea makes the jump for 17 ranks in four decades. Lastly, India is taken to compare because of their stability in four decades of time. These five countries are compared in six different innovative entrepreneurship aspects, which are previously defined by Bloomberg.

With the comparisons, firstly it is safe to say that there is a correlation between innovative entrepreneurship and economic growth. South Korea and China are the major indicators of this correlation, with their huge investments and success on at least a few of six indicators. United States case simply shows that they have already done what is needed for innovation in past and they are just sustaining what they have done, like a pure model student. India was not so successful in any of these indicators. Therefore, it is not surprising to see that they have been keeping nearly the same position in four decades of GDP rankings.

Besides the other countries, Turkey has a significant advantage on tertiary education, with an exponential growth in last decade, with reaching the same tier of innovative entrepreneurship leaders like United States and South Korea. However, these students are probably doing very little related with innovative entrepreneurship after graduation. It is very easy to see that Turkey is still taking baby steps and needs to motivate these people in individual, corporate and institutional aspects.

In conclusion, it is super clear that innovative entrepreneurship has a positive impact on economic growth, as it is seen on United States, China and South Korea cases.

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