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(eds.)

Recent Developments in Social Sciences
Business Administration and Finance

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Foreword

This book, *Recent Developments in Social Sciences: Business Administration and Finance*, is the first book in our association's book series. I would like to thank the president of International Association of Social Sciences, Hasan Arslan, for his tremendous support in compiling, editing, publishing the book, Baris Uslu for his great work in the first stages of the manuscript editing, and Mehmet Ulutas for making communication between the authors and the editors.

Mehmet Ali Icbay

The Assessment on Attitudes of the Accountancy Profession Members to Their Liabiles

1. Introduction

One of the problems we face today is miscommunication. This general problem affects almost every area of our lives. It is important in terms of professional sustainability that accounting professional members and liable should strengthen mutual communication and continue their activities.

Liabile attitudes of accounting professional members is also included in the scope of behavioral accounting. Since conventional accounting ignores the aspect of attitude in accounting activities, this shortage is filled with the concept of behavioral accounting at the present time. Consideration of the behavioral characteristics of the human element, making use of psychological and sociological findings helps to obtain more accurate data (Ülkü vd. 2012: 39-45).

There are a total of 97.539 accounting professional members in Turkey according to 2015 data (TÜRMOB). This number is 75.494 in 2008 (Güvemli, 2009:10). An increase of 29,20 % in seven years led to a competition between accounting professional members. However, this case increases the expectations of liable. Accounting professional members are obliged to pay attention to their behavioral attitudes to meet these expectations. Accounting professional members providing customer satisfaction within the legal and ethical boundaries will create a positive image in the public.

In this study, it was intended to determine whether the behavioral attitudes of accounting professional members make any difference on demographic attributes such as gender, age, the way of work, educational background, professional title, work experience, income level and number of liable.

The study consists of four sections. It is prefaced giving general information about the subject in the first section. Subject-related literature study is included in the second section. The purpose, scope, method and findings of the study are included in the third section. The overall evaluation of the study is included in the last section.

2. Literature Search

When the studies performed so far are investigated, it is seen that there are studies regarding the issues such as how accounting professional members are perceived by liable, expectations of liable, customer orientation. For example; it was stated in the study of Yukselen and Suadiye (2001), titled 'Expectations of Liable and Accountants from Each Other: A Research in Hatay Province' that the relation between accounting professional members and liable should be strengthened and the attitudes that accounting professional members should avoid from are included in this study. Usul and Uyar (2012) investigated in the study titled 'Impact of Perceived Service Concept on Selection of Accountants' how liable perceive accounting profession and accordingly, their aspects for accountants.

Akdogan (2005) suggested in his study in which he discussed the relationship between customer satisfaction and ethical in terms of total quality management in the accounting profession that absolute customer satisfaction cannot be provided for each occupational group. In addition, especially professional ethics and rules should come first for accounting professional members. Therefore, liable' satisfaction should be made in terms of the quality of work performed and attribute of the service given.

Yayla, Kirkbir and Cengiz carried out a study in the Eastern Black Sea region in 2007, taking into account the behavioral characteristics of accounting department employees. They concluded in the study that trust and cooperation subdimensions have an impact on firm performance. Only few numbers of studies are available in Turkey on behavioral characteristics of accounting professional members. Dinc et.al concluded as a result of the study titled 'An Empirical Research for Identification of Effect of Behavioral Variables of Accounting Professional Members on Income Level' that there is not any relationship between behavioral characteristics of accounting professional members and their income level'.

It is seen that limited number of study regarding behavioral characteristics of accounting professional members are available in the literature. In this study, it was intended to determine whether behavioral characteristics of accounting professional members have any effect on demographic attributes.

3. Investigation of Characteristics of Liable Attitudes of the Accountancy Profession Members

3.1. Objective, Scope and Method of Study

The purpose of this study is to investigate whether behavioral characteristics of accounting professional members in the province of Corum have any effect on demographic attributes. For this purpose, a questionnaire was conducted for accountancy professional members between the dates March 1 to April 15 2016. The universe of the study consisted of 262 people in total including independent accountants, independent accountant and financial advisors, certified public accountants continuing their activities in Corum. After this period, 178 of 262 accountancy professional members were accessed. However, two questionnaires were excluded from the study due to lack of sufficient data. Therefore, sample size of our study is 176.

The questionnaire consisted of two sections. In the first section, 8 questions regarding (gender, age, educational level, the way of work, professional title, work experience, income level, the number of liable) were asked in order to measure the demographic characteristics of the accounting professional members. In the second section, 14 questions were asked to measure the behavioral characteristics of the accounting professional members by making use of the scale which was used by Dinc, Abdioglu and Buyuksal in their studies (2010). 5 - sectioned likert scale was used for answering the questionnaire. The figures mean as follows; (1) Strongly Agree (2) Agree (3) Indecisive (4) Disagree (5) Strongly Disagree. There is not any loaded question in the scale. There are seven subdimensions for measurement of behavioral characteristics (Table 1). 1st and 2nd statements consist of conflict level; 3th and 4th statements consist of communication level; 5th and 6th statements consist of balanced power level; 7th and 8th statements consist of shared values level; 9th and 10th statements consist of confidence level; 11th and 12th statements consist of cooperation level; 13th and 14th statements consist of efficiency level.

SPSS 18 program was used for the analysis of the data obtained. In addition, Cronbach Alpha, Regression and ANOVA tests were applied. The level of significance was assumed as 0,05 in the analysis.

Table 1. Subdimensions of Behavioral Characteristics

Conflict	It would be angry with liable
	Liable would be situations where not disappoint me
Communication	I spoke sincerely with my liable
	Shall exchange information from time to time with my liable
Balanced Power	I try to be router with my relationship to liable
	I tried to make my relationship with my liable to apply the word
Shared Values	I judge has similar value to the liable
	My thoughts are with my similar liable
Confidence	I believe that the information provided to me by liable
	They think it has the necessary qualifications in vocational my liable
Cooperation	I would be in cooperation to share information with my liable
	I cooperate in solving problems with my liable
Efficiency	Fulfilled my job in the best way
	By providing the liable would contribute greatly to the accounting information related to their commercial activities

3.2. Study Findings

The demographic attributes of the accountancy professional members who participated in the study have been given in Table 2.

Table 2. Demographic Attributes

Demographic Attributes		Frequency	Percent (%)
Gender	Female	17	9,7
	Male	159	90,3
Age	20-29	4	2,3
	30-39	48	27,3
	40-49	76	43,2
	50-59	41	23,3
	60 and above	7	4,0
Educational Level	High School	40	22,7
	Associate Degree	13	7,4
	University	114	64,8
	Graduate- Post graduate	9	5,1
Mode of Operation	Independent	171	97,2
	Employer	5	2,8
Professional Title	CGA	14	8,0
	CPA	160	90,9
	s-ICPA	2	1,1
	1-5 Years	11	6,3
Professional Experience	6-10 Years	19	10,8
	11-15 Years	39	22,2
	16-20 Years	47	26,7
	21 Years and above	60	34,1
Monthly Income Level	2000TL and below	14	8,0
	2001-4000 TL	58	33,0
	4001-6000 TL	66	37,5
	6001TL and above	38	21,6
Number of Liable	1-25	33	18,8
	26-50	84	47,7
	51-100	55	31,3
	101 and above	4	2,3

When Table 2 is investigated, some values for accountancy professional members stand out. 90.3% of accountancy professional members participated in the study are males; 9,7% of those are females. Regarding their age distribution; age of 43,2% of participants majorly range between 40-49 years; age of 2,3% of participants range between 20-29 years showing the lowest density. Regarding their educational levels; 64,8% of participants have bachelor's degree, 22,7% of them are high-school graduate. While 171 accountancy professional members independently continued to their activities, 5 people stated being ridden on an employee. 2 of 5 ICPAs in Corum were accessed and 90.9% of accountancy professional members participated in the study consisted of CPAs. Regarding their work experience; a small ratio as 6.3% of participants are inexperienced, remaining 93.4% of

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participants are experienced accounting professional members. Regarding their monthly income levels; the income of 8% of participants is less than or equal to 2000 TL, that of 33 % of participants is between 2001-4000 TL, that of 37,5 % of participants is between 4001-6000 TL and that of 21,6 % of participants is more than 6001 TL. Regarding liable number of participants; taxpayer number of 47.7% of participants ranges between 26-50, that of 31,3% of those ranges between 51-100, that of 18,8 % of those ranges between 1-25, that of 2,3 % of those is greater than or equal to 101.

Cronbach Alpha test was applied in order to measure the reliability of the questionnaire. The analysis results have been given in Table 3.

Table 3. Reliability Analysis Results

Variables	Number of Questions	Survey Expression Number	Alfa Coefficient
Conflict	2	1-2	0,660
Communication	2	3-4	0,676
Balanced Power	2	5-6	0,731
Shared Values	2	7-8	0,745
Confidence	2	9-10	0,640
Cooperation	2	11-12	0,878
Efficiency	2	13-14	0,683
Total	14		0,833

The reliability analysis results were evaluated in 8 different levels including 7 separate sub dimensions and general total. The lowest level of confidence was assumed as 0,640, the highest level of confidence was assumed as 0,878. The overall confidence level is 0.833. Kalaycı (2008) stated that if alpha value ranges between 0,40-0,60 it will be low reliable; if it ranges between 0,60-0,80 it will be reliable, if it is above 0,80, it will be highly reliable in the social sciences. Therefore, the level of cooperation was calculated as extremely reliable, the other dimensions were calculated as quite reliable.

It was investigated in Table 4 whether behaviors of accountancy professional members differ depending on gender variable.

Table 4. Behavioral Characteristics Depending on Gender Variable

	Beta	t	Sig.	R	R²	Std. Error
Constant		18,892	,000			
Conflict	-,127	-1,626	,106			
Communication	-,198	-1,815	,071			
Balanced Power	,038	,350	,727			
Shared Values	,079	,914	,362			
Confidence	-,136	-1,315	,190			
Cooperation	,105	,985	,326			
Efficiency	,194	1,622	,107			
				0,213	0,045	0,29540

As a result of the analysis, any significant difference wasn't determined between subdimensions of behavioral characteristics depending on gender variable.

The impact of behavioral characteristics on age variable has been indicated in Table 5.

Table 5. Behavioral Characteristics Depending on Age Variable

	Beta	t	Sig.	R	R²	Std. Error
Constant		9,872	,000			
Conflict	-,022	-,275	,783			
Communication	-,011	-,100	,920			
Balanced Power	,048	,430	,667			
Shared Values	-,016	-,175	,861			
Confidence	,037	,350	,727			
Cooperation	-,073	-,675	,501			
Efficiency	-,020	-,165	,869			
				0,074	0,005	0,88731

As a result of the analysis performed considering age variable, any significant difference wasn't determined as well. In other words, it was concluded that behavior patterns of accountancy professional members aren't effective on age variable.

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It is shown in Table 6 whether accountancy professional members work independently or riding on an employee creates any effect on their behavioral characteristics.

Table 6. The Effect of Way of Work on Behavioral Characteristics

	Beta	t	Sig.	R	R²	Std. Error
Constant		9,290	,000			
Conflict	-,045	-,565	,573			
Communication	,004	,036	,971			
Balanced Power	,021	,189	,851			
Shared Values	,113	1,293	,198			
Confidence	-,155	-1,481	,141			
Cooperation	-,013	-,120	,905			
Efficiency	,038	,314	,754			
				0,150	0,22	0,33625

Whether accountancy professional members work independently or riding on an employee doesn't create any effect on their behavioral characteristics.

How educational background affects behavioral characteristics was investigated in Table 7.

Table 7. Behavioral Characteristics Depending On Educational Background Variable

	Beta	t	Sig.	R	R²	Std. Error
Constant			,000			
Conflict	,039	,358	,721			
Communication	,000	,003	,998			
Balanced Power	-,102	-,913	,363			
Shared Values	,047	,566	,572			
Confidence	-,045	-,418	,677			
Cooperation	,071	,555	,580			
Efficiency	-,062	-,485	,628			
				0,143	0,20	0,90965

As a result of the study, it was determined that educational background doesn't have any effect on behavioral characteristics.

Data regarding professional experience and behavioral characteristics have been given in Table 8.

Table 8. Behavioral Characteristics Depending On Professional Experience Variable

	Beta	t	Sig.	R	R²	Std. Error
Constant		8,346	,000			
Conflict	,025	,315	,753			
Communication	-,106	-,963	,337			
Balanced Power	,016	,145	,885			
Shared Values	-,051	-,587	,558			
Confidence	,211	2,033	,044			
Cooperation	-,101	-,942	,348			
Efficiency	-,010	-,082	,935			
				0,186	0,35	1,22180

When the data contained in Table 8 are examined, it is concluded that fiduciary behaviors of accountancy professional members are associated with their professional experiences (0,044). Moreover, when regression analysis results are examined, it is seen that there is a poor relation between liable attitudes of accountancy professional members and their professional experiences (0,186) and 35% of variations regarding professional experiences can be explained with independent variables (Köse).

It is shown in Table 9 whether professional titles of accountancy professional members have any effect on their behavioral characteristics.

Table 9. Behavioral Characteristics Depending On Professional Titles Variable

	Beta	t	Sig.	R	R²	Std. Error
Constant		18,388	,000			
Conflict	,074	,950	,344			
Communication	-,067	-,619	,537			
Balanced Power	,122	1,115	,267			
Shared Values	-,002	-,018	,986			
Confidence	,195	1,899	,049			

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Cooperation	-,136	-1,280	,202			
Efficiency	-,204	-1,724	,087			
				0,239	0,57	0,29187

When Table 9 is examined, it is concluded that fiduciary behaviors of accountancy professional members are associated with their professional titles (0,049). When regression analysis results are examined, it is seen that there is a poor relation between liable attitudes of accountancy professional members and their professional titles (0,239). 57% of this poor relation is explained with independent variables regarding professional titles.

As a result of comparison of income levels of accountancy professional members with their behavioral characteristics, the data given in Table 10 has been obtained.

Table 10. Behavioral Characteristics Depending On Income Level Variable

	Beta	t	Sig.	R	R²	Std. Error
Constant		8,397	,000			
Conflict	,065	,830	,408			
Communication	,088	,804	,422			
Balanced Power	-,026	-,239	,811			
Shared Values	-,002	-,028	,977			
Confidence	,006	,057	,955			
Cooperation	,149	1,390	,166			
Efficiency	-,241	-2,015	,046			
				0,205	0,42	0,88992

When subdimensions of behavioral characteristics given in Table are 10 examined, it is seen that income levels of accountancy professional members have significantly effective on their behavioral characteristics in a positive way (0,046). When regression analysis results are examined, it is seen that there is a poor relation between liable attitudes of accountancy professional members and their income levels and 42 % of this poor relation can be explained with independent variables (0,205).

The taxpayer numbers and behavioral characteristics of accountancy professional members were analyzed. The analysis results are given in Table 11.

Table 11: Behavioral Characteristics Depending On Liable Number Variable

	Beta	t	Sig.	R	R²	Std. Error
Constant		7,622	,000			
Conflict	-,023	-,284	,777			
Communication	-,022	-,201	,841			
Balanced Power	-,022	-,197	,844			
Shared Values	,019	,218	,828			
Confidence	,036	,346	,730			
Cooperation	,009	,081	,936			
Efficiency	,054	,442	,659			
				0,074	0,006	0,76509

When Table 11 is examined, it is seen that there is not a significant relation between taxpayer number variable and behavioral characteristics of the accounting professional members.

4. Conclusion

It was investigated in our study whether there is any relationship between liable behavioral characteristics and demographic attributes of accountancy professional members continuing their activities in Corum province. As a result of analysis, any relationship between those including gender, age, and type of work, educational background, taxpayer numbers and behavioral characteristics of accountancy professional members wasn't determined. A significant difference was identified in professional experience and professional title variables. But, this significant difference was identified in confidence level which is one of the subdimensions of behavioral characteristics. In other words, it is concluded that fiduciary behaviors of accountancy professional members are effective on their professional experiences and professional titles. Besides, when income levels of accountancy professional members are considered, a significant difference emerged in the subdimension of effectiveness. Effectiveness- oriented behaviors of accountancy professional members have been effective on their income levels.

When information obtained is examined, it is seen that there is a relationship between efforts of accountancy professional members for gaining confidence of their liable and their professional experience and professional titles. In other words, with increase of professional experiences, accountancy professional members pay more attention to their behaviors to gain or not lose confidence of their liable. A similar relationship with this result was obtained

between professional title and confidence level. Accountancy professional members make efforts to gain confidence of their liable in parallel with their professional titles. When accountancy professional members fulfill their activities effectively, it leads to their income to increase. That's may be the reason for that liable expect accountancy professional members to performs their jobs completely.

Considering the human relations, several factors such as mutual trust, cooperation, value sharing, communication stand out. Besides, these factors constituting subdimensions of our study should be considered in all occupational groups. Therefore, similar studies are commonly seen in the literature.

Increasingly standing out of promotional activities such as customer-oriented management, personal marketing strategies, customer satisfaction, customer loyalty, behavioral accounting suggest that behavioral characteristics will become more important in future as well. In order that accountancy professional members can win this race, they should ensure customer satisfactions, being aware of their liable' expectations. However, this should never mean absolute customer satisfaction.

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The Views Of Members Of Profession About E-Unity System Software To TÜRMOB On Preventing Unfair Competition, And An Evaluation On Akhism Philosophy

1. Introduction

Competition is described as rivalry, competing between two individuals aiming the same target (www.tdk.gov.tr, 2015). Competition exists almost all sectors. One of the sectors, competing happens intensively is accounting sector. Accountants say that unfair competition is to violate the moral rules and do the profession contrary to the rules determined by law.

Thanks to the E-Unify software, prepared and put into system by TÜRMOB (Union Of Chambers Of Certified Public Accountants Turkey), all the process is aimed to put into the electronic system. And thus, it is aimed to do the works easier, faster, more economic and fair by getting away from the heavy bureaucracy and the slowly-running-system, and additionally aimed to spreading across the country.

The innovations related to unfair competition, tried to do these days were also done in the past. The unfair competition is overcome with the help of professional ethics of Culture of Akhism emerged in Anatolia in the 13th century. Culture of Akhism using Islamic ethics as a source, thought working, praying and honesty as a whole and represented both Islamic ethics and professional ethics ideally.

In this study, a questionnaire has been done upon members of the profession related to E-unity software. And a variety of suggestion has been presented by being associated results with the Culture of Akhism.

2. Unfair Competition

Owing to the fact that competition is made as violating the ethics and against the rules determined by the law, the unfair competition issue emerges. Unfair competition is described as behaviours or professional practices misleading or in another way being against honesty codes, effecting members of the profession's relationships with each other and employers. (www.istanbulymmmo.org, 2016).

Accounting has been getting more and more stressful and tiresome profession because of some reasons like developing of economy, the structure of companies becoming more complicated, rapid changes in the regulation, rapid increase in the number of member of the profession and thus emerging unfair competition related with wages, the increase in expectations of taxpayers (Aydemir, 2015). The increasing complexity of business makes companies raise the issue of protecting against various types of unfair competition (Baluta, 2012).

In Turkey, the rules supposed to be obeyed while doing accounting profession, are stated with the law. As for some unstated issues, they are carried with Compulsory Profession Decisions prepared by TÜRMOB (Karabınar and Çelik, 2014).

3. Unfair Competition And The Struggle With Unfair Competition E-Unity Software Program

With the aim of preventing the unfair competition among members of profession, The Struggle with Unfair Competition E-Unity Software Program usable by members of profession, has been produced with the cooperation between TÜRMOB and TÜRHAİ (Turkey Struggle With Unfair Competition Council). Firstly, this software was put into practice in Zonguldak, pilot province, and after determined as successful, it is decided to be extended and applied across the country.

3.1.The Quality And Aim Of The E-Unity Program

It is based on regulating and composing the service contracts between taxpayer and members of profession in electronic media, composing contract data on the table of preparing contract and counting wage.

With the regulation and supervision, it is aimed to regulate the relationship between members of profession and their associations, colleagues and clients (taxpayer), and to prevent to compose the situations which will be able to cause unfair competition. (TÜRHAİ, 2012)

3.2.TÜRMOB E-Unity Software And Application

E-Unity is a software created by TÜRMOB's own staffs and with the help of its own facility. Thanks to E-Unity software, the processes done by members of the profession before on paper have transferred to electronic area. Thus, the process of contract access, contract confirmation and cancellation of contract, are done easily with the help of this program.

E-Unity software is allowed on the condition that the contract done with custom exists over the minimum wage. Thus, if a member of a profession earns unfair income on the market with low wage and discount, he/ she will be prevented to do business.

Necessary data and controls related to members of the profession are kept in E-Unity data base and followed. Thanks to the software, it is predicted that the quality of the service will increase and unfair competition will decrease. Additionally, employing verbally is prevented and written service contract is forced to make as legally. The system gives approval to employment on the condition subsistence wage or above subsistence wage. Thus, the members of the profession, deriving an improper personal benefit with low wage or shading the price in the market, will be prevented to do business. The members of profession tries, in someway, to guarantee the wage they will get in exchange for the service they do to their clients. Because even if a client, having debt to their employee and not paying it, goes to another members of the profession, the system does not allow this, however, acceptance of work will come true only after transfer approval is taken from the client's previous accountant. "The Proceeds Problem" the greatest problem of members of the profession and showed as the bleeding wound of the profession, has been tried to be find solution like that. In order to prevent the unfair competition, new regulations has been brought for apprentices and dependent members of the profession working in office. According to this, apprentices or

dependent members of the profession working in office, are prevented to contract with the clients in the office unless it passes two years. However, if the member of the profession gives written approval, then she/ he will possibly work. This program will also be thought to provide great contribution to prevent the illegality in the profession.

4. Akhism, Unfair Competition And Professional Codes Of Ethics

Akhism is an organization providing the public to be well-educated in the field of art and profession, growing them in terms of morality, and based on good individual in the work life (Sancaklı, 2010).

Akhism Organization is an institution based firstly on moral principals, beside it has professional codes of ethics. According to Akhism philosophy, the success of a worker ignoring the moral values, was ignored and discarded. Because according to Akhism, if there is morality somewhere, there will be brotherhood, equality, freedom, love and justice (Durak and Yücel, 2010).

In addition, Hz. Muhammad says: “The best all of you is the one whose morality is the best”. It is a dramatic reality that the ethics rules in these days was already used by Akhism in Anatolia in the 13th century (Cıranoglu, 2015).

Unfair competition issue in Akhism Organization lasting 600 years, overcame with the help of professional codes of ethics. In Akhism work sharing has not only economical but also moral characteristic. In Akhism as cooperation and solidarism is a must, the precautions preventing unfair competition and income are taken (Tatlilioğlu, 2013).

5. A Research For The Evaluation Of Members Of Profession About E-Unity Software To TÜRMOB On Preventing Unfair Competition

5.1.The Aim Of The Research

The aim of the research is to determine what degree the members of professions in Kütahya is pleasant with E-Unity applications and determine whether this system is an effective mean to prevent unfair competition or not. Another aim of the study is to bring light to important innovations and attempt related to E-Unity applications, and to make suggestion related to Akhism.

5.2.Restrictions Of The Research

The research has been done to the members of the profession in Kütahya, Turkey. Therefore, the research serves as a model for other provinces.

The research has been done by being considered the independent members of profession. The accountants working dependent or having title but not working, are excluded. In the consequence of the interview with Kütahya profession association, the knowledge of totally 187 members of the profession is working independently for the year 2015, has been reached. In order to sample at the reliability degree of % 95, 126 members of the profession need to be interviewed. In the result of the research, 132 members of the profession have been

made the questionnaire filled both in education seminars as proccessionally and in offices as face to face.

The year 2015 has been chosen as working year. The reason of this, the program was started to be used in 2015.

In order to analyze the result of the research, SPSS 15.0 program is used.

5.3.The method of research

A questionnaire has been done by considering the views and advices of the members of the profession.

In order to test construct validity of the questionnaire, factor analysis is done. In the result of factor analysis, two factors provided the reliability are determined. Ten questions are determined in the questionnaire with five point likert scale, composing 21 questions, and the reliability of these questions and the level of explaining degree of the questions, are given in the Table 1.

After the analysis of reliability, the frequency analysis explaining the demographic feature of the members joining the questionnaire, was done, and the average and standard deviation of the answers are explained. Additionally, gap analysis was done in order to evaluate if there is a meaningful relationship between the questions and demographic features, however, any meaningful result was achieved.

5.4.Findings

In the result of the factor analysis made to the questionnaire prepared by taking the members of the profession's opinion, two meaningful factors have been determined, and the reliability analysis of these two factors are, orderly, about %76 and %71. These results are over the expected level of reliability (Cronbach' Alpha>0,70).After determined these factor's reliability, the most appropriate factor name has been given to the factor by looking at the questions of the factor. According to this it is said to factor one: "The perception level of unfair competition", and factor two: "the level of satisfaction" (see Table 1).

Table 1. The Result Of Factor And Reliability Analysis Of The E-Unity Questionnaire

Factor Name	Questions	The Weight Of Factors	The Explanatory of Factors (%)	Reliability (Cronbach's Alpha)
Factor 1 (The Perception Level Of Unfair competition)	Thanks to E-Unity application, it is useful for our profession to prevent accepting of work without making contract.	0,775	29,785	0,761
	The usage of E-Unity application should be continued as free of charge.	0,770		
	Being checked and supervised the convenience of Professional contract in E-Unity application by the trade associations, gives me safety.	0,624		
	There are advantages of E-Unity application from various aspects.	0,611		
	Thanks to E-Unity application, it is useful for developing of the profession to inform the wage and the cause of quitting job of the previous member of the profession.	0,533		
	I think, with E-Unity application, lack of communication and information between member of profession and trade association have been decreased.	0,705		
Factor 2 (E-Unity Satisfaction Level)	I am very pleased current running of E-Unity application.	0,618	22,184	0,708
	Thanks to E-Unity application I have begun to make collections from people whom I cannot take money.	0,596		
	E-Unity application has provided professional improvements.	0,576		

Thanks to E-Unity application we 0,563
have organized our contracts on
electronic area thus it has made our
profession easier.

The Explanatory Factor of Total (%)	51,969
The Validity of The Scale To Kaiser Meyer Olkin	0,824
Bartlett Sphericity Test	Chi-Square
	434,198
	sd
	45
	Sig.
	0,000

94 men and 38 women, so totally 132 members of profession join the questionnaire. When looked at the range of the members of the profession, it is seen that 5 members of the profession are public accountant, 125 members of the profession are independent accountant and financial advisor, and 2 members are certified public accountant (see Table 2).x

Table 2. The Demographic Feature Of The Members Joining The Questionnaire

Title	Gender Distrubition		The Level of the Education				
	Women	Man	High School	Associate Degree	Bachelor's Degree	Master's Degree	Phd.
Public Accountant	2	5	1	0	6	0	0
Independent Accountant and Financial Advisor	36	87	9	4	97	12	0
Certified Public Accountant	0	2	0	0	3	0	0
Total	38	94	10	4	106	12	0

Table 2. (Continuing) The Demographic Feature Of The Members Joining The Questionnaire

The Working Time						
Title	1-5 year	6-10 year	11-15 year	16-20 year	21 year and over	Total
Public Accountant	2	0	2	1	2	7
Independent Accountant and Financial Advisor	26	29	28	14	26	123
Certified Public Accountant	0	0	0	0	2	2
Total	28	29	30	15	30	132

When looked at the level of the education of the people joining to the questionnaire, it is concluded that the great majority of the people joining to the questionnaire is bachelor's degree from university (106 persons), then master's Degree (12), then high-school (10), and then 4 persons two-year-degree (associate degree). As for a member of the profession graduated from doctorate education, it has not been encountered. It is seen that the great majority of members of the profession graduated from high school is the ages of 50 and over, then the great majority of members of the profession graduated from master's degree is the age between 25 and 29, following them members of the profession between the ages of 35 and 39. Among the participants, there is no master's degree in the members of the profession being the ages of 50 and over. When looked at the working time of the members of the profession participated to the questionnaire, it is determined that the members of the profession working 21 years and over, encourage a little more participation

After demographic feature, when looked at the answers the members of the profession joining the questionnaire give, it is seen that the average is close to good (see Table 3).

After demographic feature, when looked at the answers the members of the profession joining the questionnaire give, it is seen that the average is close to good. It is seen that the question having the highest average is, "Thanks to E-Unity application, it is useful for developing of the profession to inform the wage and the cause of quitting job of the previous member of the profession". "It is determined, members of the profession is also pleased from this system being the most important factor of the unfair competition and planned to decrease the wage competition to minimum degree". One of the innovations of the E-Unity application is that member of the profession must confirm from the system as "no debt" in order taxpayer to be able to leave the member of the profession with any reason. Therefore, it is not a subject for member of the profession to make another accountant keep the accounts without confirming from the system. The informing the cause of leaving clearly is higher share than the pleasant degree of member of profession. With the expression "The usage of E-Unity

application should be continued as free of charge.” has high average, it is understood that the members of the profession has wanted to continue the system they have still used as freely, as free of charge.

Generally, when observed the questions in factor 1, it can be concluded that the averages are near to 4 and also the ones giving answer to the questions accept the questions. (It expresses: 1= I certainly don't accept, 2= I don't accept, 3= I'm indecisive. 4= I accept, 5= I certainly accept)

Table 3. The rates of the average and the Standard Deviation of the Questionnaire Questions

Factor Name	Questions	Average	Standard Deviation
Factor 1 (Unfair Competition Perception Level)	Thanks to E-Unity application, it is useful for our profession to prevent accepting of work without making contract.	4,08	1,14
	The usage of E-Unity application should be continued as free of charge.	4,55	1,06
	Being checked and supervised the convenience of Professional contract in E-Unity application by the trade associations, gives me safety.	3,80	1,28
	There are advantages of E-Unity application from various aspects.	3,60	1,33
	Thanks to E-Unity application, it is useful for developing of the profession to inform the wage and the cause of quitting job of the previous member of the profession.	4,80	1,16
	I think, with E-Unity application, lack of communication and information between member of profession and trade association have been decreased.	3,22	1,43
Factor 2 (E-Unity Satisfaction Level)	I am very pleased current running of E-Unity application.	3,38	1,25
	Thanks to E-Unity application I have begun to make collections from people whom I cannot take money.	2,50	1,35
	E-Unity application has provided professional improvements.	3,46	1,26
	Thanks to E-Unity application we have organised our contracts on electronic area thus it has made our profession easier.	3,89	1,35

The questions of the factor 2 is more the questions expressing the satisfaction level of the system. The question, “Thanks to E-Unity application we have organized our contracts on

electronic area thus it has made our profession easier.” has the highest average. It can be concluded from this expression that members of the profession has felt relieved unnecessary work-load.

6. Conclusion

E-Unity Software is a system made firstly in Turkey to prevent to the unfair competition. This Study is unique and server as a model for other studies as it is the first study done related to E-Unity Software.

The average of the question, “Thanks to E-Unity application I have begun to make collections from people whom I cannot take money.” is low. Because most of the members of the profession have expressed that the collection could not be provided.

As understood from the results, E-Unity system could not bring an exact solution to the result of the collection. As for Akhism unities, during 600 years, they overcame the concept of unfair competition with the help of professional ethics. Therefore, it is necessary to turn our ethics to a steady system by keeping the culture of Akhism alive. As long as we do not improve the person doing unfair competition, the result will not change in the systems presented. Therefore, while making arrangements related to both business world and social life, benefited from Akhism principals and rules, and put it to the school curriculum will contribute greatly in terms of growing qualified person and society.

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Forecasting Financial Distress by Using Financial Ratios: An Application on the Publicly Traded Companies of Non-Metallic Mineral Products Sector in Borsa Istanbul

1. Introduction

Financial distress could be defined as a condition in which enterprises fail to fulfil their financial obligations. Hence, financial distress adversely affects the sustainability of the subsequent activities of firms, which leads to their failure (Terzi, 2011). Financial distress in firms is various. One initial example is losing liquidity, which could end up as a permanent financial failure and depreciation of financial position. Some of the reasons of financial distress can be listed as follows (Berk, 2002):

- Over-indebtedness at a high cost,
- The persistent decrease in turnover,
- Insufficient management and strategies due to administrative gap,
- Over investment in non-current assets and the loss of elasticity,
- Change in economical and environmental conditions,
- Lack of demand and excessive increase in costs.

Geng et al., (2015) describe the term financial distress as a broad concept which includes the various stages of financial distress a firm faces. The literature discusses these faces from various perspectives ranging from the accrued liabilities to the failure stage. The literature review also unearths that financial ratios are used in predicting financial distress. Within this framework, this article has four segments: introduction, literature review, applicable findings and conclusion.

In the literature, there is a significant number of statistical methods used in predicting the financial distress. Basically, these methods are discriminant analysis (Beaver, 1966; Altman, 1968; Deakin, 1972; Blum, 1974; Altman et al., 1977; Terzi, 2011), Merton model (Merton, 1974; Vassalou & Xing 2004), Logit model (Martin, 1977; Ohlson, 1980; Gentry, 1985), Probit model (Zmijewski, 1984) and mixed-effect logit model (Alfo et al., 2005). In addition to the above mentioned methods, the literature cites some other studies which utilize methods such as decision trees data mining (Frydman, Altman & Kao, 1985; Terzi, Kıymetli Şen & Üçoğlu, 2012; Kim & Upneja, 2014), artificial neural networks (Atiya, 2001; Terzi, Kıymetli Şen & Üçoğlu, 2012), support vector machines (Hua et al., 2007), which all are derived from data mining (Shirita, 1998; Geng et al., 2015); regression trees and classification models (Ekşi, 2001) and genetic algorithms (Zhou et al., 2015). Likewise, there are also other studies used mixed models (Aktaş et al., 2003; Liou, 2008; Chung, 2008; Yang et al., 2009; Muzır & Çağlar, 2009; Tinoco & Wilson, 2013).

In their study, Aziz & Humayon (2006) reviewed the techniques in the literature used to predict financial distress. In their research, they studied the prediction techniques by categorizing them under three titles: (i) Statistical techniques, (ii) Artificial intelligence and specialized systems, (iii) Theoretical models.

With respect to the results of their study, 64% of the previous studies on predicting the financial distress used statistical techniques, 25% of them utilized artificial intelligence and specialized systems, and 11% used theoretical models. In their study, the researchers found the accuracy rates of the prediction models to be ranging between 84% and 88%. Table 1 provides a number of studies from the literature that were carried out by using discriminant analysis and logistic regression.

Table 1. Studies using discriminant analysis and logistic regression techniques in predicting financial distress

RESEARCHERS	RESEARCH TECHNIQUE	FINDINGS
Altman (1968)	Mixed discriminant analysis (Z model)	First, 22 financial ratios were identified but, following the statistical analysis, the number of variables to be used in the model was reduced to 5. The model was named Z model. The correct prediction percentages of the study in classifying the firms one year and two years prior to failure were 95% and 72%, respectively.
Altaş & Giray (2005)	Factor analysis and logistic regression analysis	The data from the ISE listed companies operating in the textile sector were used. First, through the financial statement of those companies from the year 2001, the financial ratios were determined. Then, the companies were identified as either failing or non-failing by analyzing their profit and loss conditions. The correct prediction rate of the classification was found to be 74%.
İçerli & Akkaya (2006)	Z Test	After the related analyses, no difference was cited between the failing and non-failing firms in terms of profitability. Besides, it was stated that the differences between the failing and non-failing firms were found to be slight and limited, that the non-failing firms would fail quickly if they lacked a sound management, and that, the failing firms could attain financial success by dint of a more effective management, unless bankruptcy was filed legally.
Gepp & Kumar (2008)	Cox, discriminant analysis and	In the study, the manufacturing and retail trading firms listed both in For the three techniques used in the study, the proportion of the correct

Forecasting Financial Distress by Using Financial Ratios

	logistic regression analysis	AMEX and NYSE were selected as a sample. In the analysis, 27 financial ratios obtained from the financial statements of those firms were used.	classification for the first year was found to be 96%.
Salehi & Abedini (2009)	Multiple regression analysis	In their study, the influence of financial ratios in determining the financial distress risk of the firms listed in Tehran Stock Exchange was analyzed.	77% of the firms were correctly classified by the model.
Sori & Jalil (2009)	Discriminant analysis	They developed a model to determine financial distress risks for Singaporean enterprises. In the study, 64 financial ratios were used.	The percentage of the correct classification of the created model was calculated to be 80%.
Yap et al., (2010)	Multiple discriminant analysis	They developed a model to determine the financial distress risks of the companies in Malaysia. For that reason, they selected 16 financial ratios.	In total, seven variables were identified for discriminant factor analysis. The correct classification ratios of the created model for each period of five consecutive years were calculated between 88% and 94%.
Yüzbaşıoğlu et al., (2011)	Factor analysis and logistic regression analysis	In their study to designate the financial distress risk of the firms trading in ISE, the researchers developed a model in which 22 financial ratios were specified as variables.	The study revealed that liquidity and asset management ratios played an essential role in determining financial distress. This study concluded that the explanatory power of 8 factors for the year researched and 7 factors for the second period was 85%.
Terzi (2011)	Altman Z-score, single and multiple discriminant analysis	In the study, it was aimed to create a straight model to identify financial distress risks of the firms listing in ISE food sector. First, in order to examine the financial performances of the firms, 19 financial ratios were identified and, then, following the results of single and multiple	90,9% of the firms were classified correctly by the model.

		analyses, 6 ratios were defined to refer in the study.	
Özdemir et al., (2012)	Altman Z-score (discriminant), logistic regression	The study aimed to find out whether financial information presented according to the IFSR set provides more satisfying data.	In the study, it was concluded that the predictions made by the way of book value based financial distress assessment were relatively better. Through the instrument of Z-score, the proportion of the overall consistent classification was found to be 83,1% . This proportion was cited to be 84,6% after the logistic regression.
Shaher et al., (2012)	Multiple discriminant analysis	With the data from 20 firms listed in Amman Stock Exchange, Jordan, between the years 2001 and 2008, 18 financial ratios were used as a base to analyse the financial distress of those firms.	Especially six of those ratios, namely total liabilities/total assets ratio, liability/equity ratio, cash conversion period, net working capital, interest coverage ratio and receivables turnover rate, were cited to be significant in predicting the financial distress. The proportion of the model in correct prediction was calculated as 95%.
Zeytinoğlu & Akarım (2013)	Discriminant analysis	In their research, the financial ratios of 115 firms form different sectors listed in Istanbul Stock Exchange between the years 2009 and 2011 were exploited.	The correct classification proportions of the models used in the study were cited as 88,7%, 90,4% and 92.2%, respectively.
Yu & Zhaoa (2014)	Z-score	In the study, the researchers tried to predict the financial distress of 31 enterprises in Jilin Province.	They calculated the ratio of the model in making correct classifications as 85%.
Ural et al., (2015)	Logistic regression	In the study, for the period 2005- 2008, the data obtained from the firms offering services in food, alcoholic beverages and tobacco sectors were used.	The percentage of correct classification of the model for one year prior to failure was 91%. It was, again, 91% for two years prior to failure and 74,5% for three years prior to failure.

2. Method

In this section of the paper, first the objective of the research, the research method, the sampling procedure and the variables are given and, then, the findings and results respecting the study are presented. The objective of the research is to present a reliable model to predict the financial distress of the firms from the Non-metal Mineral Products Sector publicly traded in Istanbul Stock Exchange.

For the purpose of sampling, the observations from 25 firms which are continuously operating in Non-metal Mineral Products Sector Index and listed in Istanbul Stock Exchange were included. The liquidity, activities, financial structure and return ratios obtained via the financial statements of those firms for the periods 2009-2014, which were also used in previous studies, were calculated to predict their financial performances. Prediction of the financial performance of the firms taken into the scope of this study has been based on the criteria given below (Deakin, 1972; Sori & Jalil 2009; Terzi, Kıymetli Şen & Üçoğlu, 2012; Özdemir, Choi & Bayazıtlı, 2012; Terzi & Terzi, 2015).

- Negative cash flow,
- Negative equity,
- Net loss,
- Negative working capital.

In this study, the firms were deemed to be failed in the event of displaying at least one of the criteria cited above. In total, 150 observations concerning the 25 companies being investigated were included in the analysis process of the study. 111 of the observations included in the study were classified as predicted to be financially non-failing and 39 of them to be financially failing. The financial ratios used as variables and their explanations are given in Table 2 below.

Table 2. The financial ratios used in the study and their explanations

Liquidity ratios	Abbreviations	Explanations
Current Ratio	CR	It explicates whether immediate liabilities are covered by means of working assets.
Acit-Test Ratio	ATR	It indicates the ability of liquid assets to cover immediate liabilities, after extracting the illiquid assets from the working assets.
Cash Ratio	CAR	It shows how much current cash of a firm can cover current liabilities.
Operating ratios		
Accounts Receivable Turnover Ratio	ARTR	It indicates how many times receivables are transferred in a year.
Inventory Turnover	IT	It shows how many times inventories are transferred over a year.
Cash Flow from Operations to Total Assets Ratio	CAFO	It represents the effect of cash flow from operations on the assets.
Financial structure ratios		
Investment Ratio	IR	It means whether fixed assets are financed with permanent capital.
Dept Ratio	DR	It marks what percentage of assets is financed by dept.
Loan Coefficient	LC	It shows the proportion of liabilities over equities
Net Working Capital to Total Assets Ratio	NEWC	It represents the percentage of net working capital within total assets.
Return ratios		
Return on Sales	ROS	It indicates the effect of sales on returns.
Return on Assets	ROA	It represents the effect of assets on returns.
Return on Equity	ROE	It shows the effect of equity on returns.
Control variables		
Size of the Company (Natural Logarithm of Total Assets)	NLTA	It shows the natural logarithm of the total amount of both current and fixed assets.
Natural Logarithm of Sales Revenue	NLSR	It displays the natural logarithm of return inwards in income statement.

This study used discriminant analysis. Discriminant analysis is a type of multivariable analysis which, after the hypothesis claiming that there is not any difference among the groups (H_0) is rejected, attempts to exert that there is a difference among the groups and, then, try to explain the reasons beneath this difference. In this analysis, it is vital to attain two basic goals: descriptive and decision analysis (Ünsal, 2000):

- Determining the discriminant functions and, in accordance with these functions, selecting the most influential variable in intergroup discrimination. (Descriptive analysis),
- Placing a unit from an unknown group into an identified group. (Decision analysis)

First of all, it was investigated whether there was multicollinearity among the data obtained. For that reason, a correlation analysis was carried out and 5 variables (ATR, LC, NEWC, ROE, NLSR), which had correlation ratios over 90% (Tabachnick & Fidell 2007; Hair et al., 2010), were excluded from the analysis. The remainder of the variables were included in the discriminant analysis, in which stepwise refinement model was followed. In this model, only the variables that significantly reduce the Wilks' lambda score are taken into the model.

3. Findings

In order to assess the power of the model, Wilks' lambda score and Chi-Square values were used. The values that were obtained from the performed analysis are as follows:

Table 3. The discriminative power of the discriminant analysis

Wilks' Lambda	Chi-Square	Df	Significance Level
,672	57,959	4	,000

The model that was designed based on the values given in the table above can be said to have a high level of discriminative power. The analysis, which was performed according to the stepwise method, was conducted in four steps. In each step, the variables CAFO, ROS, CAR and NLTA were respectively included in the analysis.

Table 4. The variables included in the analysis after stepwise method

Steps	Variables	Wilks' Lambda			
		Exact F			
		Statistics	df1	df2	Significance Level
1	CAFO	48,149	1	148,000	,000
2	ROS	29,172	2	147,000	,000
3	CAR	21,324	3	146,000	,000
4	NLTA	17,666	4	145,000	,000

It reveals the fact that the variables given in the table above can be used in predicting the financial performance of the firms operating in Non-metal Mineral Products Sector. Besides, through its accurate-classification performance, the model proves to be effective in terms of literature. The classification performance of the model is presented in Table 5 below.

Table 5 discloses that the percentage of the type I error of the model, i.e., classifying the variables predicted to be failing as to be non-failing, is 13% and it is 17% for the type II error. The overall prediction performance of the model is 84%, which appears to be accordant with the other percentages in the literature cited by Altman (1968), Sori & Jalil (2009), Yap et al., (2010), Terzi (2011) and Özdemir et al., (2012). Also, these obtained proportions seem to

be quite sufficient respecting the studies in social sciences, making the model convenient and efficient enough to be used in the field.

Table 5. Results of the classification

		Predicted Group Membership		Total
Financial Failure		Predicted as Financially Failing	Non-predicted as Financially Failing	
Number	Predicted as Financially Failing	34	5	39
	Non-predicted as Financially Failing	19	92	111
%	Predicted as Financially Failing	87,2	12,8	100,0
	Non-predicted as Financially Failing	17,1	82,9	100,0

4. Conclusion

Financial distress can be defined as a condition in which enterprises fail to fulfil their financial obligations. The studies aiming to predict financial distress are mainly performed based upon financial ratios. Financial ratios are of great importance in analyzing both current and future state of companies.

In this research, the liquidity, activities, financial structure and profitability ratios obtained from the audited financial statements of 25 firms in Non-metal Mineral Products Sector for the periods 2009-2014 were selected to investigate. The collected data were assessed by means of discriminant analysis. The findings and the results of this study can be summarized as the following:

- After the implementation of the stepwise method, acit-test ratio, dept ratio, net working capital to total assets ratio, return on equity and sales revenue were excluded, and the analysis was performed via the remainder of the variables used in the study.
- In the stepwise method carried out in four steps, the variables cash flow from operations to total assets Ratio (CAFO), return on sales (ROS), cash ratio (CAR) and size of the company (NLTA) were included in the analysis.
- At this point, the performed analysis revealed that CAFO, ROS, CAR, and NLTA can be used in predicting the financial distress of the firms that operate in the sector basing this study.
- The overall classification accuracy of the model is 84%, which, considering the literature, seems to be efficient enough to be used.

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Development of Sustainability Reporting in Turkey (2010-2014)

1. Introduction

Presenting non financial information as well as financial information gives rise to the transparency ability of firms. This transparency enhances stakeholder trust and provides a more transparent view to the company's performance, potentially enabling them to make more informed and reliable decisions (Coram et al., 2009). There are also evidence that reporting on non-financial factors interact with financial ones and ultimately drives a company's value (Mock et al., 2007; Behn & Riley, 1999). Integrating financial and sustainability information may further maximize the long-run benefits.

Traditionally, companies are focused on reporting of financial results in their financial statements; however, during the past few decades, sustainability reporting has become an important aspect of external reporting by many companies all over the world. The demand for environmental, social, and governance disclosures has grown with the public awareness of sustainability reporting (Romero et al., 2014). As a response to a higher global public awareness and sensitivity to the contributing role that business organisations play in ecological, social and economic problems, increasing numbers of organisations appear willing to report their economic, social and ecological sustainability performance (Schaltegger & Wagner, 2006).

1.1. Corporate Sustainability and Reporting

Corporate sustainability is adoption of economic, environmental and social factors together with corporate governance principles to activities and decision mechanisms of companies and manage risks that can come along about these issues in order to create long time added value in companies (BIST, 2014).

Table 1 presents the evolution of corporate reporting.

Table 1. *The Evolution of Corporate Reporting*

1960	1980	2000	2020
Financial Statements	Financial Statements Management Commentary Environmental Reporting Governance and Remuneration	Financial Statements Management Commentary Governance and Remuneration Sustainability Reporting	Integrated Reporting Sustainability Reporting Governance and Remuneration Financial Statements Management Commentary

Reference: IIRC. (2011). Towards integrated reporting, communicating value in the 21st Century, 6-7.

Corporate reporting that began by the financial reporting disclosures in 1960-70s, has been presented as financial statements together with management commentary, environmental reports, corporate governance and fee disclosures in 1980-90s. Also in 2000-10s,

sustainability reports took the place of environmental reports. After 2020, integrated reporting will probably added to these reports.

1.2. Sustainability Reporting

Sustainability reporting can be easily defined as “*a structured way an entity reports on its economic, environmental, and social performance*” (Mock et al., 2013). A sustainability report is an entities report that gives information about its economic, social, environmental and governance performance (Kolk, 2004). Corporate sustainability recognizes that corporate growth and profitability are important, but it also requires that the corporation to pursue environmental protection, social justice and equity, and economic development goals relating to sustainable development (Wilson, 2003).

The financial reports are shaped by accounting standards, while the sustainability reports are not but often comply with voluntary reporting standards, such as those created by the GRI (Eccles & Serafeim, 2014).

GRI (the Global Reporting Initiative) which is a leading organization in the sustainability field defines sustainability reporting as “*The practice of measuring, disclosing and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development.*” One of the most important standards setters for reporting on sustainability is GRI, which was created in 1997 by the Boston-based nonprofit Ceres and the Tellus Institute, with the purpose of developing global standards.

With the efforts of GRI to develop and update their global sustainability reporting guidelines support a continuing global trend toward formal sustainability reporting (James, 2015). Currently, about 63% of the S&P 500 companies that issue formal sustainability reports utilize the guidelines provided by the GRI (E&Y & Boston College, 2013). Also, according to an other research, 83 of the top 100 U.S. companies by revenue report on sustainability (KPMG News Release, Dec. 9, 2013).

Companies that voluntarily report on their sustainability information in order to derive multiple benefits such as investor and customer goodwill; cost savings; enhanced understanding of the comprehensive impact of the companies’ activities on multiple stakeholders; and a better understanding of the interrelationships among various departments, resources, and the external as well as internal environment.(James, 2015).

An effective sustainability reporting cycle, should benefit all reporting companies and organizations, both internally and externally (Global Reporting Initiative):

Internal Benefits:

- Increased understanding of risks and opportunities
- Emphasizing the link between financial and non-financial performance
- Influencing long term management strategy and policy, and business plans
- Streamlining processes, reducing costs and improving efficiency
- Benchmarking and assessing sustainability performance with respect to laws, norms, codes, performance standards, and voluntary initiatives
- Avoiding being implicated in publicized environmental, social and governance failures
- Comparing performance internally, and between organizations and sectors

External Benefits:

- Mitigating – or reversing – negative environmental, social and governance impacts
- Improving reputation and brand loyalty
- Enabling external stakeholders to understand the organization's true value, and tangible and intangible assets
- Demonstrating how the organization influences, and is influenced by, expectations about sustainable development

Another sustainability reporting benefit is a *managing regulatory risk*. It provides the following benefits: (Eccles & Armbrester, 2011)

- Catching a new wave of legislation, which is likely to spread throughout the globe over the next decade.
- Responding quickly to new reporting guidelines as they are issued by securities' regulators.
- Complying with new stock exchange regulations and filing requirements.
- Having a seat at the table, as new frameworks and standards get developed.

2. Data Collection

In this study, examined economic, environmental and social factors that are presented in sustainable reports of BIST 100 companies for the years between 2010-2014 both in annual reports or sustainable reports and also tried to figure out the development of sustainability reporting in Turkey.

The annual reports of the firms that do not prepare sustainability reports were also examined and it was researched that whether they have disclosed any information about environmental and social performances in their annual reports.

Our evaluation is based on economic, environmental and social indicators that are mentioned in Sustainability Reporting Guide by GRI in 2014. The criteria that we used in our research is as follows:

Table 2. Performance Indicators in G4 Guideline

ECONOMIC PERFORMANCE INDICATORS	
Economic Performance	Indirect Economic Impacts
Market Presence	Procurement Practices
ENVIRONMENTAL PERFORMANCE INDICATORS	
Materials	Products and Services
Energy	Transport
Water	Overall
Biodiversity	Supplier Environmental Assessment
Emissions	Environmental Grievance Mechanisms
SOCIAL PERFORMANCE INDICATORS	
LABOR PRACTICES AND DECENT WORK	SOCIETY
Employment	Local Communities
Labor/Management Relations	Anti-corruption
Occupational Health and Safety	Public Policy
Training and Education	Anti-competitive Behavior
Diversity and Equal Opportunity	Compliance
Equal Remuneration for Women and Men	Supplier Assessment for Impacts on Society
Supplier Assessment for Labor Practices	Grievance Mechanisms for Impacts on Society
Labor Practices Grievance Mechanisms	
HUMAN RIGHTS	PRODUCT RESPONSIBILITY
Investment	Customer Health and Safety
Non-discrimination	Product and Service Labeling
Freedom of Association and Collective Bargaining	Marketing Communications
Child Labor	Customer Privacy

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Forced or Compulsory Labor	Compliance
Security Practices	
Indigenous Rights	
Assessment	
Supplier Human Rights Assessment	

Reference: Global Reporting Initiative. (2014). G4 Sustainability reporting guidelines, reporting principles and standard disclosures, Retrieved at October 5, 2015, from <https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf>

The data of this study is provided from sustainability and annual reports that the firms published on their own web sites.

3. Findings

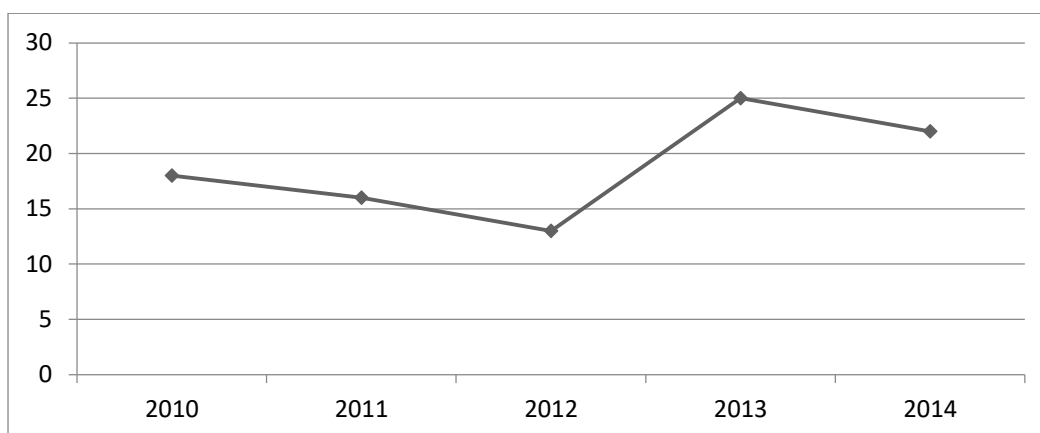
For five years between 2010-2014, 34 companies listed in BIST 100 have been prepared sustainability reports apart from their annual reports, 66 companies that do not prepare sustainability reports also disclose their environmental and social performance information in their annual reports. Companies that do not present their sustainability reports are usually disclose their social information in their annual reports. Among these mostly disclosed information are about social responsibility projects, social aids, employee information and education hours for employees.

Table 3 presents sustainability disclosures of BIST 100 companies .

Table 3. Sustainability Disclosures of BIST 100 Companies

BIST 100 Index		
	Number	Per. (%)
Companies that separately present sustainability reports	34	% 34
Companies that disclose information about their environmental and social performances in annual reports	31	% 31
Companies that do not disclose information about their environmental and social performances in their annual and sustainability reports	35	% 35

The trend of the companies that present sustainability reports in 2010-2014 shows us a non linear increasing graphic. The number of sustainability reports has been decreased till 2012, the number has been increased in 2013 and also decreased in 2014. Some of the sustainability reports of companies consist more than one period. This situation has been included to both years. Graphic 1 presents development of sustainability reporting in BIST 100 Index, Turkey (2010-2014).

Graphic 1. Development of Sustainability Reporting in Turkey (2010-2014)

The companies listed in BIST 100 disclose part of the information mentioned in GRI in their sustainability reports between the years 2010-2014. The following are the most disclosed topics:

i. Economic Performance Explanations

- Direct economic value generated and distributed
- Financial assistance received from government
- Financial implications and other risks and opportunities for the organization's activities due to climate change
- Coverage of the organization's defined benefit plan obligations
- Development and impact of infrastructure investments and services supported
- Significant indirect economic impacts, including the extent of impacts

ii. Environmental Performance Explanations

- Energy consumption within the organization
- Energy consumption outside of the organization
- Energy intensity
- Reduction of energy consumption
- Total water withdrawal by source
- Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
- Energy indirect greenhouse gas (ghg) emissions
- Greenhouse gas (GHG) emissions intensity

iii. Social Performance Explanations

- Total number and rates of new employee hires and employee turnover by age group, gender and region
- Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation
- Return to work and retention rates after parental leave, by gender

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- Workers with high incidence or high risk of diseases related to their occupation
- Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings
- Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights
- Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor
- Operations with significant actual and potential negative impacts on local communities
- Results of surveys measuring customer satisfaction

As a result, regarding the research in the sustainability reports of companies between the years 2010-2014, it is concluded that the companies mostly focused on economic performance and indirect economic effects in their economic parameters; information about energy, water and emissions in their environmental parameters, information about employment, education and learning, collective agreement, child employment, local society, products and services in their social parameters.

4. Conclusion

Sustainability reporting transparently explain the company's economic, social and environmental performance to stakeholders. Companies need to explain their environmental and social performance in addition to economic performance to create value in the long term, increase corporate reputation and brand value and make their activities sustainable. Global Reporting Initiative (GRI) is the most widely used standard about sustainability reporting in the world. In our country, sustainability reporting is based on voluntary basis and GRI Standards are considered.

BIST Sustainability Index was developed on 4 November 2014 in Turkey. BIST Sustainability Index aims to provide a benchmark for Borsa Istanbul companies with high performance on corporate sustainability and to increase the awareness, knowledge and practice on sustainability in Turkey. Moreover the index is a platform for institutional investors to demonstrate their commitment to companies managing environmental, social and governance (ESG) issues with high performance (BIST Sustainability Index).

As a result of content analysis that we performed, we determined that the companies listed in sustainability index have presented separate sustainability reports, on the other hand the non listed companies rarely present sustainability reports. %34 of BIST 100 listed companies present their sustainability reports, 31% of them present environmental and social performance criteria in their annual reports, 35% of them do not disclose information about their environmental and social performance.

The first sustainability reports were presented in the years 2005 by BIST 100 companies. The reports disclosed before 2005 were about sustainable development. According to our research, between the years 2010-2014, companies listed in BIST 100 presented the highest number of sustainability reports (25) in the year 2013. Later than 22 reports in the year 2014, 18 reports in the year 2010, 16 reports in the year 2011 and 13 reports in the year 2012 are the followers. As seen, a non linear increasing graphic exist in the numbers.

As a result, sustainability reporting is in the first age in Turkey. So that the companies are not willing to present their environmental and social parameters with their financial parameters. In the future, it is expected that if the number of companies listed in sustainability index increase, sustainability reporting will become widespread in Turkey.

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The Relationship between Entrepreneurial Tendencies and Culture: Evidence from Turkey

1. Introduction

Entrepreneurship is one of the popular topics of today's world, for its close relationship with economic development level or wealth. Accordingly, it is known that, the proportion of entrepreneurs to the population is significantly higher in advanced countries than developing, or undeveloped countries.

The level of entrepreneurship in a country can be associated with various factors: culture, education level or average year of education, public funds to support entrepreneurship, economic system, social status of entrepreneurs, curriculum at schools, tax system, capabilities of the universities, creativity, innovations or inventions, knowledge mobility, openness, liberalism, and gender equity.

The culture is supposed to be the most important factor that affects the level of entrepreneurship in a country. On the other hand, it should be suggested that, entrepreneurship also transforms culture. So, they are interrelated.

The role of culture on entrepreneurship has been widely discussed in the literature (e.g. Hofstede, 1980; Lee, 1999; Bogan & Darity Jr., 2008; Mooij and Hofstede, 2010; Eroğlu & Pıçak, 2011; Thurik & Dejardin 2011; Litrell, 2012; Spencer-Oatey, 2012; Doepke & Zilibotti, 2013). The most popular, so most cited author is Geert Hofstede. 'The dimensional model for national cultures' of Hofstede (1980) is widely discussed, and applied to many areas. Accordingly, the dimensions of his model as individualism-collectivism, power distance, uncertainty avoidance, and masculinity and femininity inspire many researchers to examine.

According to Hofstede (1980), Turkish culture has the characteristics of high levels of collectivism, high power distance, high uncertainty avoidance, and relatively moderate femininity. Therefore, it can be estimated that, entrepreneurial tendencies can be weak in this culture.

This study investigates the culture – entrepreneurship association with a sample of university students, in Turkey. In the first part of the study, the literature review is given. Then, the methodology is revealed. Finally, the results are discussed, and concluded.

2. Literature Review

In the history or in the literature of social sciences the function or position of culture was discussed by many scholars. For example, Karl Marx argued that the culture is an effect, rather than cause, of structure relations. Accordingly, culture, religion, and ideology were mentioned as reflections of materialist interests of the class that controls the means of production. On the contrary, Weber accepts that, the virtue of entrepreneurial success, which has an origin of the 'spirit of capitalism', was a major engine of industrial revolution.

According to neoclassical paradigm, economics should focus on optimal individual choice and efficient resource allocation (Doepke and Zilibotti; 2013). Again, this view takes preferences and technology as external elements of the process. Furthermore, this paradigm

and other approach of the last decades interest in the culture as a base for economy related and entrepreneurial behaviors.

There are different views related with culture. According to a list, there are 164 different definitions of it (Spencer-Oatey, 2012). As a modern one, culture can be defined as “the complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society” (Spencer-Oatey, 2012). It is clear that, entrepreneurial attitudes and behaviors are directly originated from the culture. All of the elements mentioned above are directly or indirectly linked with the entrepreneurial practices of a society. For example, knowledge is the base for any job for success. Again, art is the origin of the skills and abilities in design for any activity. Morals and law determine the ethical and legal framework to act in. So, the development levels of countries can be associated with the level of entrepreneurship there. It is obvious that, the advanced countries are effects of the causes as successful entrepreneurial attempts and practices.

During recent years Geert Hofstede’s dimensional model for national cultures was applied to various areas of social sciences, especially to the business functions. Accordingly, it was associated with marketing and advertising (Mooij and Hofstede, 2010), the concepts of self, personality and identity, brand strategy, communication, information processing, and interpersonal and mass communication. In the literature, the findings of Mooij and Hofstede (2010) support the idea which claims that the Hofstede model of national culture “is a useful instrument for understanding consumer behavior differences across cultures”. Doepke and Zilibotti (2013) examined the relation between culture, entrepreneurship and growth. The scholars pointed out that, the growth rate of an economy is strongly associated with the proportion of entrepreneurs to the total population. Moreover, they defended that, the occupational choice of entrepreneurship is linked with the characteristics of risk tolerance and patience. Again, Phelps and Zoega (X) discussed the link between entrepreneurship, culture, and openness. Accordingly, the researchers found that, good work ethics, initiative and a level of mutual trust between individuals might result in great happiness. They also achieved the result that, the English speaking world have “better” or different work ethics from the continental Europe. On the other hand, same academics also identified that, the Scandinavian countries are between continental Europe and English speaking countries. Again, trust can be seen in higher levels in Scandinavian countries. For Japans, annual leave, public holidays, job security, and a work environment without pressure are more important. Similarly, Bogan and Darity Jr. (2008) examined culture and entrepreneurship link, focusing on African American and self-employment in the United States. The scholars achieved that, the ratio to African American to European American entrepreneurship had remained constant over the past century.

2.1. Four cultural dimensions of Hofstede

The Hofstede (1980) research is one of the most popular studies about cultures across the world: individualism-collectivism, power distance, uncertainty avoidance, and masculinity and femininity. Hofstede (1980) defined the dimensions as follows: 1) Individualism is about the relationship between an individual and society; 2) The power distance scale measures interpersonal power or inequality among individuals; 3) The uncertainty avoidance index indicates an individual’s stance towards the unknown future; finally, 4) The masculinity dimension measures the division of roles between women and men in a society.

Litrell (2012) discussed the cultural value dimension theories, focusing on Hofstede. Thurik and Dejardin (2011) examined the impact of culture on entrepreneurship. They argued that,

uncertainty avoidance is the dominant factor affecting the activities about entrepreneurship. The scholars stressed on that, the higher the uncertainty avoidance; the less the society is interested in entrepreneurial actions. Equally, Lee (1999) investigated the same relationship with a research based upon the dimensions of Hofstede (1980). These were individualism-collectivism, power distance, uncertainty avoidance, and masculinity-femininity. Accordingly, the scholar achieved that, the entrepreneurs are more individualistic, and more power distant than non-entrepreneurs. Again, entrepreneurs had a high superiority complex. Moreover, same researchers revealed the result that, entrepreneurs choose this profession to upgrade their social status, increase their wealth; so they take risks.

Eroğlu and Pıçak (2011) examined the entrepreneurship and national culture relationship in Turkey. They structured their study on the framework of Hofstede's cultural dimensions. Accordingly, the authors stressed the related situation of Turkey as: high levels of collectivism, high power distance, high uncertainty avoidance, and relatively moderate femininity. So, loyalty, professionalism, rationalism, and being work focused are important characteristics of employees for Turkish managers.

McGrath et al. (1992a, 1992b) conducted researches about the four cultural dimensions of Hofstede (1980): individualism, power distance, uncertainty avoidance, and masculinity.

The literature presents three main approaches on the relationship between culture and entrepreneurship.

2.3. Approaches About the Link Between Culture and Entrepreneurship

2.3.1. The aggregate psychological traits approach

This approach claims that, in a given country, the number of individuals with entrepreneurial values is correlated with the number of individuals who demonstrate entrepreneurial behavior (Davidson, 1995; Shane, 1993; Thurik and Dejardin, 2011). As the entrepreneurial tendencies are originated from culture, then, the countries with entrepreneurial cultures will achieve an advantage about this topic.

2.3.2. The social legitimatization or moral approval approach

According to this approach, in a given country, if the entrepreneur has a respected social status, the education system considers and supports entrepreneurship, and tax incentives encourage new establishments, then, the entrepreneurial activity will be high (Etzioni, 1987; Thurik and Dejardin, 2011). In other words, if the social norms and institutions are in the favor of entrepreneurship, then the business activities that include risk taking, creativity, innovation, opportunity seeking and profit focus will take part in large.

2.3.3. The dissatisfaction approach

This approach claims that, the contradiction between groups may direct the potential self-employed to into actual self-employment, in a country where the culture is non-entrepreneurial (Thurik and Dejardin, 2011; Baum et al., 1993). Therefore, in this view, the entrepreneurial potential is linked with the clashing characteristics of different parties of society. So, it can be asserted that, the wider the gap between the parties, the higher the entrepreneurial activity is.

According to the literature above, the following hypothesis were developed:

2.4. Hypothesis

H1: The preferences about the characteristics of entrepreneurs are not associated with the participants' gender.

H2: The preferences about the characteristics of an entrepreneur are statistically significantly related with the education groups of the participants.

H3: There is a statistically significant relationship between the preferences about the characteristics of an entrepreneur and the existence of an entrepreneur in the family of the participant.

H4: The Preferences about the characteristics of an entrepreneur and the year of education of the students are significantly associated.

H5: The income levels of the participants' families are statistically significantly related with the preferences of the entrepreneurship characteristics.

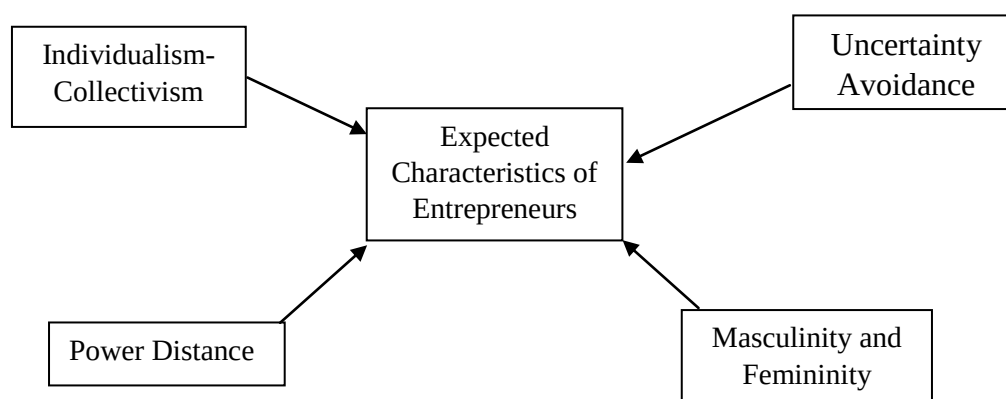


Figure 1. Research Model

3. Methodology

3.1. Research Goal

In this research, it was aimed to identify the relationship between culture and entrepreneurial tendencies. It was also aimed to identify the possible relationships among the age, gender, number of years, education type, income, having an entrepreneur in the family, city before education and the expected characteristics of an entrepreneur. The ultimate goal of this paper is mainly to set light on the formation entrepreneurial behavior relating it with national or local cultures. Again, another goal is to increase the common sense for entrepreneurship throughout the sample group and in society.

3.2. Sample and Data Collection

To test the hypothesis developed between the couples of variables, a questionnaire as a method of data collection was conducted on a total of 266 undergraduate students studying at the Faculty of Economics and Administrative Sciences at the Giresun University, Turkey. Collected during April, 2015, the questionnaire included a total of 32 items. There were eight

questions to test the demography. It was also asked to students to choose five characteristics among 24 traits, which they expect from an entrepreneur, in priority. In determining the sample group, the technique of convenience sampling was used. After conducting a pilot test on a group of 30 students, it was decided to continue with the rest of the questionnaires on the sample. A total of 277 participants were reached, however only 266 were found to be valid for the data analysis process. 106 (39.8%) participants were in their first year, 60 (22.6%) participants were studying their second year, 80 (30.1%) participants were in their third year, and 20 (7.5%) participants were studying their last year. Again, 143 (53.8%) of them are morning group students, 123 (46.2%) of them are evening class students. The participants were the students of Business Administration department, and they took part in the research on a voluntary basis. Seven possible relations were tested on the data obtained from those 266 questionnaires. Due to the fact that the data did not show a normal distribution, which is a primary condition of using the parametric tests, non-parametric tests including Chi-Square, Mann-Whitney U and Kruskal Wallis Tests were used in testing the hypothesis.

3.3. Analysis and Results

A total of 32 items included in the questionnaire are grouped under 2 variables: demographic variables, and 'entrepreneurial characteristics'. Demographic variables were including 8 items, while the 'entrepreneurial tendencies' consists of 24 'choices'. According to the reliability test, the main scale is found to be reliable (Cronbach's Alpha>0.70). According to the 'validity analysis' result, the 'content validity' is acceptable.

According to the descriptive statistics of the demographic questions, out of 266 valid participants, 129 (48.5 %) are females, and 137 (51.5 %) of them are males. Again, the ages of the participants were as follows: 19 – 14 (5.3%); 20 - 37 (13.9%); 21 – 58 (21.8%); 22 – 67 (25.2%); 23 – 50 (18.8%); 24 – 28 (10.5%); 25 – 8 (3%); 26 – 2 (.8%); 27 – 1 (.4%); 55 – 1 (.4%).

Out of 266 valid participants, 71 participants (26.7%) have a monthly income level of 0 – 1000 TL (app. \$350); 87 participants (32.7%) of 1001 – 2000 TL (\$351 – 700); 66 of them (24.8%) have 2001 – 3000 TL (\$701 – 1000); 20 of them (7.5%) have 3001 – 4000 TL (\$1001 – 1350); and 22 of the participants (8.3%) have 4001 – 5000 TL (\$1351 – 1700) of family income amount.

According to descriptive statics results, 80 (30.1%) of the respondents have at least one entrepreneur in their families. On the other hand, the participants are coming from 48 different cities of Turkey. The data taken from respondent from other countries were put out of analysis. Accordingly, the highest number of students are from Giresun (63; 23.7%), then Trabzon (35; 13.2%), Istanbul (32; 12%) and Ordu (13; 4.9%). It is obvious that, the sample represents Turkey, because there are participants from 48 different provinces of Turkey. So, these individuals are living Turkish culture.

3.4. Results

Table 1. Descriptive Results for Basic Entrepreneurial Characteristics

	Entrepreneurial Characteristics	Frequency	Percentage (%)
1.	Self Confidence	205	77.1
2.	Risk Taking	147	55.3
3.	Leadership	106	39.8
4.	Innovativeness	80	30.1
5.	Responsibility to Stakeholders	76	28.6
6.	Creativity	70	26.3
7.	Honesty	67	25.2
8.	Communicative Skills	65	24.4
9.	Managerial Skills	61	22.9
10.	Determination	58	21.8
11.	Opportunity Seeking	57	21.4
12.	Ambitious	50	18.8
13.	Knowledge	44	16.5
14.	Competitiveness	41	15.4
15.	Marketing and Sales Ability	39	14.7
16.	Sociability	30	11.3
17.	Locus of Control – Self Control	30	11.3
18.	Success Need	26	9.8
19.	Change focused	23	8.6
20.	Consistency and being Principled	19	7.1
21.	Independent Decision Making	15	5.6
22.	Emotional Intelligence	14	5.3
23.	Proactive	3	1.1
24.	Flexibility for Ambiguity	3	1.1

As it can be seen from the Table 1., 205 (77.1%) students give priority to ‘self confidence’ as one of the five important characteristics of an entrepreneur. Then, it is the ‘risk taking’ that attracts the attention of participants (147; 55.3%). The ‘leadership’ is accepted as one of the five important elements of entrepreneurship process by 106 students (39.8%). Again, innovativeness is seen as another important characteristic of entrepreneurs by 80 students (30.1%). The fifth variable that was considered by the sample with a high percentage is the ‘responsibility to stakeholders’. This dimension was mentioned by 76 students (28.6%). As a striking result, ‘creativity’ is the sixth characteristic, which was chosen as an required characteristic of entrepreneurs by 70 students (36.3%). These results show that, the general dimensions for entrepreneurship is accepted by the sample. In other words, the world popular elements of the topic are also very popular among the students of Giresun University.

In addition to the variables that were mentioned above, ‘honesty’ is accepted as one of the five important elements of an entrepreneurial behavior by 67 (25.2%) students. This variable was followed by ‘communicative skills’ (65; 24.4%), ‘managerial skills’ (61; 21.9%), and determination (58; 21.8%). Furthermore, ‘opportunity seeking’ is accepted by 57 students (21.4%) as the one of the five important characteristics of an entrepreneur. Then, there is ‘being ambitious’ which was considered by 50 (18.8%) students. Moreover, ‘knowledge’ (44; 16.5%), and ‘competitiveness’ was chosen as prior entrepreneurial elements (41; 15.4%).

39 of 266 participants (14.7%) preferred ‘marketing and sales ability’, while 30 of them (11.3%) pointed out ‘sociability’ and ‘self-control’, both. Also, ‘success need’ was mentioned by 26 students (9.8%), and being ‘change focused’ was accepted by 23 respondents (8.6%) among the five important dimensions. Moreover, ‘consistency and being principled’ (19; 7.1%), and ‘independent decision making’ (15; 5.6%) follow the concepts above. In addition, 14 participants (5.3%) signed ‘emotional intelligence’ among five; and finally, just 3 participants (1.1%) signed ‘proactive’ and ‘flexibility for ambiguity’ in five variables.

Table 2. U-Test Results between the Preferences about Expected Entrepreneur Characteristics and the Gender

Gender	N	Mean Rank	Sum of Ranks	Mann Whitney U	Sig.
Female	129	133.55	17228	8830	.972
Male	137	133.45	18283		

Table 2 shows the Mann-Whitney U Test results pertaining to the relationship between the participants’ preferences about entrepreneur characteristics and the gender. According to these results, there is not a statistically significant relationship showing the preferences about the entrepreneur characteristics according to the gender within our sample group ($U=8830.00$ and $\text{sig.}>0.05$).

H_1 is supported.

Table 3. U-Test Results between the Preferences about Expected Entrepreneur Characteristics and the Education Type (Morning or Evening Group)

Education Group	N	Mean Rank	Sum of Ranks	Mann Whitney U	Sig.
Morning	143	134.34	19210.50	8674.50	.517
Evening	123	132.52	16300.50		

Table 3 shows the Mann-Whitney U Test results pertaining to the relationship between the participants' preferences about entrepreneur characteristics and their type of education, in terms of whether they are studying in the morning or evening group. According to these results, there is not a statistically significant relationship showing the preferences about the entrepreneur characteristics according to the education type within our sample group ($U=8674.50$ and $\text{sig.}>0.05$). Accordingly, H2 is not supported.

Table 4. U-Test Results between the Preferences about Expected Entrepreneur Characteristics and the Existence of an Entrepreneur in the Participant's Family

Entrepreneur in Family	N	Mean Rank	Sum of Ranks	Mann Whitney U	Sig.
Exists	80	139.09	11127.00	6993.000	.009
Does not Exist	186	131.10	24384.50		

Table 4 demonstrates the Mann-Whitney U Test results pertaining to the relationship between the participants' preferences about entrepreneur characteristics and existence of an entrepreneur in the participant's family. According to these results, there is a statistically significant relationship between the preferences about the entrepreneur characteristics and the existence of an entrepreneur in the participant's family ($U=6993.000$ and $\text{sig.}<0.05$). Accordingly, H3 is supported.

Table 5. Kruskal-Wallis Test Results between the Preferences about Entrepreneur Characteristics and the year of Study at the University

Year of Study	N	Mean Rank	DF	X^2	Sig.
1	106	134.96	3	.728	.867
2	60	132.50			
3	80	132.56			
4	20	132.50			

According to the Table 5, there is not a statistically significant relationship between the participants' preferences about the characteristics of an entrepreneur and their years at the university ($\chi^2(df=3, n=266) = .728$ and $\text{sig.} > 0.05$). Then, H4 is not supported.

Table 6. Kruskal-Wallis Test Results between the Preferences about Entrepreneur Characteristics and the Income Levels of Participants' Families

Income Levels	N	Mean Rank	DF	X ²	Sig.
-1000	70	135.20	4	4.936	.294
1001 – 2000	87	128.52			
2001 – 3000	65	135.56			
3001 – 4000	20	131.50			
4001+	22	131.50			

According to the Table 6, there is not a statistically significant relationship between the participants' preferences about the characteristics of an entrepreneur and the income levels of the participants' families ($\chi^2(df=4, n=266) = 4.936$ and $\text{sig.} > 0.05$). So, H5 is not supported.

Table 7. Correlation between the Ages of the Participants and their Preferences

	Age	Preferences
Age	1	
Preferences	-.017	1
	.779	

Table 8. Correlation between the City before University Education of the Participants and their Preferences

	City	Preferences
City of residence	1	
Preferences	.085	1
	.169	

Table 7 and Table 8 show that, there is no statistically significant relationship between the ages, or city before university education and the preferences of participants.

4. Discussion

The results indicated that, 'self confidence', 'risk taking', 'leadership', 'innovativeness', and 'responsibility to stakeholders' are the top five characteristics of entrepreneurs, that were

chosen by the survey participants. Also, ‘creativity’ and ‘honesty’ follow these dimensions. The literature about culture is mainly constructed on Hoffstede’s classification on national cultures. Hoffstede (1980) mentioned five basic dimension for world cultures: power distance, individualism-collectivism, masculinity-femininity, uncertainty avoidance, long term – short term orientation.

Power distance can be related with the inequalities among people. This is an important subject of debate in Turkey. It is being said that, Turkey is not at the expected level in entrepreneurship, because: parents teach children obedience; children treat their parents and their teachers with respect. Again, teachers are expected to take all initiatives in class. Moreover, the hierarchy in organizations reflects the existential inequality between higher-ups and lower downs. So, centralization is popular. Again, there is a wide salary range between the top and bottom of the organization. Also, in many organizations, subordinates expect to be told what to do. But, of course, this situation cannot be generalized. Furthermore, the ideal boss is a benevolent autocrat or good father. Finally, privileges and status symbols for managers are both expected and popular. Turkey’s score for ‘power distance’ is 66, while the average score of the world is 55.

Here, the ‘leadership’ can be related with the situation of power distance. Turks want their entrepreneur to be a good leader. Accordingly, this leader can guide his followers through his desires. The result supports Hoffstede (1980)’s claims that, in Turkey, the power distance is very high. On the other hand, ‘self confidence’ can also be associated with power distance. However, there is a contradiction here. In many countries, where power distance is high, this confidence can be sourced from an authority.

The second dimension of Hoffstede (1980)’s classification is the ‘individualism versus collectivism’. The average world score is 43, while Turkey’s score is 37. Turkey is a less individualistic country than world average. Accordingly, in collectivist cultures, ‘people are born into extended families or other ingroups which continue to protect them in exchange for loyalty’. However, Turkey’s position is a little bit different from this situation. Moreover, identity is based in the social network to which one belongs’. Again, children learn to think in terms of ‘we’. Furthermore, ‘harmony should always be maintained and direct confrontations avoided’. There is ‘high context communication’. In addition, ‘trespassing leads to shame and loss of face for self and group’. And, the purpose of education is learning how to do. Diplomas provide entry to higher status groups. Again, ‘relationships employer-employee is perceived in moral terms, like a family link’. Also, ‘hiring and promotion decisions take employees’ ingroup into account. So, management is the management of groups. Finally, relationships prevail over tasks.

The results of this research can be associated with the Hofstede (1980)’s classification with the finding of ‘responsibility to stakeholders’. As Turkish culture is a collectivist culture, it is hard to be an entrepreneur in Turkey which needs an individualistic approach.

5. Conclusion

This study has shown that in a country like Turkey, which has a culture of high levels of collectivism, high power distance, high uncertainty avoidance, and relatively moderate femininity, the expectations from an entrepreneur in terms of characteristics are nearly the same with other countries which has a culture of high levels of collectivism, low power distance, low high certainty avoidance, or high femininity. Also, this paper demonstrated that, the preferences about the characteristics of entrepreneurs do not change according to the

gender, education type, and year at the university, income levels, age or home city before university education. On the other hand, it was achieved that, there is a statistically significant relationship between the preferences about the entrepreneur characteristics and the existence of an entrepreneur in the participant's family.

It can be claimed that, as a cultural integration is a reality of today's world, societies affect each other and others' values or characteristics, and absorb them. So, future research about the culture and entrepreneurship relationship regarding the dimensions of Hofstede, should first search and examine whether the mentioned dimensions remain in cultures. That is to say, as everything change, cultures also change slowly or fast. Thus, it is clear that, the findings of about 36 years past should also be differentiated. Therefore, the same analysis about cultures should be done again for the current situations or conditions.

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Job Satisfaction Levels of Personnel Working in 4- and 5-Star Accommodation Businesses: The case of Alanya

1. Introduction

Tourism is one of the most important sectors in the world in terms of its investments as well as its direct and indirect employment opportunities. According to a report of the Turkish Hoteliers Federation dated 2010, more than 350,000 people work in accommodation businesses, with certificates from ministries and municipalities. The number of people working in the tourism sector is increasing each day. The tourism sector is a labor-intensive system. The World Travel and Tourism Council reported that 98 million direct employment positions were provided in 2011. Taking into account indirect employment, the tourism industry provided employment for 255 million people around the world. The total employment of the tourism sector in Turkey is nearly 1.9 million people, and the Alanya district of the Antalya province has shown rapid development in tourism thanks to investments made as per the Law for the Encouragement of Tourism enacted in 1982. In 2015, the Alanya Chamber of Commerce and Industry reported that Alanya is one of the most important tourism destinations in Turkey, hosting nearly 1.9 million foreign tourists annually, with a bed capacity of 157,000 from various businesses—101,000 certified by the ministry and 56,000 certified by the municipality (Çevirgen & Üngüren, 2015).

Although accommodation businesses build high-quality destinations, the most important factor of the sector is human resources—that is, the personnel. All the services offered to customers are provided by the personnel, and it is not possible for unsatisfied personnel to offer satisfying service to customers when the purchasing customer and servers are side by side and face to face. In other words, a directly proportional relationship exists between the satisfaction of accommodation business personnel and customer satisfaction. This has an influence on the success and profit of the business. A dissatisfied customer may not prefer the same facility next time and may even avoid the same country during future vacations. Hence, personnel's job satisfaction is critical for profitable and sustainable competition (Yang, 2010; Akıncı, 2011).

Job satisfaction constitutes a tangible part of the service offered by accommodation businesses and plays an important role in the success of the businesses. Consequently, it is one of the factors frequently scrutinized within the scope of management and organization assessments. Basically, the job satisfaction concept is defined as the feelings and attitudes an individual has toward his/her job (Spector, 1997). It initially started to be analyzed in the 1920s, and its importance was identified in the 1930s and 1940s (Eğimli, 2009).

The concept of job satisfaction has been defined by many authors in various studies emphasizing diverse aspects. Cribbin (1972) defined job satisfaction as “the relaxing and calming feeling that an individual trying to achieve from job itself, managers, working groups and internal–external environment.” Odam, Boy, and Dunn (1990) described it as the “positive or negative feelings of workers.” Locke (1976) explained the concept as “a function of one's job expectations and the job outcomes.” Luthans (1994) defined it as workers' perceptions of the work and its positive outcomes as well as the emotional response to this perception. Schermerhorn, Hunt, and Osborn (1994) stated that “job satisfaction is the degree to which individuals feel positively about their job.” Eren (2006) conceived of the concept as the total of the attitude toward various aspects of the work as well as the extent to which the results meet the expectations.

The common expression of previous studies on job satisfaction in accommodation businesses emphasized that accommodation businesses are a labor-intensive sector, and the success of a business rests on constantly ensuring high-level job satisfaction for personnel. These studies also assert that personnel are not only an economic entity, but they also have social and emotional presences as well. Therefore, their social and emotional expectations as well as their economic expectations should be met. This is possible only by satisfying the personnel (Kaya, 2007; Kuşluvan, 2009).

A worker with high-level job satisfaction feels content working, possesses positive emotions regarding the job, and engages in his/her job fondly. Hence, personnel's personal trust and co-workers' assistance and collaboration increase while job-seeking, absenteeism, tardiness, and occupational accidents decrease. Job satisfaction leads to an increase in personnel's organizational commitments and a decrease in the turnover rate (Lee & Way, 2010).

Dissatisfied personnel experience physical, mental, and social disorders. The dissatisfaction symptoms observed include quitting the job, constantly complaining about work, decreasing efficiency, and increasing the possibility of making mistakes while working. Job dissatisfaction weakens business health. It reduces the reaction a business needs to show against both internal and external threats. Moreover, it is not possible for personnel with low levels of job satisfaction to offer a satisfying service to their customers. Due to all of these issues, businesses need to take into account the individual factors and organizational/environmental factors that influence personnel so as to ensure customer satisfaction in the short run and profitability in the long run (Örücü & Esenkal, 2005; Pelit & Öztürk, 2010).

1.1. Literature Review

Previous studies have generally focused on the relationship between individual factors and job satisfaction. However, not enough studies have examined the factors influencing job satisfaction levels of personnel in accommodation businesses. Carrel and Elbert (1974) conducted a study with 397 post office employees and revealed a significant relationship between job satisfaction and age. Hunt and Saul (1975) found a positive, linear relationship between white-collar workers' general job satisfaction and their age and seniority. Glenn, Taylor, and Weaver (1977) reported that age directly influences job satisfaction of both female and male workers. Lee and Wilbur (1985) conducted a study with 1707 civil servants and analyzed the relationship between job satisfaction and age. They revealed that, as age advances, job satisfaction increases. Paul and Phua (2011) asserted in their study that job satisfaction levels of young and old workers are higher compared to middle-aged workers whereas Tagreed (2013) denoted that young workers have higher levels of job satisfaction compared to elderly workers.

Hulin and Smith (1964) revealed that female workers feel less satisfied than male workers. Sauser and York (1978) also analyzed civil servants and confirmed the previously mentioned results of Hulin and Smith (1964). Voydanoff (1980) detected that both female and male workers feel satisfied with the same working conditions. İncir (1990) revealed that the difference between female and male workers' job satisfaction levels in central organizations of government business enterprises is not significant. Bilgiç (1998) also reported that the variable of gender does not lead to a change in job satisfaction levels.

The study conducted by Burris (1983) indicated that, if workers' levels of education are a lot higher than required, job dissatisfaction results; if education level is somewhat higher than required, the interaction between these two variables is very low. As Bilgiç (1998)

explained, the level of education does not have a significant influence on workers' job satisfaction. Workers with a high level of education are more interested in productivity and develop negative emotions regarding their jobs less.

According to Özkalp and Kirel (1996), married workers experience less absenteeism, have a lower tendency to quit their jobs, and are more content than single workers. Bilgiç's (1998) study revealed that marital status is not influential on job satisfaction. Telman and Ünsal (2004) scrutinized the relationship between being married or single and job satisfaction. They revealed that married workers have higher levels of job satisfaction compared to single workers.

Yumuk's (2011) study reported that significant differences exist in hotel personnel's job satisfaction levels by gender, the department in which they work, and the pay they receive. No significant difference emerged by age, education, period of service, or marital status. Tor and Esengün (2011) mentioned a significant difference in job satisfaction levels according to workers' ages, professional seniority, and sector experiences.

Toker (2007) reported that, among the variables that influence hotel personnel's job satisfaction, the lowest factor is pay (2.28) while the highest factor is the interest in the work they do. Gallardo, Canizares, Guzman, and Jesus (2010) revealed in their study that job satisfaction levels of hotel personnel in Spain and Portugal are at acceptable levels, but pay is the biggest factor influencing job satisfaction; in addition, workers with high levels of education have lower job satisfaction levels than those with lower levels of education.

1.2. Purpose of the Study and the Sub-Problems

This study was carried to reveal job satisfaction levels of personnel working in 4- and 5-star accommodation businesses located in the Alanya district of the Antalya province in Turkey and to identify the variables influencing their job satisfaction levels. In accordance with this main purpose, the study sought to answer the following questions:

- What is personnel's level of job satisfaction?
- Is there a significant difference between personnel's job satisfaction levels based on their educational background?
- Is there a significant difference between personnel's job satisfaction levels based on their levels of income?
- Is there a significant difference between personnel's job satisfaction levels based on the departments in which they work?
- Is there a significant difference between personnel's job satisfaction levels based on their periods of service?

The results of the study are expected to guide all shareholders, particularly in those in the Alanya region and throughout Turkey in general terms.

2. Method

This section deals with research model, universe and sample, data collection, and analysis.

2.1. Research Model

This is a survey model study. The individual, group, case, or incident under analysis in this model is evaluated in its own conditions. The relationship between dependent and independent variables as well as the extent of the relationship is studied (Karasar, 2014).

2.2. Universe and Sample

The universe of the study includes personnel working at 4- and 5-star accommodation businesses located in the Alanya district of the Antalya province. The Alanya district was selected as the study's universe because it is an important tourist destination with lots of 4- and 5-star accommodation businesses. These accommodation businesses have made considerable progress regarding the institutionalization process; they employ many personnel, the majority of the businesses are managed by professional managers, and obtaining data from such businesses is relatively more reliable than obtaining data from other accommodation businesses.

According to data from the Alanya Chamber of Commerce and Industry, in 2015, there were 58 5-star and 94 4-star accommodation businesses in Alanya. Accessing all these businesses within the scope of the study was not possible due to time and cost restraints. In addition, some of the businesses stated that they did not wish to participate in the study while others expressed that they would be available only through the late season due to ongoing studies. Hence, this study was carried out with 10 5-star and 9 4-star accommodation businesses that were willing to participate. The total number of personnel working in the aforementioned businesses in May 2015 was 4,214; to ensure a 5% reliability interval, we needed to gather data from 514 individuals. The sample of the study consisted of 554 randomly selected personnel working in 4- and 5-star accommodation businesses operating in the Alanya district. Prior to the study, a pilot study was carried out with 110 personnel.

2.3. Data Collection and Analysis

A survey form with two sections was used as the study's data collection tool. The researcher administered a face-to-face survey with 554 personnel. The first section of the survey included questions about demographic data and questions to reveal participants' socio-economic situations (i.e., gender, age, marital status, educational background, level of income, department in which they work, period of service in the sector, and period of service in their most recent workplace). The second section included the Minnesota Job Satisfaction Questionnaire using a 5-point Likert-type rating: (1) I am very dissatisfied, (2) I am dissatisfied, (3) I am neither satisfied nor dissatisfied, (4) I am satisfied, and (5) I am very satisfied. Reliability analyses of the questionnaire were conducted following the pilot study carried out with 110 people. The Cronbach's alpha value of the Minnesota Job Satisfaction Questionnaire was calculated to be .930.

SPSS for Windows was employed to analyze the data of the study. In order to reveal the differences of the data in terms of independent variables, a one-way variance analysis (ANOVA) and Kruskal–Wallis test were conducted after descriptive statistical values of the job satisfaction questionnaire were assigned. Following the Kruskal–Wallis analysis, a Mann–Whitney U test was conducted to reveal between which groups statistical differences occurred. A Scheffé post hoc test was employed to reveal between which groups a statistical difference existed as a result of the dual comparisons made following the ANOVA.

3. Findings and Discussion

3.1. General Details about Participants

Job Satisfaction Levels of Personnel Working in 4- and 5-Star Accommodation Businesses

Of the personnel working in 4- and 5-star accommodation businesses studied within the scope of this study, 55% were male while 45% were female; 54.5% were married whereas 45.5% were single. In addition, 31.6% of the personnel were between 24 and 34 years old, and 31.8% had graduated from college/university. Finally, 29.4% of the personnel had an income ranging between ₺1000 and ₺1499. The majority of the personnel worked in housekeeping (22.0%), food and beverage service (15.5%), the front office (15.3%), and other services (11.5%) (human resources, technical service, bellboy, security, and gardener). Regarding period of service, 31.4% of the personnel had 6 to 10 years of service. The period of service at their most recent workplace was mostly 1 to 5 years (34.6%; see Table 1).

Table 1. General Details of Personnel Working in Accommodation Businesses (N=554)

Gender	f	%
<i>Female</i>	249	45.0
<i>Male</i>	305	55.0
Age Range	f	%
<i>18–24</i>	109	19.7
<i>25–34</i>	175	31.6
<i>35–44</i>	139	25.1
<i>45–54</i>	76	13.7
<i>55–64</i>	55	9.9
Educational Background	f	%
<i>Primary School</i>	133	24.0
<i>Secondary Education</i>	173	31.2
<i>College/University</i>	176	31.8
<i>Postgraduate</i>	72	13.0
Marital Status	f	%
<i>Married</i>	302	54.5
<i>Single</i>	252	45.5
Monthly Income	f	%
<i>Less than ₺1000</i>	113	20.1
<i>₺1000–₺1499</i>	163	29.4
<i>₺1500–₺1999</i>	121	22.2
<i>₺2000–₺2499</i>	82	14.8
<i>₺2500 and over</i>	75	13.5
Department	f	%

<i>Front Office</i>	85	15.3
<i>Housekeeping</i>	122	22.0
<i>Public Relations</i>	44	7.9
<i>Sales/marketing</i>	51	9.2
<i>Accounting</i>	51	9.2
<i>Administrative Management</i>	52	9.4
<i>Food & Beverage Services</i>	86	15.5
<i>Others</i>	63	11.5
Period of Service in the Sector	f	%
<i>Less than 1 year</i>	72	13.0
<i>1 to 5 years</i>	111	20.0
<i>6 to 10 years</i>	174	31.4
<i>11 to 15 years</i>	107	19.3
<i>16 years and over</i>	90	16.3
Period of Service in Most Recent Workplace	f	%
<i>Less than 1 year</i>	110	19.9
<i>1 to 5 years</i>	192	34.6
<i>6 to 10 years</i>	130	23.5
<i>11 to 15 years</i>	66	11.9
<i>16 years and over</i>	56	10.1

3.2. Participants' Job Satisfaction Levels

The highest value was given to “the working conditions” ($\bar{x}=3.90$) while the lowest value was given to “my pay and amount of work I do” ($\bar{x}=3.00$) in terms of the descriptive statistical values of the sample group's job satisfaction levels.

The data indicated that 38.6% of the sample group was satisfied with the item “the way my job provides for steady employment.” The other results showed satisfaction with “the working conditions” (36.6%), “the chance to do things for other people” (35.8%), “the way my co-workers get along with each other” (34.8%), “being able to do things that don't go against my conscience” (34.0%), “being able to keep busy all the time” (33.8%), “the feeling of accomplishment I get from the job” (33.6%), “the freedom to use my own judgment” (33.2%), and “my pay and amount of work I do” (25.8%).

3.3. Relationship between Participants' Job Satisfaction Levels and Educational Background

The analysis results given in Table 3 show that job satisfaction levels of individuals in the sample group indicated a significant difference based on their educational backgrounds [$\chi^2_{(2)}=49.439$; $p<.01$], suggesting that educational background might be statistically influential on individuals' job satisfaction levels. Taking the mean rank of the groups into account, the highest scorers were those with postgraduate degrees, followed by college/university graduates, secondary education graduates, and primary school graduates. The Mann–Whitney U test, carried out to reveal the source of difference between groups, indicated that the difference is between the job satisfaction scores of those with postgraduate degrees and primary school graduates (Table 2).

Table 2. Kruskal–Wallis Test Results Regarding the Difference Between Sample Group's Job Satisfaction

Levels by Educational Backgrounds					
Educational Background	N	Mean Rank	χ^2	p	Significant Difference
<i>Primary School</i>	133	92.39	49.439	.000	Postgraduate Degree- Primary School
<i>Secondary Education</i>	173	154.39			
<i>College/University</i>	176	178.21			
<i>Postgraduate Degree</i>	72	213.03			

3.4. Relationship between Participants' Job Satisfaction Levels and Monthly Income

The analysis results in Table 4 indicate that job satisfaction levels of the individuals in the sample group differed significantly according to their monthly income [$\chi^2_{(2)}=45.788$; $p<.01$]. Monthly income might have had a statistically significant influence on individuals' job satisfaction levels. Taking into account the mean rank of the groups, the highest scorers were those with a monthly income ranging from £2000 to £2499, followed by those with a monthly income of more than £2500, those with a monthly income ranging from £1500 to £1999, those with a monthly income ranging from £1000 to £1499, and those with a monthly income less than £1000. The Mann–Whitney U test, carried out to reveal the source of difference between groups, indicated that the difference is between those with a monthly income ranging from £2000 to £2499 and those with a monthly income less than £1000 as well as those with a monthly income ranging from £1000 to £1499 (Table 3).

Table 3. Kruskal–Wallis Test Results Regarding the Difference Between Sample Group's Job Satisfaction

Levels by Monthly Incomes					
Monthly Income	N	Mean Rank	X ²	p	Significant Difference
<i>Less than ₺1000</i>	113	112.83	45.788	.000	Between ₺2000 and ₺2499 and less than ₺1000
<i>₺1000–₺1499</i>	163	131.25			Between ₺2000 and ₺2499 and less than ₺1000
<i>₺1500–₺1999</i>	121	185.58			
<i>₺2000–₺2499</i>	82	209.77			
<i>₺2500 and over</i>	75	181.28			

3.5. Relationship between Participants' Job Satisfaction Levels and Departments in which They Work

The analysis results in Table 5 show that job satisfaction levels of the individuals in the sample group differed significantly by the departments in which they work [$F_{(7-296)}=4.875$; $p<.01$]. The department in which individuals work might have had a statistical influence on job satisfaction levels of the individuals in the sample group. The Scheffé analysis was conducted to see between which groups the difference existed, and it was found the difference occurred between individuals working in the front office and housekeeping (Table 4).

Table 4. One-Way Variance Analysis (ANOVA) Results Regarding the Sample Group's Job Satisfaction Levels

based on the Departments in which They Work						
Variable			N	$\bar{x}$	S	
Department	<i>Front Office</i>		85	3.75	.66	
	<i>Housekeeping</i>		122	3.24	.78	
	<i>Public Relations</i>		44	3.55	.73	
	<i>Sales/Marketing</i>		51	3.93	.56	
	<i>Accounting</i>		51	3.74	.73	
	<i>Administrative Management</i>		52	4.10	.42	
	<i>Food & Beverage Services</i>		86	3.54	.75	
	<i>Others</i>		63	3.69	.83	
	Source of the Variance	SS	sd	MS	F	p
	Inter-groups	18.492	7	2.642	4.875	.000
	Intra-Groups	160.400	296	.542		
	Total	178.892	303			

3.6. Relationship between Participants' Job Satisfaction Levels and Period of Service at Most Recent Workplace

The analysis results in Table 6 show no significant difference between job satisfaction levels of the individuals in the sample group and their period of service at their most recent workplace [$F_{(4-299)}=.933$; $p>.05$]. It is possible to assert that the period of service in the most recent workplace did not influence the job satisfaction levels of the individuals in the sample group (Table 5).

Table 5. One-Way Variance Analysis (ANOVA) Results Regarding the Sample Group's Job Satisfaction Levels

based on the Period of Service at Their Most Recent Workplace						
Variable		N		$\bar{x}$		S
Period of Service	<i>Less than 1 year</i>	110		3.56		.82
	<i>1 to 5 years</i>	192		3.50		.72
	<i>6 to 10 years</i>	130		3.58		.80
	<i>11 to 15 years</i>	66		3.83		.67
	<i>16 years and over</i>	56		3.85		.75
Source of Variance	SS	sd	MS	F	p	Diff.
Inter-groups	2.205	4	.551	.933	.445	--
Intra-Groups	176.688	299	.591			
Total	178.892	303				

4. Conclusion and Implications

The attitudes and behaviors of the personnel working in accommodation businesses, which produce services, are associated with their job satisfaction. Hence, the success of businesses depends largely on their being aware of the demands and needs of their personnel and offering them a satisfying working environment. Businesses need to impose sanctions to increase job satisfaction in order to raise service quality and increase productivity. The Ministry of Culture and Tourism should employ a mechanism to audit businesses in this sense. Appropriately increasing payments and the organization of the work schedule are among the issues that need to be dealt with. It will be useful for businesses to be informed about and pay attention to practices that motivate their personnel (e.g., betterment of working conditions, bonuses based on performances, bounties and prizes, employee of the month selection). In addition, precautions should be taken in advance to prevent any kind of negative outcomes (e.g., turnover rate, absenteeism, or tardiness). Businesses' human resource units should pay particular attention when finding and selecting personnel. By bringing together accomplished and agreeable personnel, the majority of potential problems can be eliminated. Another important issue for ensuring that personnel are satisfied is managers' efforts to make the personnel perceive themselves as part of the business in which they work. They should include personnel in decision-making processes. Moreover, they need to adopt a transparent type of management that allows personnel to make decisions and implement them while working.

This study is limited to the Alanya district of the Antalya province in Turkey. Different results may be obtained if the study were implemented in another region. Conducting comparisons with other studies with large samples, particularly from the Bodrum, Kuşadası, Marmaris, and Fethiye regions—the most important tourism centers of the Aegean

region, where great investments have been made in recent years—will be useful for revealing the similarities and differences.

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The Moderating Role Of Organizational Stress On The Influence Of University Staff's Perceptions Of Organizational Inertia Upon The Job Burnout Level

1. Introduction

Rapid changes that constantly occur in the technology of work and methods of doing a business create a pressure on organizations with regards to adapting to their environment, and thus, organizations are forced to change. The organizations lagging behind the changes in their environment fail to reach their aims and targets in time, and accordingly risk their existence. There are many factors that hinder the organizations from keeping pace with changes that are regarded challenging because the organizations try to change deeply-rooted individual and organizational habits within the organizations. One of the most significant impediments against organizational change and development is the concept of organizational inertia that is associated with stagnation, inactivity, quiescence, idleness, dilatoriness, and inability to take action, impeding the efficiency of an organization (Collins and Wilson, 2006: 1367; Çankaya and Demirtaş, 2010: 1).

Inertia impedes the potential change in the organizational structure due to the resistance shown by the employees against changes and developments by preserving their old habits. Organizational inertia is defined as a failure to adjust to the organizational targets and a problem of a type of monotony emerging from commenting on a variety of newly encountered situations and phenomena through knowledge and experience acquired in the past (Liao et. al., 2008: 184), leading to physical and mental chaos within organizations such as inefficiency, vagueness, indecisiveness, hopelessness and grumbling (Soysal, 2010: 17). When the employees feels unsuccessful within the chaos environment, it leads them to go under stress and job burnout, which also causes qualified employees to have the tendency to quit the organization in time (Sekman, 2010: 124; Sekman and Utku, 2009: 134).

This study aims to identify the effect of organizational inertia, which creates significant results on organizational efficiency, on the stress and job burnout levels of the employees that significantly influence the job performance at the workplace, and to determine the mediating impact of stress on variables, as well as stress concepts. This study will first deal with the concepts of organizational inertia, job burnout and stress. It will further dwell on the relationship between organizational inertia, and job burnout and stress levels. Based on the assumption that inertia is widespread in public institutions on the grounds that the characteristics of bureaucratic organizations largely overlap the factors leading to inertia, a field study has been conducted with the employees of a state university in Turkey, and its results will be presented in this study.

2. Organizational Inertia

Inertia, defined as “a state of inactivity” in physics, is used to mean “failing to act for a purpose” in growth terminology. With respect to the management science, inertia is the inability of an organization to respond rapidly to the changes in the environment in which it operates, having a cumbersome organizational structure, and acting too slowly in fulfilling the necessary organizational functions (Sekman, 2010: 23).

A variety of internal and external pressures prevent organizations from taking actions in order to adapt to the changes in their environment, and these pressures lead to structural inertia or inactivity. What is intended by the term “stagnation-inactivity” (structural inflexibility, structural stagnation) related to the organizational Population Ecology approach

is the inability of a living organism, or an institution or an organization to respond to the mandatory changes happening in their environment, and lack of a flexible and vibrant structure (Erdil et. al., 2010: 24; Güneş, 2012: 115).

Given the literature on the types of inertia, Liao et. al. (2008) classified inertia as the inertia of knowledge and inertia of experience. The inertia of knowledge is defined as the way people try to benefit from their previous knowledge and experience to solve new problems they encounter. It leads to a decline in creative and innovative behavior, poses an obstacle to organizational learning, and has negative effects on the use of knowledge efficiently and effectively. On the other hand, the inertia of experience is defined as the way people try to benefit from their past experiences or the methods they used in the past in order to solve a similar problem they have encountered before (Fang et. al., 2011: 1865; Liao et. al., 2008: 184-189).

The fundamental factors that lead an organization to inertia are institutionalization, usual routines, and the age and size of the organization. One of the most important factors that trigger the organizational inertia to settle in an organization is institutionalization, which leads to some inconveniences because all communication and interaction in an organization is based on rules leading the employees to focus only on their work, repetitions due to the prolonged decision making processes, monotonous work environment and the emergence of an excessively functional structure (Alkış and Temizkan, 2010: 76). Accordingly, the unfavorable situations resulted from institutionalization may drag the organization into inertia as they prevent the organization from complying with the changes in the environment.

Preconceived routine behaviors (habits) are also among the reasons for organizational inertia. In this context, an organization insists on its own internal modification instead of complying with the changes in the environment and is reluctant to quit its old habits, thoughts and values, leading to the problem of inertia (Nakagawa and Watanabe, 2007: 27). Another factor causing the problem of inertia is the structural complexity resulted from the excessive growth of an organization. The growth of an organization is a factor that leads the structure to become more complex, more hierarchic and more rigid as well as increase the formalization and bureaucratic controls on decisions. (Atalay, 2013: 17).

With its variety of direct and indirect outcomes, organizational inertia may have negative effects on both inside the organization, namely employees, and on outside the organization, namely customers and other organizations that they interact. Inability of the organizations to develop horizontally due to inertia results in the inability to meet the social and emotional needs of individuals, and thus, the organizations are perceived as simple work environments and this wears out the employees socially and emotionally more rapidly (Töremen and Çankaya, 2008: 45).

3. Organizational Stress

Stress, in general terms, is pushing the psychological and physiological limits of an individual. This term, which refers to specific phenomenon at the workplace, sources of stress and state of tenseness, has been defined as activating the individual energy against any expectation related to the organization or work (Pehlivan, 1995: 792). Work stress, which is observed on individuals and defined as a different state pushing individuals to deviate from usual activities, indicates discontent, anxiety and concern that employees go through with respect to their work (Ergun, 2008: 7).

There are many sources of stress that influence an individual negatively in a work environment. Among the sources of stress that influence the employees working in the organization are excessive work load, the quality of work, working conditions and workmates, insufficient participation in decision-making processes, communication problems, role

ambiguity, incompatibility between the values of the organization and individual, role conflict, opportunities for development and progress (Erdoğan et.al., 2009: 449; DeFrank and Ivancevich, 1998: 56)

Another source of stress related to work is monotony. The impacts of monotony on humans are mental and social disorders such as an advanced level of despondency, distress, tension, indifference, passive resistance, and aggression. The monotonous performance of the work and exclusion of the individual from the work processes create alienation of the individual from his work environment, which is a source of stress (Uzun, 2013: 34-35).

4. Job Burnout

Job burnout was first defined by Herbert Freudenberger in 1974 as “the state of exhaustion in the inner sources of an individual as a result of being unsuccessful, and of depreciation, loss of energy and power, or the demands that cannot be met”. The most common and recognized definition of the job burnout was made by Christina Maslach, who developed Maslach Burnout Index (MBI)¹, which was named after her. Maslach et.al. (2001) defined the job burnout as a stress syndrome involving emotional exhaustion and depersonalization of the employees towards their workmates, customers and managers, and the sense of low personal accomplishment (Siegal and McDonald, 2004: 291). According to this definition, Maslach discussed the job burnout in three different dimensions which categorize the emotions with respect to emotional exhaustions, depersonalization and personal accomplishment feeling (Budak and Sürgevil, 2005: 96).

Emotional exhaustion is defined as the individual's stress overload and sense of exhaustion due to the work done. Symptoms such as weariness, lack of energy and emotional depreciation is observed in the case of emotional exhaustion, which is the inner dimension of the exhaustion (Arı and Bal, 2008: 133).

An emotionally exhausted individual tend to limit his/her relationships with people around him/her in the next step and stay away from them psychologically. Thus, the depersonalization dimension is defined as the demonstration of attitudes and behavior deprived of emotions when an individual ignores the fact that the people they give service are individuals. Depersonalization states the interpersonal dimension of burnout (Ardıç and Polatçı, 2008: 71; Budak and Sürgevil, 2005: 96). Personal accomplishment feeling is defined as the tendency of evaluating oneself negatively. The individuals who undergo the sense of low personal accomplishment feeling, which is the self-assessment dimension of burnout, feel lack of personal accomplishment and efficiency at workplace, and regard themselves insufficient (Maslach et.al., 2001: 399; Arı and Bal, 2008: 134).

Job burnout resulting in a number of negative outcomes such as the increase in absenteeism both in terms of individuals and organizations, and the decrease in job dissatisfaction and performance is regarded as an “organizational factor based” problem affected by the variables related to profession and work environment rather than individual variables. The fact that the work done is overwhelming with respect to interpersonal relationships, and involves a lot of role and job stress is an important factor that leads to job burnout in a profession or a work environment. As a reality of social and organizational life, stress weakens the employees with respect to performance, the organizations with respect to structure and operation, and life with respect to quality when it increases excessively, resulting in job burnout. The job burnout starts when an individual copes with creativity and productivity increasing roles (Arı and Bal, 2008: 133; Yıldırım and Taşmektepligil, 2011: 132).

Other important organizational factors that affect the job burnout are role conflict, role ambiguity (Jackson et.al. 1986; Fogarty et.al., 2000; Jawahar et.al., 2007; Kickul and Margaret, 2001; Brown and Wallace, 2004; Bolat et.al., 2011; Haudebert et.al., 2011), service time

(Brauchli et.al., 2011; Diestel and Schmidt, 2011; Huhtala et.al., 2011, Schmidt, 2007), physical or mental challenge of the job (Emmerik, 2004; Otto and Schmidt, 2007), time pressure and restrictions (Dormann and Zapf, 2004; Hatinen et.al., 2004; Kickul and Margaret, 2001; Teuchmann et.al., 1999) and monotony (Otto and Schmidt, 2007) (Dönmez, 2012: 42-43).

5. Method

5.1. Research Model and Hypotheses

This study has aimed to put forward the mediating role of the organizational stress level in relation with the impact of the employees' perception of organizational inertia on their levels of job burnout, and the research model has been formed as shown in Figure 1 according to the literature review.

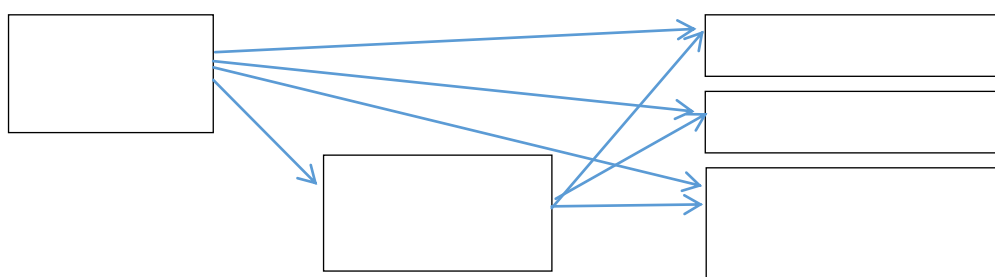


Figure 1. Research Model

The following hypotheses have been developed according to the research model formed within the framework of the study based on the literature review:

H₁: Employees' perception of organizational inertia has a positive and significant impact on

- a. the emotional exhaustion levels.
- b. the depersonalization levels.
- c. the sense of personal accomplishment feeling.

H₂: Employees' perception of organizational inertia has a positive and significant impact on the organizational stress levels.

H₃: Employees' organizational stress levels have a positive and significant impact on

- a. the emotional exhaustion levels.
- b. the depersonalization levels.
- c. the sense of personal accomplishment feeling.

H₄: Organizational stress level has a mediating impact in relation to the affect of employees' perception of organizational inertia on

- a. emotional exhaustion.
- b. depersonalization.
- c. personal accomplishment feeling.

5.2. Data Collection

Given the fact that the factors leading to organizational inertia and the qualities of organizations with a bureaucratic structure overlap, it can be assumed that bureaucratic organizations are more likely to undergo the problem of inertia and resist change more. Considering the tendency of the public institutions to maintain their current bureaucratic structures shaped by the bureaucratic management mentality, it has become popular to assess

the concept of inertia in the context of public institutions (Çankaya, 2010: 706; Leblebici, 2005: 2). This study was conducted in a state university with the purpose of determining the impact of perceived organizational inertia on employees' job burnout and stress levels.

In the university, where the research has been conducted, there are 618 employees, 340 of whom are academic, 278 of whom are administrative employees. Questionnaire has been used in the study in which sample selection has been performed by a simple random sampling method. The sample size has been determined by using the following formula (Kurtuluş, 1988: 235).

$$n = \frac{N(p \times q)}{(Z)^2} + \frac{N-1(B)^2}{(Z)^2}$$

In this formula, the numerator is the highest value ($0.5 \times 0.5 = 0.25$) for $p \times q$ and the denominator has a tolerance level of (B) 5%. Z value is 1.96 because the generally accepted confidence interval is 95%, and thus, the sample size is calculated as follows:

$$n = \frac{618(0.5 \times 0.5)}{(1.96)^2} + \frac{617(0.05)^2}{(1.96)^2} = 384$$

As the calculated (n) value is bigger than 5% of $N=618$ correction factor has been used ($N-n$). Accordingly, the following value has been found.

$N-1$

$$\frac{618-384}{618-1} = 0.38 \quad 0.38 \times 384 = 145$$

The value of $n=155$ is determined in this study in order to prevent the decline of the estimated number of samples that result from possible response errors to be encountered while conducting the questionnaire.

5.3. Scale

Using a questionnaire, the data was collected from the academic and administrative staff working in a state university. The questionnaire is composed of two parts, the first of which involves the demographic data of the employees who have responded to the questionnaire and the questions developed to gather related data. The second part involves 43 expressions composed of 3 scales with respect to the organizational inertia, stress and job burnout variables. The inertia scale developed by Liao, Fei and Liu (2008) was used to measure inertia in this study. Likewise, scales developed by House and Rizzo (1972) were used to measure organizational stress levels, and scales developed by Maslach and Jackson (1981) were used to measure satisfaction levels.

Cronbach Alpha coefficients were estimated to perform reliability analysis for the data obtained. Reliability analysis scores are given in Table 1. Social sciences, in general, requires a reliability coefficient to be 0.70 and above for the reliability of a scale (Nunnally, 1983), and the reliability analysis scores demonstrate high internal consistency.

Table 1. Reliability Analysis and Descriptive Statistics

	Number of Items	Cronbach's Alpha	Mean	Std. Deviation
Experience Inertia	7	0,72	3,92	0,58

Knowledge Inertia	7	0,81	2,03	0,79
Inertia	14	0,71	2,96	0,46
Stress	7	0,92	3,08	1,16
Emotional Exhaustion	9	0,92	2,70	1,09
Depersonalization	5	0,82	2,15	0,96
Personal accomplishment feeling	8	0,72	3,68	0,61

On analyzing the mean scores for the variables shown in Table 1, the mean score of the responses given to the questions regarding the perception of organizational inertia were observed to be 2.96. When assessed over 5, perception level of the organizational inertia for the university staff attending the study was more likely to be at medium level.

On analyzing the mean scores of the organizational inertia dimensions, the arithmetic mean score of information inertia was observed 2.03, whereas that of experience inertia was 3.92, which shows that the level of experience inertia is higher than the level of information inertia. Accordingly, when analyzing the organizational inertia dimensions, the perception of information inertia was observed to be quite low for the aforementioned university employees, whereas their perception of the existence of experience inertia at the university they work was observed to be higher.

6. Research Findings

At first, the demographic information of the employees were classified to analyze the data obtained for the purposes of the questionnaire conducted to determine the relationship between the perceived level of organizational inertia and employees' level of stress and job burnout. Next, the relationship between the perception of organizational inertia and the dimensions of stress and job burnout was analyzed by the use of correlation analysis. The effect of stress as a mediating variable on the relationship between the perception of organizational inertia and the dimensions of job burnout was examined by hierarchic regression analysis and Sobel tests.

6.1. Findings about the Participants

Based on demographic data, 61.3% of the participants were male whereas 37.8% of them were female. The age of the employees varies between 26 and 35 (54.2%), and 63.9% of them were married. For most of the participants, the total service time at that university was maximum 37 months and more (48.4%). Most of the participants were (51%) academic staff, among whom 38.7 had undergraduate degrees, 25.8% had graduate degrees, and 20.6% had PhD degrees. The rate of participants with a high school degree was 3.9%.

6.2. Testing of Hypotheses

Table 2 shows the correlation analysis results to put forward the level of relationship between two variables. There is a low level positive relationship between the perceived level of organizational inertia and organizational stress level ($r=0.27$, $p<0.01$). On observing the relationship between inertia and job burnout dimensions, there appears a low level positive

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relationship between the dimensions of emotional exhaustion ($r=0.27$, $p<0.01$) and depersonalization ($r=0.24$, $p<0.01$), whereas there is a significant relationship with sense of low personal accomplishment feeling. According to the correlation coefficients that show the relationship between the organizational stress and job burnout, there is a high level positive relationship between the dimensions of stress level and emotional exhaustion ($r=0.82$, $p<0.01$), and there is a medium positive relationship between stress and depersonalization dimension ($r=0.59$, $p<0.01$), whereas there is a low negative relationship between stress and decrease in personal accomplishment feeling dimension ($r=-0.18$, $p<0.05$). To this end, H_{1a} , H_{1b} , H_2 , H_{3a} and H_{3b} hypotheses developed within the framework of the study were accepted, whereas H_{1c} , H_{3c} and H_{4c} hypotheses were rejected.

Table 2. Correlation Analysis Results

	1	2	3	4	5
1. Organizational Inertia	1				
2. Stress	,27**	1			
3. Emotional Exhaustion	,27**	,82**	1		
4. Depersonalization	,24**	,59**	,74**	1	
5. Personal accomplishment feeling	-,06	-,18*	-	-,20*	1
			,31**		

** $p<0.01$ * $p<0.05$

Three-way regression analysis developed by Baron and Kenny (1986) was also used at the second step of the analysis performed to test the mediating impact of the organizational stress level with respect to the relationship between emotional exhaustion and depersonalization, which are among the dimensions of the perception of organizational inertia and job burnout. Accordingly, it must be determined whether the dependent variable (the perception of organizational inertia) is a significant predictor for the mediating variable (organizational stress) at the first step of the analysis, whereas at the second step, it must be clearly stated that the independent variable (the perception of organizational inertia) is a significant predictor for the dependent variable (job burnout). Finally, the mediating variable (organizational stress) must be examined to see whether it has a mediating impact by incorporating it into the analysis. On including the mediating variable (organizational stress) in the regression analysis at the second step, if the impact of the independent variable (the perception of organizational inertia) on the dependent variable (job burnout) declines, while the mediating variable (organizational stress) indicates a significant impact on the dependent variable, then the mediating impact could be acceptable. After the inclusion of the mediating variable into the analysis at the last stage, if the significant impact of the independent variable on the dependent variable completely disappears, it indicates a “perfect mediating impact”. On the other hand, if the significant impact of the independent variable on the dependent variable declines, it indicates ‘partial mediating impact’ (Baron and Kenny, 1986: 1176). Table 3 demonstrates the results of the hierarchic regression analysis.

Table 3. Hierarchical Regression Analysis Results

		β	
		Stres	Duygusal Tükenmişlik
			Duyarsızlaşma
			k
Atalet	Model 1a		
	Atalet		,271**

	R ²	,074
	Düz. R ²	,067
	Model 1b	
	Atalet	,265**
	R ²	,070
	Düz. R ²	,064
	Model 1c	
	Atalet	,058
	Stres	,807**
	R ²	,781
	Düz. R ²	,778
Atalet	Model 2a	
	Atalet	,237**
	R ²	,056
	Düz. R ²	,050
	Model 2b	
	Atalet	,265**
	R ²	,070
	Düz. R ²	,064
	Model 1c	
	Atalet	,087
	Stres	,569**
	R ²	,358
	Düz. R ²	,349

** p<0.01 *p<0.05

On examining the results of the hierarchic regression analysis presented in Table 3, it is observed that the perceived organizational inertia significantly predicts emotional exhaustion (β :.271, p <.01) at the first stage whereas at the second stage organizational inertia is observed to predict stress significantly (β :.265, p <.01). However, at the third stage at which the impact of both stress and organizational inertia on emotional exhaustion is examined, the impact of organizational inertia on emotional exhaustion becomes insignificant due to the mediating role of the organizational stress (β :.058, p >.05) yet, stress significantly affects emotional exhaustion (β :.846, p <.01). Based on the results of the regression analysis, the significant impact of the independent variable (inertia) on the dependent variable (emotional exhaustion) disappears after including the mediating variable (stress) into the model. Therefore, organizational stress has a perfect mediating effect when considering the impact of the employees' perception of organizational inertia on emotional exhaustion. Accordingly, H_{4a} hypothesis has been adopted based on this assumption.

Given the relationship between the perceived organizational inertia and depersonalization, the second mediating test for the organizational stress reveals that the perceived organizational inertia significantly effects depersonalization dimension (β :.271, p <.01) and stress (β :.65, p <.01). Considering the impact of organizational inertia on depersonalization, the results obtained at the final stage at which the mediating impact of organizational stress is observed show that the significant impact of organizational inertia disappears as a result of the mediating impact of the organizational stress (β :.087, p >.05), however, stress continues to affect depersonalization significantly (β :.569, p <.01). Organizational stress has a perfect mediating impact related to the impact of employees'

perception of the organizational inertia on depersonalization. Accordingly, H_{4b} hypothesis has been adopted.

Sobel Test was performed to test the statistical significance of the non-zero value with respect to the impact of the perceived organizational inertia on emotional exhaustion and depersonalization. Given the test results (emotional exhaustion $-z:3.324$, $sh:0.154$, $p<.01$; depersonalization $-z:3.148$, $sh:0.101$, $p<.01$), the perfect mediating impact of stress is confirmed in relation to the impact of organizational inertia perception on emotional exhaustion and depersonalization, which are the two dimensions of job burnout.

7. Conclusion

It is possible for the organizations that are in a constant interaction with their environment to achieve their goals and survive, only if they comply with the rapidly developing and changing conditions in their environment. However, some organizations may lose their ability to change because of the inaction caused by factors such as complexity depending on some problems, settled habits and the size of an organization caused by institutionalization. This situation called organizational inertia is the leading factor of the problems that threatens organizational health most.

The perception of inertia, which may reduce the rivalry power of the organizations by preventing them from complying with the changes in their environment, is a necessary condition that must not be ignored because of the negative outcomes it causes for individuals and organizations such as employees' attitudes towards the organizations they work for and on their behavior at workplace. The aim of this study is to put forward the relationship between the perception of organizational inertia and job burnout that have negative impacts on employees' job efficiency and performance, and also to reveal the mediating role of organizational stress in this relationship. To this end, this study has been conducted with academic and administrative staff in a state university based on the idea that the problem of inertia prevails more in bureaucratic organizations where there is resistance against change, division of labor and hierarchic classification

At the end of the study, the perception of inertia level of university employees participating in the study has been observed to be at medium level. The age and size of the organizations are the most important variables that lead to inertia. Due to the aging structure of the institutions in Turkish bureaucracy, there is a state of inactivity rather than showing resistance to change. Even though bureaucratic institutions wish to change, they cannot run the risk of costs resulting from the change itself. However, it has been considered that the perception of inertia level is low as the participant university is a young university and does not have a cumbersome structure caused by growth.

As a result of the correlation and regression analyses conducted among the variables, a positive relationship has been observed between university staff's perception of organizational inertia and the two dimensions of job burnout (emotional exhaustion and depersonalization), and organizational stress appears to have a mediating role in this relationship. Accordingly, inertia, which results in a number of negative outcomes such as inability to reach goals within the organization, vagueness and indecisiveness, leads to dissatisfaction on employees, which in turn causes stress and tenseness. Organizational factors that result in stress in short term, leads to job burnout in the long run, which in time cause an increased tendency for qualified employees to quit the organization.

The relationship between the perception of organizational inertia and job burnout, and the mediating role of stress in this relationship has been determined in this study. The most important limitation of this study is that employees only from a single university were

included in the study. Despite this limitation, it is believed that the results obtained will provide important clues for people who would like to do research on this subject, and guide them with respect to implementation. In this context, it is recommended that this study be conducted by benchmarking and in organizations with different age groups and sizes as well as a larger sample group.

8. References

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Examination of Hospital Mergers and Acquisitions in Turkish Health Sector: 2008-2015 Term

1. Introduction

It is experienced an increase in merger and acquisition transactions with the rapid developments in information and communication technologies, reducing legal obstacles, impact of globalization trends that promote efficiency, productivity and growth in 1990s. Parallel to the general trend, merger and acquisition transactions also showed improvement over the years in the health sector. In particular, tendency of external growth strategy in hospitals such as merger and acquisition has gained momentum after the 1980s (Gowrisankaran, Nevo & Town, 2015; Calem, Dor & Rizzo, 1999).

Merger is defined as coming together of two or more businesses by combining assets, responsibilities and cultural values. Businesses are merged to form a new business with a new name (Swayne, Duncan & Ginter, 2012). Although the main business gets quite different qualification after the merger, it maintains its original identity (Akgemci, 2008). Acquisition is defined as buying the assets or shares of other business by paying the money like cash or share (Sherman, 2010). A business acquires the shares of other business either wholly or at the rate that can be controlled (Tengilimoglu, Akbolat & Isik, 2015). Acquired business sustains its activities in the management of acquiring business (Ulgen & Mirze, 2004). There are advantages of merger and acquisition transactions like geographically spreading across wider areas, having a new range of products, reducing competition, achieving the economies of scale, obtaining research & development and other strategic benefits (Lohrke, Frownfelter & Ketchen, 2016).

High fixed costs of hospitals direct hospitals to reduce their duplicative fixed costs by acquiring other hospitals (Noles et al. 2014). With the increasing capital requirements of hospitals, difficulties emerge in access to capital. Relatively smaller hospitals want to merge with larger hospitals in order to obtain capital (Morrisette, Burgdorfer & Shields, 2014) and turn to consolidation with larger hospitals to take advantage of economies of scale and ensure success particularly in information technology, new equipment, new facilities and physician practices. Creswell and Abelson (2013) states that larger hospitals benefit from physician practices of smaller hospitals to gain market share and control costs.

With the arrangements of efficiency, quality improvement, coordination of patient care, access to physicians, bundled-payment and capitation systems in health care, risk shifts to service provider. Hospitals tend to make consolidation to manage risk better on a larger scale (Morrisette et al., 2014). Angeli and Maarse (2012) refer to the concept of risk in merger and acquisition transactions in the health industry and states that factors such as flexibility, cultural and administrative difficulties, inadequacy of hospital systems to integrate clinical and administrative processes increase the consolidation in the provision of health services. In addition, the reforms that took place in recent years in OECD countries stimulate the hospitals about competition. Payment plans with price arrangements such as diagnosis-related groups intend to promote the provision of quality service by reducing hospital costs. Such purposes direct hospitals strong associations that can be managed in the form of systems or chains (Han et al. 2016).

It is observed to increase the transactions of consolidation especially through acquisitions in hospital industry in the last 20 years (McCue, Thompson & Kim, 2015). Especially tendency of chain hospital systems to acquire smaller independent hospitals draws attention (Angeli & Maarse, 2012; Robinson & Casalino, 1996). Reasons, such as increasing market share, strengthening negotiations with reimbursement agencies, new payment

methods due to health care reform, stand out in hospital acquisition transactions occurred in 1990s and 2000s. In addition, lower operating costs and increased efficiency in service delivery trigger the hospitals (Janiga & Ruchaber, 2013). However, studies are focused on bundled payments, population management and quality of service in hospital merger and acquisition transactions in recent years (McCue, Thompson & Kim, 2015). Ho and Hamilton (2000) indicates that there is an increase in hospital acquisitions aiming to improve the quality of services and especially hospital acquisitions in the field of data management and information technology has gained weight in order to improve the quality of management and revenue cycle data management in recent years (McCue, Thompson & Kim, 2015).

In this study, it is aimed to study the course of hospital merger and acquisition transactions occurring in Turkish Health Sector between the years 2008-2015. In addition, revealing the factors that lead to hospital mergers and acquisitions is among the objectives of the research. Merger and acquisition transactions are examined in reports, published annually by independent audit and consulting companies such as Ernst & Young and Deloitte, in such a way that covering all sectors. Because reports involve all sectors, information specific to hospital merger and acquisition transactions over the years fails to satisfy. Due to the absence of a recent study on this issue in the health sector, this study is thought to be important.

2. Method

It is observed that reports published regarding mergers and acquisitions in different sectors in Turkey are created by independent audit and consulting companies. The data used in this study obtained from reports between 2008 and 2015 prepared by Ernst & Young and Deloitte independent audit and consulting firms.

In this descriptive research, hospital merger and acquisition transactions is examined in health sector by examining reports published “Ernst&Young” and “Deloitte” between the years 2008-2015. Hospital merger and acquisition transactions, that are obtained by researching the words "health " and "health care" in reports of Ernst & Young (2010-2015) and Deloitte (2008-2015), have been included in the study.

Data on merger and acquisition transactions are classified according to the year of transactions carried out, acquiring company, acquiring country, the destination country, the shares, the deal value and the type of transaction (merger or acquisition) (see. Appendix 1).

3. Findings

48 hospital merger and acquisition transactions were realized between the years 2008-2015 in the health sector in Turkey. Transactions were in the form of acquisition except one merger. It is identified that there were 4 transactions in 2008, 1 transaction in 2009, 10 transactions in 2010, 15 transactions in 2011, 2 transactions in 2012, 7 transactions in 2013, 6 transactions in 2014 and 3 transactions in 2015 (See. Figure 1).

Examination of Hospital Mergers and Acquisitions in Turkish Health Sector

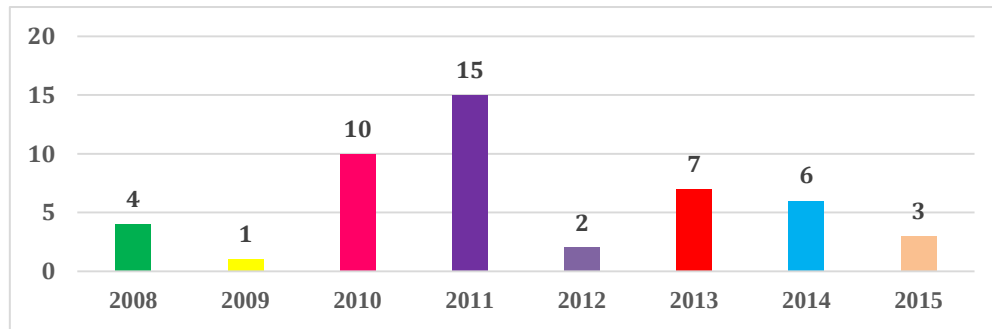


Figure 1. Hospital Merger and Acquisition Transactions Between the Years 2008-2015

When examined the distribution of 48 transactions according to countries, it was found that 39.5% of the hospitals operating in Turkey was acquired by businesses operating in foreign countries and 60.4% of the hospitals was acquired by Turkish companies between the years 2008-2015 (see. Figure 2).

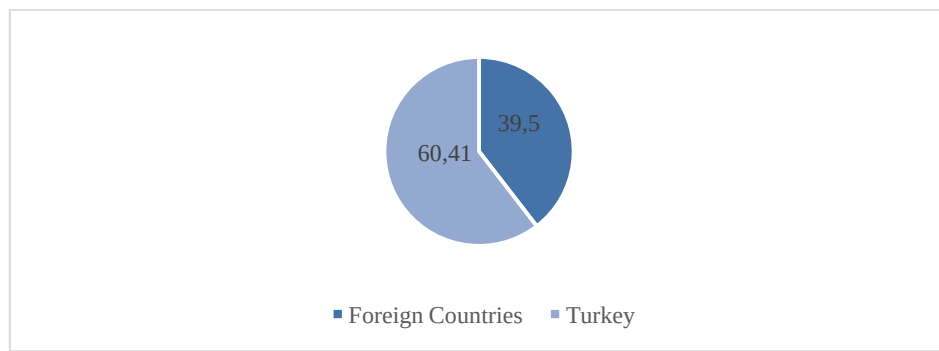


Figure 2. Country Profile of Hospital Merger and Acquisition Transactions Between the Years 2008-2015

Considering the countries that hospital merger and acquisition transactions are carried out, while businesses operating in Turkey were in first place with 29 transactions, businesses in England with 4 transactions, USA with 3 transactions and Hong Kong with 3 transactions are placed near the top (see. Figure 3).

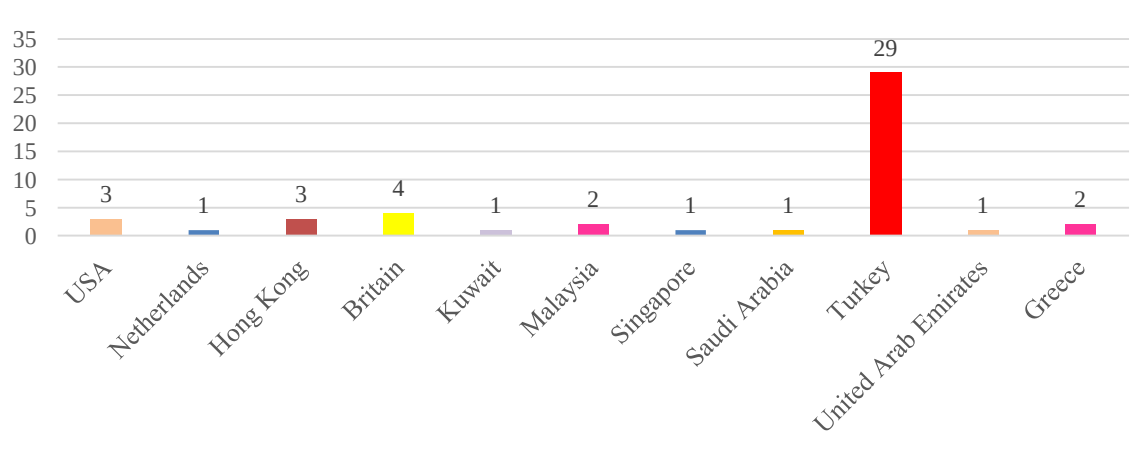


Figure 3. Country Distribution of Hospital Merger and Acquisition Transactions between the Years 2008-2015

The distribution of shares in hospital acquisition transactions is given in Figure 4. Percentage of acquisition with 100% share is 46.1%. Generally it is seen that the trend is in the form of acquisition of entire company. In addition, it is observed that 28.2% of companies acquires 50-75% share, 20.5% of companies acquires less than 50% share and 5% of companies acquires 76-99% share. Because there is one merger transaction and shares of 8 acquired transactions are non-disclosed, it is confine to 39 transactions in this classification.

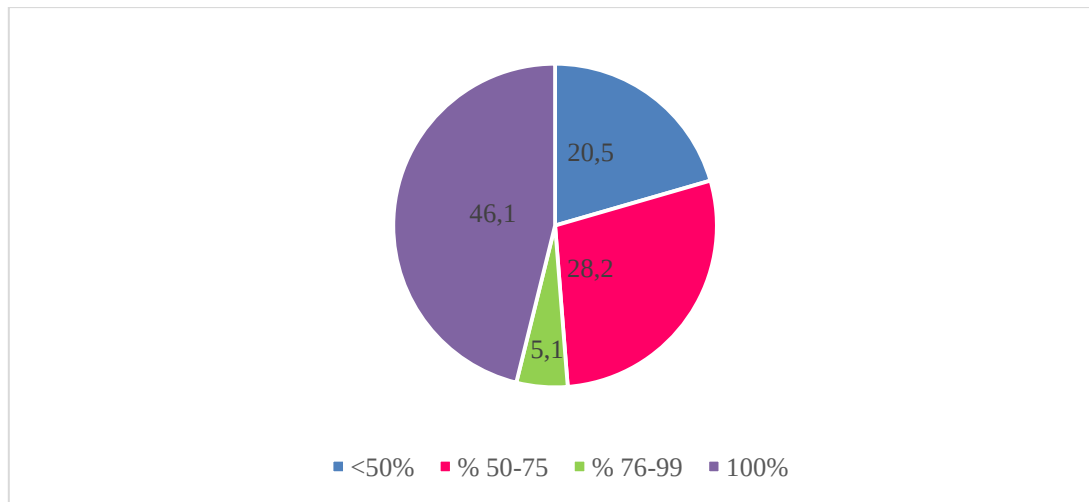


Figure 4. Distribution in Hospital Acquisition Transactions between the Years 2008-2015

4. Discussion and Conclusion

The purpose of this study is to analyze the course of hospital merger and acquisition transactions in Turkish health sector between the years 2008-2015. In addition, it is aimed to discuss the factors that lead to hospital mergers and acquisitions.

It is found that 48 hospital merger and acquisition transactions are generally in the form of acquisition excluding one merger between the years 2008-2015. The general trend is in the form of acquisition. When examined the distribution of total 48 operations according to countries, it is determined that 39.5% of the hospitals operating in Turkey was acquired by foreign countries. England with 4 transactions, USA with 3 transactions and Hong Kong with 3 transactions are located in first place on the list. Ho and Hamilton (2000) state that acquisition transactions is preferred rather than mergers in broader markets where there is not customers overlap. In this study, it can be said that high rate of hospital acquisitions with foreign origin aims to reach broader market. Because Turkey has significant growth opportunities especially in medical tourism, it draws attention of foreign investors. In "Turkey Mergers and Acquisitions Report: Identifying Opportunities in a Changing Market" report of KPMG Turkey, provide audit, tax and advisory services (2011,), it is stated that Turkey has advantageous location combining East and West and draws attention of foreign investors with potential young population. Because Turkey has high potential to attract patients especially from European and neighboring countries, it can be said that hospital acquisition investments to Turkey have increased.

It is thought that changes in Private Hospitals Regulation in 2008 affected hospital mergers and acquisitions in Turkey. With the amendment in February 2008, some limitations

have been introduced such as adding medical service unit, medical devices with intensive technology and health worker to health facilities. In this period corresponds to the economic crisis in 2008, health sector has entered the period of stagnation and investors have experienced difficulties in finding funds. Credit viability in health investments becomes more difficult in the periods of economic crisis. It can be said that large hospital groups focus on the acquisition or merger plans to overcome such restrictions on new hospital investment. Thus, there is no need to bear the cost of the hospital building from scratch for health investors acquired relatively smaller hospitals. Also, small hospitals could benefit from the advantage of physician practices and economies of scale of larger hospitals in access to high cost and complex information technology. In this respect, it can be said to be a mutual nourishment for both large organizational structures and small hospitals.

According to findings of research, only one hospital merger has found between the years 2008-2015. Kemer Medical Center has merged with Cagdas Health Services, Hastur Hospital and Ege Private Health Services (See. Appendix 1). According to Ho and Hamilton (2000), mergers of independent hospitals are done in order to increase their market power in hospitals geographically close to each other. Kemer Medical Center continues to operate in Antalya, Cagdas Health Services in Ankara, Hastur Hospital in Afyon and Ege Private Health Services in İstanbul. From this aspect, it can be said businesses offering services in more limited geographic area vis-à-vis acquisitions of foreign countries.

Restriction of merger with only one transaction in the private health sector can be explained with internal dynamics of health management. Considering conflicts between management-professionals and management-political institutions, health management is one of the fields where there is little reliable relationship (Nordgren, 2015; Ackroyd et al., 2007). Choi (2011) suggests that hospital merger is important for the implementation of radical organizational change. However, he states that insecurity between hospital managers and professionals causes not realization of mergers.

Uncertainty in the price and cost advantage in private hospital sector is thought to be an obstacle in the realization of mergers. It is remarkable that merged businesses fail to obtain the desired results as a result of the merger, experience the failure or low percentage of success. The potential cost saving is indicated to be the driving force behind the merger (Nikolentzos et al., 2015; Weil, 2010). However, examining the literature, it is found that mergers have few benefits in terms of price and cost in studies about private hospital mergers (Vazirani, 2012; Harrison, 2011; Vogt and Town, 2006; Dranove ve Lindrooth, 2003; Spang et. al. 2001). Although even cost savings, it is stated that merged businesses cannot achieve economies of scale and quality improvement (Ahgren, 2008). Mergers and acquisitions lead to increased marketing prices with insurance companies in terms of privately insured patients (Yang et al. 2016; Dafny et al. 2016; Gaynor et al. 2015; Gaynor & Town, 2012).

In Private Hospitals Regulation, it is stated that private hospitals can be merged with medical centers, outpatient clinics, laboratories and institutions within same city and apply to Ministry in case of merging with another organization that requires moving out of the province. In case of approval of Ministry, it is permitted to health care provider by taking into account less density regions in terms of distribution of medical specialist and physicians and foreseen minimum population and/or targeted health services in the province. A report evaluating the structure of private health sector in Turkey (2015) emphasizes that approval of planning commission in arrangements about issues such as transfer, merger and transportation of private hospitals and processes of opening a new hospital obstructs investments.

Acquisitions with 100% share is 46.1% in hospital acquisition transactions. It is identified that general trend is acquisition of entire company. In the report of acquisition

transactions of medicines and medical devices between 2006-2009, PwC (2009) emphasizes that foreign investors generally prefer to take over the majority shares of target companies.

In this study limited with 48 hospital merger and acquisition transactions that took place between the years 2008-2015, the current situation has been examined in recent years. It is expected to increase especially in acquisition transactions in hospital and healthcare sector over the years. This expectation is emphasized in other reports and studies (Deloitte, 2015; Ernst&Young, 2014; Turkey Pharmaceutical Industry Vision 2023 Report, 2012; PwC, 2009). In "Mergers and Acquisitions of Companies in Turkey" report prepared by KPMG Turkey (2011), 50 company executives from different sectors were asked about their ideas for the future of merger and acquisition transactions. 44% of managers refers to health sector among the most active sectors that foreign investors will invest in future. In the report indicating energy sector will be most targeted sector by foreign investors, health sector comes second. It is expected to be accelerated especially hospital acquisitions in health sector with the support of law change in future.

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APPENDIX 1. Hospital Mergers and Acquisitions Between the Years 2008-2015

Year	Acquiring Company	Acquiring Country	Target	Share of Acquisitions	Dealing Value (Million dollars)	M&A
2008	Abraaj Capital	United Arab Emirates	Acibadem Healthcare	%53,8	586,7	A
2008	Hygeia	Greece	Şafak Hospitals	%50,0	48,0	A
2008	Acibadem Healthcare	Turkey	International Hospital	%40,0	32,4	A
2008	Bahat Healthcare Group	Turkey	Private Gaziosmanpaşa Hospital	%50,0	Non-disclosed	A
2009	The Carlyle Group	USA	Medical Park Hospital Group	%40,0	Non-disclosed	A
2010	Rhea Investments	Turkey	Dentistanbul Healthcare	%100,0	0,2	A
2010	NBK Capital (Swan Holding)	Kuwait	Dunya Goz Hospital	%30,0	Non-disclosed	A
2010	Argus Capital Partners & Qatar First Investment Bank	England & Qatar	Memorial Health Group	%40,0	Non-disclosed	A
2010	Hygeia Greece JFK Kennedy	Turkey	Istanbul Şafak and Goztepe Şafak Hospitals	Non-disclosed	8,0	A
2010	Acibadem Healthcare	Turkey	Konur Healthcare	%50,0	Non-disclosed	A
2010	TOBB & TOBB-ETU	Turkey	Mesa Hospital (Sogutozu, Ankara)	Non-disclosed	Non-disclosed	A
2010	Öztürk Family	Turkey	Europe Şafak Hospital	%50,0	Non-disclosed	A
2010	Hygeia Diagnostic & Therapeutic Center	Greece	JFK Hospital, İstanbul Şafak Hospital and Göztepe Şafak	%100,0	8,0	A

			Hospital			
2010	Nenehatun Hospital	Turkey	Medicine Hospital	%100,0	Non-disclosed	A
2010	Medical Park	Turkey	Uşak Ceyline Hospital	%100,0	Non-disclosed	A
2011	ADM Capital	Hong Kong	Kemer Medical Center	Non-disclosed	31,0	A
2011	ADM Capital; PGGM; IFC	Hong Kong, Netherlands, USA	Universal Hospitals Group	%26,0	140,0	A
2011	Mid Partners Europa	England	Kent Hospital	%65,0	Non-disclosed	A
2011	Melih U. Mineks International	Turkey	İstanbul Cerrahi Hospital	%80,0	60,0	A
2011	NBGI Private Equity	England	Sante Group	Non-disclosed	Non-disclosed	A
2011	Integrated Healthcare Holdings	Malaysia	Acıbadem Healthcare	%75,0	1260,4	A
2011	Öztürk Family	Turkey	Şafak Hospitals	%50,0	22,0	A
2011	Memorial Health Group	Turkey	Antalya Deva Health Group	%62,5	Non-disclosed	A
2011	Kemer Medical Center (Anadolu Hospital Groups)	Turkey	Gelişim Health (Alanya Private Can Hospital)	%100,0	Non-disclosed	A
2011	Ortadogu Group	Turkey	Pakize Tarzi Hospital	%100,0	Non-disclosed	A
2011	Lokman Hekim Engurusag	Turkey	Private Medisina Van Hospital; Private Divan Hayat Hospital	%100,0	Non-disclosed	A
2011	Newcon	USA	Anadolu Hospital	%50,0	Non-disclosed	A
2011	Euromedic International	Netherlands	Unimed Healthcare	%100,0	Non-disclosed	A

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2011	Acıbadem Healthcare	Turkey	Göztepe Hospital; Kennedy Hospital	%100,0	40,0	A
2011	Lokman Hekim Van Healthcare	Turkey	Safi Health and Van Divan Health Education	%100,0	10,0	A
2012	Integrated Healthcare Holdings	Malaysia	Acıbadem Healthcare	%6,5	88	A
2012	Symphony International Holdings	Singapore	Integrated Healthcare Hospitals Turkey (IHT)	Non-disclosed	50,0	A
2013	Kemer Medical Center	Turkey	Çagdaş Healthcare, Hastur Hospitals, Ege Private Healthcare	Not Valid	Non-disclosed	M
2013	Murat Özel (Private Investor)	Turkey	Dentistanbul	%100,0	3,8	A
2013	Eray Kapıcıoğlu (Private Investor)	Turkey	Dünyagöz Hospitals Groups	%30,0	Non-disclosed	A
2013	Turkven	Turkey	Medical Park	Non-disclosed	Non-disclosed	A
2013	Smith & Nephew	England	Plato Grup	Non-disclosed	Non-disclosed	A
2013	Acıbadem Healthcare	Turkey	Akademia Health	%100,0	Non-disclosed	A
2013	Private Investor	Turkey	Universal Manisa Hospital	%100,0	Non-disclosed	A
2014	Nesma Holding; ReAya Holding	Saudi Arabia	Avrupagöz	%80,0	28,0	A
2014	Parexel International Corporation	USA	Atlas Medical Services	%100,0	Non-disclosed	A
2014	Dentistanbul	Turkey	Dentatürk Dental Hospital	%100,0	2,9	A

2014	Fiba Grup	Turkey	Florence Nightingale Hospitals	%50,0	Non-disclosed	A
2014	Medical Park	Turkey	Gaziosmanpaşa Anadolu Hospital	Non-disclosed	Non-disclosed	A
2014	Baysan Trafo	Turkey	Valide Etfal Private Healthcare	%100,0	4,5	A
2015	Acıbadem Polyclinics	Turkey	Bodrum Treatment Services	%40,0	Non-disclosed	A
2015	Remzi Kızıldaş (Private Investor)	Turkey	Valide Etfal Private Healthcare	%100,0	5,0	A
2015	ADM Capital (via Anadolu Hospitals)	Hong Kong	BSK Antalya Healthcare	%100,0	Non-disclosed	A

Resource : Deloitte Annual Turkish M&A Review (2008-2014); The Ernst & Young Mergers and Acquisitions Reports (2008-2015)

Companies' Perception and Attitude towards the Green Economy: A Case Study On Bursa Organized industrial Zone¹

1. Introduction

Elimination of the adverse effects of economic development on the environment has been a fundamental problem on which that all the states have been exerting effort for nearly 40 years. The dependence of all elements of life on earth upon the ecological systems and the need for the societies to build their future on a sustainable foundation have made all these efforts not a matter of choice, but an obligation for all the states. "Green Economy" is a policy that has come to the fore within this framework. United Nations Environment Programme (UNEP) generated the Green Economy Initiative in 2008 in attempt to implement the sustainable development approach. At the Rio +20 UN Conference on Sustainable Development held in 2012, on the other hand, the Green Economy was considered as a fundamental strategy with regards to the issues of sustainable development and eradication of poverty (UN, 2012).

Since the Brundtland Report in 1987, the problem of sustainability of development policies that have occupied the agenda of international society, in line with global trends, has had its impact in Turkey as well (Kalaycıoğlu&Gönel, 2005). The objectives such as reducing the pressure that the economic development has generated on the environment, avoiding the waste of natural resources, protecting the environment and improving the quality of life are the issues that taking place in nearly all the national development plans as well as all strategic plans and policies. Throughout this process, Turkey has become a party to numerous international environmental agreements, and within this framework assumed important obligations. On the other hand, European Union harmonization process has become a driving force for Turkey with regards to the issues of transition to the sustainable development and green economy policies.

Data and indicators on the current state of the environment in Turkey have revealed that urgent and comprehensive measures should be taken in the problem areas such as climate change, desertification, drought, shortage in the supply of water resources and waste management (ÇŞB, 2011). Significant part of these measures, on the other hand, are directly concerned with the private sector or comprised of measures to be taken by the private sector. In this context, it is important for the private sector institutions, as key agents of Turkey's performance in the field of sustainable development and green economy to be involved in new projects with an understanding of environmental and social responsibility. In the global pressure currently generated on ecosystems, the private sector institutions have a great part in terms of both emissions and waste production, and resource consumption (Ford, 2011:35).

Within this perspective, the purpose of the present study is to identify the perception and attitude of the private sector institutions towards the green economy, and investigate whether they are eager or voluntary in fulfilling the roles expected of them throughout the process of transformation. For the field work of identifying the perception and attitude of the private sector institutions towards the Green Economy, the province of Bursa has been selected since it is a significant industrial city. In the study, initially the conceptual framework in relation to the green economy will be defined; subsequently, an assessment of the current

¹ This study was supported by Uludağ University (The Scientific Research Project) Project no: KUAP (i)-2015/34.

situation regarding the conditions necessitating the transition to the green economy in Turkey will be made. Finally, the results of a questionnaire developed to identify the perception and attitude of the private sector companies towards green economy will be analyzed.

2. Green Economy

UNEP defines a green economy as one that results in “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP, 2011:16). This structuring is based on a reduction in carbon emissions, efficiency in use of resources and prevention of social exclusion. While this policy aims to enhance the environmental performance of economies that cause pressure on the environment, it, on the other hand, represents a structure that contributes to the creation of new business fields and occupations with the green economy investments. From this perspective, green economy is a policy that both enhances the environmental performance of economy and increases the chances of income and employment due to the new generation public and private sector investments (UNEP, 2011:16).

Besides, the Green Economy is a strategy that aims to implement policy programs in relation to social justice and social inclusion against problems such as equal opportunities and income distribution. Briefly, the green economy is a comprehensive approach that takes into consideration not only the ecological, but also the social aspects economic development. Therefore, implementation of the Green Economy policies necessitates significant changes in numerous areas such as international relations, public and private sector policies as well as individual attitudes and behavior.

Although the UNEP definition of Green Economy mentioned above is commonly accepted, since it is a relatively new concept, there have been ongoing debates as to what green economy actually entails. For instance, The OECD uses a similar term, green growth instead of green economy and defines green growth as follows: “Green growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. To do this, it must catalyze investment and innovation which will underpin sustained growth and give rise to new economic opportunities”. (OECD, 2011: 5). In the May 2012 report Inclusive Green Growth, the World Bank defined green growth as “growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters. And this growth needs to be inclusive” (WB, 2012: 2). As is clearly seen, in the OECD’s definition, there is a powerful emphasis made regarding the economic opportunities potentially to come out of green growth. However, the social aspects placed in the center of UNEP’s definition have been marginally considered in the other two definitions.

Even though there have been ongoing debates regarding the objective and scope of green economy, the impact that environmental degradation have over all ecosystems and economic and social structures demonstrate that there is a need for drastic changes in the existing economy policies that play a significant part in this degradation (UNEP, 2012; WB, 2011). Therefore, it is clear that there is a need for a new economic structuring that is green, low carbon, sustainable and resistant to the changing environmental conditions on national and global scales. Within the context of this new generation structuring, ensuring the continuity of ecosystem services, implementing resource efficiency and reducing the environmental impacts of production and consumption activities for the targeted green economy confront us as the fundamental priorities. The green economy approach necessitates

the integration of economy environmental policies in a way to decrease the pressure on natural assets and create new opportunities for economic development. This involves a mixture measures ranging from economic tools such as taxes, subsidies and emission trading schemes to non-economic tools such as regulatory means and voluntary agreements (EEA, 2011: 93).

In the transition to the green economy, as has previously been stated, the private sector institutions have significant roles to play. The private sector institutions comprise 60% of the global GDP and supply a majority part of the global employment. Almost all the consumables are manufactured by the private sector companies. Furthermore, with their advertising, they increase and direct the demand of consumers (Sukhdev, 2013). Therefore, it will not be untrue to say that these companies largely dominate the economy. However, the activities of these companies correspondingly create a significant pressure on the environment and natural resources threatening the sustainability of both ecosystems and economies. Therefore, in the process of transition into green economy, the companies are expected to undergo a comprehensive change of attitude and radical transformation of perception. Within this framework, practices such as resource and energy efficiency, minimization of waste, recycling, safe waste management, use of renewable energy and environmental product design come to the fore. Besides, new approaches such as environmental investment and innovation, institutional, social and environmental accountability, environmental accounting, ecologic foot print and environmental impact assessment of the product come to gain prominence.

3. Green Economy and Turkey

It is clear that there is surely a need for a significant transformation to be implemented in the Turkish economy in an attempt to reduce the pressure on the environment. This need is can clearly be observed via the indicators of sustainable development and environmental sustainability. However, it should be noted that many legal and administrative documents necessitate this transformation. For instance, numerous international environmental agreements to which Turkey is a party require a transformation especially in the areas of emission reduction, resource efficiency and waste management. Furthermore, since the 6th five-year development plan, achieving the sustainable development located in the center of national development plans and the green economy approach available in the tenth development plan constitute the basis for the necessity of transformation. Eventually, the provision regarding the environment in the Article 56 in the Constitution of 1982, saying “everyone has the right to live in a healthy and balanced environment” also points out that environmental performance of the economy should be enhanced and the environmental impacts of economic activities should be reduced.

Greenhouse gas emissions in Turkey as of 2013 increased 110% in comparison to 1990. The biggest share in this increase regarding the sectoral distribution of the greenhouse gas emissions belongs to the energy production and consumption activities. According to the 2013 data, the share of energy-related emissions within total emissions is 67.8%. Share of the industrial sector in the Turkish energy consumption is 35%. Contribution of the renewable energy within the total energy consumption in Turkey is only 11% (ÇŞB, 2014).

Given the data of water and sewage, it is clearly seen that industrial facilities have an important part in the existing pollution. The water quality in the river basins where there is intensive industry in Turkey is IVth Grade; that is the category of polluted water. In 2014, when the lakes in the Konya Closed Basin, Antalya Basin, Marmara Basin and Küçük Menderes Basin were classified according to the threshold values of the “Surface Water

Quality Management Guidelines”, it is clearly seen that these lakes mostly have degraded quality. Similarly, according to the threshold values of the guidelines, the 2014 measurements indicated that coast and sea water of the Basins of Gediz, Sakarya, Marmara, and Antalya also had degraded quality (ÇŞB, 2014).

Especially the hazardous waste from industrial facilities also constitutes an important factor of pressure in terms of environmental and human health. According to the data obtained from the TSI (Turkish Statistical Institute), in the establishments of the manufacturing industry in 2014, a total of 16 million tons waste were produced, 1 million tons of which were hazardous one. Nearly 60% of the hazardous waste was disposed through methods of sending them to licensed companies/selling and burning them. However, regarding how the remaining 40% part was disposed, phrases such as secret or no information were used (TÜİK, 2014a). The organized industrial zones (OIZs), according to the Water, Sewage and Waste Statistics, 533 tons of waste were collected by the OIZs in 2014. While 12% of the waste collected was recycled within the OIZs or was stored temporarily, 20% of it was recycled outside the OIZs. 68% of the waste collected, on the other hand, was disposed within the OIZs or outside the IOZs. 58,4% of the disposed waste was transferred regular storage areas and 41,6% to the wild storage areas called landfills (TÜİK, 2014b).

An important indicator in this area is the share of the environmental expenditures within the GPD. According to the 2014 data, the share of the total environmental expenditures within the GPD in Turkey was 1,2%. 60% of the environmental expenditures were constituted by the current expenditures and 30% investment expenditures. 77% of the total environmental expenditures were made by the public sector and 23% private sector (TÜİK, 2014c).

These key indicators emphasize that both the public sector and private sector should increasingly prioritize the environmental issues. Consideration of environmental concerns in the process of decision-making is a basic prerequisite. Therefore, instead of cost-benefit analysis where only short term and economic benefit-oriented economic indicators are considered, long term and sustainability-oriented practices that also take into account the environmental costs should be established. At this point, the public sector should take on both a pioneer and directive role through new investments and incentives and taxes, and a compelling and a controlling role within the context of legal regulations. On the other hand, the private sector should adopt a proactive approach in this respect as the basic enforcement agencies, and implement the change in the attitude necessitated by the green economy in terms of both organizational and operational sense. The fact that companies prove to have adopted a positive change of environmental attitude largely depends on the integration of green practices with those of company interests (Miller, 2009: 113; Nemli, 2000: 87-93). The present study is based on the assumption that private sector companies will only enter into a process of restructuring compatible with requirements of the green economy when they possess a perception that they are able to integrate environmentally sensitive practices with the company interest or these practices currently do/will serve for the interests of the company. In this perspective, the survey form prepared within this research aimed to analyze whether companies had a perception that would enable them to proceed the green economy.

4. Survey

In the framework of this project, a survey form prepared in accordance with the elements appeared within the definition of green economy intended to explore perception and attitudes of the firms to green economy. The survey was sent via mail to miscellaneous firms of various scale and sector operating in eight organized industrial districts in Bursa in the period

December 2015-January 2016. Data received from a total of 134 firms was analyzed with a view to characterize the perception and attitudes of the firms to green economy.

The survey asked companies to identify the level of risk they faced from climate change from high to low. Companies ranked the level of risk with regard to regulations, supply chains, litigation, reputation, physical property and markets. The highest risk was considered to be the market risk, which was a loss of competitiveness (27% of firms) due to higher costs. Impact on the supply chains, through higher input costs or poor supply chain practices, was identified as the second highest risk.

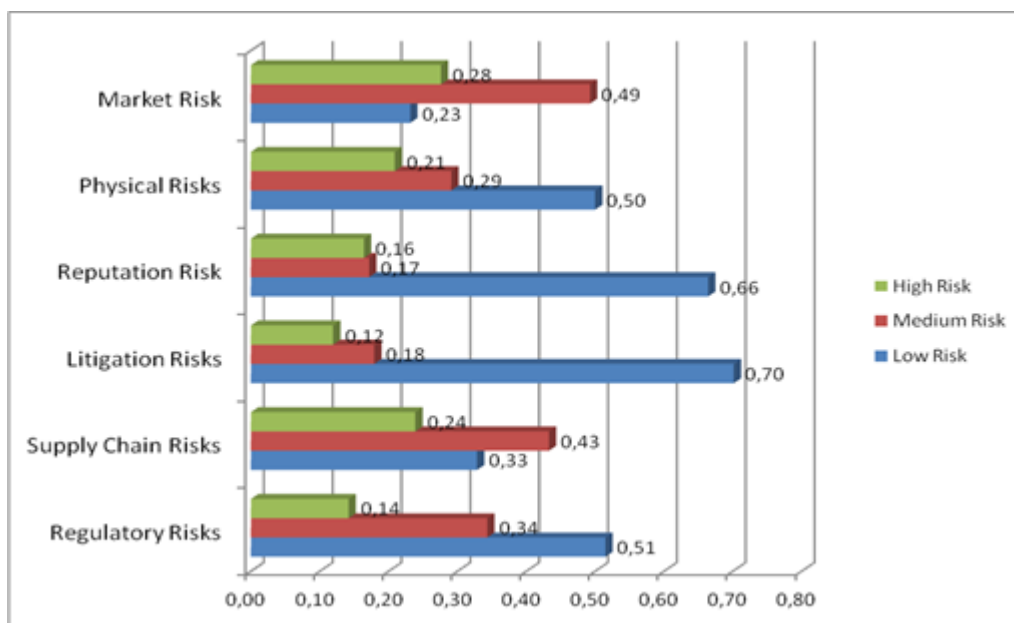


Figure 1: Risks from climate change

In the second phase, companies were asked to identify the opportunities arising from climate change, ranking them from high to low. Business opportunities included the ability to introduce new products; become more competitive and develop offshore markets; introduce energy efficiencies and be cost-effective; and be seen as socially responsible.

It can be seen from the table that most companies (50%) found opportunities to promote their company as socially responsible. A similar percentage of firms (49%) identified opportunities from climate change to improve their energy efficiency and lower their costs.

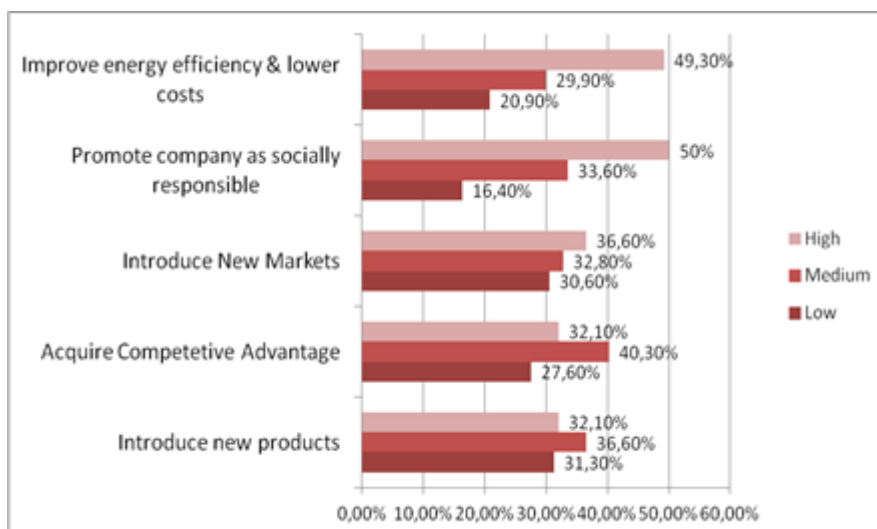


Figure 2: Opportunities from climate change

When the two tables are evaluated together, it is possible to say that the opportunities offered to the companies by the climate change are greater than the risk they may face due to the climate change. The fact that the average of the risks table is 1.7 in comparison to the opportunities table which is 2.2 indeed supports this hypothesis.

Taking account of both the risks and opportunities of climate change, companies were asked to identify the extent to which the opportunities outweighed the risks. The results clearly demonstrated how complex of the issue was. It is not surprising that many companies (31%) are undecided as to whether climate change is a net loss, gain or neutral for their businesses. About 35% of the firms, however, considered that the costs outweighed the benefits of climate change to their businesses. 25% of the companies saw a net benefit, and 10% felt that the opportunities matched the costs (see below).

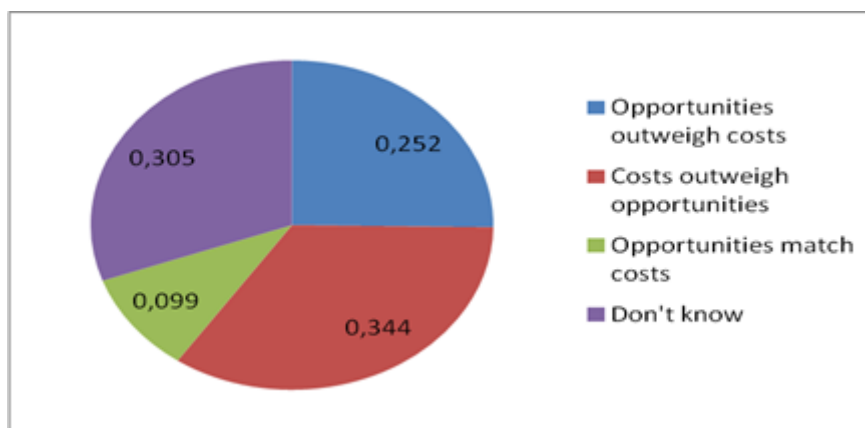


Figure 3: Balance of risks and opportunities from climate change

In the survey, the responders were asked the following question; “Do you think your company has any responsibility in making contributions to the reduction of carbon emissions even if those contributions are to bring additional cost to the company?” The responders’ response indicated that the companies largely admitted their responsibility in that respect.

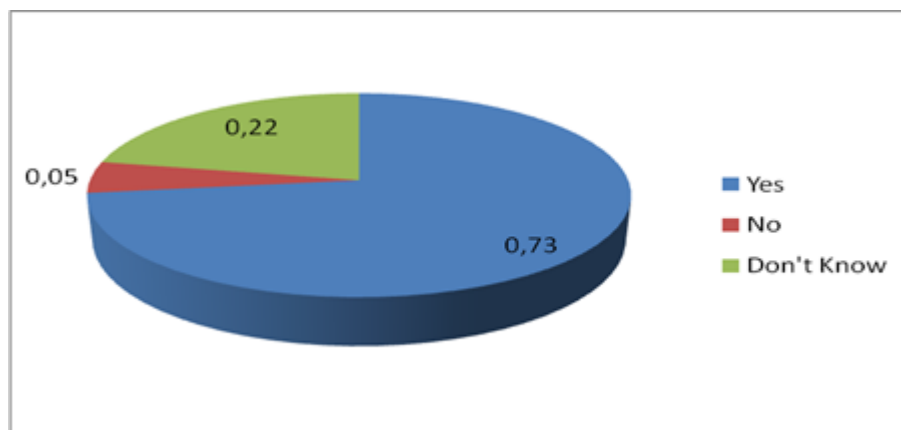


Figure 4: Responsibility of Making Contributions to the Reduction of Emissions

In the framework of a survey, companies were asked to reveal their predictions about some environmental issues under the title of sustainable future in the following three years. The responses of the companies to these questions also gave some ideas about their perceptions and attitudes to their transition to green economy.

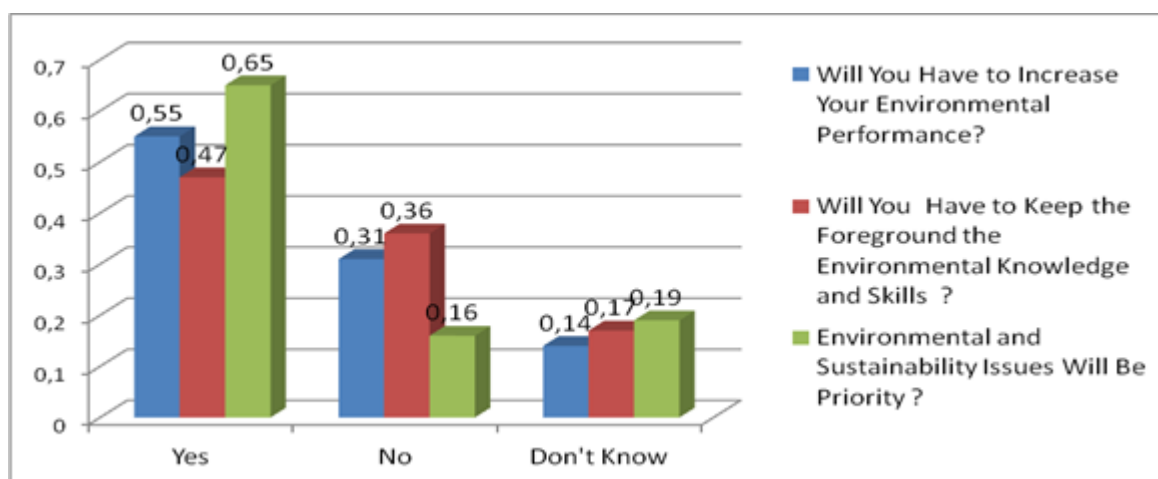


Figure 5: Sustainable Future

In the framework of a survey, companies were asked what the factors were that had an impact over their behaviors and attitudes regarding such issues as environment and sustainability. When the responses to this question are examined, it is seen that three of the five factors with highest rate were associated with being compelled or being obliged. The remaining two factors are to do with the reputation of the company. Within the framework of responses provided, it is understood that companies did not establish directly links amongst the classic business objectives such as increasing the profit margin, through environmental performance, attaining a competitive advantage and expanding the market share.

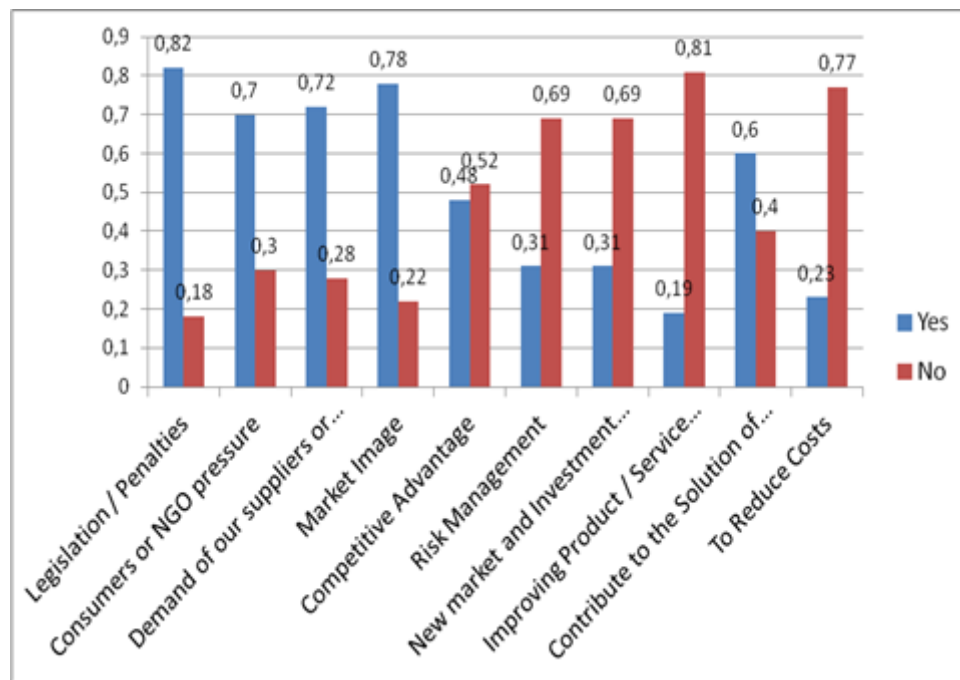


Figure 6: Factors Influencing Behavior and Attitudes

In the survey, finally, specific statements were prepared that would reflect the attitudes of the companies on the issues of environmental sustainability and the companies were asked whether they agreed or disagreed with those statements.

Table 1: Companies' attitudes towards environmental sustainability

STATEMENTS	Disagree %	Agree %	Not Sure %	Mean
Increase in our company's environmental performance will enhance our competitiveness as well.	19,4	70,2	10,4	2,50
We take our future investment decisions by also considering their environmental impact.	14,9	81,3	3,7	2,77
Compliance with the environmental criteria/standards is an important part of the reputation of the company.	1,5	97	1,5	2,95
Our company's environmental activities are limited with our legal obligations.	29,1	61,9	9	2,32
Production according to environmental criteria will increase our production costs.	17,2	64,9	17,9	2,47

When the responses given to these statements are examined, it is seen that the companies, in accordance with previous results, associated the issues related to environmental sustainability the most (97%) with the company reputation. The rate of those that thought that environmental performance would enhance competitiveness of the company as well was 70%.

However, 62% of the companies indicated that environmental activities were limited with their legal obligations. 65% of the companies, on the other hand, environmental criteria would increase their production costs.

5. Conclusion

The pressure generated by the global economy on the ecosystems has made the construction of a sustainable future for all societies a responsibility cannot be postponed. The green economy, on the other hand, determines a new route, within this framework, for the economies that will relieve the pressure. The new route includes not purely economic concerns, but also the ecological and social context-related concerns embedded into the economic systems. Briefly, as a basic strategy in implementing the sustainable development policies, the green economy aims to enable both economic development and protect the ecosystems and ensure social justice. Therefore, transition to the green economy requires many significant changes in many such areas as international relationships, public and private sector policies, individual behaviors and attitudes.

In this transition period, private sector companies have a more unique position. For one thing, as was mentioned previously, the companies have the important share in the pressure generated on the environment. Furthermore, the private sector companies, ultimately, are profit-oriented institutions and cost is an important factor for these companies. In this framework, the practice that will enhance their environmental performances can be seen as a major cost factor. Practices such as reduction of emissions, conversion from fossil fuels to renewable energy sources, enabling energy and resource efficiency and waste management are considered by the companies as activities with a high the cost of compliance. However, many other companies, on the other hand, adopt the green economy as a competition strategy and allow for environmentally-friendly strategies. Therefore, integrating the requirements of green economy with the company interests is a significant factor in enhancing the environmental performance. As far as the findings of the present study, in general, are concerned, it is difficult to say that the industrial companies operating in Bursa are in a position to make a clear direct link between environmental performance and company interests. The companies in question agree that enhancing the environmental performance, in general, will offer the company some opportunities in certain areas. Majority of the companies also admit that they have responsibilities in that respect. However, a significant part of the companies consider that enhancing the environmental performance is a cost element for the company. Indeed, majority of the companies have indicated that the basic factor that impacts the environmental performance is the legal regulations; and again most of the companies have pointed out that environmental activities are limited with our legal obligations. Responses of this kind clearly demonstrate that the companies are not very ambitious to play a volunteering, effective and proactive part throughout this process.

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The Applicability Of Data Mining Techniques In Eurostat Databases: An Example Of The Decision Tree

1. Introduction

As a result of the rapid development of technology, infrastructure that is used for obtaining and storing data has also been developed continuously. Besides that, importance of knowledge as an indispensable element for individuals and institutions has increased each passing day. However, former data management techniques have become insufficient for mass of data which increases rapidly. Therefore, there was a need for new methods. Data mining is a field that emerges variety of data extraction techniques to meet these requirements.

Eurostat is a statistical office of European Union. Its purpose is to serve objective and accurate data to decision makers. These statistics are open for everyone to use. Although Eurostat databases are very comprehensive and useful, it is particularly difficult to find academic publications related to data mining.

In this study, it is intended to do data mining study using the statistics that provided by Eurostat. In order to accomplish the analysis, “Information Society” field was selected and the data was analyzed with using a decision tree algorithm of data mining. In the end, the analysis results were presented. It is also intended to shed some light to the next studies.

1.1 Data Mining

Data mining is a process of knowledge acquisition from large databases. It is used to predict the future trends and find behaviors behind expectations that experts may miss. Data mining, is a part of large process called knowledge discovery (Figure 1). Specifically, in data mining step, advanced statistical analysis and modeling techniques are applied to the data to find useful patterns and relationships (Hudairy, 2004, 1).

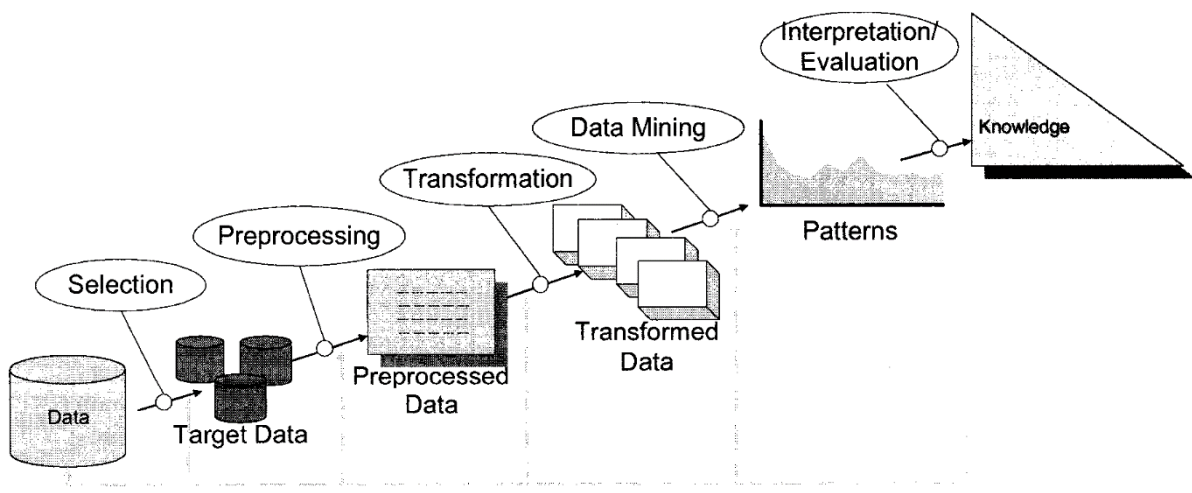


Figure 1. Knowledge Discovery Process (Hudairy, 2004)

Data mining solves user defined problems automatically by using new set of algorithmic modeling. Each of these strong tools are intuitive, easily explainable, understandable and useful (Garango & Raggard, 1999, 81). Data mining is a huge field contains artificial intelligence, computer science, machine learning, database management, data visualization, mathematic and statistics (Liao, 2003, 157).

1.2 Decision Tree

Decision tree is a data mining approach that mainly used for classification and prediction. Other methods such as neural networks are also used for classification, but decision tree supports decision maker to verify and justify their decisions by the advantages of interpretation and understanding easily. Additionally, decision tree can analyze different type of data without need to predict underlying distribution (Chien & Chen, 2008, 282). Decision tree technique is a very popular technique in data mining tasks. It is used successfully for health, finance, marketing, human resources, sport, telecommunication and etc. (Birant, 2011, 48). A decision tree describes which factors must be taken into account and how each factor is related to different outputs of the decision by historic. Decision tree has value for both predictive and descriptive models (Bounsaythip & Rinta-Runsala, 2001, 20).

A decision tree is a mapping description technique that consists of tests and attributes which are connected to two or more subtrees and leafs, or decision nodes labeled with a class name (Zorman et al., 2001, 110). Decision tree classifiers starts with training set related to class labels. Root node is the main property. Each inside node symbolizes the test attributes, each branch represents the results of test and each leaf shows class labels. In order to define an unknown sample, tree classifier follows path which starts from root node to leaf nodes which hold class labels (Sathyadevan & Nair, 2015, 550).

The following decision tree example is for the concept `buy_computer` that indicates whether a customer at a company is likely to buy a computer or not. Each internal node represents a test on an attribute. Each leaf node represents a class (Tutorials Point, 2016).

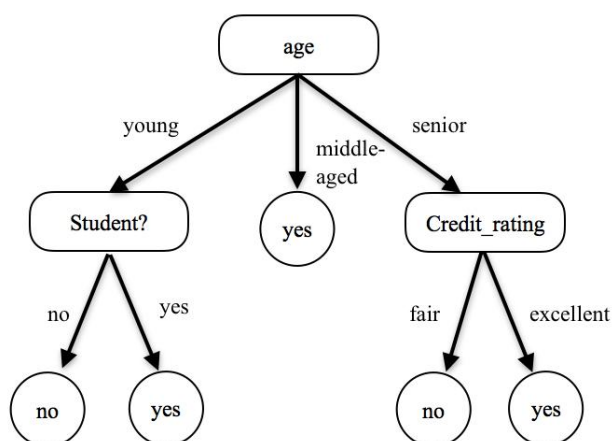


Figure 2. Decision Tree Sample

Decision tree has some advantages; such as it can produce a model that has rules understandable easily and representative, and also can produce highly informative outputs. In artificial intelligence and decision support systems, this technique can be used for both continuous and categorical attributes, but it is available for predict only categorical outputs (Birant, 2011, 48).

2. Method

2.1 Data Selection

In this study, statistics about Information Society is focused. These statistics track the usage of Information and Communications Technologies, which has been one of the main drivers of changes within society and businesses for more than a decade. The regulation contains two modules, covering (Eurostat, 2016):

- Enterprises
- Households and individuals

Data about these two modules can be downloaded as MS Access database format. And also can be accessed via web Interface. From the web interface (Figure 3), “Activities via internet not done because of security concerns” subject was selected to be analyzed.

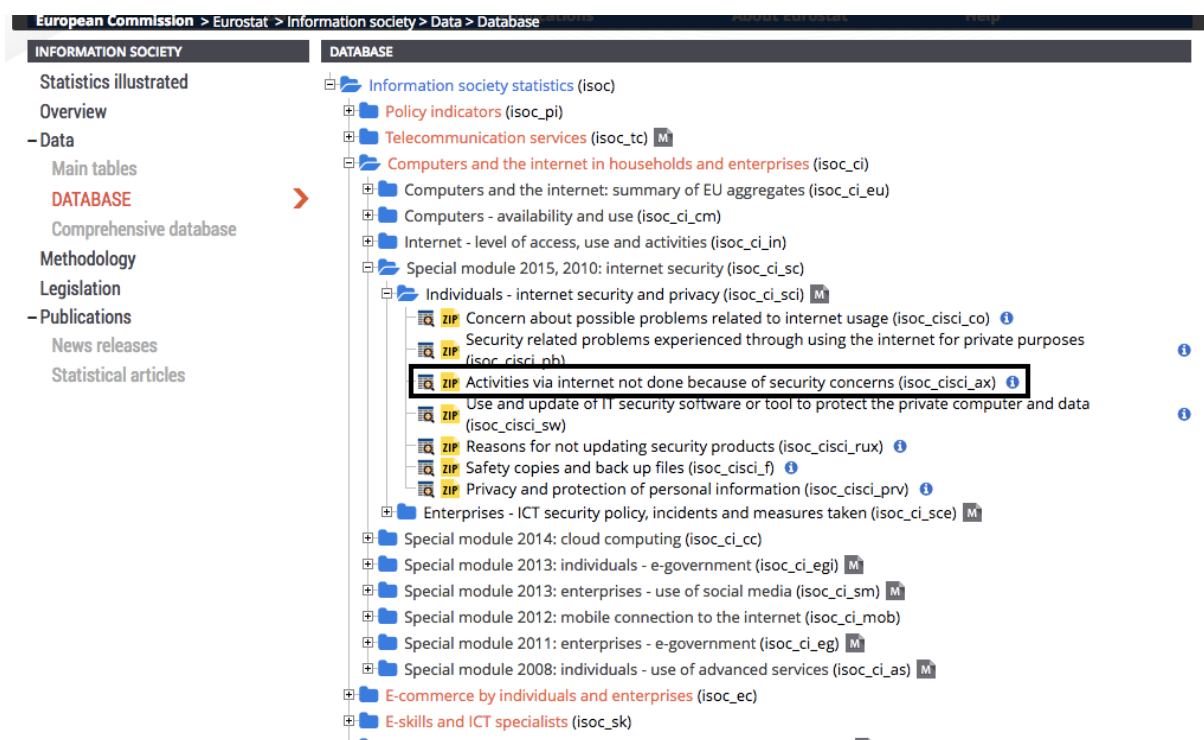


Figure 3. Selection of Statistics

2.2 Data Mining Software: WEKA

As data mining software, Weka was used to do decision tree analysis. Weka has many features. Some features are preprocessing, classification, regression, clustering, association modules and etc. Weka is a free software that has GNU General Public License. Weka is a set of machine learning algorithms for data mining tasks (Machine Learning Group at the University of Waikato, 2016). Weka is also have advanced features, such as ability of producing new modules for programmers, or adding new tools which created by developers.

2.3 Attribute Selection

There are 6 attributes selected for the analysis. These attributes were inferred from statistical data from the topic “Activities via internet not done because of security concerns”. One of them must be used as a class attribute for the classification method. And the other attributes are used as decision variables. These 6 attributes are listed below:

- Year: There are two years (2010, 2015) in the statistics.
- Geographical Region: There are 30 geographical regions listed in the Table 1.
- Types of Security Concern: 5 different security concerns are taken into account. They listed together with the corresponding labels:
 - I_SBGGOOD - Security concerns kept individual from ordering or buying goods or services for private use
 - I_SBBANK - Security concerns kept individual from carrying out banking activities such as account management
 - I_SBPERS - Security concerns kept individual from providing personal information to online communities for social and professional networking
 - I_SBGGOV - Security concerns kept individual from communicating with public services and administrations
 - I_SBSOFT - Security concerns kept individual from downloading software, music, video files, games or other data files
- Gender: Male, Female
- Age Group: There are three age groups (16-24, 25-54 and 55-74)
- Percentage of Individuals: Percentage of individuals related to activities via internet not done because of security concerns

Table 1. List of Geographical Regions

BE - Belgium	HR - Croatia	PL - Poland
BG - Bulgaria	IT - Italy	PT - Portugal
CZ - Czech Republic	CY - Cyprus	RO - Romania
DK - Denmark	LV - Latvia	SI - Slovenia
DE - Germany	LT - Lithuania	SK - Slovakia
EE - Estonia	LU - Luxembourg	FI - Finland
IE - Ireland	HU - Hungary	SE - Sweden
EL - Greece	MT - Malta	UK - United Kingdom

ES - Spain	NL - Netherlands	NO - Norway
FR - France	AT - Austria	TR - Turkey

2.4 Preprocessing

To do the analysis, data need to be preprocessed. Weka has integrated preprocessing module that has many filters to be used. In order to use decision tree algorithm, class value has to be determined. As a class value, percentage of individuals' attribute is used. However, this attribute has many different values, and these have to be limited. This can be done by discretization filter that one of the preprocessing filters of Weka software.

Discretization is the process of putting values into buckets so that there are a limited number of possible states. The buckets themselves are treated as ordered and discrete values (Microsoft Developer Network, 2016). As can be seen in Figure 4, value "2" was determined for bins parameter and value "true" was determined for useEqualFrequency parameter. Regarding the attribute, two classes with equal frequencies were created according to the values.

One class is determined as below 9.5, and the other is above 9.5. With reference to this, there are relatively two classes can be named as low and high rank. The distinction depends on researchers' choice. Different classes can be created by using different parameters.

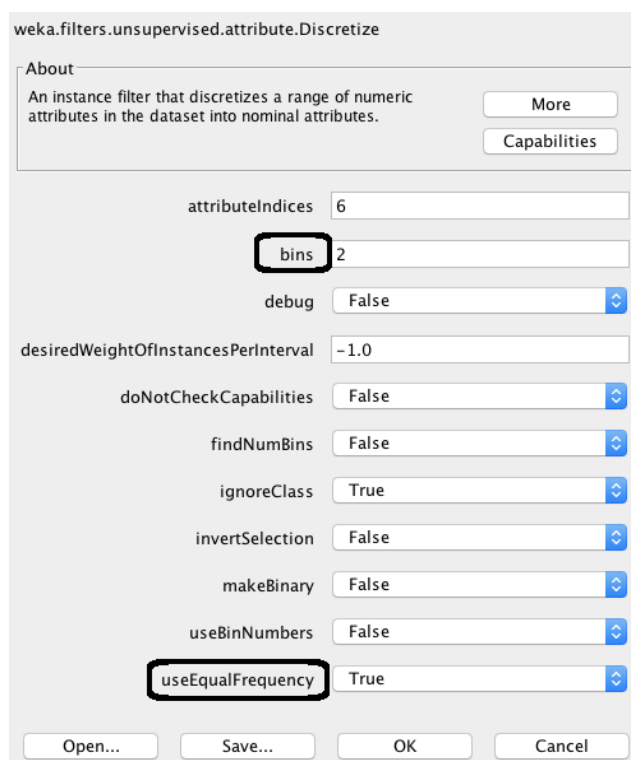


Figure 4. Discretization

After discretization process, variables of “Value” attribute were converted two types of variables as can be seen in Figure 5.

No.	1: Time Nominal	2: Geo Nominal	3: Indic_Is Nominal	4: Gender Nominal	5: Age Nominal	6: Value Nominal
1	2010	BE	I_SBGGOOD	M	Y25_54	'(9.5-inf)'
2	2010	BE	I_SBGGOOD	M	Y55_74	'(9.5-inf)'
3	2010	BE	I_SBGGOOD	M	Y16_24	'(9.5-inf)'
4	2010	BE	I_SBGGOOD	F	Y55_74	'(9.5-inf)'
5	2010	BE	I_SBGGOOD	F	Y25_54	'(9.5-inf)'
6	2010	BE	I_SBGGOOD	F	Y16_24	'(9.5-inf)'
7	2010	BE	I_SBBANK	M	Y55_74	'(9.5-inf)'
8	2010	BE	I_SBBANK	M	Y25_54	'(9.5-inf)'
9	2010	BE	I_SBBANK	M	Y16_24	'(9.5-inf)'
10	2010	BE	I_SBBANK	F	Y55_74	'(-inf-9.5]'
11	2010	BE	I_SBBANK	F	Y25_54	'(9.5-inf)'
12	2010	BE	I_SBBANK	F	Y16_24	'(9.5-inf)'
13	2010	BE	I_SBPERS	M	Y16_24	'(9.5-inf)'
14	2010	BE	I_SBPERS	M	Y55_74	'(9.5-inf)'
15	2010	BE	I_SBPERS	M	Y25_54	'(9.5-inf)'
16	2010	BE	I_SBPERS	F	Y55_74	'(9.5-inf)'
17	2010	BE	I_SBPERS	F	Y16_24	'(9.5-inf)'
18	2010	BE	I_SBPERS	F	Y25_54	'(9.5-inf)'
19	2010	BE	I_SBGGOV	M	Y25_54	'(-inf-9.5]'
20	2010	BE	I_SBGGOV	M	Y55_74	'(-inf-9.5]'
21	2010	BE	I_SBGGOV	M	Y16_24	'(-inf-9.5]'
22	2010	BE	I_SBGGOV	F	Y55_74	'(-inf-9.5]'
23	2010	BE	I_SBGGOV	F	Y25_54	'(-inf-9.5]'
24	2010	BE	I_SBGGOV	F	Y16_24	'(9.5-inf)'

Figure 5. Data List After Discretization Filter

2.5 Application

After the necessary arrangements, decision tree analysis can be done. There are a lot of decision tree algorithms to be utilized. These algorithms vary depending on types of variables and creation steps of decision tree. The algorithm C4.5, which is one of the most widely used algorithms was used in this study. Weka software equivalent of this algorithm is J48. This model was run using the J48 algorithm with 10 folds cross-validation parameters.

3. Findings

As a result of the conducted analysis, there is an analysis summary obtained as Figure 6. One of the most important points is the value of “Correctly Classified Instances”. The value 86.45% means that approximately 86 percent of individuals were classified correctly by the model. Another important point is “Confusion Matrix”. This matrix gives the number of correctly classified and misclassified instances by class labels. The results also provide Kappa statistics. Kappa statistics gives agreement between predicted and true class. In this study, the value of Kappa statistics is 0.729. This means that there is a strong agreement between the predicted and true class.

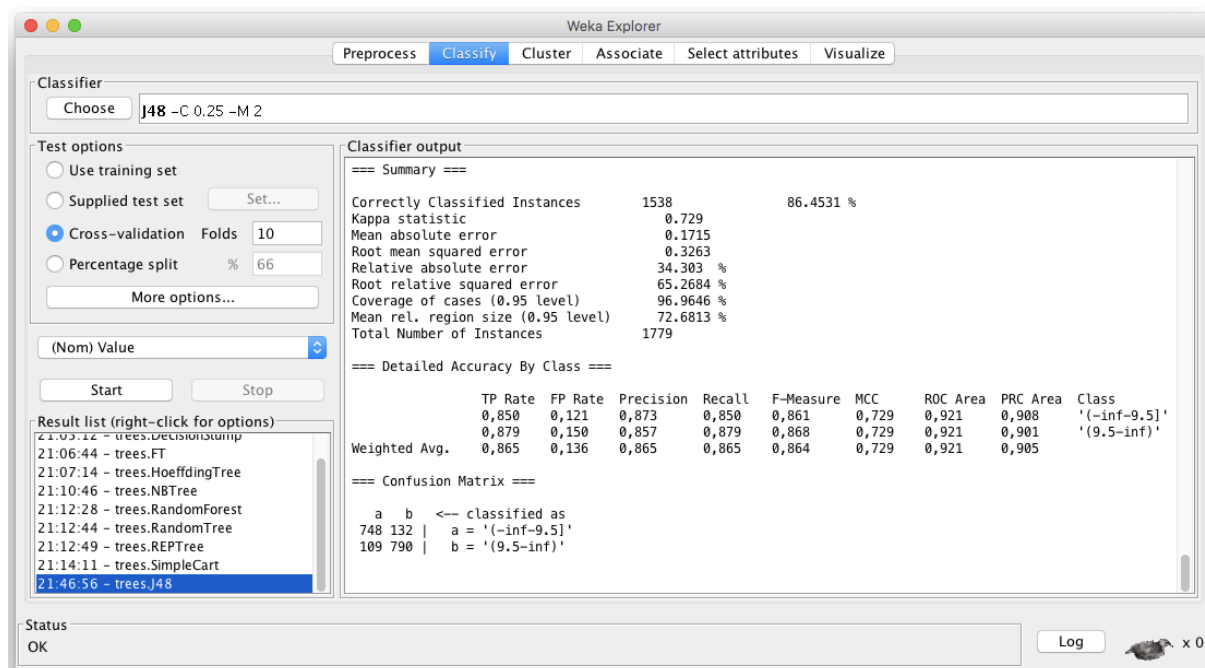


Figure 6. Analyze Results Window

A decision tree was constructed by the end of the analysis. Beginning part of the decision tree can be seen in text format as follow:

Geo = BE: '(9.5-inf)' (60.0/9.0)

Geo = BG

| Age = Y16_24

| | Indic_Is = I_SBGGOOD: '(9.5-inf)' (4.0)

| | Indic_Is = I_SBBANK: '(9.5-inf)' (4.0)

| | Indic_Is = I_SBPERS: '(9.5-inf)' (4.0)

| | Indic_Is = I_SBGOV: '(-inf-9.5]' (4.0)

| | Indic_Is = I_SBSOFT

| | | Time = 2010: '(9.5-inf)' (2.0)

| | | Time = 2015: '(-inf-9.5]' (2.0)

| Age = Y25_54

| | Indic_Is = I_SBGGOOD: '(9.5-inf)' (4.0)

| | Indic_Is = I_SBBANK: '(9.5-inf)' (4.0)

| | Indic_Is = I_SBPERS: '(9.5-inf)' (4.0)

| | Indic_Is = I_SBGOV: '(-inf-9.5]' (4.0)

```

| | Indic_Is = I_SBSOFT: '(-inf-9.5]' (4.0)
| Age = Y55_74: '(-inf-9.5]' (20.0)
Geo = CZ: '(-inf-9.5]' (58.0/1.0)
Geo = DK
| Indic_Is = I_SBGOOD: '(9.5-inf)' (12.0)
| Indic_Is = I_SBBANK: '(9.5-inf)' (12.0/1.0)
| Indic_Is = I_SBPERS: '(9.5-inf)' (12.0)
| Indic_Is = I_SBGOV: '(-inf-9.5]' (12.0)
| Indic_Is = I_SBSOFT: '(9.5-inf)' (12.0)
Geo = DE: '(9.5-inf)' (60.0/9.0)
Geo = EE
| Indic_Is = I_SBGOOD
| | Age = Y16_24
| | | Time = 2010: '(-inf-9.5]' (2.0)
| | | Time = 2015: '(9.5-inf)' (2.0)
| | Age = Y25_54: '(9.5-inf)' (4.0)
| | Age = Y55_74: '(-inf-9.5]' (4.0/1.0)
| Indic_Is = I_SBBANK: '(-inf-9.5]' (12.0)
| Indic_Is = I_SBPERS: '(9.5-inf)' (12.0/3.0)
| Indic_Is = I_SBGOV: '(-inf-9.5]' (12.0)
| Indic_Is = I_SBSOFT
| | Time = 2010
| | | Age = Y16_24: '(-inf-9.5]' (2.0)
| | | Age = Y25_54: '(9.5-inf)' (2.0)
| | | Age = Y55_74: '(-inf-9.5]' (2.0)
| | Time = 2015: '(9.5-inf)' (6.0)

```

When the decision tree is analyzed, it can be seen that the initial distinction is geographical region. This means that, region has more prior distinction to the other attributes. Each region has own unique characteristics. For example, first region is BE (Belgium). This region appears to remain in the second class, and doesn't have another clear distinction. However, it is primarily subjected to distinction based on age groups with regard to the region coded BG (Bulgaria). It is observed that individuals of the same age group generally have similar

characteristics. After the age distinction, classes are divided according to the type of security concerns.

Weka has a feature of visualization of decision trees. The decision tree scheme created by the feature can be seen in Figure 7. Decision makers can benefit from a decision tree diagram by easily detect the current situation and give more accurate decisions. For example, administrators of multinational companies are able to understand easily the characteristics of countries where they intend to activate web services.

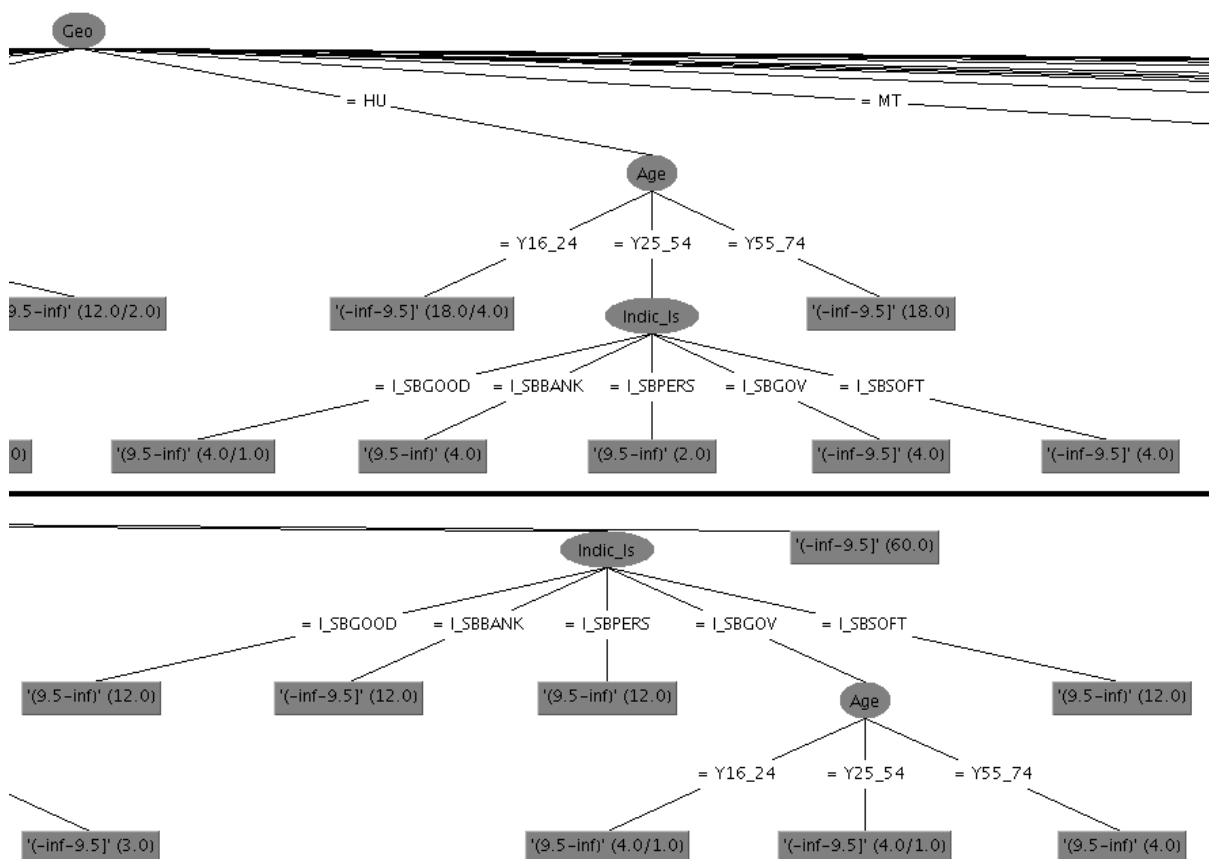


Figure 7. Two Parts of the Visualized Decision Tree

4. Conclusion

Data Mining is a new area include a lot of techniques that obtain meaningful information from large databases, today. Most important feature of data mining is facilitation to find unknown, unpredictable patterns and interrelations. Decision tree is one of the classification techniques of data mining. Decision tree represents an informative map related to the decisions which belongs to the decision makers' responsibility. There are some advantages of decision tree. It can be applied easily, and produce easily understandable models. Besides, it can generate a model without requiring to know underlying distributions of variables.

Data Mining can be applied in many fields, such as banking, marketing, human resources, etc. The data needed to perform data mining applications can be obtained from

many different places. One of the resources supports decision makers to make decision is Eurostat. Eurostat builds databases containing statistical data about many views of European Union. These databases are open for public and free.

In this study, decision tree analysis, one of the data mining techniques, was performed with Eurostat data. In the title of the Information Society, data of “Activities via internet not done because of security concerns” topic in “Households and Individuals” category was chosen for the analysis. In the result of the analysis, a decision tree was established by C4.5 decision tree algorithm (J48 in Weka software) with the accuracy rate of 86.45%.

In conclusion, the applicability of data mining techniques in Eurostat databases with an example of the decision tree was analyzed. The most two important issues of the feasibility of the analysis are:

1. Multidimensional data: More attributes make available more comprehensive analysis. Eurostat has the possibility to multidimensional data, that both can be reached over the web page or can be obtained by queries from MS Access database.
2. Categorical class values: Limiting the number of different values is used as the feature of the class variable. In this study, discretization filter was used to determine the number of classes. The number of classes and frequencies can be change regarding to the purpose of the study, or researchers' choices.

For the future researches, micro data analysis can be run thanks to the opportunity offered by Eurostat. Eurostat allows access to micro data for academic research. This study is also intended to give an idea for further studies.

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Clustering Of Hospitals In Terms Of Clinic Performance Indicators In Turkey

1. Introduction

Legal, economic and demand based pressures on hospitals have been increasing day by day and these pressures urge hospital managements to ensure more qualified but less costly service. In addition, being more complex and dynamic features of legal and economic environment in health sector triggers the pressure (De Simone, 2014). For this reason, evaluating hospital resources in terms of productivity, quality and performance is important with regard to guiding for hospital managements (Li & Benton, 1996; Capkun, Messner & Rissbacher, 2010).

Clinic indicators are often used in hospital performance evaluation. Important indicators are bed occupancy rate, average length of stay, inpatient rate, bed turnover rate and death rates (Keegan, 2010; Boden, et al., 2015; Masoompour, 2015; Agirbas, 2012).

Average Length of Stay indicates how many days a patient stayed in hospital on average. This indicator is obtained by dividing number of days of total patients provided in specific time by total number (released or dead) of patients in the same period. Length of stay of patient is calculated after each patient is released and this period means calendar day between patient is accepted and the day when he/she is released. When acceptance and being released of patient are on the same day, accommodation day is one day. Specific parts of one day are reported as fractional day. Average patient stay day which is calculated dividing total patient accommodation days by the number of released patients has different formulas in children and adults than new-born children. Keeping the average length of stay low plays an important role in terms of avoiding unnecessary hospitalization days and service to mostly hospitalized patients without compromising the quality of patient care (Osborn, 2008; Agirbas, 2012).

Inpatient Rate demonstrates how many patients admitted to hospital are treated by inpatient in the hospital in specific time. Although this rate may change according to types of hospital and should be calculated separately in service and disease level in overall of hospital (Agirbas, 2012).

Bed Occupancy Rate indicates in what level hospital beds are used. Hospitals providing service under determined bed capacity or above can change their bed numbers due to this rate. Inert capacity originating from being lower of bed occupation rate than it should be increases cost of health services significantly (Philip et al., 1984).

Bed Turnover Rate indicates whether hospital beds are used in an effective and economical way or not. It shows how many patients are cured in specific time (generally one year) (Masoompour, 2015). It means how many times a hospital bed is changed by patients. As lowness of bed turnover rate is an indicator of length of stay, it can cause increase of unit cost (Yigit and Agirbas, 2004).

Bed Turnover Range demonstrates the average time passing until admission of another patient after discharging of patient in a specific period. It is an indicator of how many days a bed stayed free approximately (Dhungana et al., 2014). This rate associated with bed turnover rate measures the average time that bed is not used (Masoompour, 2015).

Crude Death Rate indicates the rate of people who died in the hospital. This is basic mortality indicator in a health institution. This is obtained by diving all death number by total patients (released and death) (Osborne, 2008). Crude death rate can be calculated separately in pediatric patients and services. Hospital infant mortality rate should be calculated additionally except crude death rate (Agirbas, 2012).

There are various studies in national and international literature to determine performance of hospitals by the help of clinic indicators. Björkgren, Hakinen & Linna measured 64 long term health service in Finland in terms of technical, allocate and scale effectiveness in their published studies. They concluded that big units were managed more actively than small units, effectiveness can increase with better management and resources allocation in spite of differentiation of effectiveness according to units.

Crudekopf, Margaritis and Valdmanis (2001) compared 236 teaching hospitals and 556 general hospitals which delivered health service in USA in 1994. They determined that teaching hospitals had lower competitive capacity compared to general hospitals in deliveries of health services. According to study done by Avci and Cinaroglu (2015), public hospitals in Turkey clustered in six clusters in terms of organizational and financial indicators and they determined that the best hospitals were 100-bed hospitals. In the study, it was concluded that hospitals did not use their beds effectively. In the study investigating the effect of capacity usage rate on costs, it is observed that capacity usage rate of Tokat Maternity and Child Care Hospital is %56.58, average length of stay is 2.83, bed turnover rate is 2.25 and it is observed that the beds is not used efficiently (Yigit & Agirbas, 2004). In the study done by Cakmak, Oktem and Omurgonulsen (2009), it is determined that only 12 hospitals out of 41 maternity hospitals worked productively. In a study analyzing performance of Public Hospitals Union, effectiveness measurement of 88 public hospitals was done using 9 variables. According to scale, 30 public hospitals under the assumption of constant returns, 40 public hospitals under the assumption of variable return and 46 public hospitals in terms of scale efficiency are found efficient (Beylik, Kayral & Naldoken, 2015).

Health Transformation Program (HTP) was introduced in order to organize, ensuring financing and providing of health service in accordance with effectiveness, productivity and fairness by year 2003 and initiated various practices compatible with HTP's determined components. One of the determined aims of HTP was that Ministry of Health would not delivery health service and would be a component that would control all the system and all institutions which provide health service firstly hospitals would meet the expenses with their incomes. In accordance with this aim, Ministry of Health was reorganized with "Delegated Legislation about Ministry of Health and Responsibilities and Organization of allied Institutions" in 2011. With this legal regulation, hospitals are expected to meet their expenses with their own income. Moreover, autonomous structures of university hospitals and nature of private hospitals to primarily make profit require overseeing the balance of income and expenditure by these hospital management. One of the important way to obtain this is to use the resources efficiently.

In this study, clinic performance situations of hospitals in Turkey and clustering of hospitals according to performance indicators are aimed. Also this study is important because of lack of studies in literature which public, private and university hospitals are evaluated together in terms of clinic performance.

2. Method

In this study, evaluating performance of hospitals in Turkey and classification of hospitals in terms of performance indicators by the help of clinic indicators is aimed. In this way, in which rate resources of hospital are used efficiently will be determined. All the data used in the study belongs to 2014 and taken from Ministry of Health.

The population of study is constituted of totally 1494 private and public hospitals in Turkey in 2014. In the study, 623 hospitals that oral and dental hospitals and hospitals under 50 beds and hospitals that have lack of information totally were not included.

Clustering of Hospitals in Terms of Clinic Performance Indicators in Turkey

In the study, performance indicators (bed turnover rate, inpatient rate, average length of stay, bed occupancy rate, bed turnover range and crude death rate) were calculated and each hospital was compared with clustering analysis in terms of performance indicators.

Cluster analysis is a method used in classification of data into groups. Overall aim of clustering analysis is to classify grouped data according to similarities and help the researchers to get effective and summative information. Cluster algorithm goes into division as hierarchical and non-hierarchical cluster. Hierarchical cluster method is used when the number of cluster is not known and the number of observation is not so much and dendrogram is used to determine to number of clusters. Non-hierarchical cluster method is used when the number of cluster is known beforehand and the number of observation is much (Alpar, 2013; Ozdamar, 2013; Napoleon & Pavalakodi, 2011; Celik, 2013). In this study, hierarchical methods is used to determine number of clusters and k-average cluster methods is used because final cluster analysis is not hierarchical as the number of sample is so many.

In the study, four hospital groups were analyzed using one-way analysis of variance in terms of 6 performance indicators. LSD test was used from determine the difference in one-way analysis of variance. Analysis of study was realized using Microsoft Office Excel 2013 and SPSS 20.0 packet programs.

3. Findings

Table 1 shows the hospitals within the scope of research. 46.4 % of hospitals are government, 37.9 % of hospitals are private, and 8.5 % of hospitals are research and training and 7.2 % of hospitals are university hospitals as a part of study.

Table 1. Descriptive Statistics

Hospitals	n	%
Government	404	46.4
Private	330	37.9
University	63	7.2
Training and Research	74	8.5
Total	871	100.0

Government hospitals were grouped into three clusters statistically as a result of cluster analysis in terms of 6 performance indicator. Table 2 displays that hospitals which have the best clinic indicator collected.

Table 2. Cluster Analysis Results of Government Hospitals

	Final Cluster Centers		
	Cluster		
	1	2	3
Bed Turnover Rate	19,1658	124,5426	58,1056
Inpatient Rate	4,0260	5,1397	2,3130
Average Length of Stay	17,4487	2,6394	3,9617
Bed Occupancy Rate	72,8264	84,4610	60,2826
Bed Turnover Range	26,2923	3,1625	7,1981
Crude Death Rate	,6257	,6480	1,3651
Number of Hospital	28	50	326

Table 3 displays cluster analysis for private hospitals. As a result of analysis, 330 private hospitals were gathered in three different clusters which were different from each other statistically in terms of 6 clinic performance indicators. Hospitals which have best performance indicators are displayed in Cluster 3.

Table 3. Cluster Analysis Results of Private Hospitals

Final Cluster Centers			
	Cluster		
	1	2	3
Bed Turnover Rate	10,0019	77,4023	154,9759
Inpatient Rate	9,8886	6,1389	7,3624
Average Length of Stay	5,8007	2,7985	2,1353
Bed Occupancy Rate	11,8945	55,0504	86,3735
Bed Turnover Range	56,7944	5,5514	2,5131
Crude Death Rate	2,8499	2,2597	1,4628
Number of Hospital	19	201	110

As a result of cluster analysis for university hospitals, hospitals gathered in 3 clusters which were statistically significant. All indicators among performance indicators except bed occupancy rate demonstrate that hospitals in cluster 1. were in better places compared to others (See Table 4).

Table 4. Cluster Analysis Results of University Hospitals

Final Cluster Centers			
	Cluster		
	1	2	3
Bed Turnover Rate	77,9260	70,8237	34,7347
Inpatient Rate	5,6113	7,5729	7,1060
Average Length of Stay	3,8183	7,0254	7,9497
Bed Occupancy Rate	65,2058	100,1325	60,5626
Bed Turnover Range	5,8402	7,1472	13,1687
Crude Death Rate	1,5057	3,0364	2,2720
Number of Hospital	18	16	29

Table 5. Cluster Analysis Results of Training and Research Hospitals

Table 6 displays one-way variance analysis results about comparison of hospitals in terms of clinic indicators and post hoc test results, which were done to determine from which group or groups the difference originated from.

[illegible]

Bed Occupancy Rate									2-4 p<0,001
	Government ¹	404	64,144	20,972	9,491	135,141			1-3
	Private ²	330	63,007	26,884	2,325	158,415			p<0,001
	University ³	63	71,939	20,985	8,131	136,087			1-4
	Training and Research ⁴	74	80,159	12,065	44,365	122,381	13,584	0,000	p=0,012
	Total	871	65,638	23,348	2,325	158,415			2-3 p=0,005
Bed Turnover Range									2-4 p<0,001
	Government ¹	404	8,022	7,229	1,636	83,872			3-4 p=0,036
	Private ²	330	7,489	16,976	1,228	202,778			
	University ³	63	9,546	6,522	3,365	39,531	0,592	0,620	-
	Training and Research ⁴	74	7,447	5,378	2,479	37,529			
	Total	871	7,881	11,787	1,228	202,778			
Crude Death Rate	Government ¹	404	1,225	1,062	0,000	9,176			1-2
	Private ²	330	2,028	2,309	0,000	15,949			p<0,001
	University ³	63	2,247	1,509	0,000	8,799	18,405	0,000	1-3
	Training and Research ⁴	74	2,141	1,462	0,000	7,574			p<0,001
	Total	871	1,681	1,750	0,000	15,949			1-4 p<0,001

When examined the bed turnover rate, it is seen that private hospitals have the best and university hospitals are the worst on average. As a result of analysis, statistically significant difference was determined among groups ($p<0.001$); it was determined that difference was between private hospitals and other hospitals.

Inpatient rate is the lowest in government hospitals and the highest in university hospitals. As a result of analysis, statistically significant difference was found ($p<0.001$). In consequence of analysis, it was determined that difference was between government and training research hospitals with private and university hospitals. Accordingly, inpatient rate of government hospitals was lower compared to private and university hospitals, inpatient rate of training and research hospitals was lower compared to private and university hospitals.

Average length of stay in university hospitals and research hospitals are high and less in private hospitals. As a result of analysis, statistically significant difference was found among groups ($p<0.001$), difference was between private hospital and other hospitals with government hospitals and training research and university hospitals. Accordingly, private hospitals are the least average length of stay.

Bed occupancy rate is the most in training research hospitals and the least in private hospitals. As a result of analysis, statistically significant difference was found between groups ($p<0.001$), the difference was found to be between government and private hospitals with training and research and university hospitals. Accordingly, bed occupancy rate in training research hospitals was higher than other three hospital groups.

Bed turnover range of hospitals was seen as so close to each other and as a result of analysis, no statistically significant difference was found among groups ($p>0.05$).

It was determined that crude death rate was the most in university hospitals and the least in government hospitals. According to analysis, statistically significant difference was found among groups ($p < 0.001$), the difference was between government hospitals and other groups. Accordingly, the crude death rate of government hospitals was lower than hospitals which were in other three groups.

4. Discussion and Conclusion

This study was done to cluster government, private and Ministry of Health training and research hospitals in terms of clinic performance and compare hospitals performances according to these indicators. For this reason, data about the hospitals was provided from Ministry of Health and bed turnover rate, inpatient rate, average length of stay, bed occupancy rate, bed turnover range and crude death rate was calculated. Since studies aims to evaluate clinic performance, 871 hospitals which had 50 or more bed capacity and full data about indicators were included into study.

In the study, it was determined that 404 government hospitals were separated into 3 clusters and separately from each other statistically. When the clusters are evaluated in terms of performance indicators, the hospitals which had best performance indicators were gathered in cluster 2. As a result of research, the hospitals which were clustered in cluster 2 was especially special hospitals (eye, rehabilitation, oncology etc.). So it is thought because of those that the people who apply special hospitals need inpatient treatment, their patient profile generally consists of complicate situations, patients need long inpatient treatment and because of performance indicators such as inpatient rate, bed occupancy rate and bed turnover range.

In the study, 330 private hospitals were gathered in 3 clusters in terms of clinic performance indicators. Cluster 3 had the best indicators among three clusters. As a result of study, it is seen that hospitals which are in cluster 3 are hospitals in big cities like Ankara and Istanbul as a common feature. In terms of performance indicators, this cluster has the highest bed turnover rate, the lowest average length of stay, high bed occupancy rate, low bed turnover range and crude death rate. Population density (patient density as a part of this) is thought to become influential for this situation and the hospital serving in these cities are more equipped.

As a result of clustering of university hospitals in terms of performance indicators, 63 university hospitals were gathered in 3 clusters. While bed occupancy rate of hospitals in cluster 1 is lower compared to hospitals in cluster 2, they were better in terms of other 5 indicators. In this study, it is seen that university hospitals in cluster 1 had low bed capacity and they were step 3 health institution in the cities where they were. So it is thought this situation is influential in their performance indicators' being better than other clusters. On the other hand, hospitals in cluster 3 having high bed capacity, being low in bed turnover rate and bed occupancy rate, being high in bed turnover rate and average length of stay causes the beds to be unproductive.

In the study, it was determined that 74 training research hospitals were separated into 2 different clusters statistically. In the study, it is seen that the hospitals which gathered in cluster 2 had better performance indicators (higher bed turnover rate, lower average length of stay, higher bed occupancy rate, low bed turnover range and crude death rate) compared to hospitals cluster 1. It is observed that this situation is because of hospitals in cluster 2 which were in big cities like Istanbul, Ankara and Izmir and worked with Ministry of Health. Also, special training research hospitals which delivery special treatment in the area of mental and neurological disorders, physical medicine and rehabilitation and chest diseases being in cluster 1 was thought to be influential on this result.

In the study, hospitals in Turkey were compared with each other in terms of clinic indicators. As a result of analysis, average bed turnover are 76.617. This sample shows that a patient bed is used by 79 patients. Bed turnover rate is the most in private hospitals (99.380), the lowest in university hospitals (56.241). Bed turnover rate is expected to be lower in hospitals which deal with more complicated situations (Dhungana et al., 2014). In this study, bed turnover rate is lower in university and training research hospitals where an advanced treatment is needed, and lower compared to private and government hospitals which give service to less complicated situations.

Average of inpatients rate is 4.6%. Inpatient average in university hospitals is the most (6.8%), the lowest in government school (2.8%). Government hospitals which is second step health institutions dispatching complicated situations to university or training research hospitals which are in third step and obligation of university hospitals to treat complicated situations are thought to be effective in having such as situation.

Average length of stay in hospitals is 4.2 days. Average length of stay in at least in private hospitals (2.8 day), the most in university hospitals (6.6). Average length of stay effect costs of hospitals and the more length of stay the more costs of hospitals (Taheri, Butz & Greenfield, 2000). Private hospitals are institutions which want to profit besides having different aims. So they take care of costs more than government or university hospitals and this results decrease in accommodation days. In the study efficiency of private hospitals is evaluate in Ankara by Atmaca et al. (2012), the length of stay in private hospitals are between 1-days and it is less.

The bed occupancy rate in hospitals in Turkey is 66%. These rate shows 35 of 100 beds are unproductive in Turkey. The occupation rate is 80% in training research hospitals and the most, 72% in university hospitals, 63% in private hospitals and 64% in government hospitals and it is the least. This situation shows beds of training research hospitals and university hospitals are used better. 82% bed occupation rate in United Kingdom hospitals is seen as quality expression (Keegan, 2010). While bed occupancy rates' being low shows usage of resources efficiently, over bed occupancy rate can decrease the quality of service. Bed occupancy rate although it changes according to hospital service type and content shows at what rate a hospital uses its resources. The Australian Medical Association, Irish Medical Organisation and Australasian College for Emergency Medicine states bed occupancy rate being more than 85% has negative effects on hospital activities and efficiencies (Borkar and Thorat, 2016). According to a study in Denmark, mortality of hospital is 9% more in the times when bed occupancy rates are too high (Boden et al., 2015). Due to all findings, government, private and university hospitals reaching 80% in bed occupancy rates is important for using their resources more productive and effective.

Bed turnover range how many days a bed is not accommodated between two accommodations. Turnover range is found 7.9 days in Turkey. University hospitals were found the most (9.5 days) in turnover range, training research hospitals (7.5 days) were found the least

Crude death rate average was found 1.7%. Crude death rate is the most in university hospitals (2.2%), (1.2%) in government hospitals. This situation can be thought from the situation that hospital which gives third step health service give service to more complex situations.

With this study which was done to cluster hospitals in Turkey in terms of clinic performance indicators and compare hospitals in terms of performance indicators, it is determined that government, private and university hospital were gathered in 3, training research hospitals gathered in 2 clusters. In the study, it is determined that 50 government hospitals out of 404, 110 private hospitals out of 330, 18 university hospitals out of 63, 24 training research hospitals out of 74 had high clinic performance.

In this study, it is determined that bed turnover rate is high in private hospitals, inpatient and average length of stay is high in university hospitals, bed occupancy rate is high in training research hospital and bed turnover range is the least in training research hospitals and rough death rate is the least in government hospitals.

It is determined with this study that the most important problem is low bed occupancy rate and bed turnover range. 66% rate which is average for Turkey shows unproductively. Another indicator of not using resources efficiently is that bed turnover range. 7.9 rates which is time between two stay in Turkey shows that bed is not stay for one week. Turnover ranges' being similar for all types of hospitals and having to differences can bring planning of hospital beds topic forward. Hospital managers who face up with increasing costs and pressure of more qualified service should take precautions to decrease unproductive capacity and increase bed occupation rates. It can be said that health policy determines should focus on using existing patient beds more productive not focus on increasing the number of patient beds.

5. References

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Do Attitudes Of Managers Toward Dimension Corporate Governance Practices Differ In Terms Of Demographic And Company Characteristics?

1. Introduction

Corporate governance has been an important topic subject of several studies. Corporate governance systems have evolved over centuries, often in response to corporate failures or systemic crises. Corporate governance is important because it is dependent on the way governance systems operate. It is topical because recent scandals have proved that today's ostensibly 'state-of-the-art' mode of governance is indeed inadequate (Borgia, 2005, p. 3-6).

Corporate governance is defined simply and concisely by the Cadbury Report (1992, p. 14), as "the system by which companies are directed and controlled". According to OECD (2015: 9) "corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined." Corporate governance components considered in the study were public disclosure and transparency, shareholders, stakeholders, and board of directors, respectively.

Transparency and public disclosure is one of the dimension of corporate governance. Public disclosure and transparency was named as transparency in this study. Transparency is generally defined as "the widespread availability of relevant, reliable information about the periodic performance, financial position, investment opportunities, governance, value, and risk of publicly traded firms" (Bushman & Smith 2003, p. 66). Also, Borgia (2005, p. 21) defined transparency, as "letting the truth be available for others to see if they so choose, or perhaps think to look, or have the time, means and skill to look". From another perspective, transparency putting more responsibilities on the corporation not only let the truth be available to the public but imposes to disclose it to every stakeholder and different stakeholder groups (Fung, 2014, p. 72). According to Lieberman (2010) transparency is a very important characteristic, one that often leads to building trust and then a supporting element of a positive reputation.

Shareholder is another component of corporate governance. Shareholder is a person who owns shares in a company and therefore gets part of the company's profits and the right to vote on how the company is controlled (Cambridge Dictionaries Online, 2016). That is shareholders are owners of the company and they have certain rights (www.gov.uk, 14.03.2016). According to Fox & Lorsch (2012), shareholders are the center of the corporate universe; managers and boards must orbit around them. A major purpose of corporate governance is to protect the interests of shareholders (Hebble & Ramaswamy, 2005, p. 27).

Stakeholder is defined by Freeman (1984, p. 53) as "any group or individual who can affect or is affected by the achievement of an organization's purpose." This definition was criticized for even terrorists might be stakeholders (Jensen, 2002, p. 254). According to Jensen (2002, p. 254) stakeholder is "someone who contributes to the value creation by the firm." Freeman (1984) argued that if the actions of a firm are perceived to have a wide range of effects on stakeholders of differing social positions then the firm will seek to raise the welfare of the least well-off stakeholder groups.

The board of directors is an important part of the corporate governance (Baysinger & Butler, 1985) and is the most important decision-making body in a corporation (Ferreira,

2010). They have the power to hire, fire, and compensate management at regular or irregular intervals and provides a protective instrument through which conflicts of interest among decision makers and residual risk bearers (Baysinger & Butler, 1985). Board of directors defined simply as “a collection of individuals trying to operate as a group.” (Boland & Hofstrand, 2009). Directors may differ in many important characteristics such as age, education, tenure (work experience), and gender. Board diversity may affect corporate performance, but in diverse ways depending on the characteristics of the firm (Ferreira, 2010).

This study argues that attitude of the managers toward corporate governance practices may differ in terms of demographic characteristics and the company features. Therefore, this study investigates whether the attitude of the managers toward corporate governance practices differ in terms of demographic characteristics and the company features. In addition, it also intends to provide recommendations based on results regarding effectiveness of corporate governance.

In order to achieve the objective of the study, an empirical study was conducted through collecting data from managers of 91 companies via questionnaire in top 500 companies in Turkey. The following section outlines the hypothesis development, methodology, analysis and results.

2. Hypothesis Development

Corporate governance defines the relationship between the company and its stakeholders, shareholders and board of directors in the context of transparency, accountability, responsibility and equality (Cadbury Report, 1992; OECD, 2015). These relationships, which involve various rules and incentives, provide the structure through which the objectives of the company are set, and the means of attaining these objectives as well as monitoring performance are determined.

Transparency is defined as “Accessibility of information to stakeholders of institutions, regarding matters that affect their interests” (Tapscott & Ticoll, 2003, p. 22). Transparency is not a goal, it is a characteristic of a person if he/she has a strong leader, an organization (Lieberman, 2010). Kamalluarifin (2016) conducted a survey in top 95 companies in Malaysia and determined that there is a positive and significant relationship between the age of directors, experience (tenure) of directors and transparency. Aksu and Kosedag (2006) investigated the firm-specific determinants of the transparency, and they found that while size, accounting profitability and market-to-book ratio explain the differences in the scores in the ownership and board and management sub-categories as well as in overall scores. The number of employees is one of the factors that determine the size of the firm. Also size, industry classification and internalization could be used to explain level of information disclosed by the firms (Celik, Ecer, & Karabacak, 2006). In a study Albitar (2015) revealed that firm characteristics have a significant positive relationship with the level of voluntary disclosure. Uyar, Kilic, and Bayyurt (2013) found a positive association between voluntary information disclosure level and firm size, one of the firm characteristics based on result of content analysis of annual reports of the corporations listed on the Stock Exchange of Istanbul (BIST) for the year 2010.

Shareholders is defined simply “as an individual, organization, or company that legally own share(s) of stock in a joint-stock company” (Frechette, 2010). A shareholder is also known as a stockholder. Corporations can be seen like a republic, and shareholders are ultimate authority of this republic with their vote (Gompers, Ishii, & Metrick, 2003). Gompers

et al. (2003) argued that they constructed a “Governance Index” as a proxy for the balance of power between shareholders and managers. Christy, Matolcsy, Wright, and Wyatt (2012) investigated the association between board characteristics and shareholders, then explored that only the shareholders of well-established, large firms are able to generate positive net benefits, in the form of lower equity risk, from independent boards and well-connected independent directors with multiple directorships.

Stakeholder is stated by Frechette (2010) “as anyone that can be affected by a company’s actions, objectives, and policies.” Stakeholders include internal stakeholders, such as employees and managers, and external stakeholders, such as shareholders, suppliers, customers, surrounding communities, creditors, the government, to name a few (Frechette, 2010). Mitchell, Agle, and Wood (1997) generated a typology of stakeholders, propositions concerning their salience to managers of the firm and management implications by combining power, legitimacy, and urgency attributes. Mitchell et al. (1997: 882) argued that “managers must know about entities in their environment that hold power and have the intent to impose their will upon the firm. Power and urgency must be attended to if managers are to serve the legal and moral interests of legitimate stakeholders.” Chan (2010) investigated 300 companies the in Australia, and concluded that there is no significant relationship between stakeholder power and the amount of voluntary disclosure of corporate social responsibility information which is firm characteristic. Parent and Deephouse (2007) argued that manager characteristics have direct and moderating effects on stakeholder identification. Ely and Pownall (2002) found significant stakeholder-related incentives across 23 Japanese firms listed in the United States and 23 Japanese firms not listed in the United States that are matched by size as a firm characteristic.

Board of directors is described as “common apex of decision control systems organizations, large and small, in which decision agents do not bear a major share of the wealth effects of their decisions” (Fama & Jensen, 1983: 311). In a study (Haas, 2015) at some companies was explored that the most long-tenured directors often exercise considerable influence over less-tenured senior management. These factors balance heavily against any strict rule on board tenure. Ghosh (2006: 441) examined the nexus between corporate performance and board characteristics for India and concluded that, board size exerts a negative influence on corporate performance. In their study Hafsi and Turgut (2013) investigated possible linkage between *demographic diversity in boards* and social performance in a sample of S&P500 firms and they determined a significant relationship between *diversity in boards* and social performance. Also, gender, and age have a significant effect on corporate social performance. Marimuthu and Kolandaisamy (2009) empirically examined the effect of demographic diversity on boards of directors with regard to firm financial performance. Findings of their study indicated that quite inconsistent to prove the relevance of diversity among the board members with regard to financial performance. Horvath and Spirollari (2012: 470) examined the relationship between directors’ characteristics and firm’s financial performance and they concluded that the age of the directors positively influences firm performance. That is younger members are probably willing to bear more risk and to undertake major structural changes to improve firm’s future prospects.

As seen in the literature, characteristics of manager affect various individual, group and organizational dynamics as well as outcomes. While previous studies has concentrated on these relationship, there seem to be lack of studies regarding whether attitudes of managers toward corporate governance practices differ based on the demographic characteristic of managers and company. Thus, this study tries to bring insight regarding such relationships.

After having identified such a research gap in the literature, the following hypotheses are formulated:

H1: Attitudes of managers toward the dimension of shareholders differed with regard to their gender.

H2: Attitudes of managers toward the dimension of transparency differed with regard to their gender.

H3: Attitudes of managers toward the dimension of stakeholders differed with regard to their gender.

H4: Attitudes of managers toward the dimension of board of directors differed with regard to their gender.

H5: Attitudes of managers toward the dimension of shareholders differed with regard to their age.

H6: Attitudes of managers toward the dimension of transparency differed with regard to their age.

H7: Attitudes of managers toward the dimension of stakeholders differed with regard to their age.

H8: Attitudes of managers toward the dimension of board of directors differed with regard to their age.

H9: Attitudes of managers toward the dimension of shareholders differed with regard to their education.

H10: Attitudes of managers toward the dimension of transparency differed with regard to their education.

H11: Attitudes of managers toward the dimension of stakeholders differed with regard to their education.

H12: Attitudes of managers toward the dimension of board of directors differed with regard to their education.

H13: Attitudes of managers toward the dimension of shareholders differed with regard to their tenure.

H14: Attitudes of managers toward the dimension of transparency differed with regard to their tenure.

H15: Attitudes of managers toward the dimension of stakeholders differed with regard to their tenure.

H16: Attitudes of managers toward the dimension of board of directors differed with regard to their tenure.

H17: Attitudes of managers toward the dimension of shareholders differed with regard to having a shareholder relation office or not in company.

H18: Attitudes of managers toward the dimension of transparency differed with regard to having a shareholder relation office or not in company.

H19: Attitudes of managers toward the dimension of stakeholders differed with regard to having a shareholder relation office or not in company.

H20: Attitudes of managers toward the dimension of board of directors differed with regard to having a shareholder relation office or not in company.

H21: Attitudes of managers toward the dimension of shareholders differed with regard to number of employees.

H22: Attitudes of managers toward the dimension of transparency differed with regard to number of employees.

H23: Attitudes of managers toward the dimension of stakeholders differed with regard to number of employees.

H24: Attitudes of managers toward the dimension of board of directors differed with regard to number of employees.

3. Methods

Data for the empirical study was collected through a questionnaire from managers of 91 companies which are listed in top 500 companies in Turkey. The questionnaire composed of two parts. The first part is a demographic characteristic survey of the managers that includes four items (gender, age, education, and tenure) and two items (having shareholders relations office and number of employees) exist on questionnaire to survey characteristic of the companies. The second part consists of 12 items to measure corporate governance dimensions (stakeholders, transparency, shareholders and board of directors). Corporate governance scale was developed as Likert type (1=Strongly disagree, 5=Strongly agree) for this study in accordance with principles of Capital Market Board of Turkey. SPSS as well as Independent-Samples T Test and One Way ANOVA analysis were used to test the research hypotheses.

4. Findings

As is shown in Table 1, a total of 91 completed questionnaires were returned (18.2% response rate) from managers of companies which are listed in top 500 companies in Turkey. The findings about demographic characteristics of respondents shown in Table 1 indicate that 13.2% were male and 86.8% were female. Also, employees were categorised by age: below 26 years (2.2%), 26–35 years (37.4%), 36–45 years (26.3%), and 46 years and over (34.1%). In terms of tenure (workplace experience), as follows: up to five years (33.0%), six to ten years (28.5%), eleven to fifteen years (19.8%), and 15 years and over (18.7%). Regarding education level, 69.2% described their education as bachelor degree; 11.0% master; 6.6% vocational junior college; 13.2% high school or below.

Table 1. Demographic Characteristics of Respondents

Variables	Frequenc y	Percenta ge (%)	Variables	Frequen cy	Percentag e (%)
<i>Gender</i>			<i>Tenure</i>		

Male	79	86.8	0-5	30	33.0
Female	12	13.2	6-10	26	28.5
Total	91	100.0	11-15	18	19.8
Education			15 years and over	17	18.7
High school or below	12	13.2	Total	91	100.0
Voc. Junior College	6	6.6	Age		
Bachelor degree	63	69.2	Below 26	2	2.2
Master	10	11.0	26-35	34	37.4
Total	91	100.0	36-45	26	26.3

Companies' features are shown in Table 2. The majority of the companies do not have shareholder relations office (62.6%). Looking at the companies from employment point of view reveals that majority of the companies employed more than 500 employees (65.9%), while 28.6% employed 101 to 500 employees, and 5.5% of the companies employed below 100 employees.

Table 2. Companies' Features

Variables	Frequenc y	Percenta ge (%)	Variables	Frequen cy	Percentag e (%)
<i>Having Shareholders Relations Office</i>			<i>Number of Employees</i>		
Yes	34	37.4	1-50	35	38.5
No	57	62.6	51-100	40	44.0
Total	91	100.0	101-500	12	13.2
			501 and above	4	4.3
			Total	91	100.0

4.1. Analysis Related to Reliability and Validity of the Research

The reliability of research scale in the survey is measured by Cronbach's Alpha and values of all scales were over .70 reflecting an acceptable level (Nunnally, 1978). The results obtained from the reliability (Cronbach's Alpha) analysis are shown in Table 3. Exploratory factor analysis was used to determine validity of this study. In order to test the scales of shareholders, transparency, stakeholders, and board of directors are suitable or not for the

analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity are applied. As seen in Table 3, KMO values are over .583 reflecting a good level and also common variances of variables are over .50, highly good. As a result of Bartlett's test of sphericity all scales in the survey are statistically significant at .000 level and it shows that samples are sufficient to analysis (Sharma, 1996). The results of validity analysis of research scales are shown in Table 3.

Table 3. Results of Reliability and Validity Analysis of Research

Scales	Cronbach's Alpha (α)	Factor Loading	KMO	Appr. χ^2 *	df	Variance %	Significance (Sig./p)
Shareholders	.703		.611	57.216	3	63.528	.000
SHRH1		.720					
SHRH2		.874					
SHRH3		.794					
Transparency	.721		.583	38.213	3	57.351	.000
TRNSP1		.837					
TRNSP2		.820					
TRNSP3		.589					
Stakeholders	.736		.636	64.717	3	65.744	.000
STKH1		.820					
STKH2		.874					
STKH3		.733					
Board of Directors	.775		.600	92.374	3	69.151	.000
BD1		.914					
BD2		.713					
BD3		.855					

* Approximate Chi-Square

4.2. Correlation Analysis

Mean, standard deviation, and intercorrelations among research variables are reported in Table 4. As is shown in Table 4, there were significantly positive relationships among all the research variables. Transparency, stakeholders, and board of directors were significantly and positively related to shareholders ($r = .469$, $p < .01$; $r = .509$, $p < .01$; $r = .326$, $p < .01$, respectively). Stakeholders were significantly and positively related to transparency ($r = .523$, $p < .01$). Also, dimension of board of directors was significantly and positively related to

shareholders ($r = .326$, $p < .01$), transparency ($r = .243$, $p < .05$), and stakeholders ($r = .555$, $p < .01$).

Table 4. Correlation Analysis, Mean and Standard Deviation Results

Variables	Mean	Std. Deviation	Shareholders	Transparency	Stakeholders	Board of Directors
Shareholders	4.0037	.83813	X			
Transparency	3.2711	.82089	.469**	X		
Stakeholders	4.1026	.70219	.509**	.523**	X	
Board of Directors	3.8571	.78903	.326**	.243*	.555**	X

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed). N=91 (Number of managers who participated in survey)

Table 5 shows test results of Independent-Samples T Test and One Way ANOVA, there were no statistically significant differences between shareholders, transparency, board of directors scores and demographic characteristics of the managers in terms of gender, age, and educational level ($p > 0.05$). At the same time, it was found that there were no statistically significant differences between stakeholders and gender, and educational level of managers ($p > 0.05$). Result also indicates that there were statistically significant differences between shareholders, transparency, stakeholders and tenure of managers, and there was statistically significant difference between stakeholders and age of managers ($p < 0.05$).

Table 5. Corporate governance dimensions by demographic characteristics of the managers

Descriptive Characteristics	Shareholders	Transparency	Stakeholders	Board of Directors
cs				

Clustering of Hospitals in Terms of Clinic Performance Indicators in Turkey

Gender	<i>M*</i>	<i>SD**</i>	<i>M*</i>	<i>SD**</i>	<i>M*</i>	<i>SD**</i>	<i>M*</i>	<i>SD**</i>
<i>Female</i>	4.2778	.61682	3.2363	.83485	4.1667	.61134	3.8611	.33207
<i>Male</i>	3.9620	.86230	3.5000	.81850	4.0928	.71798	3.8565	.83833
<i>t value</i>	<i>t</i> =1.219		<i>t</i> =1.037		<i>t</i> = .338		<i>t</i> = .019	
<i>p value</i>	<i>p</i> = .226		<i>p</i> = .302		<i>p</i> = .736		<i>p</i> = .985	
Tenure	Between the groups	Within the groups	Between the groups	Within the groups	Between the groups	Within the groups	Between the groups	Within the groups
<i>Sum of Squares</i>	8.906	54.315	7.619	53.028	4.071	40.305	2.856	53.176
<i>df</i>	3	87	3	87	3	87	3	87
<i>Mean Square</i>	2.969	.624	2.540	.610	1.357	.463	.952	.611
<i>F value</i>	<i>F</i> =4.755		<i>F</i> =4.167		<i>F</i> =2.929		<i>F</i> =1.558	
<i>p value</i>	<i>p</i> = .004		<i>p</i> = .008		<i>p</i> = .038		<i>p</i> = .205	
Education								
<i>Sum of Squares</i>	6.160	57.061	5.268	55.379	1.367	43.009	1.123	54.909
<i>df</i>	4	86	4	86	4	86	4	86
<i>Mean Square</i>	1.540	.664	1.317	.644	.342	.500	.281	.638
<i>F value</i>	<i>F</i> =2.321		<i>F</i> =2.045		<i>F</i> = .683		<i>F</i> = .440	
<i>p value</i>	<i>p</i> = .063		<i>p</i> = .095		<i>p</i> = .605		<i>p</i> = .780	
Age								
<i>Sum of Squares</i>	7.706	55.515	7.978	52.669	6.170	38.206	5.939	50.093
<i>df</i>	6	84	6	84	6	84	6	84
<i>Mean Square</i>	1.284	.661	1.330	.627	1.028	.455	.990	.596
<i>F value</i>	<i>F</i> =1.943		<i>F</i> =2.121		<i>F</i> =2.261		<i>F</i> =1.660	
<i>p value</i>	<i>p</i> = .083		<i>p</i> = .059		<i>p</i> = .045		<i>p</i> = .141	

*Mean (1=Strongly disagree, 5=Strongly agree); **Standard Deviation

Table 6 indicates test results. Although there were no statistically significant differences between shareholders, transparency, board of directors scores and companies' features in terms of having relations unit with shareholders and number of employees ($p>0.05$), there was statistically significant difference between transparency and companies' features in terms of having relations unit with shareholders ($p<0.05$).

Table 6. Corporate governance dimensions by companies' features

Companies' Features	Shareholders		Transparency		Stakeholders		Board Of Directors	
HSRO*	<i>M**</i>	<i>SD**</i> *	<i>M**</i>	<i>SD**</i> *	<i>M**</i>	<i>SD**</i> *	<i>M**</i>	<i>SD**</i> *
Yes	4.0707	.8888 1	3.6364	.8594 4	4.1919	.7023 3	3.7980	.8577 2
No	3.9474	.8086 6	3.0643	.7331 1	4.0468	.7083 4	3.8889	.7594 2
t value	$t=0.672$		$t=3.347$		$t=.940$		$t=-.522$	
p value	$p=0.503$		$p=.001$		$p=.350$		$p=.603$	
Number of Employees	Between the groups	Within the groups	Between the groups	Within the groups	Between the groups	Within the groups	Between the groups	Within the groups
Sum of Squares	.658	62.563	2.536	58.112	2.124	42.252	3.344	52.688
df	3	87	3	87	3	87	3	87
Mean Square	.219	.719	.845	.668	.708	.486	1.115	.606
F value	$F=.305$		$F=1.265$		$F=1.458$		$F=1.841$	
p value	$p=.822$		$p=.291$		$p=.232$		$p=.146$	

*Having Shareholder Relations Office,

Mean (1=Strongly disagree, 5=Strongly agree); *Standard Deviation

The findings revealed that managers' attitudes towards stakeholder practices, as one of the dimension of corporate governance differed in terms of their age and duration at workplace. Moreover, the managers' attitudes toward the dimension of shareholders and transparency practices differed in term of their duration at workplace and also attitudes of managers toward the dimension of transparency differed with regard to having a shareholder

relation office or not. Attitudes of managers toward the other dimensions of corporate governance practices did not differ in terms of demographic variables and company features. Consequently, all the results shown above indicate that the most of our research hypotheses (H1, H2, H3, H4, H5, H6, H8, H9, H10, H11, H12, H16, H17, H19, H20, H21, H22, H23, and H24) were not supported. Only, five hypotheses (H7, H13, H14, H15, and H18) were supported.

Table 7. Test results of the research hypotheses

Hypotheses	Accepted/Rejected
H1: Attitudes of managers toward the dimension of shareholders differed with regard to their gender.	Rejected
H2: Attitudes of managers toward the dimension of transparency differed with regard to their gender.	Rejected
H3: Attitudes of managers toward the dimension of stakeholders differed with regard to their gender.	Rejected
H4: Attitudes of managers toward the dimension of board of directors differed with regard to their gender.	Rejected
H5: Attitudes of managers toward the dimension of shareholders differed with regard to their age.	Rejected
H6: Attitudes of managers toward the dimension of transparency differed with regard to their age.	Rejected
H7: Attitudes of managers toward the dimension of stakeholders differed with regard to their age.	Accepted
H8: Attitudes of managers toward the dimension of board of directors differed with regard to their age.	Rejected
H9: Attitudes of managers toward the dimension of shareholders differed with regard to their education.	Rejected
H10: Attitudes of managers toward the dimension of transparency differed with regard to their education.	Rejected
H11: Attitudes of managers toward the dimension of stakeholders differed with regard to their education.	Rejected
H12: Attitudes of managers toward the dimension of board of directors differed with regard to their education.	Rejected
H13: Attitudes of managers toward the dimension of shareholders differed with regard to their tenure.	Accepted
H14: Attitudes of managers toward the dimension of transparency differed with regard to their tenure.	Accepted
H15: Attitudes of managers toward the dimension of stakeholders differed with regard to their tenure.	Accepted

H16: Attitudes of managers toward the dimension of board of directors differed with regard to their tenure.	Rejected
H17: Attitudes of managers toward the dimension of shareholders differed with regard to having a shareholder relation office or not in company.	Rejected
H18: Attitudes of managers toward the dimension of transparency differed with regard to having a shareholder relation office or not in company.	Accepted
H19: Attitudes of managers toward the dimension of stakeholders differed with regard to having a shareholder relation office or not in company.	Rejected
H20: Attitudes of managers toward the dimension of board of directors differed with regard to having a shareholder relation office or not in company.	Rejected
H21: Attitudes of managers toward the dimension of shareholders differed with regard to number of employees.	Rejected
H22: Attitudes of managers toward the dimension of transparency differed with regard to number of employees.	Rejected
H23: Attitudes of managers toward the dimension of stakeholders differed with regard to number of employees.	Rejected
H24: Attitudes of managers toward the dimension of board of directors differed with regard to number of employees.	Rejected

5. Conclusion and Discussion

As a system enabling companies to direct and control, corporate governance has become an important research topic and studied from various point of view in the literature. Considering the effect that corporate governance has on success of the companies, it needs to be understood and successfully implemented in companies. Especially the factors that affect the success of the corporate governance implementation should be identified and managed.

Corporate governance has also been the subject of this study and studied in a developing country context. In a specific manner, our study investigated whether the attitude of the managers toward corporate governance practices differ in terms of demographic characteristics and the company features.

The findings revealed that managers' attitudes towards corporate governance practices differed in terms of some of demographic characteristic of managers and company. The accepted hypotheses are summarised below;

H7: Attitudes of managers toward the dimension of stakeholders differed with regard to their age.

H:13: Attitudes of managers toward the dimension of shareholders differed with regard to their tenure.

H14: Attitudes of managers toward the dimension of transparency differed with regard to their tenure

H15: Attitudes of managers toward the dimension of stakeholders differed with regard to their tenure.

H18: Attitudes of managers toward the dimension of transparency differed with regard to having a shareholder relation office or not in company.

These results reflect the fact that there are some differences in attitudes of managers toward corporate governance practices. These differences may translate into difficulties and opportunities in implementing corporate governance practices. Therefore, these difference need to be taken into account when considering the implementation of corporate governance practices. Especially when the difficulties arise, such difficulties need to be resolved carefully. The fact that manager with difference background involve in the management of the companies and implementation of corporate governance. Each manager with difference ideas, opinion and values see the world differently consequently it is expected that different views are likely to turn up when considering and implementing corporate governance practices.

It is also true that different company characteristics may affect the attitudes of managers toward corporate governance practices. In this study, attitudes of managers toward the dimension of transparency differed with regard to having a shareholder relation office or not in company. Like demographic characteristics of managers, the company characteristics also need to be carefully analysed and taken into account when implementing corporate governance practices.

The remaining hypotheses, apart from the accepted ones which relate to relationship between attitude of managers regarding corporate governance practices and demographic and company characteristic have been rejected. These results reflect the fact that only some characteristics of managers and company but not all of them may affect attitudes of managers. Therefore, these characteristics need to be carefully identified and studied from various points of view such as whether these differences create problems or opportunities and how to manage them.

Some cautions need to be taken into account when interpreting the result of the study. In our study, we found that attitude of managers toward corporate governance practices differed in terms of some characteristics. It is hard to generalise our finding before these types of studies are extended with different and big samples and find similar results. Thus, it is necessary to further investigate such relationships as researched in this study. In addition, different demographic characteristics of managers and company may also be included in potential future studies.

6. References

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The Longitudinal Investigation Of The Relationships Between Audit Report Lag And Business Strategy

1. Introduction

According to the IASB's *Framework for the Preparation and Presentation of Financial Statements*, timeliness is an important qualitative characteristic of financial information. To be relevant and useful, financial information must be provided to users within the time period in which it is most likely to bear on their decisions. Otherwise, it loses a portion of its economic value.

The timeliness of an information release can affect the level of uncertainty associated with decisions based on the reported information (Ashton et al. 1987, p.275). Thus, the timeliness of financial statements is an important aspect for the users of accounting information, i.e., managers, accounting professionals and regulatory and professional agencies and investors. Audit report lag (ARL) can be defined as the period between a company's financial year end and the audit report date. ARL is influenced by a number of factors. A better understanding of these factors may facilitate inferences concerning the structure and function of the auditing profession (Ashton et al. 1989, p.657) and may affect investors' financial decisions. By contrast, regulators need to understand the causes of the ARL before they can legislate effectively to reduce this lag (Leventis et al. 2005, p.45). The aim of this study is to investigate the effect of business strategy on ARL with longitudinal research and, in this way, to enhance our understanding about the factors of ARL over a period of time. Although many factors affecting ARL have been discussed in the literature, to the best of our knowledge, the effects of business strategy on audit report lag have not been investigated in prior studies. The Miles and Snow (1978) typology classified companies' strategies as defenders, prospectors, analyzers and reactors. Because of the characteristics of different strategy types, it is expected that auditing processes will be different for different strategy types. The remainder of the paper is structured as follows: Section two provides a theoretical background and a brief review of prior research and develops hypotheses. Section three presents the methodology and data of the study. Section four includes the empirical analysis, results and discussions. The final section concludes with the limitations and suggestions for further research.

2. Background

2.1. Audit Report Lag

ARL can be defined as the period between a company's financial year end and the audit report date (Ashton et al. 1987, p.275, Bamber et al. 1993, p.1). Prior studies have provided empirical evidence that ARL is the most influential factor in the timeliness of financial statements (Owusu and Ansah 2000, Leventis et al. 2005) because it affects the timeliness of financial statements, which provide financial information to investors (Jaggi and Tsui 2012, p.17). In Turkey, the Capital Markets Board of Turkey determines the timeliness of financial reporting via the Communiqué Serial XI, No: 29 on Financial Reporting in the Capital Markets to protect financial statement users. According to this Communiqué, companies that are not liable to prepare consolidated financial statements should release their annual financial reports and related independent audit reports to the board and the related stock market within the ten weeks following the end of the financial year. Companies that are liable to prepare

consolidated financial statements are obligated to release these statements within the 14 weeks following the end of the financial year (CMB 2008). However, given today's competition, it is very important for financial statement users to gain these financial statements as soon as possible to make correct and timely decisions.

2.2. Business Strategies and the Miles & Snow Typology

In the strategic management literature, the strategic choices perspective emphasizes that organizational behavior is only partially predicted by environmental conditions but that the choices of top management are critical determinants of structure and process (Miles et al. 1978). Managers are regarded as having a proactive role, and their choices not only guide the organization's alignment with its environment but also shape the organization's internal features—functional policies, distinctive competencies, structures, and processes (Hambrick 1983, Astley and Van de Ven 1983).

Many previous studies examine the effect of business strategies on an organization's structure or processes and use typologies to describe business strategies in an industry (Mintzberg 1979, Mintzberg 1983, Hamel ve Prahalad 1994, Ansoff 1965, Schendel and Hofer 1979, Miles and Snow 1978, Miller and Friesen 1977, Porter 1980). Miles and Snow's (1978) typology is one of the most important and popular typologies of strategy that support the strategic choice perspective. This typology establishes a linkage between business-level strategy structures and several organizational processes, such as planning, control, and communication.

From Miles and Snow's (1978) perspective, organizations' structures and processes are differentiated according to the strategies that the organizations have implemented. Depending on these strategies, it may also be suggested that the accounting processes of the organization may be affected by the business-level strategies of the organization. In this study, to investigate the relationship between business strategies and ARL, Miles and Snow's (1978) strategy typology was used for determining the strategic choices of organizations. We selected this typology because it had been subjected to numerous tests of its validity in a wide array of settings, including hospitals, colleges, banking, industrial products, and life insurance (Hambrick 2003). In addition, this typology is very suitable to the nature of our study in that it affords the use of archival data for a period of time (Ittner et al. 1997, Bentley et al. 2012), whereas other typologies require personal interviews with managers and surveys. The Miles and Snow (1978) typology views organizational patterns of strategic behavior as an 'adaptive cycle', characterizing behavior using three strategic 'problem and solution' sets: (1) entrepreneurial problems focusing on the product-market domain, (2) engineering problems centering on the choice of technologies, and (3) administrative problems involving structure and processes. According to these sets, the Miles and Snow (1978) typology defines four distinct strategic types: defenders, prospectors, analyzers and reactors. The key dimension determining the typology is the rate at which an organization changes its products or markets. **Defenders** are organizations that engage in little or no new product/market development. Often, such organizations control relatively secure niches within their industries, competing primarily on the basis of price, quality, delivery, and service. **Prospectors** attempt to be pioneers in product/market development. They tend to offer a frequently changing product line and compete primarily by stimulating and meeting new market opportunities. **Analyzers** are an intermediate type. They make fewer and slower product/market changes than prospectors but are less committed to stability and efficiency than defenders (Hambrick 1983). By contrast, **Reactors** lack a consistent strategic approach to solving problems. As a result, the Reactor strategy type is generally considered unviable (Conant et al. 1990) and is

frequently omitted from studies (Shortell and Zajac 1990). Because Reactors may vary their behavior at different times to exhibit the characteristics of a defender, analyzer or prospector type, they are also difficult to characterize at a single point in time using objective approaches (Blackmore and Nesbitt 2012). Most of the prior research in management and accounting has focused on prospectors and defenders in the analysis. (Bentley et al. 2012) Additionally, in this study, we used only two distinct strategies (prospector and defender) as the endpoints of Miles and Snow's strategy continuum.

2.3. Prior Research

Most of the recent literature has focused on the antecedent factors affecting ARL. These factors can be grouped as auditor-specific factors, environmental factors and firm-specific factors.

Auditor-Specific Factors: Auditor-specific factors can be listed as the auditor type, auditor's technology and auditor changes (Charslaw and Kaplan 1991, Leventis et al. 2005, Khasharmeh and Aljifri 2010, Mohammed – Nor et al. 2010, Türel 2010, Ghanem and Hegazy 2011, Newton and Ashton 1989, Bamber et al. 1993, Jaggi and Tsui 2012)

Environmental Factors: Environmental factors affecting ARL include regulatory pressure and industry classification of clients. (Ashton et al. 1989, Bamber et al. 1993, Bonson et al. 2008, Al-Ajmi 2008, Türel, 2010, Jaggi and Tsui 2012)

Firm-Specific Factors: A firm's size, leverage, liquidity, earning news, number of subsidiaries, number of reportable segments, financial year ends, and corporate governance structure can be listed as firm-specific factors affecting ARL. (Ashton et al. 1987, Carslow and Kaplan 1991, Bamber et al. 1993, Knechel and Payne 2001, Leventis et al. 2005, Al-Ajmi 2008, Lee et al. 2008, Afify 2009, Ishak et al. 2010, Mohammed - Nor et al. 2010, Khasharmeh and Aljifri 2010, Ghanem and Hegazy 2011, Yacoob and Che-Ahmad 2012, Jaggi and Tsui 2012)

Business-level strategies may also be an important firm-specific factors that affects ARL. For example, in the literature, some accounting topics, such as compensation (Ittner et al. 1997), accounting control systems (Simons 1987), budgetary usage (Collins et al. 1997), tax aggressiveness (Higgins et al., 2011) and capital budgeting practices (Shimizu and Tamura, 2012), are associated with business strategies (Bentley et al. 2012). However, there are very few studies that investigate the effect of business strategies on the auditing process. For example, applying the typology used by Miles and Snow (1978), Bentley et al. (2012) examined whether companies' business strategies are a factor in determining the occurrence of financial reporting irregularities and the level of audit efforts. Bentley suggested that prospectors require greater audit efforts because of rapid growth, organizational instability, and complexity, whereas defenders require lesser audit efforts (lower audit fees) because of their less risk-oriented focus, tendency toward profitability, cautious/incremental growth patterns, organizational stability, and lesser complexity relative to prospectors.

As far as we know, no study has investigated the relationship between business strategies and ARL. This study aims to clarify how business-level strategies (defender and prospector), which may be accepted as a firm-specific factor, affect ARL.

Therefore, the following hypothesis is developed:

H₁= The ARLs of prospector companies are longer than those of defender companies.

3. Methodology

3.1. Sample and Data

This study attempts to investigate the relationship between ARL and business strategies. The sample covers 102 companies that prepare consolidated financial statements and are listed on the ISE between 2006 and 2014 in Turkey. The companies have operations in 8 different index groups of the ISE (12% in the food industry, 18% in the service industry, 13% in the chemical industry, 19% in the metal products and machinery industry, 11% in the forest industry, 3% in the technology industry, 10% in the textile industry, and 16% in the non-metallic mineral products industry). For each company, annual financial statements (balance sheet and income statements), audit reports, and related information were captured. Sixteen pieces of data were collected from 918 (102x9) financial statements and audit reports released between 2006 and 2014. The annual financial reports and audit reports of the sampled companies were obtained through the ISE website (ISE 2014) for the years 2006 – 2007 and the Public Disclosure Platform website (PDP 2014) for the years 2008 – 2014. First, the business strategies of 102 companies were determined according to 6 objective measures by cluster analysis. Twenty-seven companies were classified as defenders, 64 as analyzers and 11 as prospectors. To determine the effect of business strategies on ARL, two extreme strategy types, defender and prospector firms, were taken into account. Thus, analyzers were omitted from the study, and panel data analysis was conducted on the remaining data, totaling 38 companies (27 defender companies and 11 prospector companies).

3.2 Measures

‘Measuring Strategies’: Selecting Objective Measures

There are several ways to measure business strategies. Snow and Hambrick (1980) introduced four main approaches: (1) the *Investigator inference method*, which requires that the researcher uses all of the information available and assesses the organization's strategy, (2) the *Self-typing method*, which allows the organization's managers (specifically, its top managers) to characterize the organization's strategy, (3) the *External assessment method*, in which the organizational strategy is assessed by an expert panel, and finally (4) the *Objective indicators method*, which involves measuring parameters that provide information on the strategic stance of an organization indirectly.

The nature of our study, which requires that large amounts of data be collected from different industries and different time periods, fits well with a measurement approach that is based on objective measures. In the literature, there is a lack of commonly agreed upon objective measures to assess Miles and Snow's strategy types. Therefore, the authors selected the most appropriate findable measures to accompany the dimensions of Miles and Snow's typologies (Blackmore and Nesbitt 2012, Bentley et al. 2012, Ittner et al. 1997).

We used a set of measures used by Bentley et al. (2012): (1) the ratio of research and development to sales, (2) the ratio of employees to sales, (3) a historical growth measure (one-year percentage change in total sales), (4) the ratio of marketing to sales, (5) a measure of employee fluctuations (standard deviation of total employees) and (6) a measure of capital intensity net PPE scaled by total assets. We considered 3 important criteria when selecting

these measures. As advised by several authors (Conant et al. 1990, Blackmore and Nesbitt 2012), these six measures captured the appropriate characteristics and all of the dimensions (stability, efficiency, growth, product/service development research, marketing, and capital intensity) of Miles and Snow's strategy typologies and were available for each of the companies and years in our sample. "The ratio of research and development to sales" and "the ratio of marketing to sales" cover the entrepreneurial dimension of the Miles and Snow typology. Because these measures are related to a firm's propensity to research for change with new products or new markets, which has been suggested as the most significant differentiator of the four strategy types (Snow and Hambrick, 1980), prospectors engage in greater amounts of innovative activity. Prospectors are expected to carry out more research and development and have greater marketing expenditures than defenders (Ittner et al. 1997). "A measure of employee fluctuations" relates to organizational stability and covers both the entrepreneurial and administrative dimensions. Prospectors are expected to have higher turnovers than defenders. "A measure of capital intensity" (net PPE scaled by total assets) relates to a company's commitment to technological efficiency and covers the engineering dimension. Prospectors have low degrees of mechanization and routinization to avoid lengthy commitments to single technological processes, whereas defenders have high degrees of mechanization and routinization focusing on a single core cost-efficient technology (Bentley et al. 2012). "The ratio of employees to sales" also covers the engineering dimension and is related to a company's ability to produce and distribute products and services efficiently (Thomas et al. 1991). Prospectors are expected to have a higher ratio of employees to sales than defenders. "A historical growth measure" covers the entrepreneurial dimension and is a proxy for a firm's growth or investment opportunities (Bentley et al. 2012), with prospectors expected to have greater growth potential than defenders. These 6 objective measures were used to classify firms as prospectors or defenders.

Measuring the effect of firm-specific factors, auditor-specific factors and environmental factors on ARL

After the sampled companies were classified as defenders and prospectors, the effects of business strategies and other influencing factors on ARL were analyzed by panel data analysis because panel data analysis techniques allow the analysis of both time series and cross-sectional data sets that have repeated observation over time for the same individuals. According to the findings of prior studies, firm-specific, auditor-specific and environmental factors were included in the analysis as control variables. As noted before, a firm's corporate governance structure is a firm-specific factor that affects ARL. This study covers the 2006-2014 time period. Moreover, because the financial year ends of all the sampled companies are December 31, a busy-season factor could not be included in the analysis. In addition, financial sector companies were not included in the model because they are subject to different regulations in Turkey.

Borrowing a theoretical framework from prior studies, the following model is proposed:

$$ARL_{i,t} = \beta_0 + \beta_1 SIZE_{i,t} + \beta_2 LEV_{i,t} + \beta_3 LIQ_{i,t} + \beta_4 LOSS_{i,t} + \beta_5 SUB_{i,t} + \beta_6 SR_{i,t} + \beta_7 AO_{i,t} + \beta_8 BIGN_{i,t} + \beta_9 AC_{i,t} + \beta_{10} CGI_{i,t} + \beta_{11} IND_{i,t} + \varepsilon_t$$

Hypothesized Variable

STR=A dummy variable that is equal to 1 if company is a prospector and 0 if it is a defender

Dependent Variable

ARL= The number of days between the company's financial year end and the audit report date

Control Variables

SIZE= Natural log of total assets

LEV= Debt proportion is measured by the ratio of total debts to total assets

LIQ= Liquidity is measured by the ratio of the company's current assets to current liabilities.

LOSS= A dummy variable that is equal to 1 if the company's current year income is positive and 0 otherwise

SUB= Number of subsidiaries

SR= Number of reportable segments

AO= A dummy variable that is equal to 1 if the audit opinion is unqualified and 0 otherwise

BIGN= An auditor type that is equal to 1 if the company is audited by a Big 4 firm and 0 otherwise

AC= A dummy variable that is equal to 1 if the audit report is signed by a different auditor compared to previous year's audit report and 0 otherwise

CGI= A dummy variable that is equal to 1 if the company is indexed in a corporate governance index and 0 otherwise

IND= A dummy variable that is equal to 1 if the company is in manufacturing and 0 otherwise

4. Results and Discussion

The hypothesis testing process comprises the 2 following steps. The first step is cluster analysis, which is used to classify the strategies of the firms in the sample. Once the strategies are classified, the second step is to test our hypothesis using panel data analysis.

4.1. Determining Strategies: Cluster Analysis

The 6 objective measures that were used to measure strategy were collected from the financial statements of 102 firms for each year between 2006 and 2014. Consistent with Ittner et al. (1997) and Bentley et al. (2012), a 5-year average of each of the 6 measures was calculated to eliminate environmental effects, and the data were analyzed using Hierarchical Cluster analysis. These techniques were also used by Thomas and Ramaswamy (1996) to determine the strategy types of firms with objective measures of the Miles and Snow typology.

In our hierarchical clustering method, we used Ward's minimum variance method, which joins clusters using the criteria of minimum variance within clusters. A Euclidean distance measure was used due to its wide acceptance and known robustness (Overall et al. 1993). Clustering was conducted for each industry separately to eliminate the industry effect. An optimal number of clusters was determined based on the sharp variation in fusion coefficients (Everitt, 1980) and visual inspection of the dendrograms. Three main clusters were determined for each industry, except the metal industry, which was grouped into two clusters. The two maximally different clusters in each industry were defined as prospectors (having high scores) and defenders (having low scores) (Thomas and Ramaswamy 1996). According to the cluster analysis results, 27 firms were classified as defender, and 11 firms were classified as prospectors. 64 firms that were grouped into the third cluster were omitted from the analysis.

In this study, we accepted that firms' business strategies did not change in the period of time over which the research was conducted because companies' strategies should arguably be consistent over time (Miles and Snow 1978, Bentley et al. 2012). To test the strategy consistency over the years, we also performed hierarchical cluster analysis for each year.

Relationships Between Audit Report Lag And Business Strategy

Firms were again grouped in the same clusters in each year. For the validation of cluster analysis, 4 academics who studied strategy management and were familiar with the Miles and Snow typology were asked to classify these firms; 90% of the results were found to be consistent with our classification. This high ratio may be accepted as sufficient to support the validity of our classification.

4.2. Descriptive Statistics

Table 1 displays the descriptive statistics for all 38 companies. As seen in the Table 1, the average ARL is 86 days. The ARL period ranges from a minimum of 39 days to a maximum of 285 days. The mean SIZE is 833.000.000 Turkish Lira, with a standard deviation of 1.510.000.000 Turkish Lira. For LEV, the mean is 0.66, and the standard deviation is 0.7189158. For the total period, the average liquidity of companies is 2.175263 (2.739933 standard deviation). The average percentage of observations that experienced profit (LOSS) in the sampled year is 67.10526%. The mean of SUB is 6.074, with a minimum of zero (0) and a maximum of 59. The minimum of SR is 0, and the maximum is 6. From 228 firm-year observations, the average percentage of companies with an unqualified opinion (AO) is 84.21%. The average percentage of companies audited by BIGN is 40.35%. 20.61% of financial statements are audited by different auditors in relation to the previous year's financial statements (AC). 7.456% of the observations are listed in the industrial index (IND) in the ISE. On average, 0.0745% of the observations are in the corporate governance index (CGI) in the ISE. Moreover, 28% of the analyzed companies are prospectors, whereas 72% are defenders.

Table 1: Descriptive Statistics

VARIABLE	MIN	MAX	MEAN	STD. DEV.
ARL	39	285	86.28509	22.37609
SIZE	2418837	9200000000	833000000	1510000000
LEV	0.02	5.98	0.6603947	0.7189158
LIQ	0.11	25.67	2.175263	2.739933
LOSS	0	1	0.6710526	0.4708646
SUB	0	59	6.074561	1.105886
SR	0	6	1.105263	1.544457
AO	0	1	0.8421053	0.3654446
BIGN	0	1	0.4035088	0.4916805
AC	0	1	0.2061404	0.4054225
CGI	0	1	0.0745614	0.2632603
IND	0	1	0.7631579	0.42608
STR	0	1	0.2894734	0.4545159

4.3. Multivariate Analysis

To identify which empirical methodology is most suitable, the Breusch-Pagan Lagrange multiplier (LM) test is performed to compare the simple OLS regression and the random effect regression. The Breusch-Pagan Lagrange multiplier test indicates that $\chi^2(1) = 123.06$ and $\text{Prob} > \chi^2 = 0.0000$; thus, the null hypothesis is rejected. In other words, the random

effect regression is more appropriate for our data. Subsequently, Hausman's specification test is performed to compare fixed effect and random effect regressions. According to the Hausman test ($\chi^2(10) = 11.34$ and $\text{Prob} > \chi^2 = 0.3319$), the null hypothesis is not rejected, and the random effect regression is appropriate for the model for this study. To obtain unbiased statistical inference, the estimated random effects model is analyzed in terms of serial autocorrelation and heteroscedasticity. According to the Wooldridge test ($F(1, 37) = 0.681$ and $\text{Prob} > F = 0.4147$), the null hypothesis is not rejected, or, in other words, serial autocorrelation violates the estimation results.

Table 2: Random Effect Regression

	Predicted Sign	Coefficient	Std. Error	z- value	P-value
SIZE	-	-0.003673	0.01136	-3.35	0.001*
LEV	+	0.13896	0.021685	2.06	0.040*
LIQ	-	-0.00439	0.00536	-0.82	0.413
LOSS	-	-0.11144	0.039514	-2.82	0.005*
SUB	+	0.00709	0.030021	2.52	0.012**
SR	+	-0.01351	0.013099	-1.03	0.302
AO	-	-0.11262	0.043942	-2.56	0.01*
BIGN	-	0.010901	0.021249	0.51	0.608
AC	+	-0.09977	0.046549	-2.14	0.032**
CGI	-	0.034689	0.065898	0.53	0.599
IND	+	0.05369	0.024548	3.17	0.002*
STR	+	0.001028	0.029523	0.90	0.002*
R- Kare			0.1050		
Wald chi2(12)			44,53		
Prob > chi2			0.0000		
*, **, = Significant at the 1%, 5% level					

In addition, the Wald test indicates (Wald $\chi^2(12) = 466,34$ and $\text{Prob} > \chi^2 = 0.0000$) that the null hypothesis is rejected, or the presence of heteroscedasticity. To obtain an unbiased statistical estimation, the panel corrected standard errors (PCSE) method is carried out. Table 2 presents the multivariate results using random effect regression for our sampled companies.

The R^2 of the random effects model of 10.50%, which indicates that 10.50% of the variation in the ARL is explained by independent variables, is highly significant ($p=0.0000$). According to the results of the random effect regression model, business strategy (STR) is positively related with ARL, as expected, and significant at the 1% level. Namely, the audit report lags of prospector companies are longer than those of defender companies. This result supports H_1 . Only eight of the eleven control variables (SIZE, LEV, LIQ, LOSS, SUB, AO, and IND) are associated with ARL in the predicted direction. The SIZE of companies, measured by their total assets, is highly significant at the 1% level with a negative relationship. Thus, larger companies have shorter ARLs than smaller companies. This result can be explained by the argument that larger companies may have improved internal control systems, which facilitate the task of auditing. The LEV of companies is significant at the 5% level and positively influences ARL, as predicted. Because high-leverage companies are more likely to fail, the ARLs of high-leverage companies ARL are longer than those of others. The LOSS of a company is negatively associated and statistically significant at the 1% level. Managers of companies that experience losses may wish to have a lag in the releasing of the

corporate annual report to avoid the discomfort of communicating it because it is “bad news”. SUB is positively related with ARL at the 5% significance level. SUB increase the complexity of a company, thereby increasing ARL. According to the regression results, AO is negatively and significantly ($p=0.01$) associated with ARL. Another control variable positively and significantly related with ARL is IND. The ARLs of companies included in the ISE Industrial Index is higher than other companies. Companies’ industries are factors related to companies’ audit complexity and affect the audit report lag. Parallel to the literature, the effect of AC on ARL is statistically significant but conversely does not lengthen effect on ARL. This study reveals that LIQ is not statistically significant, although it is the expected sign. In contrast to literature BIG4 is not significant but has the expected sign.

Summary and Conclusion

This study provides new insights to add to the literature on ARL and investigates the relationship with business strategies. The results of the random effect regression model reveal that independent variables explain 10.50% of the variation in ARL. Business strategies positively and significantly affect ARL. In other words, the ARLs of prospector companies are longer than those of defender companies. This result supports H_1 . Business strategy is an effective firm-specific factor of the ARLs of consolidated financial statements in Turkey. Moreover, firm size, profitability, and auditor opinions regarding financial statements are firms-specific factors that decrease ARL, whereas a company’s debt proportion and number of subsidiaries are firm-specific factors that cause longer ARLs. In terms of auditor-specific factors that affect ARL, contrary to prior studies, this study reveals that auditor change has the effect of reducing ARL. According to the results of this study, industry is a factor that positively affects ARL. In other words, the ARLs of industrial companies are longer.

This paper makes several contributions to the literature. As far as we known, this is the first study that investigates the relationship between business strategy and ARL, and the findings reveal that business-level strategies are an important firm-related factor in addition to the other known factors. The longitudinal methodology of the study is a strength of this research because longitudinal methods can provide more efficient estimators and enable the analysis of time series data and cross sectional data together. The data used in the analysis of this study include certain ratios or result parameters of companies that may be affected easily by external conditions such as market fluctuations or crises. Thus, covering a long span of time in the analysis eliminates this type of risk and increases the reliability of the study.

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The Importance Of Public-Private Partnerships In Disaster Risk Management

1. Introduction

Over time, natural disasters have affected many aspects of human life. Therefore, natural disasters have been the subject of many studies. These studies usually include the effects of natural disasters, coping with natural disasters, and management of natural disasters.

Disaster risk management has necessitated the development of sustainability in various countries. Thus, the public and private sectors have cooperated to reduce the macroeconomic and capital costs of natural disasters. These partnerships have reduced the financial impacts of disasters and thus ensured more resilience to natural disasters in the affected communities.

The aim of this study is to investigate the effectiveness of public-private partnerships in the management of natural disaster risk. The study also analyzes the role of sharing among the public and private sectors in ineffective natural disaster management. In the study, a new public-private partnership structure is recommended for natural disaster risk management in Turkey.

2. Disaster Risk Management

Natural disaster can be defined as *“the situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering. Though often caused by nature, disasters can have human origins”* (www.emdat.be). According to another definition, disaster implies a sudden overwhelming and unforeseen event (Burnham & Rand, 2008, p. 24).

Natural disasters can be divided into six categories: geophysical, meteorological, hydrological, climatological, biological, and extraterrestrial. Geophysical disasters are defined as “a hazard originating from solid earth.” Meteorological disasters involve “a hazard caused by short-lived, micro- to mesoscales extreme weather and atmospheric conditions that last from minutes to days.” Hydrological disasters are defined as “a hazard caused by the occurrence, movement, and distribution of surface and subsurface freshwater and saltwater.” Climatological disasters involve “a hazard caused by long-lived, meso to macro scale atmospheric processes ranging from intraseasonal to multi-decadal climate variability.” Biological disasters are defined as “a hazard caused by the exposure to living organisms and their toxic substances or vector-borne diseases that they may carry.” Extraterrestrial disasters have been described as “a hazard caused by asteroids, meteoroids, and comets as they pass near-earth, enter the Earth’s atmosphere, and/or strike the Earth, and by changes in interplanetary conditions that affect the Earth’s magnetosphere, ionosphere, and thermosphere” (www.emdat.be).

According to this classification, each category has subgroups. For example, geophysical disasters include earthquakes, mass movements, and volcanic activity. Meteorological disasters involve storms and extreme temperatures. Hydrological disasters are floods, landslides, and wave actions. Climatological disasters include droughts, glacial lake outbursts, and wildfires. Biological disasters involve epidemics and insect infestations and extraterrestrial disasters include space weather (e.g., geomagnetic storms) and airbursts (www.emdat.be).

The Importance Of Public-Private Partnerships In Disaster Risk Management

Figure 1 illustrates a natural disaster's cycle. A response phase occurs after a natural disaster. The response phase is determined during the preparation before the occurrence of the natural disaster. The response phase also includes emergency assistance, such as search and rescue activities. Then, after the response phase, the rehabilitation and reconstruction phases of disaster recovery begin. The mitigation phase alleviates the effects of natural disasters and includes preparations to reduce the risk of natural disasters (Burnham & Rand, 2008, p. 28). The conceptual framework of the natural disaster cycle indicates show governments can effectively control the natural disaster management phase.

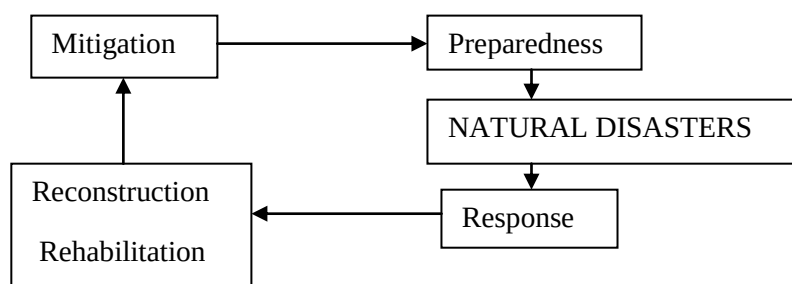


Figure 1: Natural Disaster Cycle

Source: Burnham, M.G., R & E.C., (2008), **The Johns Hopkins and Res Cross Red Crescent: Public Health Guide in Emergencies**, Johns Hopkins Bloomberg School of Public Health and the International Federation of Red Cross and Red Crescent Societies, Second Edition, Geneva, Switzerland, 28.

Natural disasters result in many victims in the affected communities. Also, disasters significantly affect the country's economic growth and development. Natural disaster costs are increasing and the costs of disasters affect governments. Table 1 shows the 10 costliest events ordered by overall losses worldwide.

Table 1: 10 Costliest Events Ordered by Overall Losses (Worldwide, 1980-2014)

Date	Event	Area	Overall Loses	Insurance Loses	Fatalities
11.03.2011	Earthquake, Tsunami	Japan	210,000	40,000	15,880
25.08.2005	Hurricane Katrina	USA	125,000	62,200	1,322
17.01.1995	Earthquake	Japan	100,000	3,000	6,430
12.05.2008	Earthquake	China	85,000	300	84,000
23.10.2012	Hurricane Sandy	Bahamas, Canada, USA, Haiti	68,500	29,500	210
17.01.1994	Earthquake	USA	44,000	15,300	61
15.11.2011	Floods	Thailand	43,000	16,000	813

14.09.2008	Hurricane Ike	USA	38,000	18,500	170
27.02.2010	Earthquake	Chile	30,000	8,000	520
23.10.2004	Earthquake	Japan	28,000	760	46

Note: Loses are in US\$ m original values

Source: Munich Re, (2015), “Loss Events Worldwide 1980–2014: 10 Costliest Events Ordered by Overall Losses”, NatCatSERVICE, Münchener Rückversicherungs-Gesellschaft, Geo Risks Research, January 2015, 1.

The United Nations Office for Disaster Risk Reduction has described natural disaster risk management as follows: “The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events” (www.unisdr.org).

In most developing and emerging economies, the private sector has made many investments. Natural disasters affect private sector performance and decrease long-term competitiveness and sustainability. Thus, a new approach to disaster risk management must include the private sector (UNISDR, 2015, p. 4).

Table 2 indicates the top recipients of disaster risk reduction finance between 1991 and 2010. Development assistance for disaster risk reduction is aggregated in 10 countries that have a high mortality risk index. The Mortal Risk Index is a model developed by the United Nations Office for Disaster Risk Reduction which shows natural hazards, human exposure, and vulnerability rated on a scale of 1 to 9. The higher points of the index represent the greater risk of natural disaster.

Table 2: Top Recipients of Disaster Risk Reduction Finance (1991–2010)

Top Recipients Countries	Disaster Risk Reduction Received	Disaster Risk Reduction Per Capita Received	Mortality Risk Index
China	1,578.60	1.25	9
Indonesia	1,439.59	6.75	9
Bangladesh	916.39	7.12	9
Philippines	834.58	10.78	8
Mexico	586.28	5.90	6
Colombia	550.75	13.85	9
Argentina	544.51	14.82	5
India	524.94	0.50	9
Brazil	492.32	2.84	5
Turkey	457.56	7.20	7

Note: Received constant are in 2010 US\$ million, with Mortality Risk Index

Source: Watson, C., Caravani, A., Mitchell, T., Kellett, J., & Peters, K., (2015), “Finance for Reducing Disaster Risk: 10 Things to Know”, Climate & Environment Programme UNDP, 1-24.

Figure 2 illustrates the overall losses and insured losses caused by natural disasters between 1980 and 2014. The figure shows an increasing trend in overall and insured losses.

Therefore, these losses should be considered at both the national and international levels in methods intended to mitigate the losses from natural disasters.

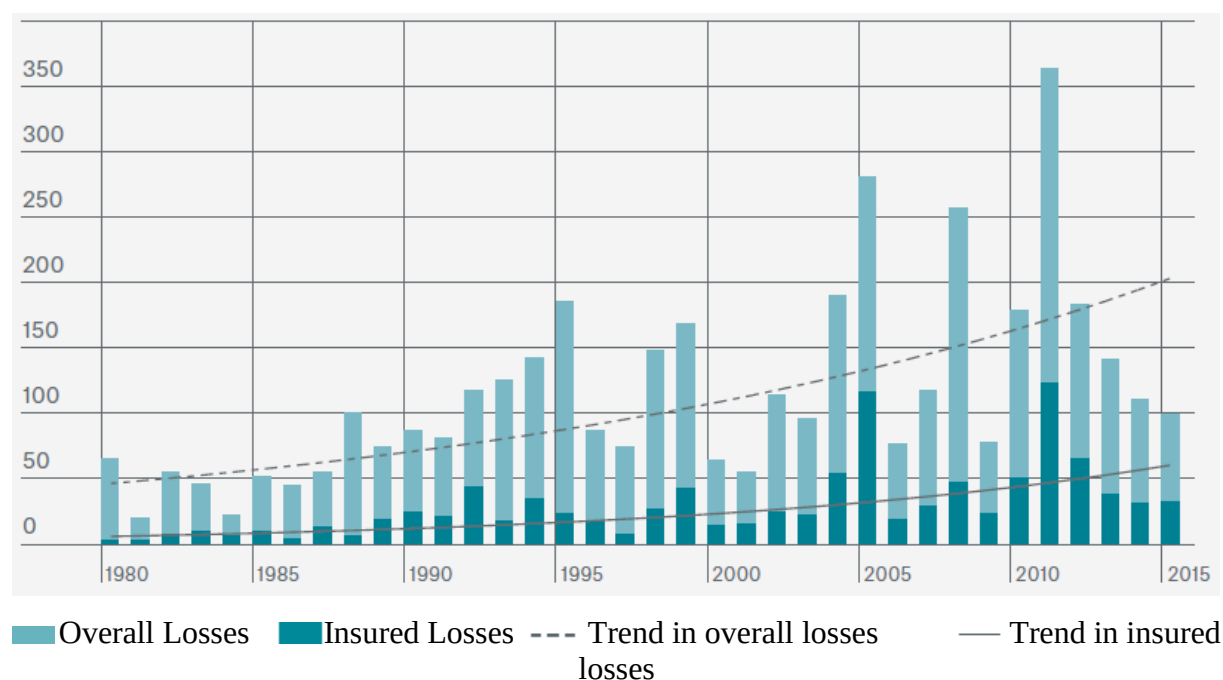


Figure 2: Overall and Insured Losses in 1980-2015 (US\$ bn)

Source: Munich Re, (2016), “Topic Geo: Natural catastrophes 2015, Analyses, Assessments, Positions”, 2016 issue, 56.

3. Public-Private Partnership in Disaster Risk Management

The private sector can reduce the disaster risk to its profit thanks to investments in risk analysis and assessments, early warning, cost-benefit analyses, and support for national risk reduction. This situation is only effective in partnerships with government (Watson, et al., 2015, p. 10). A list of such partnership investments is in Table 3 (UNISDR, 2013, p. 4).

Table 3: Five Essentials for the Public Sector in Disaster Risk Reduction

1	Development and Promotion of The Public-Private Partnerships
2	The Private Sector Leverage: Expertise and Strengths of The Private Sector
3	Foster A Collaborative Exchange and Dissemination of Data About Disaster Risk
4	Risk Assessment of Disasters
5	Support The Development of Policies: The National and Local Level

Source: UNISDR, (2013), “Business and Disaster Risk Reduction. Good Practices and Case Studies”, Geneva: United Nations International Strategy for Disaster Reduction, 4.

A clear identification of public-private partnerships is offered by the US General Accountability Office. According to this definition, a public-private partnership involves public and private sector agreements which are based on contracts established between the partners. The definition of the public-private partnership is comprehensive. In other words,

public-private partnerships are formed as a result of incorporation of various institutions and organizations which are within the public sector, private sector, and/or non-profit sector (Şahin & Uysal, 2012, p. 157).

The effective reduction and financing of natural disaster risks are combined in the public and private sector. When disasters occur and costs rise, the challenges in such disasters decrease in this type of partnership. This situation has especially occurred in developing and emerging markets. These partnerships have helped governments absorb the disasters and provided individuals and businesses greater financial security (Swiss Re, 2008b, p. 5).

Public and private partnerships play an important role in improving natural disaster preparation in countries. Thus, the public and private sectors have their own advantages (see Table 4). The public sector has political and legal power to impose rules and set the framework for dealing with natural disasters. As the cost of natural disasters increases, the public sector finds it difficult to cope with these costs. The advantage of the private sector is that it has extensive financial resources. However, there is no regulatory power in the private sector (Swiss Re, 2008b, p. 5). Therefore, it is necessary for the public and private sectors to cooperate in the effective management of natural disasters.

Table 4: Possible Roles to Be Shared in Public-Private Partnerships

Contributions	Public Sector	Private Sector
Risk Awareness	Yes	Yes
Risk Prevention		
<i>(Strengthen public resources and set the regulatory framework e.g. building codes)</i>	Yes	No
Risk Transfer		
<i>(Build and improve the environmental risk transfer solutions)</i>	Yes	(Yes)
Enable efficient access to markets and distribution	Yes	No
Develop risk transfer products	No	Yes
Manage and absorb risks	(Yes)	Yes
Financial support	Yes	(Yes)
Transfer of global “best practice”	Yes	Yes

Note: Yes= Key role; (Yes)= Limited role

Source: Swiss Re, (2008b), “Disaster Risk Financing: Reducing the burden on Public Budget”, Swiss Re Focus Report, 5.

The Importance Of Public-Private Partnerships In Disaster Risk Management

Public-private partnerships can alleviate the financial burden of natural disasters which heavily affects government budgets. Natural disasters drive up the cost of disaster relief, particularly in developing and emerging countries, because these countries are hurt the most by disasters and least prepared for disasters. Grenada serves as an example. When Hurricane Ivan struck Grenada in 2004, the economic losses were 889 million USD, which is 203% of the Caribbean island state's gross domestic product (GDP). Since 2004, the country has defaulted on its foreign debt. However, public-private partnerships can effectively support governments in the financial implications of disaster; thus, these collaborations make societies more resilient to disasters (Swiss Re, 2011, p. 1). Also, public-private partnerships have allowed these countries to leverage their funds through the use of insurance and capital market instruments (Swiss Re, 2008, p. 2).

At the same time, governments can reduce their contingent liability by encouraging private competitive insurance solutions based on public-private partnerships. Thus, governments give attention to disaster-related financial support for the poor and disadvantaged (World Bank, 2012, p. 57).

According to Kunreuther (2001), if the public and private sectors work together, they can reduce future losses from natural disasters and encourage cost-effective risk mitigation measures. Three public-private partnership programs can especially help this problem: building codes, premium reductions linked to long-term loans for mitigation, and broadening protection against disasters losses. These programs provide funds to cover governments' losses from catastrophic disasters. In such a program, "premium reduction" is referred to as "tax rate reduction" (Kunreuther, 2001, p. 180).

Chen et al., (2013) divided phases of disaster management based on the type of partnership. According to them, public-private contractual or non-contractual partnerships should be generated for critical infrastructure in the building resilience phase. In the reconstruction and rehabilitation phase, public-private partnerships should be considered for physical reconstruction.

The most common solution for developing long-term strategies for catastrophes is to establish public-private partnerships. Yao (2015) claimed that public-private partnerships have been utilized to motivate property owners to undertake retrofitting actions. The collaboration allows retrofitting costs to be reimbursed by the private sector. The most common solution for developing long-term strategies for catastrophes is also to establish public-private partnerships. Kunreuther (2015) asserted that public-private partnerships promote investment in protective measures prior to disasters. Thus, these partnerships have considered affordability problems and ensured coverage for disaster risks.

4. Public-Private Partnerships in Disaster Risk Management for Turkey

Turkey is a country which carries natural disaster risk and has lived the natural disaster experience. In other words, Turkey's geographic location has a high disaster risk profile. Table 5 shows the frequency of disasters by type in Turkey.

Table 5: Natural Disaster Frequency in Turkey in 2015

Natural Disaster Type	Frequency
Earthquake	36.8%
Extreme Temperature	6.9%
Flood	32.2%
Landslide	9.2%
Storm	9.2%
Wildfire	4.6%
Other	1.1%

Source: www.emdat.be

In particular, Turkey has been subject to floods and earthquakes which have caused extensive damage. Table 6 lists the natural disasters occurring in Turkey between 1980 and 2016. According to Table 6, the total economic damage experienced was highest in the 1999 earthquake in Turkey.

Table 6: Natural Disasters in Turkey, 1980-2016 (According to Total Economic Damage)

Disaster Type	Total Economic Damage ('000 US\$)
13.03.1992 Earthquake	750000
01.10.1995 Earthquake	205800
20.05.1998 Flood	1000000
28.06.1998 Earthquake	550000
17.08.1999 Earthquake	20000000
12.11.1999 Earthquake	1000000
27.10.2006 Flood	317000
07.09.2009 Flood	550000
19.05.2011 Earthquake	244000
23.10.2011 Earthquake	1500000

Source: www.emdat.be

Table 7 shows the 2016 risk index for Turkey. According to the Index for Risk Management (INFORM), exposure to natural hazards and disasters is 5.9 in Turkey. The physical exposure to earthquakes is very high because Turkey is located on the active North Anatolian earthquake fault line.

Table 7: 2016 Risk Index in Turkey

Natural Hazard & Exposure	
Natural Hazard and Exposure	5.9
<i>Physical exposure to earthquake</i>	9.8
<i>Physical exposure to flood</i>	5.4
<i>Physical exposure to tsunami</i>	6.6
<i>Physical exposure to tropical cyclone</i>	0.0
<i>Droughts probability and historical impact</i>	1.1

Source: www.inform-index.org

The Republic of Turkey Prime Ministry for Disaster & Emergency Management Authority (AFAD) is responsible for the coordination of disaster and emergency services and the legislation on disaster management in Turkey. The primary responsibilities of the ministries, agencies, and institutions are preparation and implementation of national service group plans. In addition, the private sector, civil society organizations, and individuals are responsible for separately addressing these issues (AFAD, 2013, p. 1). However, there are no public-private partnership definitions in disaster management. Therefore, public-private sector partnerships should be established. Then public-private partnerships should develop legal disaster risk management and disaster emergency plans. These partnerships will reduce the burden on the public budget of the costs of natural disasters. Private investments will also be guaranteed.

5. Conclusion

Natural disasters have deeply affected not only individuals but also governments and private sectors. In particular, employment opportunities for lower income individuals have decreased and their incomes have dropped. In addition, private sector investments and profits have declined. The governments are faced with reduced economic growth, human capital, and revenues and correspondingly increased public expenditures and unemployment. With this economic outlook, governments have been forced to cope with budget deficits and are heavily indebted.

For many reasons like those discussed above, it is necessary to struggle against natural disasters and manage the natural disaster process. In recent years, public-private partnerships have often been mentioned as one of the solutions to alleviate the effects of natural disasters. Public-private partnerships have protected the interests of individuals, the private sectors, and governments.

The government should put in place an effective national natural disaster strategy in Turkey. This strategy should include managing and reducing the risks of natural disasters. Public-private partnerships can help in generating an effective disaster mitigation strategy. These partnerships should be established to ensure effective and sustainable disaster

management activities such as public awareness, education on mitigation, risk transfers, and promotion of insurance and investment in Turkey. Stakeholders in the partnerships should play an active role in disaster risk reduction and management programs. This approach will reduce the effect of natural disasters in Turkey. Through public-private partnerships, Turkey can cope effectively with natural disasters.

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An Analysis Of Job Satisfaction For Contract And Sub-Contract Employees In The State Company

1. Introduction

Job satisfaction can be considered one of the most complex concepts of the organizational behavior literature because of the multifaceted structure (Mullins, 2005). Nonetheless, it is clear that job satisfaction is an important factor in the effectiveness of companies. Although job satisfaction is not synonymous with motivation, job satisfaction theories are highly connected with motivation theories, such as Maslow's hierarchy of needs, Herzberg's motivator-hygiene theory, the Job Characteristics Model, Expectancy theory, Equity theory and the dispositional approach. If business organizations want to have highly satisfied employees, they should first consider the aforementioned motivation theories.

One of the most important motivation theories is Equity theory, proposed by Adams (1963). According to Adams, employees expect "equal" outcomes in proportion to their contribution to the organization. They also compare their outcome/input ratios with other employees and create negative or positive feelings about their job or organization as a result. In the framework of Equity theory, the working status of employees can be a significant factor in job satisfaction level. In most cases, sub-contract employees and contract employees do similar jobs and produce similar outcomes, but they do not obtain equal rights such as salary, working hours, off days, and so forth.

The aim of this study is to compare the job satisfaction levels of employees of different status – namely, contract and sub-contract employees – in the same state company. The data were gathered from 214 employees using a questionnaire. We use the Minnesota job satisfaction scale to measure the job satisfaction level for each employee and analyze the available data by using statistical tests that compare the means of groups and subgroups. According to the results, contract employees are significantly more satisfied than sub-contract employees. The results are consistent with our a priori expectation. The most important inference from these results is that employees working at sub-contract status have more negative feelings than contract employees because of their lower job security, lack of promotion opportunities and income inequality. In the study, we also analyze the demographical factors that affect job satisfaction levels.

The remainder of the study is organized as follows. In section 2, the link between job satisfaction and equity theory is investigated. In section 3, the data and methodology are introduced and the results are reported. Section 4 concludes the study and debates policy implications.

2. Literature Review

Although there are many definitions of job satisfaction in the literature, the most comprehensive and widely accepted definition is the one proposed by Locke (1976), who defined job satisfaction as "positive or negative feelings of employees about a whole or part of their job". This definition suggests that job satisfaction is related to individual emotions and has crucial influences on various aspects of organizational life, such as performance, organizational commitment, intrapreneurship and absenteeism. (Azırı, 2011). In the literature, vast numbers of studies provide empirical results for positive effects of job satisfaction on critical concepts of organizational behavior. Akar and Yildirim (2008), Yousef (2002), Bhuian and Abol-Muhmin (1997), and Sagar (1994) show that job satisfaction is positively

related to organizational commitment. Vroom (1964), Yi Han (2008), Lee, Javalgi, Olivia (2010), Chen and Colin (2008), Zimmerman and Todd (2009), and Dizgah, Chegini and Bisokhan (2012) prove that job satisfaction leads to higher job performance. Şeşen (2010) and Meydan (2011) found that job satisfaction is a significant variable that directly affects intrapreneurship behaviors. Holt et al. (2007) and Wood et al. (2008) propose that job satisfaction has a positive effect on intrapreneurship behaviors via the mediating effects of other organizational variables.

The aforementioned studies indicate that job satisfaction helps to create a better organizational climate. On the other hand, it is not easy to produce highly satisfied employees, because there are many demographic, cultural and motivational factors in the organizational environment that result in a low job satisfaction level. One of the most important of the motivational factors that lead to less satisfied employees is inequality or perceived inequality. All employees in an organization want to get the same outcomes proportional with their contribution to the organization. This idea can be investigated in the context of equity theory, first introduced by Adams (1963). The main idea of equity theory is that employees appraise their own input/output ratios based on comparisons with the ratios of other employees. Carrell and Ditttrich (1978) put forward the following assumptions about the equity theory. First, employees expect fair outcomes proportional with their contribution to their jobs. Second, employees determine what their equitable outcomes should be after comparing their inputs and outputs with those of their coworkers. Third, employees who perceive inequity in the organization will try to reduce the inequity by decreasing their performance or through other methods that lead to inefficient business organizations.

The sub-contract working statute was first introduced in 1936 with the labor law numbered 3008 in Turkey. After the 1980's, many employers began to implement sub-contract applications to reduce the labor cost and to increase competition opportunities. Employers also can avoid some legal responsibilities by implementing sub-contract working status such as by hiring disabled people, ex-convicts and more technical personnel (Şafak, 2011). Unlike for employers, the sub-contract working system has numerous disadvantages for employees. The most significant disadvantage is the perception of organizational inequity, because sub-contract employers generally have lower monetary compensation, less job security, and diminished social rights compared to the contract employees who are responsible for doing the same job as their sub-contract colleagues. Therefore, there are likely to be differences between contract and sub-contract employees in terms of productivity, turnover, motivation, organizational commitment, job satisfaction, and so forth.

Despite the numerous studies in the organizational behavior discipline examining the relationship between job satisfaction and the other traditional or relatively new concepts of organizational variables, we find that that the empirical investigation of job satisfaction levels for contract and sub-contract employees in the framework of equity theory remains less studied. This study seeks to fill this gap in the literature.

3. Methodology

The data for this study are gathered from the employees working in Etibor Company, which is one of the biggest state companies in Turkey, by using questionnaires. The sample consists of 250 respondents selected from 983 employees through a simple random sampling methodology. A total of 214 usable observations are included in the analyses. The questionnaire consists of two parts. The first part of the form is designed to get information about the demographic properties of employees, such as working status, education, income, gender, and age. The second part consists of the Minnesota Job Satisfaction scale, which has 20 items and is reported in the appendix. The Minnesota Job satisfaction scale is one of the

most popular scales used in empirical studies. Its validity and reliability have been proven in many studies. In this study, Cronbach's alpha reliability measure is calculated as 0.921, which indicates that the scale is reliable. The demographic structure of the sample is shown in Table 1. According to Table 1, while 58.4% of the respondents work as contract employees, 41.6% of them are sub-contract employees. Most of the respondents are male and have a high school education. The highest percentage of income is at the 1001-1500 TL level.

Table 1. Demographic Characteristics of Sample

		Frequency	Percent
Working Status	<i>Contract</i>	125	58.4
	<i>Sub-Contract</i>	89	41.6
Education	<i>Secondary School</i>	30	14.0
	<i>High School</i>	115	53.7
	<i>Vocational High School</i>	35	16.4
	<i>University Graduate</i>	34	15.9
Income (TL)	<i><1000</i>	23	10.7
	<i>1001-1500</i>	82	38.3
	<i>1501-2000</i>	19	8.9
	<i>2001-2500</i>	41	19.2
	<i>2501-3000</i>	34	15.9
	<i>>3000</i>	15	7
Gender	<i>Male</i>	187	87.4
	<i>Female</i>	27	12.6
Age	<i><30</i>	41	19.2
	<i>30-40</i>	80	37.4
	<i>41-50</i>	66	30.8
	<i>>50</i>	27	12.6

4. Findings

In the study, we calculate the job satisfaction score for each respondent by summing the value of each 20 items in the Minnesota Job Satisfaction Scale. The job satisfaction score varies between 20 and 100. A higher score indicates more satisfied employees. The summary statistics of job satisfaction scores according to the demographic characteristics are shown in Table 2. It can be seen from Table 2 that contract employees have higher scores than sub-contract employees. Employees with university degrees have the highest score. Furthermore,

employees who have an income higher than 3000 TL, are female and are older than 50 have higher satisfaction scores than other levels of corresponding demographic factors.

Table 2. Summary Statistics of Job Satisfaction Scores

		Mean Job Satisfacti on Score	Standar d Deviati on	95% Confiden ce Interval
Workin g Status				
	<i>Contract</i>	71.36	13.3	69.00- 73.72
	<i>Sub- Contract</i>	58.02	5.31	56.90- 59.14
Educati on				
	<i>Seconda ry School</i>	61.79	5.33	59.22- 64.36
	<i>High School</i>	65.23	11.2	63.15- 67.30
	<i>Vocation al High School</i>	64.83	16.6	59.11- 70.54
	<i>Universi ty</i>	74.71	12.7	70.06- 79.36
Income				
	<i><1000</i>	57.78	6.47	54.99- 60.58
	<i>1001- 1500</i>	60.74	8.78	58.81- 62.67
	<i>1501- 2000</i>	68.11	11.9	62.36- 73.85
	<i>2001- 2500</i>	73.43	14.2	68.96- 77.92
	<i>2501- 3000</i>	69.21	13.3	64.57- 73.84
	<i>>3000</i>	74.40	13.5	66.90- 81.90
Gender				
	<i>Male</i>	65.12	12.6	63.31- 66.94
	<i>Female</i>	70.59	11.8	65.91- 75.27
Age				
	<i><30</i>	63.12	12.3	59.24-

An Analysis Of Job Satisfaction For Contract And Sub-Contract Employees

			67.00
<i>30-40</i>	65.20	12.0	62.53- 67.87
<i>41-50</i>	65.89	11.7	63.00- 68.78
<i>>50</i>	71.52	15.4	65.43- 77.61

Next, we need to prove whether or not the differences between job satisfaction scores according to the demographic features are statistically significant. We performed both parametric and non-parametric comparing mean tests for this purpose. The test results are reported in Table 3 and Table 4. In Table 3, the results of a t-test and Mann-Whitney U test, which is the non-parametric equivalent of a t-test, are reported. The parametric and non-parametric test results indicate that there are statistically significant differences between male and female and between contract and subcontract employees in terms of job satisfaction. While the female employees have a 70.59 mean job satisfaction score, the male employees' mean job satisfaction score is 65.12. The results also show that the working status of the employees is a crucial factor for job satisfaction. The contract employees, with a mean job satisfaction score of 71.36, are more satisfied than the sub-contract employees, with a job satisfaction score of 58.02.

Table 3. Parametric and non-parametric test results for comparing means of two groups

t-Test Results				
	Observation	Mean	t-value	p-value
Job Satisfaction	Gender		-2.129	0.032
	<i>Male</i>	187	65.12	
	<i>Female</i>	27	70.59	
	Working Status		10.121	0.000
	<i>Contract</i>	125	71.36	
	<i>Sub-Contract</i>	89	58.02	
Mann-Whitney U Test Results				
	Observation	Mean Rank	Mann-Whitney U Value	p-value
Job Satisfaction	Gender		1854.5	0.026
	<i>Male</i>	187	103.92	
	<i>Female</i>	27	132.31	
	Working Status		1941.5	0.000
	<i>Contract</i>	125	136.47	
	<i>Sub-Contract</i>	89	66.81	

When we try to find significant difference of job satisfaction level among more than two groups, the t-test and its non-parametric equivalents cannot be used. In this case, analysis of variance (ANOVA) and the Kruskal-Wallis test, which is the non-parametric version of ANOVA, are performed. The results are reported in Table 4. It can be easily seen from Table 4 that education and income level are statistically significant factors for job satisfaction. On the other hand, significant differences according to age cannot be detected.

Table 4. Parametric and non-parametric test results for comparing means of more than two groups

ANOVA Test Results				
		Levene Statistics	F-value	p-value
Job Satisfaction	Education	2.256	5.331	0.000
	Income	2,127	12.043	0.000
	Age	2.334	2.596	0.183
Kruskal-Wallis Test Results				
		Degree of Freedom	Chi Square Value	p-value
Job Satisfaction	Education	3	10.512	0.015
	Income	5	48.529	0.000
	Age	3	4.195	0.241

*All Levene statistics are non-significant at the 5% level, which indicates that group variances are the same.

We use Post-Hoc Tukey tests to determine which levels of the factors result in significantly different job satisfaction scores. Table 5 shows the Post-Hoc Tukey test results. The results point out that employees with a university degree have higher satisfaction scores than employees with secondary school, high school and vocational high school degrees. The results also imply that, consistent with the prior expectations, high-income employees have higher job satisfaction scores than those with lower income.

Table 5. Post Hoc Tukey test results for ANOVA

	Levels	Mean Difference	p-value
Job satisfaction	Education	University-Secondary School	12.92
		University-High School	9.48
		University-Vocational High School	9.88
	Income	<1000-(1501-2000)	-10.323
		<1000-(2000-2500)	-15.656
		<1000-(2501-3000)	-11.423
		<1000-(>3000)	-16.617
		(1000-1500)-(2001-2500)	-12.695
		(1000-1500)-(2501-3000)	-8.462
		(1000-1500)-(>3000)	-13.656

*We report only the statistically significant level pairs.

5. Conclusion

The purpose of this study is to compare the job satisfaction levels of contract and sub-contract employees in Etibor Company, which is one of the biggest state companies in Turkey and to analyze job satisfaction scores according to various demographic factors. The data used in the study were collected through the Minnesota Job Satisfaction Questionnaire, and 214 usable observations are included the empirical analysis.

The empirical findings of the study underline two main conclusions. First, contract employees are more satisfied than sub-contract employees in an investigated state company. This finding is consistent with our expectations that contract employees will be more satisfied because sub-contract employees may not benefit from some monetary or non-monetary rights as much as contract employees, such as high income, promotion and career opportunities. The other reason for the low satisfaction level of sub-contract employees can be organizational commitment. Sub-contract employees do not feel like they are a part of the company, and they may think that their jobs are temporary. Furthermore, they do not think that there is a long-term job opportunity for them in the company.

Second, the job satisfaction levels of employees differ according to gender, education level and income level. The findings show that female employees are more satisfied than male employees. The participation of females in the labor force in Turkey is low compared to the European Union. Thus, if females who have jobs as contract or sub-contract employees consider themselves lucky, this situation is likely to result in more job satisfaction than males. The education level is also another contributing factor to satisfaction level. The obtained results imply that employees with a university degree are more satisfied than others. A possible reason for this result is that employees with a university degree are more professional than those without and that and their jobs require a higher educational background. The

results also indicate that employees with high income levels are more satisfied than other employees with low income levels. It is obvious that high income is an effective factor for both motivation and job satisfaction.

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Appendix**Minnesota Satisfaction Questionnaire (Short Version)**

Items					
1. Being able to keep busy all the time.	1	2	3	4	5
2. The chance to work alone on the job.	1	2	3	4	5
3. The chance to do different things from time to time.	1	2	3	4	5
4. The chance to be “somebody” in the community.	1	2	3	4	5
5. The way my boss handles his/her workers.	1	2	3	4	5
6. The competence of my supervisor in making decisions.	1	2	3	4	5
7. Being able to do things that don’t go against my conscience.	1	2	3	4	5
8. The way my job provides for steady employment.	1	2	3	4	5
9. The chance to do things for other people.	1	2	3	4	5
10. The chance to tell people what to do.	1	2	3	4	5
11. The chance to do something that makes use of my abilities.	1	2	3	4	5
12. The way company policies are put into practice.	1	2	3	4	5
13. My pay and the amount of work I do.	1	2	3	4	5
14. The chances for advancement on this job.	1	2	3	4	5
15. The freedom to use my own judgment.	1	2	3	4	5
16. The chance to try my own methods of doing the job.	1	2	3	4	5
17. The working conditions.	1	2	3	4	5
18. The way my co-workers get along with each other.	1	2	3	4	5
19. The praise I get for doing a good job.	1	2	3	4	5
20. The feeling of accomplishment I get from the job.	1	2	3	4	5

1 : very dissatisfied with this aspect of my job

- 2 : dissatisfied with this aspect of my job
- 3: can't decide if I'm satisfied or dissatisfied with this aspect of my job
- 4 : satisfied withthis aspect of my job
- 5 : very satisfied with this aspect of my job

Although the normality tests of the data indicate normal distribution, we also perform non-parametric tests to ensure the robustness of the results. Some sub-groups of the demographic features have an observation of less than 30. The normality test results are not reported to save space.

New Ways Of Energy Consumption: A Case Of The Balkans²

1. Introduction

Energy is one of the major important sources which not only meets the basic needs but also positively contributes to the growth rate. Despite its constructive contributions, the use of energy may lead to some destructive results as well. In this perspective, its negative influence on the environment and health, change its economic scope. This paper is about the fact that contribution of energy to a country's economic growth can cause some destructive results in other areas.

At this point, we see that the relationship between the terms of pollution, energy consumption and economic growth consist the common subject of recent studies. Energy consumption method determines the focus of these relations. There are some advantages and disadvantages of providing energy by conventional and modern methods. However the pros and cons change depending on the development level of a country.

Generally depending on the conventional methods, energy consumption occurs by the emission of greenhouse gases and this is one of the main reasons of climate changes. Decreasing the carbon density in energy is a good way to fight against the climate change in the future. As a modern and clean source, renewable energy is a good choice to provide energy without harming the environment (Hua et al., 2016).

All the proves related to the importance of clean energy suggest that the policy makers should focus on urban planning and increasing clean energy which means decreasing the use of non-renewable energy and its effects on climate changes. Within this scope, the main reason of the studies on carbon emission is its central role of environment protection and sustainable development in the present studies (Shafiei & Salim, 2014; Omri, 2013).

But the increase in the activities towards energy consumption brings two important subjects: First, depletion of most easily accessible energy sources (basically petrol). Second, global warming problem caused by the emission of greenhouse gases such as carbon dioxide and coal gas. Considering global warming caused by greenhouse effect, how to provide the needed energy in a sustainable way must be given the priority.

Energy efficiency and sustainable energy are seen as two inevitable solutions to the control of greenhouse gases emission. Moreover, industrialization is the main focus of the discussions about the roles of countries on decreasing the CO₂ emissions. However at the macro level, it is not possible to exactly understand these relationships, the clear effects of these factors can be understood in a long period. As countries grow, they attain more sources to supply the production of energy efficient products. More energy efficiency will end up with more profit and less CO₂ emissions (Özbuğday & Erbas, 2015). Renewable energy sources and the operations of technology are the main components of sustainable development.

It is possible to prove it with 3 main reasons (Dinçer, 2000):

² This study was supported by Cukurova University Scientific Research Projects with SED-2016-6529 project code.

- 1) When it is compared to the other sources, its environmental effect is minor.
- 2) On the contrary to fossil fuel and uranium, they are not exhaustible
- 3) It eases the centralization of power system and locally applicable solutions.

However, renewable energy sources depend on geographical and meteorological conditions. Attempts to investigate the economic viability of these sources require a certain period of time (Zawaydeh, 2015). Besides, how environment and energy policies are determined and the ways they are applied are other vital aspects. For example, Omri (2013) the study on MENA countries, proves that these countries can use sun as a substitution of petrol and on the condition of including it in the environment and energy policies and reviewing the strict energy policies, carbon dioxide emission can be kept under control. As a result, pollution can be removed and a millions of people can be protected from its harms. It is stated that the basic policy indicators must be in the following way: These countries are in need of supporting more protective energy policies and considering more strict energy policies in order to reduce CO₂ emissions. Research and investment in clean energy must be an indispensable part of controlling carbon dioxide emission and new petrol alternative sources must be found.

Today besides the aim of decreasing CO₂ emissions, there are many different methods which are suggested to promote the development of renewable energy in the future or at present (quota system, feed- in tariff, green certificates, carbon tax policy and premium pay). But which one of these incentives is more effective, must be considered. In addition, the main factor that directly effects accomplishing these policies is the potentially lack of gathering renewable energy. This situation increases the need in conventional production resources and so it can change the cost efficiency (Arce et al., 2016). The firms without feed- in tariff and public policy will always choose coal instead of clean energy sources such as wind and sun. In other words, it means that renewable energy is still more expensive than the conventional one (Reuter et al., 2012).

Our current study is conducted to understand the reason why the Balkan countries are limited to use renewable energy despite their abundance thanks to their geographical location. There can be many explicit and implicit reasons for that. The current study aims to make an evaluation by investigating the subject in terms of economy. Including 1997-2011 period, our study is to show renewable energy consumption determinants for Balkan countries by panel data analysis. This study is expected to contribute to the literature within the frame of study location, model and method. Following the literature review, the study is aimed to be completed by econometric analysis, results and policy suggestions.

2. Literature Review

In renewable energy consumption literature, we see that so many factors such as development rate, geographical conditions and political structure play a role on differentiation of the results.

Studies related to find out which factors are determinants of renewable energy consumption brings out many unexpected results. The most interesting examples of this case can be seen in the relation between carbon dioxide emission and renewable energy consumption. The studies proving that there is a positive relation between these two variables

that the negative effects of carbon emission cause a need of creating a cleaner environment by promoting renewable energy use (Sadorsky, 2009; Bengochea & Faet, 2012; Omri & Nguyen, 2014; Shafiei & Salim, 2014; Salahuddin & Gow, 2014; Omri et al., 2015).

In the studies showing a negative relationship between carbon emission and renewable energy consumption indicates several reasons why renewable energy sources are not used or it should be supported (Menegaki, 2011; Apergis & Payne, 2012; Jaforullah & King, 2015; Özbuğday & Erbas, 2015; Ackah & Kizys, 2015; Naeimi et al., 2015; Jebli & Youssef, 2015; Bento & Moutinho, 2016). The most important reason is that these sources are costly. Renewable energy is still costlier than conventional energy technologies. And its reason is that the equipments required for renewable energy technologies are very expensive (Reuter et al., 2012). The analysis of Karakosta et al. (2012) for Bosnia-Herzegovina and Serbia shows that the former one has a slower progress and its partly created institutional energy framework must be strengthen. Whereas in Serbia, there is a more effectively progressing institutional framework. Despite the fact that Balkans has rich sources of renewable energy thanks to their geographical conditions, these results are important in terms of showing the impact of political effects on such investments in addition to economic factors. At this point, the decisions of policy makers are crucial.

Taxing the fossil fuels can be seen as a solution suggestion in order to decrease carbon emission and increase the substitution of renewable energy with the conventional one (Omri & Nguyen, 2014). However it should not be ignored that while such a carbon tax can support the development of renewable energy sources, it may increase the average energy prices and have a negative effect on economic growth (Jaforullah & King, 2015). Moreover, interestingly, there are some findings indicating that the Research and Development (R&D) activities on energy technologies affect real gross domestic product in a negative way. This result suggests that investing in energy technologies has no advantage for such countries yet (Uçan et al., 2014). Countries' income states act as determinants in these relevant findings.

Generally, there is a positive relationship between economic growth and renewable energy consumption (Sadorsky, 2009; Apergis & Payne, 2010; Apergis & Payne, 2012; Tugcu et al., 2012; Omri & Nguyen, 2014; Sebri & Ben-Salha, 2014; Omri et al., 2015; Saidi & Hammami, 2015; Ackah & Kizys, 2015; Jebli & Youssef, 2015; Naeimi et al. 2015).

However having the energy consumption depending on carbon emission and preferring this way of consumption due to financial reasons hinder the use of renewable energy sources in short term (Menegaki, 2011). Besides, considering the issue in a long term, since the relationship between CO₂ emissions and growth is becoming reversed, it supports the findings suggesting that renewable energy consumption will be increased. It is stressed that by economic development, pollution can be decreased and in order to achieve a more environment friendly growth by lower carbon emission, the development of energy efficient technologies and renewable energy sources must be supported with more effort. One of the main related suggestions is increasing the R&D activities. In this way, energy sources which are low-cost, clean and sustainable can be obtained. In addition, in order to decrease the dependence on imported energy, the spread of renewable energy technologies must be provided on a large scale (Salahuddin & Gow, 2014; Jong Joo et al., 2015; Bento & Moutinho, 2016; Kumar & Madlener, 2016). Because of Southeast Asia's bigger role as energy consumer and player in the global market due to its increasing energy demand, Kumar

(2016) have conducted a research on these countries. Long Range Energy Alternatives Planning System-LEAP method, which investigates long term energy alternatives (2010-2050), is used in this study. Its findings suggest that if all the potential of renewable energy is used, it is a necessity to provide a big amount of electricity from these sources by 2050. By doing so, carbon dioxide emissions are supposed to decrease up to 80 percent in Thailand and Indonesia. However the implementation of it in a wide range will cause the production costs to increase dramatically which is another handicap.

3. Data and Empirical Methodology

The empirical analysis related to the determinants of renewable energy consumption is based on the literature generally. In this context balanced panel data analysis method is used due to the fact that the data set consists of both cross-section and time dimension and also the number of observations in all cross sections are equal. Specifically random (REM) and fixed effects models (FEM) are estimated.

FEM can be explained basically that while all slope (parameter) estimations are constant in cross sections and time, constant term varies by cross sections (by countries) but not by time. The model represents the effects peculiar to cross sections that do not change in time (Asteriou & Hall, 2011). Alternatively, REM is another model which is also named as an error components model. Cross sectional variations and the changes in time are included as a component of error term, in other words, randomly in the model. Differently random effects have no correlation with error terms and explanatory variables in REM (Wooldridge, 2005).

In case of a relationship between explanatory variables and random effects the results concerning random effects estimator will be inconsistent, so FEM will be preferred as an efficient and convenient estimator. On the other hand REM will be efficient and consistent if there is no relationship between the effects and explanatory variables (Gujarati & Porter, 2012).

In this study fixed and random effects are examined by applying F, LM, Honda and Hausman tests in order to determine the appropriate model.

Renewable energy consumption is modeled as a function of independent variables in equation 1:

$$RE = F(CDE_{i,t}, GDP_{i,t}, OR_{i,t}, TA_{i,t}, NG_{i,t}) \quad (1)$$

The model to estimate by panel data analysis can be written as equation 2 in the form of linear panel regression model:

$$RE_{i,t} = \alpha_0 + \alpha_1 CDE_{i,t} + \alpha_2 GDP_{i,t} + \alpha_3 OR_{i,t} + \alpha_4 TO_{i,t} + \alpha_5 NG_{i,t} + u_{i,t} \quad (2)$$

The dependent and explanatory variables in equation 1 and equation 2 are orderly as below:

Renewable energy consumption (RE - % of total final energy consumption);

Carbon dioxide (CO₂) emissions in metric tons per capita (CDE);

Gross domestic product per capita (GDP);

Oil revenues are the difference between the value of crude oil production at world prices and total costs of production (OR - % of GDP);

Trade openness is the sum of exports and imports of goods and services measured as a share of gross domestic product (TA-% of GDP);

Natural gas rents are the difference between the value of natural gas production at world prices and total costs of production (NG-% of GDP)

Error term (u).

i and t refer to countries and time period in equation 2, respectively. The present study is based upon Balkan countries which are: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Macedonia, Romania, Slovenia, Turkey, Greece, Serbia, Kosovo and Montenegro. However, since the data for Serbia, Kosovo and Montenegro are not available for the period of 1997-2011 these countries were excluded from the analysis and 9 countries were included in the analysis. i and t can be stated as,

$$i=1, \dots, 9 \text{ and } t=1997, \dots, 2011$$

Therefore, the sample period covers annual data from 1998 to 2011. The raw data have been collected from The World Bank's World Development Indicators. Per capita GDP data is based upon 2005 prices. All the predictions were made via E-views 9 program.

4. Empirical Results

In line with these explanations, Table 1 shows the test results for determining the most appropriate method in order to estimate the regression model above.

Table 1. Determination tests of fixed and random effects models

	t statistics	Probability values (p)
F group fixed effects model	28.029**	0.000
F time fixed effects model	2.377**	0.006
F two-way fixed effects model	48.094**	0.000
LM group random effects model	81.651**	0.000
LM time random effects model	5.184*	0.023
LM two-way random effects model	86.836**	0.000
Honda group random effects model	9.036**	0.000
Honda time random effects model	2.277*	0.011
Honda two-way random effects model	7.999**	6.66E-16

Note: * and ** denotes the significance of statistics at the 5 percent and 1 percent level respectively.

First of all F test is used for comparing FEM and pooled OLS (the sample is assumed as homogeneous) methods in order to estimate regression model. The results related to F test show that the null hypothesis on existence of any group and time effect is rejected at 1 percent significance level and two-way fixed effects model should be preferred for estimation.

On the other hand random effects are tested via LM and Honda tests. Likewise to F test LM and Honda tests are used for comparing REM and pooled OLS methods in order to estimate regression model. According to both test results the null hypothesis is rejected and two-way random effects model should be used for estimation.

At this point Hausman test is needed to analyze whether if fixed or random effects exist. Therefore Hausman test statistics results and the model estimator were presented in Table 2.

Table 2. Hausman test results

Test statistics	<i>p</i> value	Estimator
20.831**	0.0009	FEM

Note: ** denotes the significance of statistic at 1 percent level

Random effects estimator is inconsistent if there is a correlation between explanatory variables and random effects, so FEM will be preferred to estimate the regression model. Besides, random effects estimator will be efficient and consistent on condition that there is no relationship between effects and variables (Baltagi, 2005; Gujarati & Porter, 2012).

The null hypothesis for Hausman test indicates that there is no correlation between random effects and independent variables. The Hausman test result in Table 2 shows that the null hypothesis is rejected at 1 percent significance level which means that group and time effects are not random. FEM is determined as an appropriate estimator for the regression model. As a result the model is estimated via FEM and the coefficients' estimations and t statistics are presented in Table 3.

Table 3. Estimation results via fixed effects model

Dependent variable (RE)	Coefficient	<i>t</i> statistic value	<i>p</i> probability value
CDE	-3.052	-6.437**	0.000
GDP	0.001	4.296**	0.000
OR	-2.098	-2.523*	0.013

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TO	0.006	0.239	0.811
NG	-0.428	-0.542	0.589

Note: ** denotes the significance of statistic at 1 percent level

The empirical findings in Table 3 points to a statistically significant relationship between renewable energy consumption, economic growth and carbon dioxide emissions at 1 percent, with oil rents at 5 percent significance level while trade openness and natural gas rents are not found to have a statistical and significant impact on the renewable energy consumption. The results reveal that there is a negative and significant relationship between CO₂ emissions and renewable energy consumption. This result is important not only for being in line with the literature (Menegaki, 2011; Apergis & Payne, 2012; Jaforullah & King, 2015; Özbuğday & Erbas, 2015; Ackah & Kizys, 2015; Naeimi et al., 2015; Jebli & Youssef, 2015; Bento & Moutinho, 2016) but also revealing the negative effect of carbon emission on renewable energy use which is one of the dynamics of clean and sustainable growth in terms of energy. Particularly this is inevitable for Balkan countries. Balkan geography will be able to attain desired economic wealth sooner and sustain its development by reducing CO₂ emissions and using clean energy resources. The contribution of economic growth cannot be ignored here. Indeed the findings confirm the positive and significant relationship between real GDP per capita and renewable energy consumption. The result is consistent with the related studies in the literature (Sadorsky, 2009; Apergis & Payne, 2010; Apergis & Payne, 2012; Tugcu et al., 2012; Omri & Nguyen, 2014; Sebri & Ben-Salha, 2014; Omri et al., 2015; Saidi & Hammami, 2015; Ackah & Kizys, 2015; Jebli & Youssef, 2015; Naeimi et al.2015). An increase in economic growth raises the clean energy usage. But as can be seen in the Table 3, the impact of real GDP per capita on renewable energy consumption is nearly zero which means the effect of income is quite low. The most probable reason for this result is the low level of development of these countries. An increase in income may not be sufficient enough to stimulate the usage of high cost energy.

5. Results and Policy Suggestions

We mainly highlight a reality of developing or less developed countries in our study which focuses on renewable energy within the frame of Balkan countries. That reality is whether they develop during growth or not. Because, while the importance of energy for growth is obviously clear, the way of consuming energy is essential for the development. It seems that whether attaining sustainable development by renewable energy or capturing short term development numbers by using dirty energy which causes carbon dioxide emission, will keep economy literature busy. Balkan countries which are rich in terms of renewable energy unfortunately experience this dilemma due to several reasons.

In our study panel data analysis method was employed for the period of 1997-2011 in order to define the determinants of renewable energy consumption for the countries in this location (Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Montenegro, Kosovo, Macedonia, Romania, Serbia, Slovenia, Turkey and Greece). As a result of the analysis, while the relationship between renewable energy consumption, real GDP, carbon dioxide emissions and

oil rents is found statistically significant, same significant result cannot be achieved for the relationship between renewable energy, trade openness and natural gas income.

Balkan countries in which the renewable energy is positively affected by economic growth and negatively affected by CO₂ emissions have several reasons for this situation as an explanation. Main reasons are naturally, political and economic structure. Despite the abundance of renewable energy sources in Balkan countries, whose economies are not strong, due to the lack of institutional substructure and promotions limit the extent of the possibility of their use. Solution suggestions regarding these concerns can be listed as quota system, feed-in tariff, green certificates, carbon tax policy, and premium pay. However for this kind of energy which brings its profit in a long term; its solution methods should be for the long term focused as well. Therefore, the investments in renewable energy should have priority in the first place and in order to achieve this, the importance of the R&D activities is explicit. However, government aid is vital to provide required financial support for such activities. Besides the loans that promote clean energy, government can also reduce the taxes for the companies which will serve in this area or provide subvention as well. Furthermore, during the education process, providing lessons helping to understand the renewable energy in a better way and how to integrate it in the real life is a more radical solution to this problem. In this way one of the needed main sources “qualified workforce” problem can be solved as well.

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Regional House Price Convergence İn Turkey: Has İt Changed After The Mortgage Law?[‡]

1. Introduction

The convergence of house prices has been extensively analyzed in the literature since the structure and the level of convergence might be a key parameter in the formulation of housing market policies. Some studies argue that housing markets should be investigated at the regional level; this also improves the understanding of the differences in wealth and income distributions between the regions (Alexander and Barrow, 1994; Meen and Andrew, 1998).

Given the importance of the topic, considerable number of studies covering different countries has been conducted to analyze convergence of the housing prices. The previous studies mainly focused on the UK and the US yield mixed results about the existence of convergence (Drake, 1995; Meen, 1999; Cook, 2003; Cook, 2005; Holmes and Grimes, 2008; Kim and Rous, 2012; Payne, 2012). They widely employ unit root test to find the existence of convergence. Some studies find evidence in favor of convergence (Holmes and Grimes, 2008 for US; Cook, 2003 for the UK; Payne, 2012 for the US) whereas some papers do not support the convergence between house prices (Drake, 1995). However, the studies on developing countries have remained relatively limited (Chien M., 2010 and Chen et. al., 2011 for Taiwan; Balcilar et. al, 2013 for South Africa; Hooi and Smyth, 2013 for Malaysia) and similar to those of developed countries the evidence on the convergence varies across the sample and methodology utilized in the papers.

The recent developments in the Turkish economy makes this country is an interesting case to analyze the convergence of house prices. After the 2001 financial crisis, the macroeconomic environment in the Turkish economy become more stable as a result of the successful implementation of inflation targeting and tight fiscal policies. Inflation rate shows a significant decline from 44.8 percent in 2002 to 7.6 percent in 2015. The decline in the inflation rate also lowers the interest rates leading to more affordable housing credits. According to the data released by Turkish Banking Association, housing credits constitute only 7.8 percent of consumer credits in 2002 however, its share has reached to 28.1 percent by the year of 2015. Hence the number of housing permits, an important demand indicator for the housing market, is increased from 161.491 in 2002 to 724.331 in 2015. Furthermore, the introduction of the mortgage law in 2007 has also contributed to the expansion of the amount of total loanable funds in the banking system. All of these factors outlined above leads to a significant rise in the regional house prices in Turkey. According to REIDIN, average house prices in the seven big cities, Adana, Ankara, Antalya, Bursa, İstanbul, İzmir and Kocaeli, has more than doubled between 2003 and 2015. Increase in house prices has especially become more apparent between 2007 and 2015 by about 164 percent. Mortgage law also seems to increase the differences in the regional house prices. For example, between 2003-2015 house prices in Istanbul has risen by 194 percent whereas house prices in Bursa increased 117 percent.

Regarding Turkey, we do not find any study analyzing regional house price convergence. We find only one study (Bilgin et al, 2010) analyzing the convergence of rental prices for the period 1994-2010. Using non-linear panel ADF test, they find a structural break dated to the

[‡] We would like to thank REIDIN for providing data set of the study.

beginning of 2004, the test results favor the rental price convergence for the period before 2004; but not for the period after 2004. This paper aims to contribute to the literature in two aspects. First, the convergence of the house prices across Turkey's seven metropolitan cities has been investigated for the first time. Second, we also take into account the implications of the structural breaks on the convergence process by utilizing unit root tests with endogenous breaks test developed by Lee and Strazicich (2003, 2004).

The rest of the study is organized as follows. The data are introduced in the following section. The methodology employed in the paper is explained in section three. The empirical results are discussed in section four. Finally, the paper ends with the concluding remarks based on empirical findings.

2. Data

We use monthly data on the house price indices for the seven metropolitan cities of Turkey, i.e. Adana, Ankara, Antalya, Bursa, İstanbul, İzmir and Kocaeli, covering the period 2003:01 and 2015:06. The estimation sample is determined by availability of data collected from GYODER Reidin (<http://www.reidin.com/en-TR/home/index>). According to the 2015 census results released by the Turkish Statistical Institute (TURKSTAT), the population of Adana, Ankara, Antalya, Bursa, İstanbul, İzmir and Kocaeli is 2.183 million, 5.270 million, 2.288 million, 2.842 million, 14.657 million, 4.168 million and 1.780 million respectively. This corresponds to 42 percent of the total population. It is also notable that 51.3 percent of the houses has been sold in those cities.

After the collection of the data, following Meen (1999), Holmes and Grimes (2007), Bilgin et al. (2010) and Balcilar et. al. (2013) relative regional house prices are calculated as the deviation from the average house price as follows:

$$y_t^i = \ln (p_t^i / \bar{p}_t).$$

Where y_t^i is the individual relative house price of the region i . p_t^i represents the individual house price indices of the cities and $\bar{p}_t$ is the average house price index constructed from the prices of the seven cities using the population share as weight.

The regional relative prices for the seven cities presented in Figure 1 shows that there are two distinct price movements observed before and after 2007. The prices move together up to 2007, however they are started to diverge by the end of 2007. The diversification of the prices can be attributed to the mortgage law enacted in 2007.

Regional House Price Convergence in Turkey

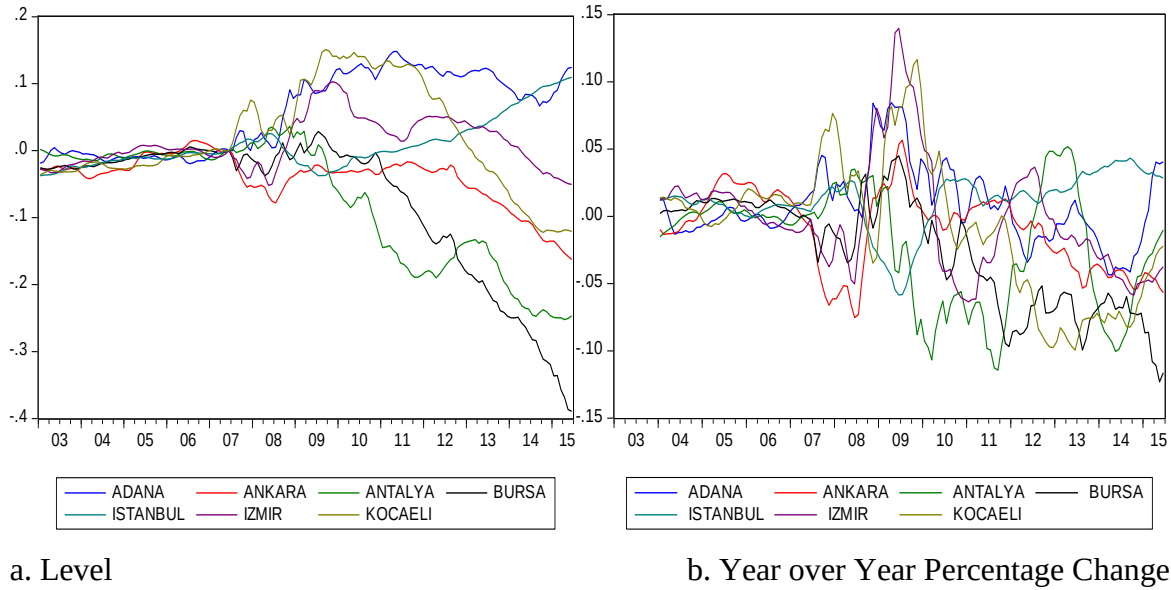


Figure 1. Relative House prices in Turkish Regions

3. Methodology

The existence of convergence is first investigated with the application of conventional unit root tests, i.e. Augmented Dickey Fuller (1981) (ADF) and Phillips and Perron (1988) (PP). The following model for the ADF test is estimated where the null hypothesis of unit root, i.e. $\alpha = 0$ is tested against the alternative of $\alpha < 0$:

$$\Delta y_t = u + \beta t + \alpha y_{t-1} + \sum_{i=1}^k c_i \Delta y_{t-i} + \varepsilon_t \quad (1)$$

where Δ denotes the first difference, y_t is the time series being tested, t is the time trend variable, and k is the number of lags which are added to the model to make the residuals, ε_t white noise. The rejection of null hypothesis indicates the convergent behavior of house prices to the average price level. Phillips and Perron (1988) unit root is a special extension of the ADF test corrected for serial correlation with the Newey West (1987) heteroscedasticity-autocorrelation-consistent variance covariance matrix estimator.

Since our estimation sample includes the important developments in the Turkish Housing Market and also global financial crises in 2008, we also utilize Lee and Strazicich (2004, 2003) unit root with structural break test to uncover the impact of those developments on the integration level of the variables. The main advantage of Lee and Strazicich (2003, 2004) is that they assume structural breaks both in the null and alternative hypothesis. Therefore, the rejection of the null clearly indicates trend-stationarity. Following Lee and Strazicich (2003, 2004) the LM unit root test is estimated by using the following regression:

$$\Delta y_t = d' \Delta Z_t + \phi \tilde{S}_{t-i} + \sum_{i=1}^p \gamma \Delta \tilde{S}_{t-i} + \eta_t \quad t = 1, \dots, T. \quad (2)$$

where $\tilde{S}_t = y_t - \tilde{\psi}_x - Z_t \tilde{\delta}$, $t = 2, \dots, T$, $\tilde{\delta}$ are coefficients to be estimated, $\tilde{\psi}_x$ defined as $y_1 - Z_1 \tilde{\delta}$ and Z_t is the vector of exogenous variables, for the two break case Z_t contains

$Z_t = [1, t, D_{1t}, D_{2t}]$ for Model A, i.e. the “crash” model, and $Z_t = [1, t, D_{1t}, D_{2t}, DT_{1t}, DT_{2t}]$ for Model C, i.e. the “trend shift” model, as analogous to Perron (1989). D_{jt} allows shifts in the levels computed as $D_{jt} = 1$ for $t \geq T_{Bj} + 1$, $j = 1, 2$, and zero otherwise. T_{Bj} is the period of the break endogenously determined within the $[0.1T, 0.9T]$ time interval. DT_{jt} are the trend dummies defined as $DT_{jt} = 1$ for $t \geq T_{Bj} + 1$, $j = 1, 2$, and zero otherwise. Notations used in the one break version of LM unit root test is the same with the two break case except that only one level D_t , trend DT_t dummies are included in the vector of exogenous variables. Unit root is tested through the t-test, represented by $\hat{\tau}$, with the null hypothesis of $\phi = 0$. Denoting the break fractions as $\lambda_j = TB_j / T$, the two break LM unit root test determining the break points TB_j by grid search is given by,

$$LM_p = \inf_{\lambda} \tilde{\rho}(\lambda).$$

(3)

4. Empirical Results

Before the application of the unit root with break test based on Lee and Strazicich (2003, 2004), we apply the conventional ADF and PP unit root without break tests (see Table 1). The test results indicate that the null hypothesis of unit root is not rejected by the levels of the relative house price series. House prices are found to be stationary at the first difference, therefore they are integrated of order one, $I(1)$. This empirical finding implies that the regional house prices show divergent pattern, and do not converge to average house prices for the period under investigation.

Lee Strazicich (2003, 2004) unit root tests are applied to illustrate the impact of structural breaks on the integration level of the house prices. The results from the application of the one and two-break LM test for the level and first difference of the house prices are illustrated in Tables 2 and 3 with their breaking times obtained from break fractions λ_j . The results corroborate the findings of unit root without break tests. All the series can be treated as integrated of order one $I(1)$, therefore the null hypothesis of unit root implying the convergence of the house prices has been also rejected when the structural breaks are taken into consideration. The test results identify the existence of two significant structural breaks in Adana the breaks in trend dated to 2008:06 and 2011:04. We also find two significant structural breaks for Ankara in both intercept and trend in 2007:07 according to the results of the trend shift model (see Table 3). Similarly the results for Antalya support the presence of two structural breaks in both trend and intercept in 2008:02 and 2010:11. However we find only one significant break in trend for Bursa in 2010:05. House prices in Istanbul has also two significant breakpoints the one in 2010:08 break in trend and 2008:09 breaks in both intercept and trend. For Izmir, the date 2009:01 is the date with break in both intercept and trend. Finally, there are two significant breakpoints for Kocaeli 2009:01 (trend and intercept) and 2012:04 (trend). However the number and the timing of the breaks differ across the cities.

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Table 1 ADF and PP Unit Root Tests

Variables	ADF Unit Root Test				PP (Philips Perron) Unit Root Test			
	Intercept		Trend with intercept		Intercept		Trend with intercept	
	Level	First Difference	Level	First Difference	Level	First Difference	Level	First Difference
<i>lnada</i>	-0.7086 (3)	-8.4479 (2)***	-1.332349 (3)	-8.412951 (2)***	-0.982934 (5)	-7.769960 (16)***	-1.566907 (4)	-7.7334 (16)***
<i>lnank</i>	1.0447 (2)	-6.3638 (1)***	-0.385572 (2)	-6.813644 (1)***	1.370861 (4)	-5.325456 (13)***	-0.155518 (4)	-5.36888 (14)***
<i>lnant</i>	0.1672 (1)	-7.7707 (0)***	-1.678667 (1)	-7.870924 (0)***	0.280544 (6)	-7.730282 (3)***	-1.573529 (6)	-7.938640 (2)***
<i>lnbur</i>	3.3095 (1)	-7.9162 (0)***	0.619600(1)	-9.243772 (0)***	5.008802 (9)	-7.895830 (3)***	1.502028 (14)	-8.9256(17)***
<i>lnist</i>	0.6233 (1)	-5.4347 (0)***	-0.643596 (1)	-5.624391 (0)***	1.004431 (8)	-5.434986 (2)***	-0.346922 (8)	-5.647092 (2)***
<i>lnizm</i>	-2.1962 (4)	-3.7470 (3)***	-1.877366 (4)	-3.939754 (3)**	-1.458146 (6)	-5.857700 (13)***	-0.989740 (6)	-5.8352(14)***
<i>lnkoc</i>	-0.4740 (4)	-4.3626 (3)***	-0.214606 (4)	-4.916201 (3)***	-0.126447 (4)	-6.783718 (29)***	0.202102 (1)	-6.2408 (39)***

Note: *, ** and *** indicate significant at 10, 5 and 1% respectively. The lag length for ADF test presented in parenthesis is selected by the Schwarz Info Criterion. Bandwidths in the PP unit root test is selected by the Newey-West statistic using the Barlett-Kernel.

Table 2. Lee and Strazicich Unit Root Test with ONE Structural Break

	<i>Model A (Crash Model)</i>			<i>Model C (Trend Shift Model)</i>			
	LM-Stat	Lag	Breaking Time	LM-Stat	Lag	Breaking Time	
			D_{1t}			D_{1t}	DT_{1t}
<i>Lnada</i>	-1.85947	8	2008:07	-2.51843	12	2008:10	2008:10 (ns)
<i>Dlnada</i>	-4.76494***	8	2010:10	-6.70429***	2	2007:12	2007:12
<i>Lnank</i>	-2.44026	11	2008:08 (ns)	-3.46200	8	2011:01 (ns)	2011:01
<i>Dlnank</i>	-3.63553**	10	2007:09 (ns)	-4.34441*	10	2012:07	2012:07
<i>Lnant</i>	-2.51986	8	2009: 09 (ns)	-3.78637	8	2009:09 (ns)	2009:09
<i>Dlnant</i>	-3.53819*	6	2008:05 (ns)	-4.52015**	10	2008:12	2008:12
<i>Lnbur</i>	-1.03671	11	2012:07	-3.47814	0	2010:05 (ns)	2010:05
<i>Dlnbur</i>	-8.97581***	0	2010:12	-9.16992***	0	2006:07 (ns)	2010:12
<i>Lnist</i>	-2.24504	6	2010:05	-3.18780	4	2009:02	2009:02
<i>Dlnist</i>	-3.52047*	6	2009:05 (ns)	-4.17183*	8	2009:04	2009:04
<i>Lnizm</i>	-2.32851	11	2008:07 (ns)	-3.32985	1	2008:11(ns)	2008:11(ns)
<i>Dlnizm</i>	-3.67586**	10	2008:11	-4.30205*	10	2009:08 (ns)	2009:08
<i>Lnkoc</i>	-1.77804	7	2011:04(ns)	-3.05905	7	2010:06	2010:06
<i>dlnkoc</i>	-4.39659***	8	2010:08	-5.38424***	8	2007:11	2007:11

Note: *, ** and *** indicate significant at 10, 5 and 1% respectively. Maximum lag size of augmented part is 12. General to specific strategy is followed to find optimum lag size of the augmented part. Critical values are obtained from Lee and Strazicich (2003). (ns) denotes insignificant breakpoints and the other breakpoints are found to be significant at 10% level.

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Table 3. Lee and Strazicich Unit Root Test with TWO Structural Breaks

	<i>Model A (Crash Model)</i>				<i>Model C (Trend Shift Model)</i>					
	LM-Stat	Lag	Breaking Time		LM-Stat	lag	Breaking Time			
			D_{1t}	D_{2t}			D_{1t}	DT_{1t}	D_{2t}	DT_{2t}
<i>Lnad</i>	-2.22908	1	2007:07	2008:08	-4.56596	8	2008:06 (ns)	2008:06	2011:04 (ns)	2011:04
<i>Dlnad</i>	-7.70565***	2	2007:10	2007:12	-9.16021***	2	2007:10	2007:10	2009:01 (ns)	2009:01
<i>Lnank</i>	-2.80837	11	2008:08 (ns)	2012:10 (ns)	-4.64398	12	2007:07	2007:07	2011:10 (ns)	2011:10 (ns)
<i>Dlnank</i>	-7.45168***	1	2007:06	2007:11	-8.14075***	1	2007:05	2007:05	2007:11	2007:11
<i>Lnant</i>	-2.81493	8	2009:09 (ns)	2010:04	-4.01015	4	2008:02 (ns)	2008:02	2010:11	2010:11
<i>Dlnant</i>	-4.45130**	3	2008:05 (ns)	2008:08	-7.50332***	6	2009:03	2009:03	2013:08 (ns)	2013:08
<i>Lnbur</i>	-1.17381	11	2008:10 (ns)	2012:07	-3.79341	0	2009: 03 (ns)	2009:03(ns)	2010:07(ns)	2010:07(ns)
<i>Dlnbur</i>	-9.16992***	0	2006:07 (ns)	2010:12	-9.65502***	0	2007:11 (ns)	2007:11(ns)	2008:07(ns)	2008:07(ns)
<i>Lnist</i>	-2.49025	8	2008: 01	2010:05	-4.30531	4	2008:09	2008:09	2010:08 (ns)	2010:08
<i>Dlnist</i>	-4.42539**	12	2008:12	2010:03	-6.13841***	6	2008:05 (ns)	2008:05	2009:10	2009:10
<i>Lnizm</i>	-2.99305	8	2008:01 (ns)	2009:02	-4.50103	1	2007:05 (ns)	2007:05 (ns)	2009:01	2009:01
<i>Dlnizm</i>	-4.46250**	10	2007:11	2009:01	-6.92565***	11	2008:03	2008:03	2009:11	2009:11
<i>Lnkoc</i>	-1.93768	7	2010:06 (ns)	2011:04(ns)	-4.29775	2	2009:01	2009:01	2012:04 (ns)	2012:04
<i>dlnkoc</i>	-5.18668***	12	2010:08	2011:03	-7.86916***	1	2007:12	2007:12 (ns)	2009:02	2009:02

Notes: See Table 2.

5. Conclusion

The aim of the study is to investigate the existence of convergence between the house prices of the seven big cities in Turkey using monthly data for the period January 2003 and June 2015. For this purpose, we use conventional unit root tests (ADF and PP) and unit root tests with endogenous breaks test (Lee and Strazicich).

Based on ADF and Philips Perron unit root tests, results indicate that house prices are stationary at the first difference. Therefore, it implies that there is divergence among these big cities' house prices. Utilizing LM unit root tests with one and two structural breaks, developed by Lee and Strazicich (2003, 2004), empirical findings support the results of ADF and PP unit root tests.

The empirical findings show the existence of one or two structural breaks for the cities especially after 2007, the year in which the mortgage law has been introduced. Although the number and the timing of the breaks differ across the cities, majority of the significant breaks are observed after the implementation of the mortgage law in 2007.

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Sin Taxes And Their Implementation Results

1. Introduction

Today, in parallel with the globalization and changing conditions, states strive to increase their tax revenues by means of placing excessive taxes on demerit goods and services which cause negative externalities. When state needs revenue and wants to change consumption attitudes of people , it levies taxes on demerit goods and services that is called “sin taxes”, make bad habit as drinks, cigarettes, coffee, gambling and contains more calories or overweight.

In recent years, states have begun to interference on the economic life by sin taxes. So, sin taxes required to levy for economic and social reasons. Sin taxes are taken for increase the revenues, avoid to environmental pollution and reduce to use of illegal and harmful products. States aim to increase budget revenues by collecting additional taxes on harmful products and also aim to reduce usage of these goods and services. In addition, it is argued that the authority on sin taxes shift from central government to local authorities.

In our study, sin taxes will be examined in terms of the its purpose, scope, basic features, its share in the tax revenues of Turkey and many other countries and beneficial and harmful effects arising from its application. Also its role on the change period of taxation and effects avoid harmful attitudes of people will be examined.

2. Description of Sin Taxes and Its Features

Sin taxes as consumption taxes, which have some basic features, trying to change unwanted behaviour, are taxes for the benefit of society .

2.1. Description of Sin Taxes

Sin taxes are consumption taxes that are levied on specific harmful goods and services for society.

These;

- Alcohol and alcohol derivatives
- Tobacco and its derivatives,
- Sugary and fizzy drinks,
- Fast foods,
- Coffee,
- Drugs and gambling etc.

2.2. Features Of Sin Taxes

There are some basic features of the sin taxes. These can be listed as follows:

- Sin taxes are levied on demerit goods consumed as legal and widespread in society. **The demerit goods** are defined as goods which can have negative impact on the consumer – but these damaging effects may be unknown or ignored by the consumer. Demerit goods also usually have negative externalities – where consumption causes harmful effect to third party. States regulate production of demerit goods; deter production or consumption of demerit goods themselves.

- Sin taxes are named as limiting consumption taxes, regulatory consumption taxes or disincentive consumption taxes in the economic literature.
- Purposes of the sin taxes are to discourage consumption of harmful goods and it is to prevent negative externalities.
- These taxes are appropriate for structure of the central government and local administrations. Today, sin taxes are applied as new and common methods of financing for local governments. In the World, sin taxes that are taken from addictive and negative externalities of goods and services, have been expanded by the authorities in the both central and local. In many countries, revenue sources of local governments have been away from financial sufficiency meeting expected service itself, in this case, sin taxes have increased the importance of having a new source of financing of local authorities (Egeli & Diril, 2012).
- Sin taxes are an important tool to minimize the external costs for voters and politicians.
- There are deterrent effect of sin taxes on harmful goods and behaviours.
- While sin taxes have been previously taken for religious purposes, nowadays, it is levied sin taxes on aim of financial, economic and social.

3. Benefits of Sin Taxes

There are some basic benefits of the sin taxes. These can be listed as follows:

- Sin taxes are aimed that citizens deter from harmful (unhealthy) and undesirable behaviour (Canbay, 2009). For example, it is levied heavy taxes on sugary and sodas beverages in the fight against obesity, thus it is thought to reduce the consumption of high-calorie beverages. These taxes are aimed to create a healthier society (Williams & Christ, 2009).
- Sin taxes are good way to increase tax revenues. It is asserted that these taxes have generally increased tax revenues and this revenue is used to finance the health insurance projects in some countries. However, the problem of this argument is processing of revenue growth in certain situations. If sin taxes efficiently discourage individual from the consumption of harmful goods, tax income will increase slightly. Because many people will purchase less of the more expensive goods (Williams & Christ, 2009).
- Costs of caused by destructive behaviours and negative externalities can be financed with revenues of sin taxes application. For example, tobacco tax revenue can be funded smoking cessation clinic or alcohol tax revenues can be funded treatment of alcohol-dependent costs.
- When sin taxes are levied on undesirable activities, they reduce the taxation of behaviour beneficial to society. Sin taxes are being used to offset loss of revenue caused by income tax.

4. Drawbacks of The Sin Taxes

There are criticisms of the sin taxes. These can be listed as follows:

- When states are in need of public revenue, states are increasing to its affinity with sin taxes.
- Sin taxes can be sometimes unfair. Inelastic of goods may not be significant changes in consumer preferences, In case of increase of taxes on harmful products and services and tax on these goods are an unjust state. Sin taxes are not fair with these aspects.
- Sin taxes can cause deterioration of the income distribution. Both higher and lower income groups consume the same goods and pay the same tax. However, these taxes fairly affect individuals in low-income groups. These people are making more sacrifices than high-income groups and, income distribution deteriorates against of low-income group (Wikipedia, 2016).
- Sin taxes can direct to lower quality goods with the substitution effect. (to drink spirit instead of alcohol, to consume unfiltered cigarettes instead of filter cigarettes, to consume high-calorie goods, etc.). These taxes are designed to increase the price of goods. If prices of

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goods rise, consumers will change their preferences and they will substitute other goods instead of their consumed goods. Research has shown that drug consumption has increased among young people, after states have increased beer taxes or rose minimum drinking age. Other research has shown that smokers in states of high taxation are exposed to more tar and nicotine than smokers in states of low taxation. Young smokers (between 18- 24 aged) especially shows more reaction than older smokers in taxes changes. Because young smokers can replace more easily than older smokers in customary brand. (Josephson, 2016).

Table 1: Calories per Cup of Popular Drinks

Drink	Calories Per Cup
Gatorade	63
Coca Cola	97
Orange Juice	105
Apple Juice	117
% 2 Milk	120
Homemade Cocoa with Skim Milk	135
Sweetened Lemonade	131
Red Wine	200
Whole Chocolate Milk (4%)	208

Reference: Richard Williams, Katelyn Christ, “Taxing Sin”, **Mercatus On Policy** http://mercatus.org/sites/default/files/MOP55- Taxing-Sin_web_fixed.pdf (Access Date: 20.02.2016).

The assumption is that these sin taxes would reduce caloric intake, because consumers would stop drinking high-calorie drinks and/or switch to lower-calorie drinks. However, as table 1 shows, if consumers respond to proposed sin taxes on fizzy and sports drinks by switching to some of the potential substitute drinks, their caloric intake would either remain the same or actually increase.

➤ Sin taxes can't completely prevent harmful habits in society. Because these taxes are insufficient to prevent harmful habits. Therefore, these taxes may cause undesirable economic and social consequences. Because the consumption of goods and services subject to sin taxes aren't elastic. In other words, demand of goods is not elastic. Because these substances and behaviours within the scope of sin taxes give pleasurable and addictive. When price elasticity falls, demands of goods fall a little. It is be difficult to reach desired goals with sin taxes.

➤ Sin taxes are moral risk for politicians, because politicians are able to use sin taxes as policy instrument. When policy environment is not favourable to taxes increases, it is practical to increase sin taxes. However, this situation is moral risk. Companies suffer huge financial loss, due to these taxes. Therefore they will try to pressure against these taxes and their activities will be directed to the informal economy.

➤ Sin taxes encourage the informal economy. Merchants tend to informal production and sales, because of high taxes. The disrespect of the law to citizens is increasing to illegal activities of such as, tax revolt, tax evasion. This situation reduces government revenues and investments (Sin Tax Law & Legal Definition , 2016).

➤ Ramsey's inverse elasticity rule is failing to sin taxes.

5. Evaluation of Selected Country Practices in Sin Taxes

When governments need increase of budget revenue, they generally use to extreme tax policy for cigarettes, alcohol consumption and etc. (Deniz Turan & Ali Yurdakul, 2009)

Countries are struggling demerit goods with both direct and indirect ways. Government plans to discourage the use of demerits goods with direct of regulations and prohibitions or indirectly price increase through sin taxes (Eksper, 2016).

There is sin taxes practice in Ottoman Period. Although consumption of alcohol is prohibited during this period, sales of alcoholic beverages were released. “Zecriye Tax” was taken from sales of alcoholic beverages. Productions, distributions and sales of alcoholic beverages were done by non-Muslims in that period (Zecriye Tax, 2011).

Burden of tax has gradually increased in the late Ottoman period. “Rüsumu Müctemia” was decided a new tax, instead of old taxes which had received from all produced and had imported drinks with 1858 regulation in the Ottoman Empire. The tax rate was % 20. This tax was increased 10% after seeing inadequate and “Resim-i Miri” was reorganized with name. In addition “Resim-i Beyiye” was put into effect a new tax with name. “Müskarit Rüsumu” was the general name for all taxes on alcohol (Müskirat Resmi, 2012).

Although prohibition of tobacco and alcohol was implementation at different times in the Ottoman period, strict measures were implemented in the period of 4th Sultan Murat (Çelik, 2014). However, these prohibitions had failed; the use of such goods was begun to taxation. Tobacco was freely imported until 1678. Then, Yenice and Kırcaali were produced in the period of II. Suleiman and these tobaccos were taken 8 - 10 Mite (Ottoman currency) customs duties in İstanbul. These taxes were increased in later times; the tax has been taken from both buyer (8 Mite) and seller (12 Mite). Tobacco export and import tax agreement was made with friendly countries in 1840. Inhisar / board of customs and excise have been established for the first time then in 1848.

US President Franklin Roosevelt who established the social security system and managed to reinvigorate the economy in the process of the 1930 Great Depression, made changes in the tax revenue, he increased taxes collected and used the sin taxes in order to save the American Economy. These taxes were increased during World War II. American Economy was recovered again at the end of the 1930s and it was able to grow rapidly.

US President Barack Obama has levied special tax implementation under the name of sin tax on cola drinks for reducing obesity rates. Obama has thought that the state budget deficit has closed with sin taxes, and special sin taxes are applied to cola drinks in the 25 states of USA (Obama'dan günah vergisi!, 2009).

It is advocated that tobacco taxes have been protected life and increased tax revenue in Canada (Sadowsky, The Economics of Sin Taxes, 1994).

Today, it is a global problem of obesity, after it has been levied sin taxes on consumption of cigarettes and alcohol, it has been levied sin taxes on consumption of confectionery, sweets, crisps, biscuits, fizzy drinks, etc.

Excise tax application on the cola drinks is better example in Turkey. The excise tax is levied rate % 25 on cola drinks in Turkey. It isn't levied excise tax on other beverages such as simple soda, fruit sodas, energy drinks, etc. The excise tax is declared by manufacturers and this tax is paid to the tax office. The indirect taxes - can be reflected later in the prices - are collected from consumers. Excise tax included prices are also added with value-added tax (VAT) of %18 rate. However, rate of VAT is % 8 to other non-alcoholic beverages, candies, chocolates (Karyağdı, 2013).

Sin taxes aren't taken with this name in tax implementation. Taxes of proportional and lump-sum are levied sin taxes on demerit goods with application of excise tax and VAT.

Sin Taxes And Their Implementation Results

Excise tax generally levy on various goods. This separation varies from country to country according to level of development of countries. However, countries generally levy excise tax on addictive goods (drinks, cigarettes, coffee, drugs, etc.), version too high first goods (fuel, gas, iron, glass, etc.) and luxury goods (jewellery, furs, motor vehicles etc.) (Taylor, 2012).

VAT is a type of consumption tax. VAT a relative tax is taken at every stage of goods and services. Both excise tax and VAT can be applied at higher rates on goods within the scope of sin taxes.

Excise tax and VAT application and revenues of tobacco, alcohol, fuel products within excise tax of selected countries will be mentioned in the following tables

Table 2: Cigarette Taxes in Selected Countries (01.01.2016)

	Taxation (Lump-Sum / Proportional)		
	Specific Excise (per 1000 Cigarettes)	Advalorem Excise in % (per Cigarette Package)	VAT (%) (per Cigarette Package)
Germany	98,20	22	16
France	48,75	50	17
United Kingdom	257,21	16	17
Spain	24,10	51	17
Portugal	88,20	17	19
Finland	37,50	52	19
Netherlands	178,28	1,09	17
Turkey	77.16	65.25	18

Reference: EXCISE DUTY TABLES (2015), http://ec.europa.eu/taxation/customs/resources/documents/excise_duties/tobacco_products/rates/excise_duties-part_iii_tobacco_en.pdf, (Access Date: 03.04.2016).

For example: In the UK, price of X brand cigarette that is £ 10, is price of excluding taxes £ 2.24;

1. Stage: $2.24 + 5.14 = 7.38$ (3.93£ lump-sum tax),
2. Stage: $7.38 * \%16 = 8.55$ (16.5% over Retail Price = in their 20s package),
3. Stage: $8.55 * \%17 = 10$ £ (VAT) is sold as a retail (Cigarette shop UK, 2016).

When table 2 has been analyzed, selected countries are collected both lump-sum and proportional of excise taxes on tobacco products. This situation is important indicator in terms of tax harmonization of countries

The taxes on alcohol varies according to the type of alcoholic beverages.

Table 3: Taxes From Beer in Selected Countries (01.01.2016)

Taxation (Lump-Sum / Proportional)			
	hl/°Plato or /° alcohol	Specific Excise £	VAT (%)
Germany	<= 5.000 hl ⁴	0,4407	19
	<= 10.000 hl	0,5288	
	<= 20.000 hl	0,6170	
	<= 40.000 hl	0,6610	
France	All hl	3,70	19,60
United Kingdom	%1.2 <= % 2.8	8.10	20
	%2.8 <= %7.5	18.37	
	%7.5 <	23.85	
Spain	<= 11°Plato	7,48	21
	>11°<= 15°Plato	9,96	
	>15°<=19°Plato	13,56	
	>19°Plato	0,91	
Portugal	<=7°Plato	9,71	23
	>7° <=11°Plato	15,51	
	>11° <=13°Plato	19,42	
	>13° <=15°Plato	23,29	
	>15°Plato	27,24	
Finland	<=5000 hl	16,025	24
	<=30000 hl	22,435	
	<=55000 hl	25,64	
	<=100000 hl	28,84	
	<=150000 hl	32,05	
Netherlands	< 7° Plato	8,83	

⁴ 1 hl= 100 Litre

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	7° < 11° Plato	28,49	21
	11° < 15° Plato	37,96	
	=>15° Plato	47,48	
Germany	Malt 1hl	0.31	18

Reference: EXCISE DUTY TABLES (2015), http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/alcoholic_beverages/rates/excise_duties-part_i_alcohol_en.pdf (Access Date: 03.04.2016).

When the selected countries in table 3 has been analyzed, taxable according to the alcohol content or the amount of litres (or hl) of beer is seen.

Table 4: Taxes From Wine in Selected Countries (01.01.2016)

	Taxation (Lump-Sum / Proportional)		
	Still Wine Specific Excise £ (1hl = 100lt)	Sparkling Wine Specific Excise £ (1hl = 100lt)	VAT (%)
Germany	0	136	19
France	3,77	9,33	20
United Kingdom	371	475	20
Spain	0	0	21
Portugal	0	0	- 13 (Still Wine) - 23 (Sparkling Wine)
Finland	339	339	24
Netherlands	88,36	254,41	21
Turkey	11.61	16	18

Reference: EXCISE DUTY TABLES (2015) and Hakan BAY “Ekonomisi ve Vergi Sistemiyle Almanya” are prepared by us utilizing data belongs to bulletin_ (Access Date: 03.04.2016).

Note: Calculations are made on the highest alcohol limit. (from 5.5% to 8.5%)

When table 4 has been analyzed, selected countries are collected both lump-sum and proportional of excise tax on alcohol products. Portugal and Spain don't levy excise tax on all kinds of wine, only VAT is collected.

Raising fuel prices with taxes on fuel are important in terms of sin taxes. Prevention of environmentally harmful fuel consumption is operated with the price mechanism.

Table 5: Taxes From Petrol in Selected Countries (01.01.2016)

	Taxation (Lump-Sum / Proportional)		
	Specific Excise £ (Leaded Petrol / 1000 lt.)	Specific Excise £ (Unleaded Petrol / 1000 lt.)	VAT (%)
Germany	721	*669.80	19
France	673,9	*641,20	17
United Kingdom	787,22	674,15	20
Spain	457,79	455,92	21
Portugal	*	617,51	23
Finland	*	681,30	24
Netherlands	857,39	769,90	21
Turkey	672,83	663,58	18

Reference: EXCISE DUTY TABLES (2015), http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/energy_products/rates/excise_duties-part_ii_energy_products_en.pdf, (Access Date: 20.04.2016).

*France: Includes CO2 tax

*Germany: Sulphur content, >10mg/kg = 669.80, ≤10mg/kg=654,50.

*Leaded petrol is no longer sold in Portugal

*Leaded petrol is no longer sold in Finland.

When table 5 has been analysed, both leaded and unleaded fuel shows differences in lump-sum tax. The reason is that leaded fuel is become more harmful than unleaded fuel on environmental. Both types of fuel give off CO2 emissions on environment for being oil product, that's why it is located within the scope of sin taxes. VAT rates are applied on price included on consumption tax for goods in all tables. Besides these tables, fizzy drinks, content of sugar and fat of harmful food and drinks are levied sin tax with way of excise tax and VAT rates.

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Table 6: Sin Tax Rate in Excise Tax Revenues in Selected Countries

Years Countries		2008	2009	2010	2011	2012	2013	2014
Germany	Tobacco	19.3	18.7	18.8	19	19	19	19.4
	Petrol	58	57.4	58.6	55.6	56.4	56.6	58
	Alcoholic B.	5	5.2	5	5	5	5	5
France	Tobacco	21.7	22.5	20.6	20.5	20.1	18.8	18.4
	Petrol	54	53	53	51	49	49	46
	Alcoholic B.	6	6	5.6	5,4	5,5	6	6
United Kingdom	Tobacco	20	20	19.7	20.3	20.8	22	20.7
	Petrol	61	57	58	56	57	55	60
	Alcoholic B.	14	14.8	14.6	15	15	14.7	16
Spain	Tobacco	32,6	33.8	34	34	33.2	26.6	27
	Petrol	55	55	54	53	51	52	52
	Alcoholic B.	1.3	1.3	1.3	1.2	1.3	1.2	1.4
Portugal	Tobacco	22.7	21	24.6	25.4	25.6	25.5	26
	Petrol	46	45.7	43	41	42.8	43	42
	Alcoholic B.	1.5	1.4	1,3	1,3	1,4	1,5	1,4
Finland	Tobacco	9	10	10	9	10	11	10
	Petrol	42.6	43.7	42	37.6	39	39	38,6
	Alcoholic B.	10,7	12,6	13	11,2	12	11,8	12,7
Netherlands	Tobacco	12	13	13	14	14.5	14	---
	Petrol	39	41	41.6	43	44.6	45	---
	Alcoholic B.	3	3.5	3,5	3,6	4	4,2	---

Turkey	Tobacco	26	26.4	25.8	25	28	25	25
	Petrol	57	58	55	52	50	52.8	50
	Alcoholic B.	4.7	5	5	6	6	6	6

Reference: BUMKO, OECD DATA and EUROPEAN COMMISSION DIRECTORATE-GENERAL TAXATION AND CUSTOMS UNION, Hakan BAY “Ekonomisi ve Vergi Sistemiyle Almanya” are prepared by us utilizing data belongs to bulletin (Access Date: 23.04.2016).

When table 6 has been analyzed, this table shows ratio of sin taxes in excise tax revenue. When excise tax of selected countries analyzed, it is seemed to be higher of revenue of tobacco products. Sin taxes have share of about 80% in excise tax. This potential shows for sin taxes revenues direction.

Developed country United Kingdom is seen with the research that cigarette consumption in the adult population is 82% in 1948, 45% in 1974, 22% in 2008 and 19% in 2014 (ASH Fact Sheet, 2016). This situation shows that precautions taken are successful by years. Britain's informal economy has been realized approximatively % 7 by years (Nihat Işık, Mustafa Acar, 2003) and the effect of sin taxes have brought success with health and other social measures (Global Health Observatory data repository, 2015).

Developing countries Turkey is seen with the research that cigarette consumption in the adult population is 48% in 1989, 44% in 1995, 32% in between 2003 and 2006, 27% in 2014 (Global Health Observatory data repository, 2015). Health and other social measures in the fight against addiction is implemented in Turkey (Global Health Observatory data repository, 2015). Turkey's tax burden on tobacco products and its share of tax revenues of tobacco products is same with UK. However, Turkey's informal economy has been realized approximatively % 28.72 by years (Turhan, 2016). Therefore, Reduction of addiction on Turkey has been realized little from the UK. Sin taxes have improved both countries.

6. Conclusion

Sin taxes haven't reached exactly purpose on the World. Political and financial purposes of these taxes have come to the fore, and economic and social objectives of these taxes have stayed in the background.

Sin taxes are insufficient to prevent harmful habits by themselves. Countries should try other methods outside sin taxes in the fight against harmful addictions.

For example:

- Advertising and promotion of these goods should be completely prohibited. (Application demand in high-income countries has declined nearly 10%).
 - Damage of alcohol and cigarettes should be had widespread media coverage.
 - People, who want to quit smoking and alcohol, should be generalized therapy and support.
- Etc. these issues should be raised the awareness of public.

If rates of sin taxes are increased a lot, markets will be directed informal economy and this situation will not be increased tax revenue, on the contrary, it will reduce tax revenues. Increase of taxes rates aren't democratic for changing consumption choices and property rights in terms of constitutional is introduced restriction. Therefore increases of extra sin taxes and sin taxes scope aren't correct. In summary, these taxes shouldn't be used as political interest tool.

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Turkey's Agricultural Foreign Trade In The Framework Of Global Agricultural Trade Liberalization

1.Introduction

The dependence of agriculture in Turkey increased in terms of both foreign trade and agricultural inputs. Turkey has lost its position of being largely “a self-contained country” and had to import number of agricultural products. Foreign trade of agriculture showed a deficit in the half of the last twelve years. Turkey is a net exporter of food products which is a net importer in the trade of agricultural raw materials. The foreign trade policy is not designed towards the best interest of the country.

According to the World Trade Organization (WTO), trade of agricultural products had a surplus of over than 700 million USD in 2014. While the trade of food products had a surplus of 5 billion USD trades of agricultural raw materials had a deficit of 5 billion USD. The main reason of the surplus is the cyclical increase in export prices of “hazelnut”. However, there are some other records. The imports volume of wheat rose 5.3 million tons in 2014 and this is the record of the country. On the other hand, import volume of oilseeds and byproducts also increased up to 4.3 billion USD from 3.7 billion USD. In the import volumes of dry bean and soybean had unprecedented level.

2.Libaralization in Agricultural Trade

This is the result of prioritizing the best interest of those multinational agro-food corporations instead of the country and having an agricultural policy based on importing foreign products instead of domestic production. The World Bank (WB), WTO and multinational agro-food corporations contributed to the [internationalization](#) of agriculture and therefore, the import volume of agricultural products increased due to the opening the market into the international trade and competition and this resulted the 70% of the “Southern countries” being net importer. (Oya,2011:219) Those countries playing a central role in international economy implemented hybrid seeds, chemical fertilizers and drugs and used some new techniques such as agricultural machinery and irrigation after 1970 and therefore became self-sufficient and exported the surplus. (World Bank,2008:136) In this context, the new markets the surplus needed were the markets of developing countries. Neoliberal economic policies allowed the developing countries to import agro-food products which left the least developed countries a net importer. 70% of the developing countries are importers of agro-food products. (FAO, 2012:75)

Multinational corporations determine the global agro-food chain in the world. Three-quarters of the world seed market is controlled by the largest 10 companies and 90% of the global pesticide market is in the control of the largest 10 companies. 5 of these 10 largest companies are owned by the above mentioned 10 largest companies. The requirement of pesticide for the cultivation of seeds results dependence for the farmer/agriculturist. (ETC Group,2011)

The above mentioned 10 largest companies' occupy the 55% of the market of chemical fertilizer. Beside these sectors providing raw material to agricultural production, the other stages such as production, distribution and marketing occupied by the above mentioned agro-food companies.

The market turnover of three biggest companies of US, operating in oil seeds, grain and sugar, is over 200 billion. The turnover of the top ten agro-food companies has exceeded 550 billion USD. Genetically modified (GM) crops cultivated land increased from 1.7 million hectares to 170.3 million hectares between the years 1996 and 2012. 81% of cotton cultivated land has been transferred to GM crops cultivated land. (ETC Group,2011)

In less developed countries, about 4 million hectares of agricultural land were reserved for multinational corporations before the year 2008 and this share increased to 45 million hectares in 2009 and two-third of it is in Sub-Saharan countries. 227 million hectares of land has been either sold or leased in the last decade and this amount of land is equivalent of Germany. The three largest companies operating in fodder controlling 25% of the market. (World Bank,2011)

3.Impact of Neoliberal Policies on Turkey's Agriculture

Neoliberal economic policies started to be implementing with privatization of state owned enterprises in Turkey; EBK, SEK, Yemsan were sold out and foreign capital was allowed into the sector. Seed growing industry was a state monopoly until 1980s but transferred to the private owners. Foreign partnership is occupying the seed growing sector. For example; approximately 60% of hybrid corn seed is provided by five foreign companies. (Tarım ve Köyişleri Bakanlığı,2014) The total share of three foreign companies occupy 90% of sunflower cultivation, two of two foreign companies occupy 45% of cotton cultivation and 80% of the vegetable seeds are imported.

The share of private producers in wheat cultivation was 0.2% in 1986 and increased to 55% in 2010 while share of cotton cultivation increased from 49% to 100% for the same years. The price of seeds was determined by the state until 1980 but the price was liberalized in 1983 and importation was allowed in the sector in 1984 and the market was liberalized. 50% of chemical fertilizers are being imported while 85% of the raw materials for the domestic production are imported in Turkey which shows the high level of dependency in Turkish agriculture. On the other hand, 90% of production inputs in pesticides are imported and the share of three foreign companies is 50 %. The 70 % of share of "New Holland" shows the foreign dependency in agricultural machinery clearly.

The discussions with WTO Agricultural Negotiations are concentrated around the entry to the market, export subsidies and domestic supports. (Brown,2008) Export subsidies are in negligible level in Turkey and there is no "domestic support commitments" as the "support" are below the limits due to the rule of "de minimis". However, Turkey is presenting a EU based position in the negotiations due to the accession process and the agricultural and the sector are affected adversely on the chapter of "market-entry". The talks should be according to the position of these products and they should categorize as "special products" in order to reduce the impact.

The tariff rate in Turkey is low in the products of oilseeds where Turkey is a net importer, however reducing the domestic support and removal of export subsidies in developing countries will increase cost of import and prices in Turkey. The cotton market is having the same problem.

Subsidies in agriculture did not even reach 1% of GDP in 2000-2012, contrary to "the Agriculture Act 2006". US and EU shifted from the "red" and "blue" boxes to the "green box" for the domestic supports. This can be expected to cause deflection of trade. (Baracuh,2011)

For example, despite the decision of "Geneva Convention 2008" and "Hong Kong, 2005" on removing the export subsidies by the end of 2013 in developing countries, the

developed countries did not implemented the decision and WTO does not impose sanction. (Baracuhy,2011)

4.Conclusion

Considering all of the facts, the chance of Turkey compete in international agricultural trade is declining. Therefore, Turkey does not have a chance to stand international competitiveness without the action of developed countries towards reducing the domestic support and preventing the usage of the “green box” as a “trade diversion effect”.

In the Bali Conference, the policy of promoting rural development has taken out of domestic support reduction commitments in the frame of “General Services”. The agriculture is still important for Turkey both economic and social reasons.

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The Analysis Of External Debt In Turkey On Sectoral Basis

1. Introduction

Today, rising debt payments reveal major problems, especially in developing countries. As debt burden of a certain period in one country will increase, capital stock, investments and economic growth are influenced adversely. When the insufficient resources that are obtained from an export cause to high taxes expectations which will be put on production. This situation will create crowding out the private sector. Firstly, high-interest rates will be formed because of borrowing. Secondly, high-interest rates will be increased to cost of investments. Then, decreasing investments will also effect to economic growth badly.

Borrowing that has been seen as an ordinary public revenue is very important in terms of which sectors will use it, where will be transferred and how will be occurred to results in the economy.

For example, public sectors do the external borrowing in Turkey from foreign markets, foreign institutions and foreign states. They do these by taking loans, issuing bonds, borrowing from the government realizes and borrowing from international financial institutions. Each method which is used by the public sector can affect the various actors in the economy with different purposes.

In this study, the actors who are performing the external debt in Turkey has been analyzed in comparison to the 1989-2015 period.

2. Why External Debt is Needed?

Regardless of the level of country's development, they need to benefit from external resources for various reasons. While some countries use external debt for their economic growth, some countries use it for their currency need and also some countries especially use external debt for high public expenditure and inconveniences on their financial market. The countries that fail to meet the external debt requirement use domestic debt because of high public expenditure and low revenues. Also, the countries that fail to run in debt go towards to external debt.

Some countries that don't pay capital and interests payments in time try to pay that debt with borrowing. All of these reasons cause bad economic performance in generally. The lack of economic progress is being linked to the stock of external debt but sometimes countries use external debt for developing their economic progress at the same time (Fonchamnyo, 2009:3). Therefore, borrowing is ordinary public revenue for countries and their borrowing reasons increase gradually nowadays.

2.1. Budget Deficit

The Budget deficit that occurs when revenues and expenditure aren't in balance forms according to countries economic and political conditions and how the external markets influence them. Nowadays, countries often use external debts due to their public administration's organizational structure, the growth of the public sector, economic and political crisis, natural disasters, economic conjuncture periods, wars, economic subsidies and fiscal indiscipline (Egeli, 2013: 75). For this reason, the budget deficit is one of the main reasons in the external debt requirements, especially in developing countries.

Budget deficit also affects on economic growth besides it is an external debt's reason. For example, if the budget deficit would comprise of high public expenditures and that expenditure would use on productive areas, it'd be positive effect on economic growth. Also the expenditures which was spent by public sector after promoting the private sector's investments will positive effect on economic growth (Barışık & Kesikoğlu, 2006: 64).

2.2. Insufficiency of Internal Savings

Saving is a difference between current incomes and consumptions of the units which show an active performance in the economy. If any country wants to increase on capital, it will be very important to increase investments which are formed national savings for that country. But this situation will actualize if the investments take part in active role in the economy (Sancak & Demirci, 2012: 161). Otherwise, the savings will not have any effect on the economy when they aren't included the economy.

Insufficiency of internal savings led to problems both financial resources supply which are needed for public services and low or negative economic growth. When countries face to these problems, they use external debts in general.

2.3. The Financing of Program and Project

External debt also uses for finance of programs and projects. External debt in terms of finance of programs is a financing opportunity that uses for macroeconomic programs of countries in general. External debt is provided sometimes directly sometimes with guaranteed by Treasury from the external resources as an external financial equipment.

Financing of the program is supplied from the International Monetary Fund and the European Investment Bank as an exporter of bonds and lease certificate, the World Bank and French Development Agency as a credit for Ministry of Forestry and Water Affairs's activity in Turkey (Public Debt Management Report, 2015: 31).

Financing projects are often supplied from other governments, commercial banks and monetary and non-monetary international organizations in Turkey (Public Debt Management Report, 2015: 31).

2.5. Other Reasons

Economic shocks or events can be cause for external debt because of globalization. The other events which are reasons of external debt show similar results, especially in developing countries. For example, countries use the external debt because of increase in industrialization, economic growth and national income, deficits in foreign trade and balance of payments, lack of currency reserves etc...(Karagöz, 2007:101). In addition to external debt use for emergency situations such as war, earthquake, floods and developed countries' lower interest rates and encouragements.

3. The Progress of External Debt in Turkey

The economic policies which have started in the 1980s developed and have continued in terms of liberalization in the economy and outward-looking industrialization in Turkey. Globalization not only effects to Turkey's economy in terms of its results but also affect the other countries' economy deeply.

It has seen that economic policies have aimed economic development which depends on liberalization and the open-market economy since the 1980s in Turkey. This country passed to open-market economy with 24 January 1980 Judgments. These judgments aimed to form open-market economy and adopt the reforms about public borrowing. Some reforms that have been created in that context are like these: changing in exchange rate policy, removing the public control on interest rates, implementation of Capital Markets Law and establishment of the Capital Markets, beginning the Government Debt Security and establishment of the market in the Central Bank (Şimşek, 2009: 221).

The aims which are about the Turkey's economic indicators and economic development took part on the basis of that reforms. It has continued associated with adopted to the open-market economy until today in general as follows: Consistent economic growth, reducing unemployment, low inflation, high national income, equal government budget and the solve of health, education and the other public service's problem.

The decisions that were carried on the scope of policies were carried into practice in the direction of the IMF's Stabilization Program, the convertibility of the Turkish Liras, the privatization of Public Economic Enterprises, the promotion of export policies and foreign investments (Öztürk & Özyakışır, 2005:2). Unfortunately, the public economy wasn't directed according to its principles on that years, for example extra-budgetary funds have increased and weakened their controls, were experienced extravagance and corruptions at the elections therefore external debt were used more than ever. Expenditures that paid from the consolidated budget because of growing debt have also increased. In fact, total allocations for interests of debt have exceeded 50% (Şener, 2008:355). This problem has limited to government financing which are related to building economic and social substructure.

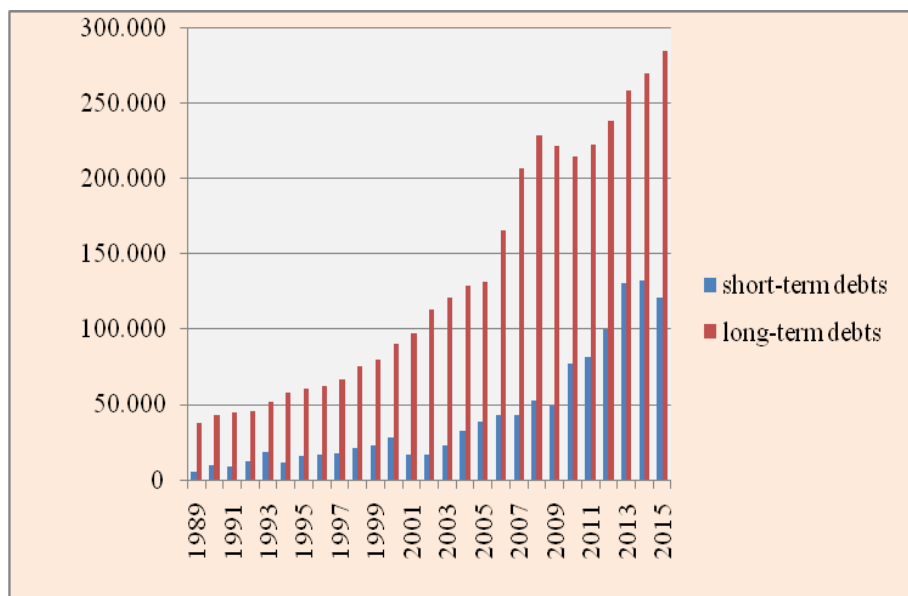
The economic policies which have implemented after 1990 have oriented to public sector financing policy. These are the mainly high domestic interest rates and low exchange rate policy that reduces the cost of outsourcing. While domestic borrowing was not preferred, high inflation rate prevented to apply to emissions in that years. The government was in search of external resources due to high public expenditure and low tax revenue. Although external debt stock diminished in 1994, it has continued to increase after this year. The crisis of 1994 led to implementation the strict fiscal policy and additional taxes in terms of increase in public revenues. These applications effected on a decrease of external debt stock. However, the equal budget was envisaged in 1997, current deficits and debt requirements have continued because of expenditures weren't decreased in real terms and tax-free income wasn't enlarged on contrary to the aims (Tandırcıoğlu, 2000: 267).

Turkey signed 17. Stand By with IMF in the period of 1999-2000 and they signed 18. Stand By for remove to negative effects of economic crisis in the period of 2002-2005. It was aimed that fiscal discipline must be provided and inflation rate must be decreased. Private sector's external debt has exceeded the sum of public sector' and Central Bank' external debt in nowadays. It has seen that budget deficits were decreased and primary surplus was given on the formation of this results.

Although external debt stock as an absolute seemed increased after the crisis of 2001 which was accepted as the biggest crisis in the history of The Republic of Turkey, public sector's external debt decreased but private sector's external debt increased. The real interest rates regressed as a result of rising on credit ratings of Turkey. It has seen that decline on the rate of interest payments in GDP (Karagöl, 2010: 26-27). The private sector has taken credit with low-interest rate from abroad. This conditions occurred owing to positive developments on Turkey economy and abundance of global liquidity in 2000-2008 (Gümüş, 2014: <http://www.usak.org.tr>).

External debt stock of Turkey located in the table which is below. These indicators include term structure of debt and the years. While short-term external debt involves

obligations which have original maturity less than one year, long-term debt involves obligations which have original maturity longer than one year.



Graph 1. Gross External Debt Stock of Turkey (Million USD, Yearly)

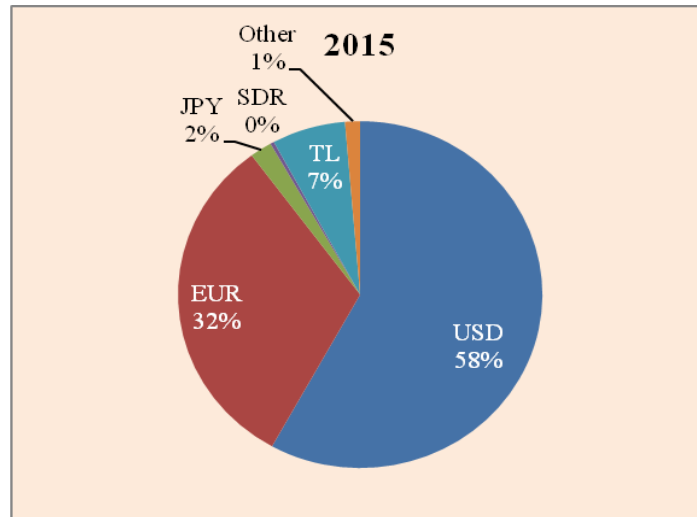
Source: It was arranged by utilizing the data of Central Bank of the Republic of Turkey, Electronic Data Delivery System, <http://evds.tcmb.gov.tr/>, (04.03.2016).

Note: It wasn't included the data which involve the last quarter of 2015.

The Graph 1 shows that gross external debt stock' short-term debts increased to 169 % from 1989 to 1995. This increase continued to the global crisis of 2001 which affected Turkey's economy and the world. Short-term debts regressed in 2001, they preserved the same level in 2002 but they have started on the rise since 2003. Short-term debts reached to 132.813 Million Dollars in 2014 after the another global crisis of 2008. It has been waited to actualization over 2014 with the addition of the last quarter of 2015. It is possible to explain that the rising on short term debts were affected by the increase of private sector external debt in comparison with public sector external debt in recent years. Private banks which are in the private sector have increased too. Private creditors have majority placed in terms of creditors in the short-term debts.

The government must be increased the domestic savings and productive investments, used the long-term debt instead of using the short-term debt. This measures must be done which are needed for preventing the external debt's increase and decrease the debt burden. In addition, due to the fact that the affordability of external debt will increase if the current account balance gets better, export incomes must increase and the foreign currency must be created enough (Egeli, 1992: 137). Indeed, external debts of Turkey have long-term external debt mainly since 1989 as a structure of maturity.

According to the Graph 1, the long-term gross external debt of Turkey increase 58% from 1989 to 1995. This increase continued after 2001 and 2008. Long-term external debt has reached to 269.669 million dollars by the year 2014. It is very important that external debt's currency as well as the term structure of debts. The rising of the exchange rate which effects to capital and interest payments also have affected to a fiscal structure of borrower sector directly. It is shown that currency distribution of Turkey's external debt stock in the pie chart graph which is below.



Graph 2. Currency Distribution of Turkey's External Debt Stock

Source: It was arranged by utilizing the data of Republic of Turkey Prime Ministry Undersecretariat of Treasury, www.hazine.gov.tr, (06.03.2016).

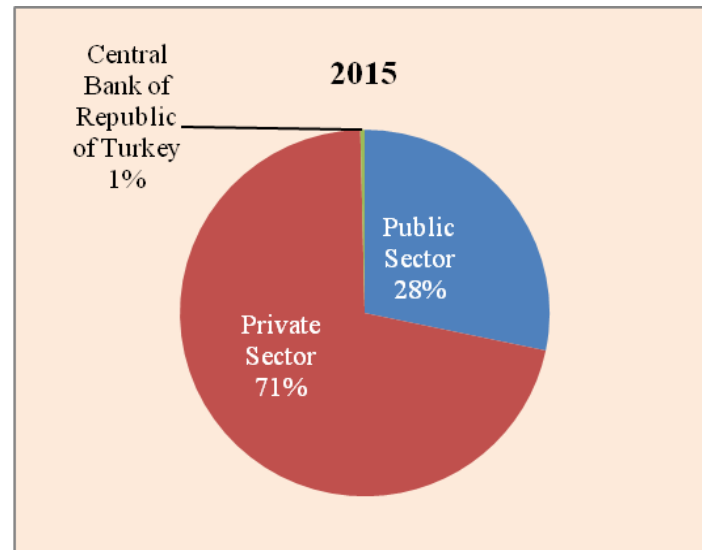
The pie chart shows the dollar-denominated debt take a large space in Turkey's foreign debt. The sum of dollar and euro debt is 80% of the total. It has seen that TL-denominated debt has increased recently. This graph shows that our external financial burden based on the dollar and if the rate of USD/TL increase, it will affect the public and private sector's financial structures badly. In this case, external debt statistics which promulgated in the statistics are influenced by the movement on the cross rates. For example, in June 2015 - September 2015 period's external debt stock have decreased 1.6 billion dollars approximately.

4. The Comparative Analysis of Public, Private and Central Bank's External Debts

Gross external debt consists of the public sector, the private sector and central bank debt in Turkey. The concept of public sector which will be mentioned frequently in my study have consisted of the sum of all public institutions and organizations which have included Public General Government (central government, local governments and funds), Public Financial Institutions (public banks, etc.) and Public Non-Financial Institutions (government business enterprises etc.)'s obligations from non-resident and bill of exchange.

As for private sector external debt sum of Private Sector Financial Institutions (banks, etc.) and the Private Sector Non-Financial Institutions (companies, etc.). They have included the obligations which arising from all private sectors loans from individuals and exported the bill of exchange.

Today, the public sector external debt increasingly has replaced the private sector in Turkey. These distributions are shown proportionally in the chart which is below as million dollars.

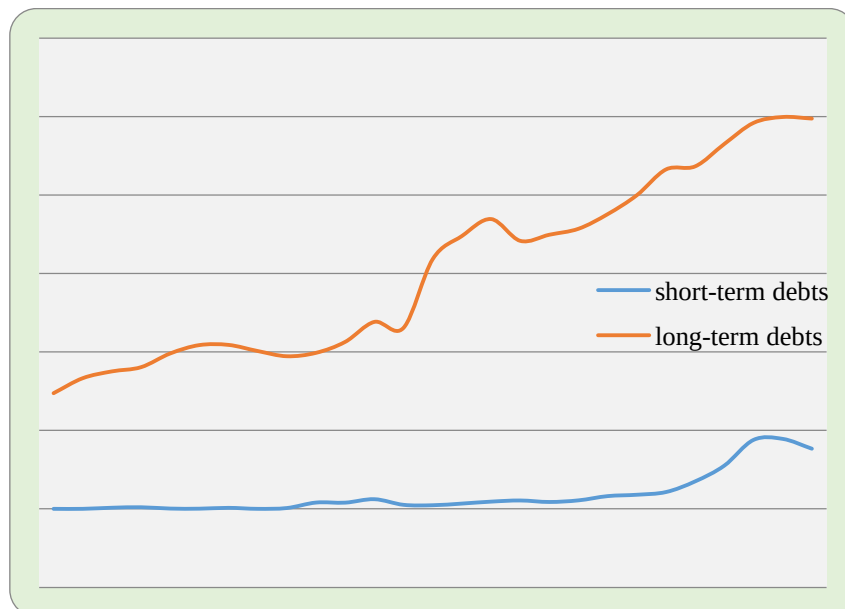


Graph 3. The Distribution of Gross External Debt in terms of Borrower Structure in Turkey

Source: It was arranged by utilizing the data of Republic of Turkey Prime Ministry Undersecretariat of Treasury, www.hazine.gov.tr, (06.03.2016).

According to Graph 3, it can be seen that the Central Bank of Turkey external debt stock has shared 1% in whole debt stock when were analyzed the distribution of the gross external debt stock for 2015 in Turkey. The public sector also has shared %28 of all debt stock. So, the public sector external debt tend to decrease in comparison with the in previous years. Private sector external debt have shared by covering 71%. It is seen that the gross public sector external debt and its burden are improving positively despite the global crisis

The gross external debt of the public sector is located in the graph which is below as million dollars with a short and long term.



Graph 4. Short-Long Term Public Sector Gross External Debt (Millions of Dollars)

Source: It was arranged by utilizing the data of Central Bank of the Republic of Turkey, Electronic Data Delivery System, <http://evds.tcmb.gov.tr/>, (07.03.2016).

Note: It wasn't included the data which involve the last quarter of 2015.

The Analysis of External Debt in Turkey on Sectoral Basis

The Graph 4 shows that the public sector refers to long-term external debt mostly in Turkey. It is possible to say that short and long external debt has increased from 1989 until 2015. It has seen visibly increase in Public sector's short-term external debt after the crisis of 2008. Short term external debt has come to a head in 2013 and it has reached to six times since 2000. When long-term public sector external debt is analyzed, it has seen risings after the global crisis. It has given place to the public sector external debt in terms of creditors distribution in the following table.

Table 1. The Public Sector External Debt in terms of Creditors Distribution
(Millions of Dollars)

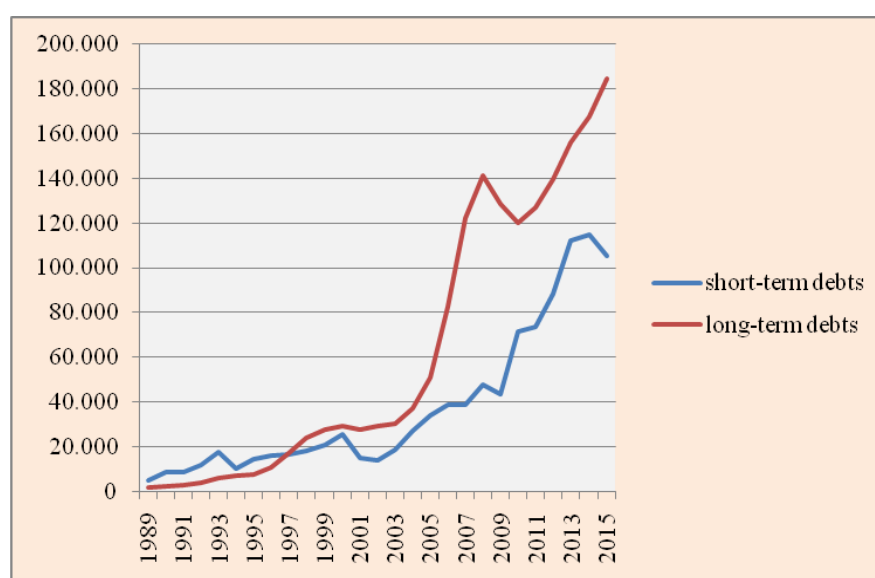
Short-term	0	65	204	1.019	2.133	3.598	17.605	17.866	15.355
Private Creditors	0	65	204	1.019	2.133	3.598	17.599	17.310	14.852
Formal Creditors	0	0	0	0	0	0	0	218	259
Bill of exchange	0	0	0	0	0	0	6	338	244
Long-term	29.446	39.575	38.864	46.110	68.278	79.915	98.339	99.844	99.447
Private Creditors	9.846	10.707	10.076	10.596	7.839	8.504	9.313	7.755	8.539
Formal Creditors	17.175	18.164	15.138	14.522	28.879	30.512	30.623	28.348	28.138
Bill of exchange	2.425	10.705	13.650	20.992	31.560	40.899	58.404	62.741	62.770
TOTAL:	29.446	39.640	39.068	47.129	70.411	83.513	115.944	117.710	114.802

* It wasn't included the data which involve the last quarter of 2015.

Source: It was arranged by utilizing the data of Republic of Turkey Prime Ministry Undersecretariat of Treasury, www.hazine.gov.tr (07.03.2016).

According to Table 1, it has seen that the public sector focused on long-term debt rather than short-term debt in 1989. It continued in later years. As it can be seen from the table, it is an important part of private creditors in the short-term public sector creditors. Formal creditors have a large place in long-term creditors, this condition left the place to bill of exchange creditors over time.

Gross private sector external debt is shown in the graph in terms of short and long term as Million US dollars.



Graph 5. Short-Long Term Private Sector Gross External Debt (Millions of Dollars)

* It wasn't included the data which involve the last quarter of 2015.

Source: It was arranged by utilizing the data of Central Bank of the Republic of Turkey, Electronic Data Delivery System, <http://evds.tcmb.gov.tr/>, (07.03.2016).

The shape of the graph demonstrates that private sector external debt is done by long-term debt in Turkey predominantly. Short and long-term debt trend to increase in general from 1989 to 2015. The reason of private sector external debt decrease in 2001 is that crisis increase the external debt costs. Increasing debt costs have limited to opportunities of outsourcing of public and private sector. This situation repeated in the aftermath of the 2008 crisis. Hence, the private sector has affected negatively by conditions such as the interest rate increases, currency fluctuations, and inflation when the crisis emerged. It is given that the private sector external debt creditor's distribution in the following table which is below.

Table 2. The Private Sector External Debt in terms of Creditors Distribution
(Millions of Dollars)

Short-term	4.946	17.741	16.598	14.632	34.018	43.628	111.975	114.605	105.267
Private Creditors	4.946	17.741	16.598	14.632	34.018	43.628	110.503	110.778	102.485
Formal Creditors	0	0	0	0	0	0	0	24	187
Bill of exchange	0	0	0	0	0	0	1.472	3.803	2.595

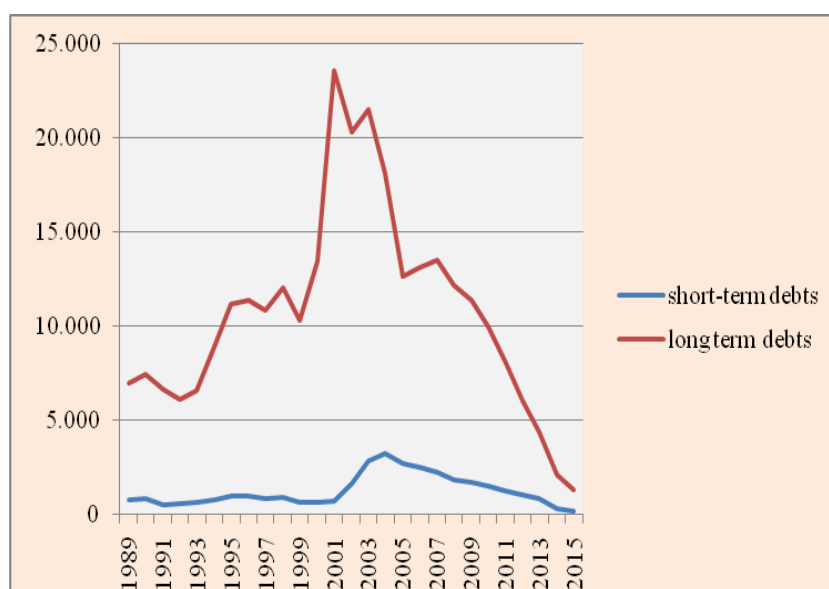
The Analysis of External Debt in Turkey on Sectoral Basis

Long-term	1.692	5.838	16.925	27.480	50.896	128.637	155.900	167.683	184.363
Private Creditors	978	4.701	15.347	25.064	46.925	119.451	119.495	122.842	138.184
Formal Creditors	579	824	1.402	2.377	3.970	9.186	15.511	15.150	15.353
Bill of exchange	136	313	177	39	0	0	20.895	29.691	30.826
TOTAL:	6.638	23.579	33.523	42.112	84.914	172.265	267.875	282.288	289.630

* It wasn't included the data which involve the last quarter of 2015.

Source: It was arranged by utilizing the data of Republic of Turkey Prime Ministry Undersecretariat of Treasury, www.hazine.gov.tr (09.03.2016).

There is a clearly defined pattern to the table 2, and this can be taken to mean that private sector in Turkey has used short-term external debt rather than long-term external debt. When the term structure of external debts is analyzed from 1997 to nowadays, it can be seen that long-term external debt of private sector has reached to twofold of short-term external debt. Both private creditors take a big place in the private sector short-term external debt and long-term external debt. Also, it is a remarkable increase in the bill of exchange buyers in recent years. The graph which below shows that gross external debt in the short and long term as million dollars.



Graph 6. Short-Long Term the Central Bank of Republic of Turkey Gross External Debt
(Millions of Dollars)

Source: It was arranged by utilizing the data of Central Bank of the Republic of Turkey, Electronic Data Delivery System, <http://evds.tcmb.gov.tr/>, (09.03.2016).

It wasn't included the data which involve the last quarter of 2015.

Graph 6 represents long-term external debt is mostly used by the Central Bank of Republic of Turkey. Long-term external debt saw the peak in 2001, it decreased sharply towards 2006 and it had a tendency to decrease when it came to 2008. It has seen that an increase in the short-term debt of the Central Bank of Republic of Turkey. Decreasing of these debts have started in 2004. The Central Bank of Republic of Turkey external debt creditor distributions is given in table which is below.

Table 3. The Central Bank of Republic of Turkey External Debt in terms of
Creditors Distribution (Millions of Dollars)

Short-term	799	667	889	752	2.763	1.764	833	342	208
Private	799	667	889	752	2.763	1.764	833	342	208
Creditors									
Formal	0	0	0	0	0	0	0	0	0
Creditors									
Bill of exchange	0	0	0	0	0	0	0	0	0
Long-term	7.028	6.626	10.876	23.599	12.662	11.398	4.401	2.142	1.344
Private	6.957	6.612	10.275	9.956	12.622	11.398	4.401	2.142	1.344
Creditors									
Formal	70	14	601	13.643	0	0	0	0	0
Creditors									
Bill of exchange	0	0	0	0	0	0	0	0	0
TOTAL:	7.827	7.293	11.765	24.351	15.425	13.162	5.234	2.484	1.552

* It wasn't included the data which involve the last quarter of 2015.

Source: It was arranged by utilizing the data of Republic of Turkey Prime Ministry Undersecretariat of Treasury, www.hazine.gov.tr (10.03.2016).

According to Table 3, it was used by a majority of the Central Bank of Republic of Turkey long-term external debt. Private creditors are also mostly used in short-long term external debt. Although the Central Bank of Republic of Turkey's long-term external debt showed increase significantly, it has been seen that decreases after the crisis of 2001 and 2008 harshly.

5. Conclusion

External debt has been one of the most important problems for emerging markets and developing countries such as Turkey. Debt sustainability is also the most basic tool for macroeconomic stability.

The public sector debt burden/GDP is a Maastricht Criteria which contain qualifications of European Union member will be able to attend, mustn't be over 60% percent. Turkey's public debt burden (which was defined by EU and consisted of the sum of external and domestic debt) has actualized between the 35% and 40% percent. This ratio has been under the many countries ratios who are EU members due to fiscal discipline, structural reforms and privatizations policies which have implemented by Turkey. Improvements in credit ratings have also affected the positive to external interest payments after these implementations.

Financial problems which were wanted to solve with external debt sometimes have achieved government's objective but sometimes haven't. The reason of this can be shown that external debt contributes to the national income when it was taken and decrease in the national income when it was paid. Therefore, the external debt must be used for investments which will bring foreign currency in Turkey with the risk of economic, social and politics costs. The rate of USD / TL which is the most affected to private sector's external debt burden will increase to the detriment of TL because of public sector external debt transfer to private sector. The Central Bank of the Republic of Turkey must pursue a policy actively toward to protection of TL value in order to the private sector will not be affected negatively.

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Comparative Analysis Of Efficiency Of The Operating Businesses In Turkish Cement Industry

1. Introduction

In competitive environment of today, one of the most important concepts in terms of businesses is also efficiency. Efficiency generally means that there is no waste, that costs are lowered to minimum, and that opportunities are evaluated in the same way (Emiroğlu, 2006, p. 264). The concept efficiency in terms of business is an assessment criterion indicating at what level the labor, raw material, material, and other inputs are sufficiently used in the direction of the aims formed in the business; and, when actual performance is compared to standard performance previously determined, whether or not at what measure the actual performance approaches to standard performance. Efficiency degree is expressed as standard performance/actual performance (Yükçü & Atağan, 2009, p. 3). According to another definition, efficiency is an indicator of the power of a firm to obtain a maximum output with given inputs (Kök & Deliktaş, 2003, p. 2009). In the context of definition, in the changing conditions of the world and in the increasing environment competition, businesses, using their resources accurately, are obliged to increase their outputs. That there is no resource waste in the businesses averages that their efficiencies are high. While the resources are allocated in the production process, an important element that is necessary to be considered is the predetermined aims of businesses. While the concept efficiency is dealt with, it is important to deal with both resource allocation and predetermined aims.

There are some sectors that countries deal with in order to provide economic growth. At the present, the largest sector triggering economic growth is seen as construction sector. The enlargement of the construction sector enables to development of other sectors. When evaluated from this point of view, as a branch of construction sector it is important to deal with the element of efficiency in the cement sector.

According to the data of European Cement Association, in the period of 2011-2014, the leader country about cement production is China. It raised its cement production, which was 661 million ton in 2001, to 2438 million ton until 2014. In this period, the countries following China about cement production are India and European Union. While the production of India, which was 102.9 million ton in 2001, it reached to 300 million ton in 2014, in European Union, it fell to 159.4 million ton from 225.6 million ton (CEMBUREAU, 2014, p. 13). According to the data of 2001-2014 of International Trade Center, in 2001, while Thailand was the world leader in cement export with \$ 343847, in 2011 and 2002, Turkey reached the leader position with \$ 911572 and \$797973, respectively. Then, in 2014, Vietnam reached the position of world leadership with \$ 912258. In addition, when import figures are evaluated, in the period of 2001-2014, it was identified that US generally was in the first order (ITC, 2016).

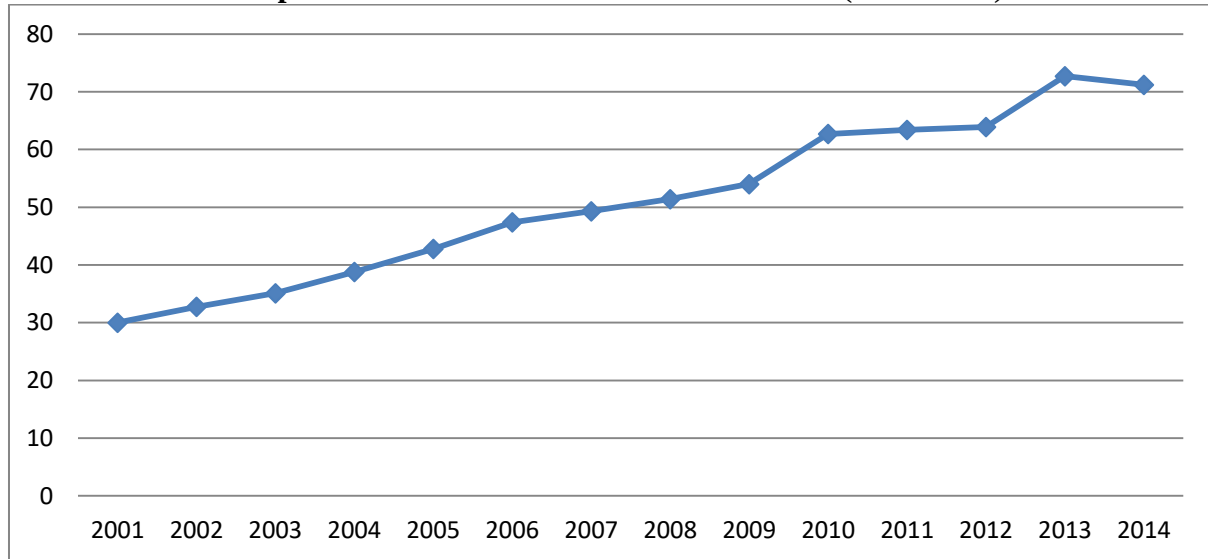
The aim of this study is to determine the activities of 17 businesses, which are in active in Turkish cement sector, and which are processed in Istanbul Stock Exchange (Borsa Istanbul) and to make comparative analyses. When we made in this paper the efficiency analysis, used Data Envelopment Analysis (DEA) for the period of 2009 through 2015. The data obtained were evaluated with the DEAP 2.1. software package program.

2. Cement Sector in Turkey

Cement production in Turkey began with a furnace having a capacity of 20000 ton/year in Darıca-Kocaeli 1911 and this factory was enlarged in 1923 and its capacity was raised to 40000 ton/year in 1923. Until 1950s, 4 new factories were established; one in Ankara and Sivas and two in Istanbul, and total capacity reached 370000 ton/year. After 1950, with establishing of Turkish Cement Industry Corporation (ÇİSAN), although production increase is provided, due to the fact that demand could not be met at the sufficient level, until 1970s, cement import continued (SGM, 2015, p. 4).

In Turkey, cement sector in the period 2011-2014 takes place in Graph 1.

Graph 1. Production of Turkish Cement Sector (million ton)

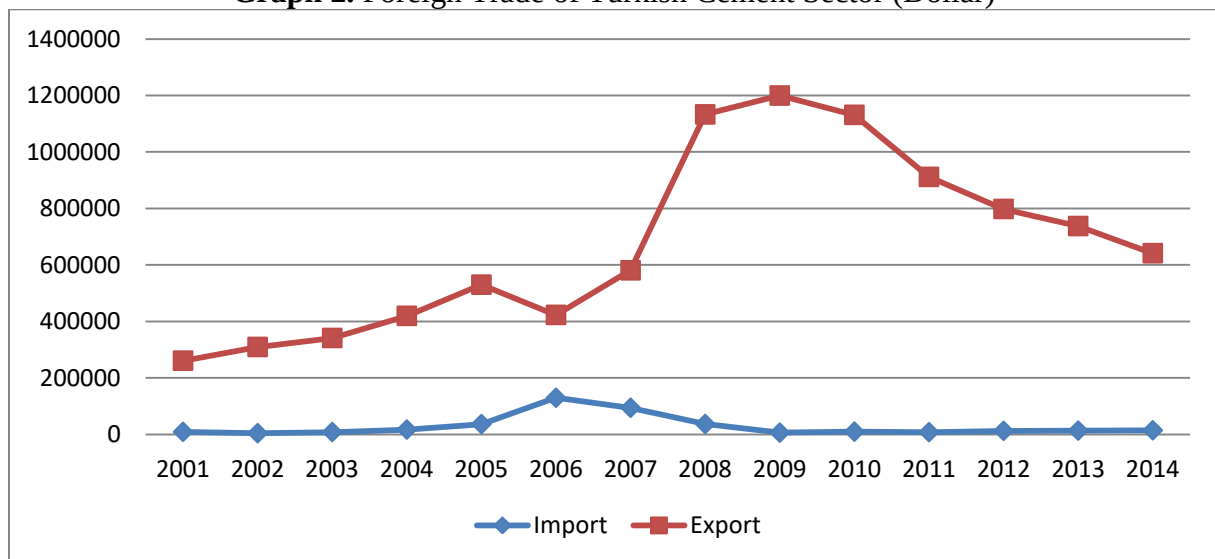


Resource: CEMBUREAU, 2014, p. 13; SGM, 2015, p. 7.

When Graph 1 is examined, it is seen that cement production is in the tendency of increase. In only 2014, a slight decrease was experienced. Cement Production, which was 30 million ton in 2001, rose to 71.2 million ton in 2011.

In Graphic 2, cement import and export of Turkey are shown.

Graph 2. Foreign Trade of Turkish Cement Sector (Dollar)

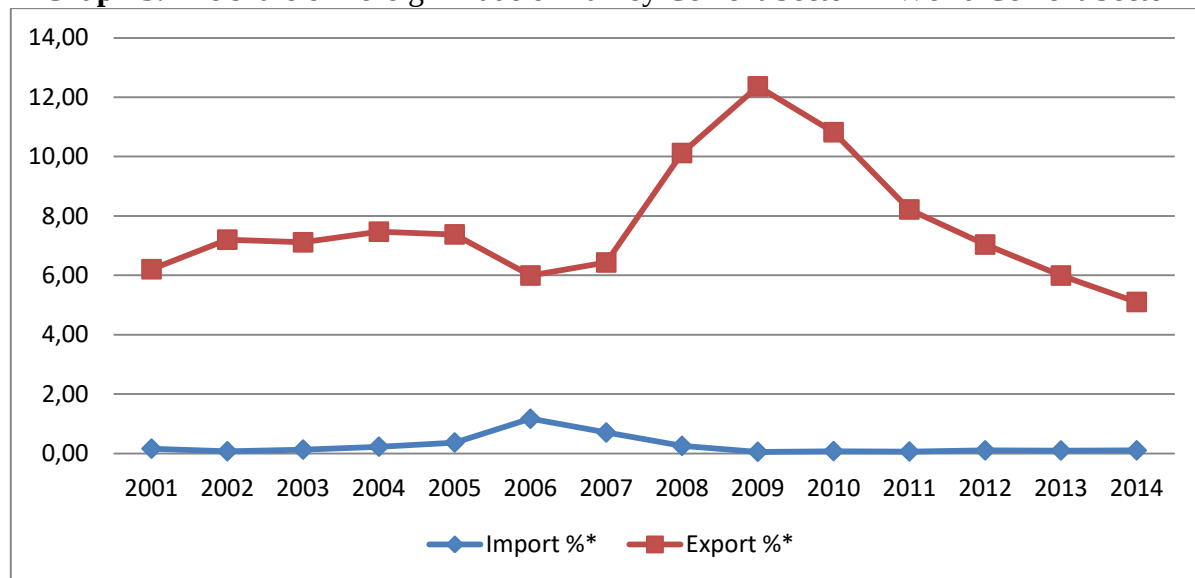


Resource: ITC, 2016.

When Graph 2 is examined, it is seen that export is more than import. In cement export of Turkey, there is generally an increase until 2009. Cement export, which was \$ 1199642 in 2009, in 2014, it actualized as \$ 641387 in 2014. Increase trend in cement export that continued until 2009, after 2009, left its place to the decrease trend. It is possible to say that the level of cement import is generally low.

In Graph 3, the shares of foreign trade of Turkey Cement Sector in world cement sector are presented.

Graph 3. The share of Foreign Trade of Turkey Cement Sector in World Cement Sector



Resource: ITC, 2016.*It was calculated by us.

When Graph 3 is examined, it is seen that the share of Turkish cement import in the world cement import is very low. When the share of cement export is examined, it actualized the lowest in 2006 and rose to over 10% in the years of 2009 and 2010.

3. Literature

Kayalidere & Kargın (2004), in order to reveal the efficiencies of 15 companies from cement sector and 27 companies from textile sector, quoted to Istanbul Stock Exchange, utilized DEA. The results of analyses carried out in cement sector showed that three companies were efficient, and there was inefficiency for the other companies.

Elitaş & Eleren (2007), in order to measure efficiency in cement sector that is an arm of construction sector, an element of the welfare and developedness in terms of economies, dealt with cement production businesses, registered in Istanbul Stock Exchange. According to the results of DEA, it was seen that the efficiency result of especially the businesses, whose active sizes are small, turned out better.

Kula & Özdemir (2007), in order to measure the efficiencies of the businesses quoted to Istanbul Stock Exchange, utilizing the data of their balance sheets in 2006, used DEA. According to the analysis results, only 7 out of 17 businesses relatively turned out full efficient.

Üstündağ (2007), in order to reveal the efficiencies of 17 cement companies, registered in Istanbul Stock Exchange, carried out two analyses When the results of analyses

are evaluated, 2 firms were found efficient in 2005; 6 firms in 2006, 1 firm in 2007, and 3 firms in 2008.

Cenger (2011), in order to evaluate the efficiencies of 12 businesses, in respect with the year 2013, used DEA. According to the result of analysis, under fixed return according to the scale, it was identified that 75% of cement businesses operated efficiently

Gerek, Erdiř & Yakut (2011), utilizing the data belonging to the period of 1998-2009, carried out the efficiency analysis of 16 cement firms, registered in Istanbul Stock Exchange. According to the results of analysis, in the period dealt with, it was introduced that there was no any firm that was continuously efficient in the period dealt.

Öztürk (2016), with an approach, in which the cost data of the firms belonging to the firms being in active in BIST cement sector were taken as a input factor and profit data as output factor, in order to measure the performances of the firms of interest in cost management, carried out an analysis. As a result of analysis carried out, while only one firm was effective, it is seen that 4 firms were efficient in 2004.

4. Methodology

4.1. Dataset

In Table 1, the names of 17 firms, which are in active in cement sector in Turkey, and which is registered Istanbul Stock Exchange, and their codes used in analysis. Codes of firms are determined by us.

Table 1. Codes of Firms in Turkish Cement Sector

Firms	Codes
ADANA ÇİMENTO SANAYİİ T.A.Ş.	CF1
AFYON ÇİMENTO SANAYİ T.A.Ş.	CF2
AKÇANSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	CF3
ASLAN ÇİMENTO A.Ş.	CF4
BAŞTAŞ BAŞKENT ÇİMENTO SANAYİ VE TİCARET A.Ş.	CF5
BATIÇİM BATI ANADOLU ÇİMENTO SANAYİİ A.Ş.	CF6
BATISÖKE SÖKE ÇİMENTO SANAYİİ T.A.Ş.	CF7
BOLU ÇİMENTO SANAYİİ A.Ş.	CF8
BURSA ÇİMENTO FABRİKASI A.Ş.	CF9
ÇİMBETON HAZIRBETON VE PREFABRİK YAPI ELEMANLARI SANAYİ VE TİCARET A.Ş.	CF10
ÇİMENTAŞ İZMİR ÇİMENTO FABRİKASI T.A.Ş.	CF11
ÇİMSA ÇİMENTO SANAYİ VE TİCARET A.Ş.	CF12
GÖLTAŞ GÖLLER BÖLGESİ ÇİMENTO SANAYİ VE TİCARET A.Ş.	CF13
KONYA ÇİMENTO SANAYİİ A.Ş.	CF14
MARDİN ÇİMENTO SANAYİİ VE TİCARET A.Ş.	CF15
NUH ÇİMENTO SANAYİ A.Ş.	CF16
ÜNYE ÇİMENTO SANAYİ VE TİCARET A.Ş.	CF17

Resource: KAP, 2016.

The dataset of analysis was formed by compiling from KAP (2016) and BIGPARA (2016), in which the fiscal tables of 17 companies, registered in Istanbul Stock Exchange, take place. The data obtained from the fiscal tables for the companies cover the period of 2009-2005. Collecting the necessary data from the fiscal tables, current ratio (working assets/short

Comparative Analysis of Efficiency of the Operating Businesses

term foreign resources), financial leverage ratio (total foreign resources/total active), short term foreign resources/total passive, return on sales (net profit/output) , return on equity (net profit/total equity), distributed profit/ net profit, and price –earnings ratio (stock price/gain per share) used in the analysis were calculated. These ratios are the ones selected by Üstündağ (2007) in his study.

Table 2. Return on Sale Ratios of the Firms in Turkish Cement Sector

Codes of Firms	Years							
	2009	2010	2011	2012	2013	2014	2015	Average
CF1	0.269	0.335	0.245	0.300	0.171	0.325	0.337	0.283
CF2	-0.022	0.013	-0.117	-0.175	0.036	0.168	0.221	0.018
CF3	0.106	0.073	0.099	0.114	0.131	0.176	0.191	0.127
CF4	-0.204	0.024	0.099	0.270	0.192	0.266	0.195	0.120
CF5				0.134	0.131	0.171	0.144	0.145
CF6	0.031	0.047	0.071	0.046	0.081	0.108	0.107	0.070
CF7	0.027	0.074	0.030	0.064	0.083	0.206	0.154	0.091
CF8	0.147	0.100	0.113	0.120	0.174	0.302	0.263	0.174
CF9	0.014	0.027	0.085	0.025	0.187	0.124	0.081	0.078
CF10	-0.066	-0.045	0.097	-0.005	0.022	0.011	0.009	0.003
CF11	0.104	0.043	0.038	0.016	0.051	0.284	0.098	0.091
CF12	0.176	0.146	0.154	0.135	0.317	0.176	0.209	0.188
CF13	0.026	0.025	0.018	0.062	0.089	0.133	0.028	0.054
CF14	0.127	0.167	0.128	0.157	0.124	0.183	0.138	0.146
CF15	0.375	0.330	0.336	0.182	0.263	0.307	0.286	0.297
CF16	1.660	0.068	0.090	0.072	0.091	0.169	0.176	0.332
CF17	0.295	0.239	0.233	0.241	0.237	0.253	0.217	0.245

In Table 2, return on sales ratios of the firms in cement sector takes place. When the average values are taken into consideration in return on sales, although the best one is seen as CF16 business with 31.6%, average return on sales of CF15, CF1 and CF17 businesses, which have more balanced rates, are 29.7%, 28.3%, and 24.5% on the basis of years, respectively.

Table 3. Return on Equity Ratios of the Firms in Turkish Cement Sector

Codes of Firms	Years							
	2009	2010	2011	2012	2013	2014	2015	Average
CF1	0.132	0.162	0.124	0.140	0.103	0.188	0.182	0.147
CF2	-0.013	0.011	-0.113	-0.188	0.050	0.243	0.086	0.011
CF3	0.092	0.070	0.115	0.130	0.158	0.215	0.234	0.145
CF4	-0.267	0.016	0.060	0.151	0.132	0.222	0.192	0.072
CF5				0.102	0.105	0.137	0.118	0.116
CF6	0.024	0.035	0.058	0.038	0.080	0.109	0.104	0.064
CF7	0.009	0.026	0.013	0.027	0.045	0.136	0.084	0.049
CF8	0.091	0.072	0.100	0.116	0.194	0.303	0.259	0.162
CF9	0.016	0.040	0.139	0.037	0.091	0.197	0.119	0.091
CF10	-0.206	-0.180	0.330	-0.016	0.081	0.042	0.036	0.012
CF11	0.067	0.025	0.024	0.011	0.033	0.194	0.061	0.059
CF12	0.116	0.118	0.143	0.112	0.268	0.165	0.190	0.159
CF13	0.017	0.016	0.015	0.059	0.090	0.142	0.034	0.053
CF14	0.067	0.097	0.078	0.104	0.113	0.167	0.126	0.107
CF15	0.352	0.312	0.320	0.163	0.216	0.240	0.184	0.255
CF16	0.120	0.066	0.090	0.076	0.099	0.170	0.164	0.112
CF17	0.195	0.182	0.200	0.215	0.199	0.214	0.173	0.197

In Table 3, return on equity ratios of the firms takes place. When average returns on equity ratios are considered, it is seen that 8 firms have a return on equity ratio. In this rate, the best business is CF15 with 22.5%.

Table 4. Active Profitability Ratios of the Firms in Turkish Cement Sector

Codes of Firms	Years							
	2009	2010	2011	2012	2013	2014	2015	Average
CF1	0.123	0.140	0.108	0.119	0.094	0.164	0.163	0.130
CF2	-0.012	0.009	-0.097	-0.152	0.039	0.183	0.038	0.001
CF3	0.065	0.048	0.078	0.086	0.107	0.155	0.165	0.101
CF4	-0.130	0.011	0.045	0.121	0.100	0.156	0.122	0.061
CF5				0.083	0.086	0.113	0.094	0.094
CF6	0.020	0.029	0.039	0.025	0.047	0.068	0.057	0.041
CF7	0.008	0.023	0.012	0.022	0.032	0.099	0.045	0.034
CF8	0.085	0.064	0.085	0.099	0.153	0.202	0.173	0.123
CF9	0.013	0.029	0.103	0.026	0.061	0.144	0.081	0.065
CF10	-0.105	-0.080	0.193	-0.008	0.044	0.022	0.018	0.012
CF11	0.051	0.018	0.018	0.008	0.024	0.150	0.048	0.045
CF12	0.090	0.091	0.099	0.073	0.210	0.128	0.124	0.116
CF13	0.014	0.011	0.010	0.038	0.055	0.082	0.016	0.032
CF14	0.060	0.087	0.066	0.090	0.092	0.142	0.106	0.092
CF15	0.314	0.268	0.266	0.121	0.172	0.196	0.151	0.213
CF16	0.095	0.050	0.062	0.048	0.065	0.122	0.122	0.081
CF17	0.166	0.155	0.179	0.186	0.176	0.187	0.150	0.171

In Table 4, active profitability ratios of cement businesses take place. When average active profitability ratios are regarded to, it is seen that while the lowest rate is the firm CF2 with 0.1%, the highest rate is the firm CF5 with 21.3%. In addition, in average profitability ratios, it is seen that 11 firms are below 10%.

4.2. Method

DEA, a specific application way of linear programming, is a method used in relatively measuring efficiency of businesses having the same aim and targets (Tetik, 2003, p. 222)

In DEA, the main efficiency criterion is the division of weighted sums of outputs by weighted sums of inputs. In other words, efficiency criterion of any decision point (j decision point) can be defined by means of the following formulas. In formulas, there are n pieces of output and m pieces of input for j decision point. $(u_1 y_1 + u_2 y_2 + \dots + u_n y_n) / (v_1 x_1 + v_2 x_2 + \dots + v_m x_m)$ where u_n denotes the weight of n. output; y_n , the amount of n. output; v_m , the weight of m. input; and x_m , the amount of m. input (Yavuz & İşçi, 2013, p. 159).

DEA has a feature to be able to be used in two ways toward the input and output and, in DEA models toward input, in order to be able to produce a certain input the most efficiently, while revealing that how the most suitable input composition will be, in DEA models toward output, it is identified how many maximum output composition will be

obtained with a certain input composition (Atan and Karpat Çatalbaş, 2005: 51). In DEA there are (Ray, 2008, p. 2),

- method toward input under the fixed return assumption,
- method toward input under the variable return assumption,
- method toward output under the fixed return assumption,
- method toward output under the variable return assumption,

In the study, under variable return assumption, by means of the method toward output, DEA will be used. On condition that the inputs are the same, changing outputs, two analyses will be carried out. In Table 5, the inputs and data take place in Table 5.

Table 5. Input-Output Sets

Analysis I		Analysis II	
Inputs	Outputs	Inputs	Outputs
Current Ratio	Return on Sale Ratio	Current Ratio	Rate of distributed profit/net profit
Financial Leverage Ratio	Return on Equity Ratio	Financial Leverage Ratio	Price-Earnings Ratio
Rate of Short Term Foreign Resource /Total Passive	Active Profitability Ratio	Rate of Short Term Foreign Resource /Total Passive	

Efficiency scores ranges between 0 and 1 (Beasley, 1995, p. 442). That the efficiency score equals to 1 means that firm provides full efficiency and that it is less than 1, firm cannot produce maximum output, with the existing input set. In this framework, that efficiency scores, obtained under variable return assumption, have the different scores points out that firm does not produce in optimal production scale (Çoban, 2007, p. 27).

5. Results

The efficiency scores of firms in Turkish cement industry were calculated using DEA. The results of analysis take place in Table 6.

Table 6. Results of Efficiency Analysis

Codes of Firms	Analysis I							Analysis II						
	2009	2010	2011	2012	2013	2014	2015	2009	2010	2011	2012	2013	2014	2015
CF1	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0
CF2	-	0.03 8	-	-	0.18 7	0.91 8	0.65 6	-	1.00 0	-	-	-	-	-
CF3	1.00 0	0.42 6	0.66 2	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	0.22 2	0.61 7	1.00 0	1.00 0	0.72 4
CF4	-	0.08 1	0.36 3	1.00 0	0.60 6	1.00 0	1.00 0	-	0.00 3	0.64 6	0.48 0	1.00 0	-	-
CF5	-	-	-	0.66 8	1.00 0	1.00 0	1.00 0	-	-	-	1.00 0	-	-	1.00 0
CF6	0.12 9	0.15 5	0.27 7	0.39 1	0.29 8	0.52 7	0.40 5	0.27 4	0.17 3	0.19 2	0.39 2	0.12 5	0.26 4	0.18 2
CF7	0.09 7	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	0.57 5	1.00 0	-	1.00 0	1.00 0	1.00 0	1.00 0	0.70 6
CF8	0.54 4	1.00 0	0.43 4	0.64 3	0.83 4	1.00 0	1.00 0	1.00 0	1.00 0	0.33 9	0.59 3	0.51 3	-	0.22 7
CF9	0.05 8	0.13 5	0.43 3	0.20 6	0.59 0	0.72 2	0.46 9	1.00 0	1.00 0	0.23 2	0.97 3	0.33 7	0.27 1	0.18 8
CF1 0	-	-	1.00 0	-	0.42 5	1.00 0	0.16 0	-	-	-	-	-	-	-
CF1 1	1.00 0	1.00 0	0.15 7	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	0.07 8	1.00 0	1.00 0	1.00 0	1.00 0
CF1 2	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	0.84 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0	1.00 0
CF1 3	1.00 0	1.00 0	0.07 4	0.40 9	0.33 7	0.47 1	0.14 7	-	-	-	-	1.00 0	0.97 8	1.00 0
CF1	0.34	1.00	0.44	1.00	0.46	0.74	0.64	-	1.00	0.26	1.00	-	-	-

4	3	0	0	0	7	1	1		0	9	0			
CF1	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.34	1.00	0.55	1.00	0.73	1.00	1.00
5	0	0	0	0	8	0	0	9	0	9	0	9	0	0
CF1	1.00	0.34	0.47	0.53	0.36	0.61	1.00	1.00	0.73	0.38	0.48	0.55		0.89
6	0	1	7	9	7	0	0	0	0	1	7	8	-	3
CF1	0.64	0.83	1.00	1.00	1.00	1.00	0.91	0.47	0.94	1.00	1.00	1.00	1.00	1.00
7	2	0	0	0	0	0	1	9	7	0	0	0	0	0

According to the results taking place in Table 6, in the period considered, the most efficient firm is CF1. According to the results of Analysis I and Analysis II, the efficiency rates of the businesses show similarity in some years. The firm CF12 has all efficient results except for the year 2013. In 2014, according to Analysis I, it is seen that 11 firms are full effective. In 2010, according to Analysis II, 9 firms reached full efficiency.

6. Conclusion

In today's competitive conditions, for the businesses to be able to survive and compete with the other businesses, providing efficient distribution of the resources, their obtaining maximum output has a great importance. Setting out from here, the concept efficiency is a point that is necessary to be evaluated from both sectors and businesses.

Construction sector, one of the main sectors in growing of economies, has a driving force, because that construction sector is stimulated also leads many sectors to enlarge together with it. Due to the fact that construction sector is a triggering factor, also in cement sector, one of its sub arms, the concept efficiency gains importance.

In Turkish cement sector, 2 efficiency analyses were carried out on the companies registered in Istanbul Stock Exchange, by leaving the inputs and differentiating the outputs. When the results of efficiency analyses are evaluated, it is seen that only the firm CF1 is full efficient. According to the results taking place in Analysis I, in 2011, 11 businesses reached the level of full efficiency. According to the results in Analysis I, it is seen that the firm CF15 reached full efficiency level in all years except for 2013 and, according to Analysis II, it is seen that it could not provide full efficiency in the years of 2009, 2011, and 2013. When average active rates, and return on equity and sale ratios are evaluated, it is possible to say that the business CF1 is among the best firms. In some years, just as in some years, the efficiency scores in Analysis I and Analysis II of firms intersect, they can also show some differences. It is not possible to say that there is a full relation between the profitability criteria and their efficiency results.

This paper, in terms of the other studies to be carried out, is in guiding position. When it is evaluated, from this point of view, dealing with the different sectors, efficiency analysis can be carried out on the businesses.

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Ecological Innovation by Sustainable Development and Industrialization Policy: Example of EU and Turkey

1.Introduction

World Bank (1993) describes industrial policies as government's efforts to change the structure of industry toward ensuring a growth that driven by productivity.

Industrial policy is considered one of the basic tools for increasing the competitiveness and economic development. Economic crises, environmental impacts and climate change faced today have caused an increase on the interest in pursuit of sustainable and green industrial policies based on efficient use of natural resources.

Green growth based on sustainable use of the resources which cannot be renewed requires green production technologies that uses exhaustable resources more efficiently and emits less greenhouse gases (Rodrik, 2014).

The EU is also, appears to be indifferent to the quest for building competitive industry and innovation paradigm which also contributes to sustainable development at the same time. In this context, ecological innovation draws interest as a form of innovation that reduces environmental impact of growth and industrialization, serves to efficient usage of natural resources, allows bringing long term benefits from products and materials.

In process of becoming a member of EU Turkey seems to begin putting on the agenda the discussions of green growth, clean production, eco-productivity, eco-innovation.

In this study; EU and Turkey's approaches on ecological innovation are examined in the framework of sustainable development and industrialization policy monitoring main texts on the subject.

2. The Concept of Sustainable Development

Either economical crisis or environmental impact of economical and social developments introduced the question of how the industrial behaviour should respond social and environmental problems.

It stands out that sustainability notion was open to discussion with the extend of “sustainable development” in “Our Common Future” report of the United Nations World Comission on Environment and Development ((WCED, 1987).

In the report (p.41), the concept of sustainability was defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”.

Among the components of sustainable development there are;

- Achieving a growth that reduces poverty, just, protects the ecological capital stock and with less usage of energy,
- Meeting basic human needs such as job, food, energy, water and sanitation,
- Achieving a sustainable population level,

- Usage of sustainable energy sources, increasing energy efficiency and reduction of energy consumption,
- Besides updating traditional technologies developing alternative technologies; allowing technologies to produce social goods that increase air quality and product's life cycle, along with the products and process innovations with commercial value (ibid, p.46)

3. Basic characteristics of “2020 Strategy” and EU Industrial Policy

Industrial policy, in short, refers to political decisions that affect the industrial structure. As today's world characterized not only by economical and financial crisis but also by climate change, increasing poverty, food and water scarcity, danger of oil reserves' and natural resources' depletion requires more intensive agenda for developing new approaches to the industrial policy trends and tools.

It is evident from its “2020 strategy” and the action plans and initiatives that EU is not indifferent to the search for a new paradigm of industry and technology. In the main priorities set by «Europe 2020» strategy there is also sustainability included. *The Europe 2020* (EC, 2010) strategy has set 3 main priorities (smart growth, sustainable growth, inclusive growth) and goals in 5 key areas (employment, education, innovation, poverty reduction and climate/energy).

3.1. Smart Growth

In “2020 Strategy”, Smart Growth approach considers knowledge and innovation as a key to the future growth. In this context, the aim is to have innovative ideas to contribute to the economical growth and employment by improving education quality, reinforcing research activities and providing information transfer (ibid, p.9-12)

By “Innovation Union’ initiative, the R&D and innovation policies on the issues such as climate change, efficient use of energy and resources, health and demographic changes are intended to be reviewed (Akbaş & Apar, 2010)

3.2. Sustainable Growth

In the document sustainable growth is defined as an economical growth that is sustainable and competitive with efficient use of energy and resources. This approach of the EU is consistent with the notion of becoming a circular economy which uses resources efficiently, proposes reintegration of the waste materials back into economy by recycling, thus ensures the long-term economic benefits of products and materials (ibid, p.12-16). The European Commission also proposes to turn EU industry toward the low carbon economy and improve the energy efficiency of products through eco-design (EC, Sustainability and...)

3.3 Inclusive Growth

In "Europe 2020" also was underlined the need for industrial policies that enhances the competitiveness by supporting entrepreneurialism and small firms in particular, and trends

toward low carbon economy and emphasized that it requires a close partnership of business world, universities, labor unions, consumer associations and non governmental organizations.

Enhancing the ratio of employment in Europe, creating better jobs for women and youth, making investment toward improving skills and education of individuals of all ages, developing models to increase labor productivity by modernizing the labor market, and fighting poverty were among the goals set with inclusive growth (EC, 2010, p.16-18).

Importance of knowledge, innovation and research performance has been acknowledged for a growth that is smart, sustainable and inclusive which was determined for EU 2020. With the level below 2%, R&D spending of EU is far behind Japan (%3.4) and USA (%2.6). It is being proposed that EU to focus on innovation policies and R&D taking into consideration the danger in the areas such as climate change, energy and resource activities, and health. In order to enable EU's industrial base to become competitive, promote entrepreneurship, and for a green and sustainable growth was aimed to lead a sustainable industrial policy (ibid, p.12)

4. EU's Industrial Policies and New Approaches

Although it is considered the backbone of the European economy, the crisis reduced the share of manufacturing industry in GDP to 15.1%, and since 2008 3.5 million people lost their job in this sector. To reinvigorate the post-crisis economy, modernize its industrial ground, enhance the share and competitiveness of the industry and promote innovation EU has adopted series of policies which are (EC, Industrial Policy...):

- Regulations supporting industry and programs particularly related to SME,
- Competition policy,
- Industrial renaissance.

A. In EU manifest that called "For a European Industrial Renaissance" (EC, 2014) outstanding areas of industrial policy are;

- Creating an integrated single European market,
- Industrial modernization,
- Small and medium sized enterprises and entrepreneurship,
- Internationalization of EU firms.

According to Pelkmans (2006) some industrial policy instruments of EU ;

Table 1: EU-Member States' Industrial Policy Instruments

framework aspects	horizontal industrial policy	sectoral / specific industrial policy
• competition policy • regional / cohesion policies • -better regulation • - state ownership	• research strategies • innovation stimulus - entrepreneurship & risk capital • restructuring funds • competitiveness tests for other policies public procurement	• sectoral interventions • sector policies • trade policy • specific aspects of regional/cohesion policies • technology policies • defense procurement

Source: Jacques Pelkmans, *European Industrial Policy (2006)*, BEEP briefing no 15, July, p.5

B. In “A Stronger European Industry for Growth and Economic Recovery” communication update (EC, 2012) essential aspects were determined as;

- facilitate investments in new technologies and innovation
- improve the market conditions
- take measures to facilitate access to the finance and capital
- increase innovation investments in 6 prioritized areas (advanced manufacturing, key technologies, bio based vehicles, construction policy, smart systems, sustainable industrial policies).

Advanced manufacturing technology is one of the key elements of industrial paradigm. This paradigm suggests that in tomorrow's factories material-saving processes as well as renewable and recyclable materials are to be used. With its 35% share in the world market and over 50% share in patent EU industry is already is a world leader in these Technologies (ibid, p.8).

The approach of “A Stronger European Industry for Growth and Economic Recovery” emphasizes on necessity for supporting Key Enabling Technologies/KETs by ensuring a coordination between the technology policies of member states.

Said enabling key technologies involve micro and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics and advanced manufacturing Technologies (ibid, p.8).

4.1 . Third (Green) Industrial Revolution

It is noticable that EU comission emphasizes on that “a new sustainable social market economy would be smarter, more green one in which prosperity will rely on innovation and more efficient use of resources where the knowledge would be the key input” (GEF, 2010). In this context the argument that passage to third (green) industrial revolution from the first and second industrial revolution is taking place, has become a subject for debate.

According to Janicke and Jacob (2009), industrial mass production on the basis of cheap raw material has already reached its critical boundaries. Transformation of the agricutural based society into an industrial one at the end of 18th century cannot be dissociated from the emergence of the coal as a source of energy. In 1920s this transformation continued with the use of oil and electricity. However the fossil fuels (coal and oil) which played a special role in changing the transportation, production and consumption conditions during the First and Second industrial revolutions have had a distructive impact on environment and climate. Now there are industrial structure and industrial policies that use renewable energies and are eco-efficient and low carbon technologies are brought into agenda. According to Janicke ve Jacob (ibid);

Table 2: From the First to Third Industrial Revolution

	1st Industrial Revolution:	2nd Industrial Revolution:	3nd Industrial Revolution:
Dominant technology and raw material	steam engine, power loom, iron processing	electricity, chemistry, combustion engine, assembly line, synthetic materials	ICT, microelectronics, new materials, renewable raw materials, cleaner technology, biotechnology, recycling.
Dominant energy source	coal	coal, oil, nuclear power	renewable energies, energy efficiency
Transport/ communication	railway, telegraphy	car, airplane, radio, TV	high-speed railway systems, internet, mobile telecommunication
	“bourgeoisie”, freedom of trade, constitutional state	mass production, mass society, parliamentary democracy, welfare state governance	civil society, globalization, global governance
	UK, Belgium, Germany, France	USA, Japan, Germany	EU, USA?, China? Japan?

Source: Janicke Martin and Klaus Jacob (2009), *A Third Industrial Revolution?* Forschungsstelle Für Umweltpolitik, FFU-report 02,Berlin, p.5 Retrieved from http://edocs.fuberlin.de/docs/servlets/MCRFileNodeServlet/FUDOCs_derivate_00000000/1522/FFU_rep_02_2009.pdf?hosts=

4.1.1. Ecological Industrial Policies

It can be suggested that the issue of that conventional industrial policies were focused on narrow dimensions and remained insensitive to ecological problematics whereas the “modern” and “post-modern” industrial policies are not only focusing to production but also taking into consideration all economical sectors adopting a point of view that more general and prudential, is now widely accepted. (GEF, 2010).

Main goals of ecological industrial policies can be sorted as follows:

- Protection and taking other environmental measures against climate change,
- Preparation of industry to scarcity of energy and other sources,
- Adapting the industry to leading technologies,
- Taking initiatives for more efficient technologies,
- Developing alternative solutions for sustainable industrialization (ibid, p.22)

GEF's (Green Europe Foundation) introduces the instruments of ecological industrial policies as follows:

Table 3: Instruments of an ecological industrial policy

Objectives/ instruments	Development of new technologies	Access to markets	Diffusion	Promotion of export
Direct promotion	R&D subsidies	Public procurement	Public procurement	State aid for exports
Economic incentives	Tax deduction for R&D	Provision of venture capital	Internalizing of external costs, e.g. by taxes	Internalizing external costs, e.g. by international agreements
Regulatory framework	Stimulating research cluster e.g. by patent law	Opening of home markets	Opening of home markets	Opening of international markets
Regulation	Technology forcing		Dynamic standards	Development of European and international standards
Information based instruments	Innovation-radar	Obligatory risk assessment for products	Environmental label	Market studies

Source: GEF (2010), *Industrial Policy for Europe: Governing the Green Industrial Revolution, Green*, New Deal Series volume 3, Belgium,p.23

4.1.2 Eco-innovation

The content of the word innovation has enriched over the years. In OECD and EU literature, this notion attained a content that refers to developing improved product/service or marketing and organization method. According to this;

product innovation refers to developing new or improved product or service,

process innovation refers to implementation of new or considerably improved production or distribution methods, and for the purpose, serious hardware and software changes,

marketing innovation refers to implementation of new marketing methods on the issues such as product design, packaging, promotion, pricing, and

organizational innovation refers to developing new work place organization and work methods (OECD, 2005, p.49-51).

Eco-innovation can be seen as a form of novelty that makes contribution to sustainable development by reducing the impact on the environment and ensuring more efficient and productive use of natural resources (EC, 2011).

Innovation Union that constitutes the framework of EU innovation policies has created an action plan which takes the environment into consideration as a dimension of innovation. Eco-innovation policies aim to bring effective solution to environmental problems, enhance Europe's productivity and competitive power on the use of resources.

Some of the problems determined on the issue of eco-innovation are a) inadequate R&D activities on eco-innovation, b) lack of coordination in research programs, c) weak links between R&D and the market, d) insufficient skill level, e) market prices not reflecting the environmental cost adequately, f) insufficiency of the measures that boost demand, g) lack of reliable information on the performance of new environmental technologies. (EC, 2011a, 2011b)).

Eco-innovation is considered critical for Europe's competitive power. Environmentally friendly technologies assumed to create new jobs while reducing the stress on the environment, such as

- Producing renewable energy
- Passive housing or environment friendly construction materials
- Waste processing for reuse (EC, About ETAP...)

Some of prioritized elements of EU Environmental Technologies Action Plan (ETAP):

- To increase private and public spending on R&D in line with EU objective of 3% of GDP
- Via European Technology Platforms (ETPs) to solve the problems and promote specific technologies in areas such as hydrogen and fuel cells, photovoltaic, steel, construction, water supply and sanitation

- To increase buyer's confidence on new environmental technologies establishing a mechanism for testing and approving product performance
- For environmental technologies to extend the financing from the classical credit mechanisms to the venture capital
- To provide economic incentives to promote environmental technologies
- To provide green public procurement,
- To provide education that encourages development of environmentally friendly technologies, and raise awareness ((EC, About ETAP..).

EU comission proposes different instruments for the financing eco innovation. Those are;

- Horizon 2020 (EU Framework Programme for Research and Innovation-2014-2020): nearly €80 billion
- LIFE (EU Funding Instrument for the Environment and Climate Action- 2014-2020): €3.4 billion
- COSME (Programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises-2014-2020): €2.3 billion
- ESIF (European Structural and Investment Funds-2014-2020): €351 billion (EC, Founding Programmes..).

As of 2011, in terms of eco-innovation performance with regards to indications in 5 areas Finland, Sweden and Denmark are the leading countries of Europe. Those indications in general are (Giljum, 2012):

- Eco-innovation inputs: Governments' R&D shares for environment and energy (% of GDP), total R&D personnel, total value of green investment
- Eco-innovation activities: Innovation activities of firms that aims to decrease material input per output and energy input per output
- Eco-innovation outputs: number of patents, number of publications related to eco innovation
- Environmental outcomes: material productivity , water productivity, energy productivity etc.
- Socio-economic outcomes: Export of eco-industrial product, employment, turnover etc. in eco-industries.

5. Aspect of Turkey

When indications of innovation activities in Turkey are examined it is determined that biggest part of ventures in industrial sector (43.2%) are engaged in innovation on organizational and/or marketing fields. The ratio of those who make innovation in product and process is lower (table 4).

Table 4 : Innovative enterprises and types of innovation activities, 2012-2014

Economic activity	Innovative enterprises"	Product innovative enterprises	Process innovative enterprises	Enterprises with on-going innovation activities	Organisation and/or marketing innovative enterprises	Organisation innovative enterprises	Marketing innovative enterprises
General	51,3	22,7	26,8	20,4	41,0	28,5	33,6
Industry	54,2	25,0	31,0	21,8	43,2	28,9	36,8
Manufacturing	54,7	25,7	31,6	22,1	43,8	29,2	37,8
Electricity, gas steam and air conditioning supply	40,5	7,6	15,7	13,8	30,8	26,7	13,7
Water supply; sewerage, waste management and remediation activities	41,7	11,6	15,7	13,8	30,0	26,5	14,2
Service	47,8	19,8	21,6	18,7	38,3	28,0	29,8

Source: TÜİK , *Yenilik İstatistikleri* (innovation statistics), <http://www.tuik.gov.tr/> and TÜİK (2015), *Yenilik Araştırması (Innovation Survey) 2014*, Haber Bülteni, Sayı:18662

From Union scoreboard innovation index indications point of view (Human resources, open, excellent and attractive research systems, finance and support, firm investments, linkages & entrepreneurship , Intellectual assets Innovators, economic effects) in terms of innovation Turkey is a “modest innovator” country. (EC, 2015)

Striving to catch up with the EU, Turkey’s innovation performance in 2014 has reached high 46%, however in terms of innovation indications still under the EU average. Having a high performance only in non-R&D innovation expenditures Turkey, as of 2014 increased its non-R&D innovation expenditures by 43%.(ibid, p.78)

It suggests that the works performed in the eco-innovation field in Turkey proceed primarily in the framework of transposition of the EU acquis.

In Turkey’s Industrial Strategy Paper (2011-2014) implementation of environmental policies are adopted as an important part of industrial strategy (Republic of Turkey, Ministry of Industry and Trade, 2010). In 10th Development Plan (2014-2018) “green growth” notion

gained importance and enhancing competitive power with clean production and eco-productivity appeared possible ([Republic of Turkey](#), Ministry of Development, 2013).

Also in Turkey's Industrial Strategy that covers the period of 2015–2018 raising competitiveness and productivity of Turkish industry products with high added value and advanced technology were produced, as well as emphasize on acceleration of transformation into environmentally and socially sensitive industrial structure was standing out ([Republic of Turkey](#), The Ministry of Science, Industry and Technology, 2015).

Additionally, Entrepreneurship and Innovation Programme of European Union within eco-innovation and EU Eco-innovation Action Plan, there was financial support has been provided since 2008 for the projects which are introduced first time, technically proved but in need for incentives and support to access to the market due to the certain risks.

In Turkey, share of GERD in GDP was 1.01% in 2014. (TÜİK, 2015) and further behind OECD average (%2.4) (OECD, 2015).

According to index (2009-2011) based on applied patents within the scope of Patent Cooperation Treaty (PCT) in environmental technologies Turkey is behind OECD average (0.71) with index value of 0.35 (OECD, 2014).

6. Conclusion

Economic crises and also environmental impact of growth models and climate change have augmented the debate on new growth model. The notions of green growth, ecological industrial policies and innovation have been brought into agenda within the context of sustainable growth paradigm.

Sustainable industrial policies and quest for ecological innovation are standing out in the EU strategy papers as well as in the initiatives taken. Having considerably low level of R&D efforts and patent activities suggests that Turkey embraces the subjects of sustainable industrial policies and ecological innovation with the aspect of adapting to EU process.

However, in EU and Turkey, sustainable development and industrial policy debates are addressed in the framework of main arguments of the market economy. The problematic of how a competitive industrial structure can be compatible with the benefit of future generations and relations of sustainability and dynamics/contradictions of capitalist economy require a deeper institutional debate.

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Increasing Share Of Indirect Taxes In Tax Revenues In Turkey

1. Introduction

The most important source of income for financing public expenditures is taxes. In the course of time, attitude towards taxes has changed and along with their fiscal purposes, non-fiscal purposes of taxes have become important. Governments use tax as a financial tool and interfere with the operation of the economy. By means of taxes, economic growth, employment, resource allocation, and income distribution are interfered. Classification of taxes is important for using the taxes as economic and social tools. Classifying the taxes as direct and indirect is one of the important classification of taxes. Both tax types are different from each other in terms of their qualifications. Effects of direct and indirect taxes on fiscal purposes show differences in terms of their characteristics.

Tax revenue is an important financial resource for almost every country. Tax distributions of countries are effected by economic, social, etc. reasons. Tax distributions show differences for developing and developed countries. Tax systems and revenues of developing countries like Turkey are based on indirect taxes. Share of direct and indirect tax revenues in Turkey has undergone an important change in 1980s. Starting from these years, share of indirect taxes has grown rapidly. This growth has caused negative results along with positive results. Growing share of indirect taxes is one of the most important discussion in public economy. While the share of indirect taxes is considerably high in Turkey, European Union has a low share of indirect taxes. Direct-indirect tax share in European Union is the exact opposite of the situation in Turkey.

2. Direct and Indirect Taxes

Among the public revenues, taxes are the most important source of income. Taxes are emerged with the transition of community living. Tax is defined as "an economic asset in the form of money collected from natural or legal persons by the governments or public institutions authorized by governments mandatorily, unrequited and based on their sovereignty"(Sağbaşı, 2013, p.2).

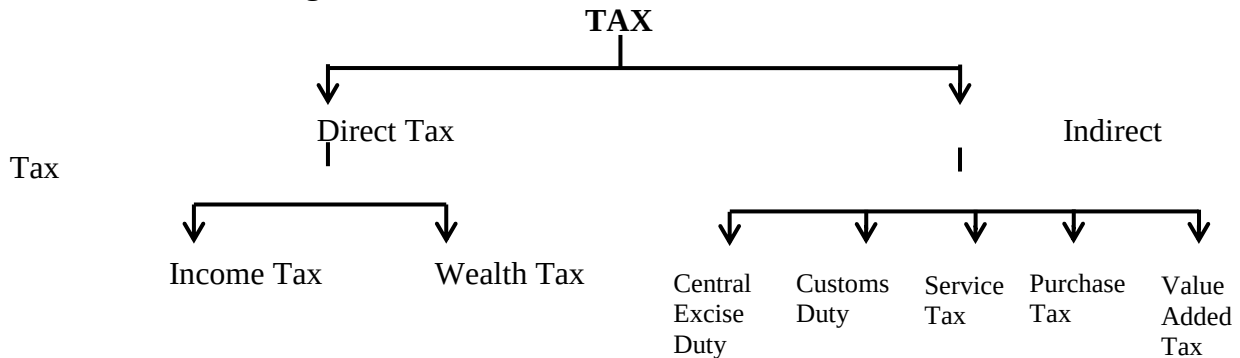
Taxes are classified by taking various criteria into consideration. Classification of taxes enables making generalizations on fiscal, economic, and social effects of taxes (Sağbaşı, 2013, p.12). One of the classification of taxes is classifying as direct and indirect taxes. Direct taxes are defined as the taxes with a continuous object, defined taxpayer and based on continuous tax assessment; and indirect taxes are defined as the taxes with a discontinuous object, undefined taxpayer and not based on continuous tax assessment (Sağbaşı, 2013, p.14). Comparison of direct and indirect taxes in terms of features is shown in Table 1.

Table 1. The Comparison of Direct and Indirect Taxes in Terms of Features

	Direct Taxes	Indirect Taxes
Continuity	✓	
Foreknowledge	✓	
Fairness	✓	
Progression	✓	
Subjectivity	✓	
Tax Incidence		✓
Fiscal Illusion		✓
Proportionality		✓
Objectivity		✓

Source: Sağbaş, 2013, p.15.

Figure 1 shows what kind of taxes are meant with direct and indirect taxes. Income and corporate tax are examples of direct taxes which are directly imposed on taxpayers, taxes such as Value Added Tax (VAT) is an example for indirect taxes. Tax load means taxes imposed on end customer and indirectly paid by taxpayers. In other words, income based taxes are direct taxes and consumption based taxes are indirect taxes (Williams, 2009, p.4). This is the basic characteristic that separates these two types of taxes from each other.

Figure 1. Classification of Direct and Indirect Taxes

Source: Applied Direct Taxation, 2012, p.2.

Selection between direct and indirect taxes is one of the oldest subjects in tax policies. This subject has a political importance and emerges theoretical questions (Cremer, Pestieau & Rocket, 2001, p.781). Most of the earlier discussions were about the ambiguity in the definitions of direct and indirect taxes. The difference between the two taxes was primarily based on "incidence". Indirect taxes are easier in terms of tax incidence. According to the approach suggested by Atkinson (1977), the main difference between direct and indirect tax is that the direct taxes can be adjusted to the personal circumstances of the taxpayers, yet indirect taxes are collected over operations no matter what the circumstances of the buyer and seller are (Cremer, Pestieau & Rocket, 2001, p.781-782).

3. Indirect Taxes And Their Economic Effects

3.1. Main Features of Indirect Taxes

Taxes collected based on consumption are called indirect taxes. In the contrary of income tax, taxes based on consumption are flat rate, however some taxes are regressive (Özdemir, 2009, p.13-14). Indirect taxes are regressive taxes based on the income of an individual. Therefore, consumption taxes create regressive tax load or digressive tax load, in other words. Regressive tax load causes tax inequality. As the income of an individual increases, the imposed tax load decreases. This situation causes tax inequality between high income and low income groups (Sağbaşı, 2013, p.130). Indirect taxes are shiftable as of their structure. According to the elasticity of supply and demand, taxes are imposed on the final firm or consumer by the taxpayers by means of price mechanism (Şener, 2014, p.223). It is possible to summarize indirect taxes by pointing out their positive and negative features with their advantages and disadvantages as shown in the table below.

Table 2. Advantages and Disadvantages of Indirect Taxes

INDIRECT TAXES	
Features	Advantages
➤ Indirect taxes are generally included in the price of a product or a service.	➤ Since this creates fiscal illusion, they are appropriate for the psychology of taxpayers.
➤ Indirect taxes are simple to apply, therefore they are easy to manage.	➤ Because of that, the cost of tax compliance is low.
➤ These taxes do not force the political boundaries of the tax.	➤ Thus, the politicians like to apply these taxes.
➤ Indirect taxes are easy to shift.	➤ Hence, they do not have much effect on investment decisions.
Features	Disadvantages
➤ Indirect taxes are collected over operations.	➤ Thus, they are impersonal, objective and do not take purchasing power of individuals into account.
➤ Indirect taxes are regressive compared to the income of individuals.	➤ Because of this reason, they create tax inequality. As the income increases, the tax load decreases.
➤ Indirect taxes are applied to everyone with the same rate regardless of the income of individuals.	➤ Therefore, tax inequality with consumer goods without demand elasticity is more apparent.

Source: Sağbaşı, 2013, p.128-131 (The table is prepared by us based on the information in the related source).

3.2. Economic Effects of Indirect Taxes

During all time and in almost all societies, taxes have one fundamental purpose. It is to finance public expenditures. Yet, beginning from 1930s, with interventionist government order started to become dominant, providing macroeconomic stability, diminishing equality in income distribution, and macroeconomic objectives in growth and development have become some of the priorities of taxation and tax policy, in addition to the fundamental purpose (Şen & Sağbaşı, 2016, p.381). Thereby, taxes started to become effective on economic operations,

decisions, and preferences. Taxes effect the living standards of different groups of society in various ways. Effects of direct and indirect taxes on living standards of individuals is a fairly important subject in public economy (Aasness, Benedictow & Hüssein, 2002, p.4). States started become more interested in consumption based taxes such as consumption tax and VAT, in order to finance the lately ever-increasing public expenditures. Based on this, an increase has been observed in indirect taxes in the last ten years. Separating the tax revenue as direct and indirect taxes creates significant results in terms of income distribution and economic growth (Özdemir, 2009, p.9).

Taxes are financing instruments used in growth and development. Economic structure of developing countries effect the tax system significantly. Economic development process changes the direct-indirect tax combination in the tax system. During the first stage of development, indirect taxes has a higher rate. In this case, taxes collected from consumption gains a great importance. The state can use the taxes as a funding tool for financing the growth and development as well as encouraging the private sector investments (Şen & Sağbaş, 2016, p.381-382). In terms of international trade and competitive capacity, reducing the direct taxes and increasing the indirect taxes, using the VAT increase in particular, can develop the competitive power of a country. Because, the prepaid VAT will be refunded in exportation and the VAT will be imposed to importation. As a result, this will increase export and decrease import, consequently economic growth and employment will be increased. In the last decade, countries with the higher rate of indirect taxes are in tendency to grow rapidly (Özdemir, 2009, p.17-18). Indirect taxes also have a role that effects relative price structure in economy, reduces consumption, and encourage investment. For instance, indirect taxes based on consumption increase the price of related products, therefore reduces the consumption and causes shifts in demand. This reduces the expenses made to this kind of products and enables the resources to be used in investment expenditures (Şen & Sağbaş, 2016, p.391).

Regulations in the tax policy such as if the ability to pay is taken into consideration or not, tax rate, if the taxes are direct or indirect and tax shifting possibilities effect another objective of the fiscal policy which is redistribution of the income (Yüce, 2002, p.13). Because of the shift in indirect taxes, the tax is imposed on the taxpayers with low income and income distribution corrupts in real terms. Since tax system in developing countries like Turkey is mainly consumption based, as the tax revenue of the state increases, income distribution in the society changes in favor of the high income group. Thus, income distribution diverges from equity (Şener, 2014, p.223). This type of taxes effect the budget of low income group with the products and services to which they are applied and cause the tax load to become more intense on low and fixed income groups (Susam & Oktayer, 2007, p.106). Indirect taxes are real taxes rather than personal taxes. Thus, in the contrary to discount, exemption, and progression in income tax, indirect taxes do not take personal characteristics of the consumers into account. For this reason, indirect taxes are not effective taxes in providing horizontal and vertical equity (Edizdoğan & Çelikkaya, 2010, p.180). Consumption taxes increase a part national income, thus increase capital accumulation and economic growth and income based taxes are more convenient type of tax for reducing the unbalance income distribution between income groups (Watrin & Ullmann, 2008, p.33).

Current tax system of a country can effect the other objectives of fiscal policy which are resource allocation and stabilization in a negative way. The price of a product increases with the applied consumption tax and consumers can switch to alternative product if available. Thus, resource allocation between the two products can unbalance (Şener, 2014, p.223).

4. Tax Revenue in Turkey and The Share of Indirect Taxes

Nowadays, it can be said that tax revenue is undulate especially in developing countries. A lot of economic and social factors are highly effective on tax revenue of countries in a direct or indirect way. Tax revenue that rapidly increase in some periods can be insufficient in fulfilling expectation in another period (Ekici, 2009, p.201). Taxes constitutes an important income source in developing countries like Turkey. Income tax had the biggest share in tax revenue in 1950s, yet this situation has changed beginning from 1980s. With the application of Value-Added Tax (VAT) in 1984 and Special Consumption Tax (SCT) in 2002, within the framework of EU Tax Harmonization, the share of indirect taxes has increased day by day.

Along with the increase of state debts in Turkey, the share of indirect taxes has increased up to 70% and the share of direct taxes has decreased down to 30%. The main reason of this situation is paying for the interests of external debts. The state increases the value added taxes and special consumption taxes in the prices of products and services in order to be able to pay for the interests of external debts. In this way, public finance is mainly provided by indirect taxes (Şener, 2014, p.232). In Table 3, the ratios of tax revenues to GDP between the years 2002 and 2015 are presented. An increase is observed in tax revenue by years and total tax revenue has reached to 465 million by 2015. Tax load is 23.7% by the year of 2015.

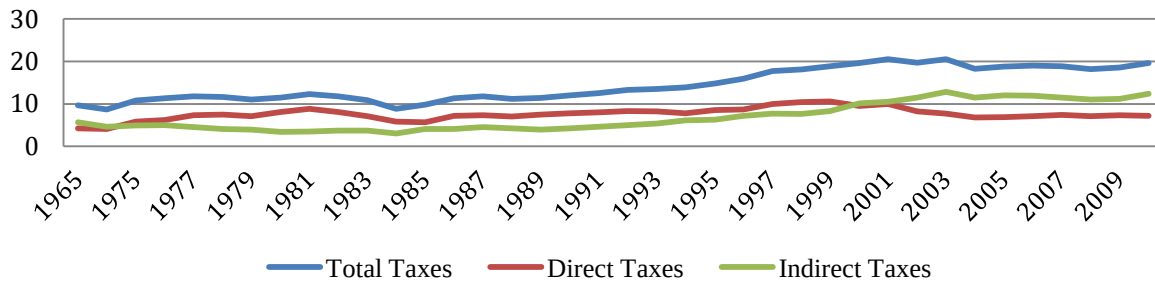
Table 3. General Budget Tax Revenue and Tax Load

Years	GDP	Tax Revenue	Tax Load (%)
2002	350.476.089	65.188.479	18,6
2003	454.780.659	89.893.112	19,8
2004	559.033.026	111.335.368	19,9
2005	648.931.712	131.948.778	20,3
2006	758.390.785	151.271.701	19,9
2007	843.178.421	171.098.466	20,3
2008	950.534.251	189.980.827	20,0
2009	952.558.579	196.313.308	20,6
2010	1.098.799.348	235.714.637	21,5
2011	1.297.713.210	284.490.017	21,9
2012	1.416.798.490	317.218.619	22,4
2013	1.567.289.238	367.517.727	23,4
2014	1.747.362.376	401.683.956	23,0
2015	1.962.637.000	464.886.790	23,7

Source: Revenue Administration, http://www.gib.gov.tr/sites/default/files/fileadmin/user_upload/VI/GBG1.htm, (01.04.2016).

In Graph 1, the variations of tax revenue, and direct and indirect taxes between the years 1965 and 2010 are presented. Total tax revenue has increased by years. The ratio of direct and indirect taxes to GDP has changed over the years. While the ratio of direct taxes to GDP has decreased, the ratio of indirect taxes to GDP has increased significantly.

Graph 1. Total Tax Load in Turkey and the Development of Direct and Indirect Tax (Ratio to GDP)



Source: The Share of Direct and Indirect Taxes in the Turkish Financial System: Political, Social, and Economic Results, 2012, p.45-47.

4.1. The Share of Indirect Taxes in Tax Revenue

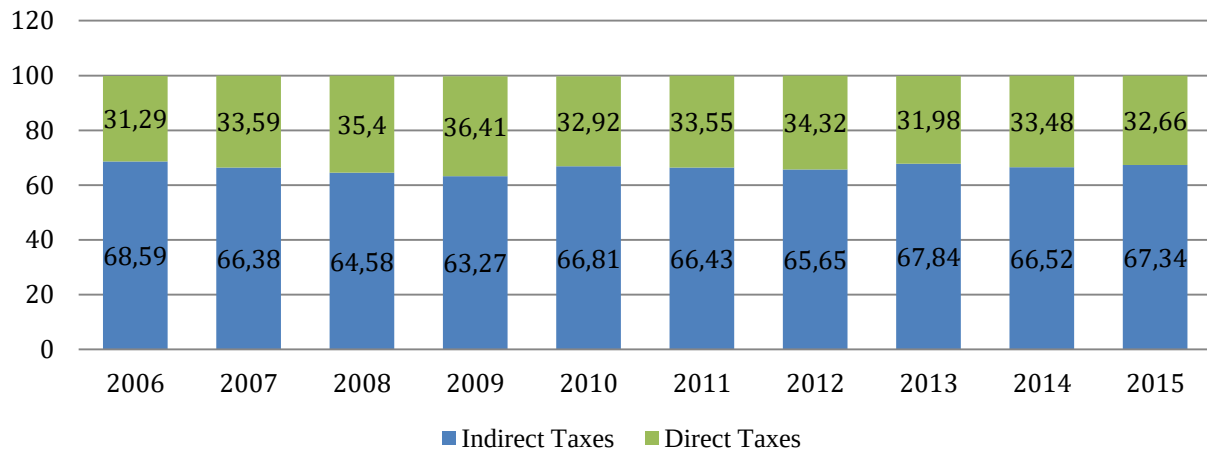
Tax rates are among the most important factors that are effective on tax revenue of the developing countries, in particular. In situations that the most part of tax load is on a limited section of the society, any changes on income tax rate can cause pressure on income tax revenue. This situation can be considered as the reason of decreasing share of direct taxes and increasing share of indirect taxes in tax revenue. Turkey is the leading country that is in this situation (Ekici, 2009, p.210).

Economy of Turkey has a low tax capacity compared to developing countries standards according to the economic size. But, share of indirect taxes are quite high compared to these countries. This high share of indirect taxes reduces welfare by decreasing real incomes of individuals (Soydal & Yılmaz, 2009, p.298-299). Examining the share of direct and indirect taxes in Turkey, a significant change can be observed. Direct taxes were dominant until 1980s, the share of indirect taxes in tax revenue has changed predominantly after 1980s and presented a substantial increase.

In Graph 2, the percentages of direct and indirect taxes in general budget tax revenues between the years 2006 and 2015 can be seen. The share of indirect taxes varies between 66%-69% and the share of direct taxes is around 30%. Based on the graph, the share of indirect taxes in Turkey are quite high and the distribution of direct and indirect taxes are fairly uneven. Desired situation for an ideal taxation system is the exact of the situation present in Turkey. High share of indirect taxes is the main indicator of that the taxation system in Turkey is not fair.

Increasing Share Of Indirect Taxes In Tax Revenues In Turkey

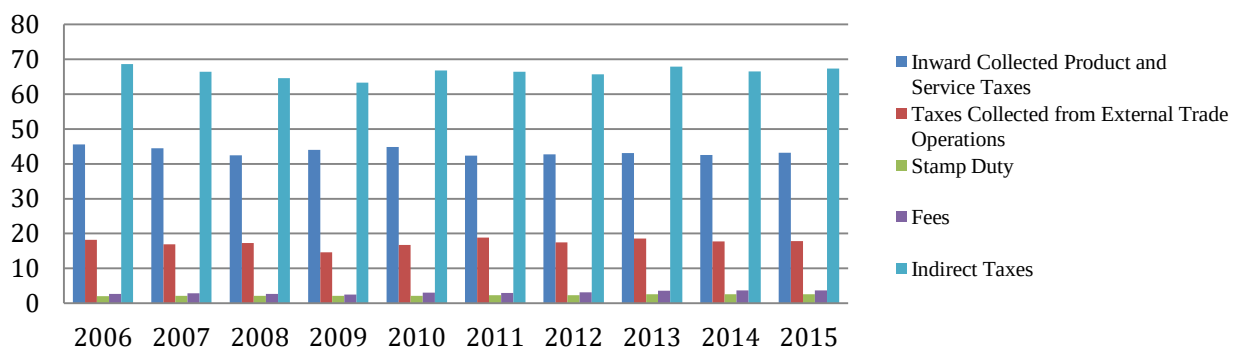
Graph 2. The Share of Direct and Indirect Taxes in General Budget Tax Revenues of Turkey Over the Years(%)



Source: Revenue Administration, http://www.gib.gov.tr/sites/default/files/fileadmin/user_upload/VI/GBG1.htm, (01.04.2016).

In Graph 3, the ratios of indirect taxes to central management tax revenue are presented by their types. The tax type that has the most important income source between indirect taxes is inward collected product and service taxes. In other words, a big part of indirect tax revenue is gained via taxes such as VAT and SCT which are collected over product and service. Taxes collected over products and services constitute around 45% of the 70% share of indirect taxes according to the average of all years. Along with that, taxes collected from external trade operations has an important share of 18% of indirect taxes. The remaining 5% share is composed of stamp duty and fees.

Graph 3. The Ratio of Indirect Taxes to Central Management Tax Revenue



Source: Revenue Administration, http://www.gib.gov.tr/sites/default/files/fileadmin/user_upload/VI/GBG1.htm, (01.04.2016).

4.2. The Share of Indirect Taxes in European Union

Neutralization of the effect of taxation on international trade for member states, creating a single and compatible tax policy for non-EU countries, and creating EU market are among the objectives of the EU (Özdemir, 2009, p.6). EU has been trying to harmonize the taxation systems of member countries in order to create a domestic market, which is one of primary objectives. According to the standard principles of the tax theory, tax load should be on the production factors, which has the minimum mobility, in order to maximize the public

revenues and diminish the factors that can negatively effect the economic growth (Fitzgerald, 2012, p.242).

Table 4. The Ratio of Indirect Taxes to GDP in EU Countries (Excluding the Social Security Contributions)

Countries	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Belgium	13.1	13.3	13.2	13.1	12.9	12.8	13.1	13.1	13.4	13.2
Bulgaria	15.9	16.4	17.0	16.4	17.3	14.9	14.8	14.2	15.2	15.2
Czech Republic	11.0	11.0	10.5	10.7	10.5	11.0	11.3	12.1	12.5	13.0
Denmark	17.3	17.6	17.5	17.7	16.7	16.6	16.5	16.6	16.7	16.9
Germany	10.5	10.5	10.5	10.9	10.9	11.4	10.9	11.1	11.1	11.0
Estonia	12.9	12.8	13.4	13.4	12.1	14.7	13.8	13.7	14.0	13.5
Ireland	12.6	13.1	13.6	13.1	12.0	10.9	11.0	10.4	10.7	11.0
Greece	-	-	12.3	12.7	12.7	11.8	12.6	13.5	13.1	13.4
Spain	12.0	12.4	12.4	11.7	9.8	8.7	10.4	10.1	10.5	11.1
France	15.1	15.3	15.2	15.0	14.8	15.0	14.8	15.2	15.4	15.6
Croatia	18.8	18.5	18.5	18.2	18.0	17.2	18.0	17.5	18.3	18.9
Italy	13.9	14.1	14.7	14.5	13.7	13.6	14.1	14.2	15.2	14.9
Cyprus	15.1	15.3	15.9	17.4	16.7	14.4	14.6	13.9	14.0	13.8
Latvia	11.6	12.4	12.7	12.0	10.6	10.8	11.6	11.7	11.9	12.0
Lithuania	11.2	11.3	11.4	11.7	11.7	11.6	12.0	11.8	11.4	11.3
Luxembourg	13.4	13.6	12.9	13.4	12.5	12.8	12.4	12.4	12.8	13.3
Hungary	16.2	15.6	15.1	16.0	15.8	16.6	17.7	17.5	18.8	18.7
Malta	13.5	14.4	14.5	14.3	14.0	13.5	13.1	13.4	13.1	13.1
Holland	12.1	12.3	12.3	12.2	11.9	11.3	11.6	11.2	11.1	11.5
Austria	14.6	14.4	14.0	13.9	14.0	14.4	14.3	14.4	14.6	14.5
Poland	13.6	14.0	14.3	14.6	14.6	13.0	13.7	13.9	13.1	12.8
Portugal	13.9	14.6	14.9	14.5	14.1	12.7	13.3	14.0	14.0	14.0
Romania	11.7	12.8	12.7	12.5	11.8	10.8	11.9	13.0	13.2	12.8
Slovenia	15.5	15.5	15.0	14.7	14.1	13.7	14.1	14.0	14.4	15.0
Slovakia	12.0	12.4	11.2	11.2	10.6	10.5	10.2	10.7	10.1	10.5

Increasing Share Of Indirect Taxes In Tax Revenues In Turkey

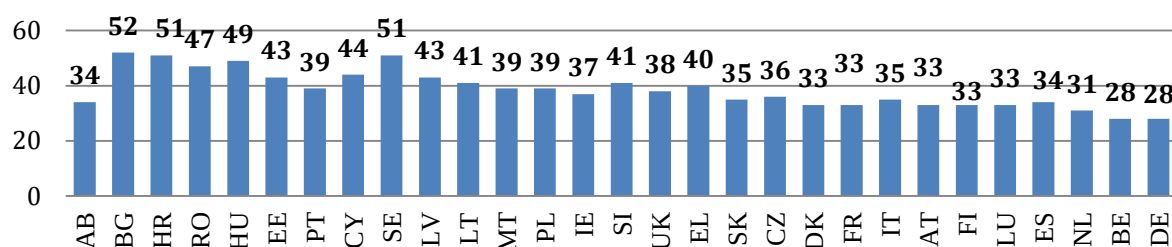
Finland	13.3	13.4	13.3	12.8	12.5	13.0	13.0	13.9	14.2	14.6
Sweden	22.5	22.7	22.2	22.2	22.5	22.8	22.4	22.1	22.3	22.3
England	12.7	12.3	12.2	12.2	11.8	11.3	12.4	12.9	12.9	13.0

Source: Eurostat, 2015.

In Table 4, the ratios of indirect taxes to GDP in EU member states are presented by years. During the examined decade, the ratios of indirect taxes has changed very slightly on the basis of countries. In general, the ratio of indirect taxes in GDP has remained stable. The highest ratios among EU member states belong to Denmark and Sweden. The ratio of indirect taxes to GDP is around 17% in Denmark while it is 22% in Sweden.

The average of the distribution of direct and indirect taxes in EU are in opposite direction of the situation in Turkey. In Graph 4, shares of indirect taxes in tax revenue including social security contributions in EU member states by the year of 2014 are presented. In 2014, the share of indirect taxes in tax revenues in EU is 34%. Among the EU member states, Bulgaria is the country with the highest share of indirect taxes with 52%, and Belgium and Germany are the countries with the lowest share of indirect taxes with 28%. The relation between the development level of EU member states and the difference between the shares of indirect taxes can be clearly observed in the graph. While the share of indirect taxes is around 30% in developed countries, it is around 40%-50% in developing countries. Considering Turkey from this point of view, the country has a considerable higher rate.

Graph 4. The Share of Indirect Taxes in Total Tax Revenues in EU States in 2014 (Including Social Security Contributions)

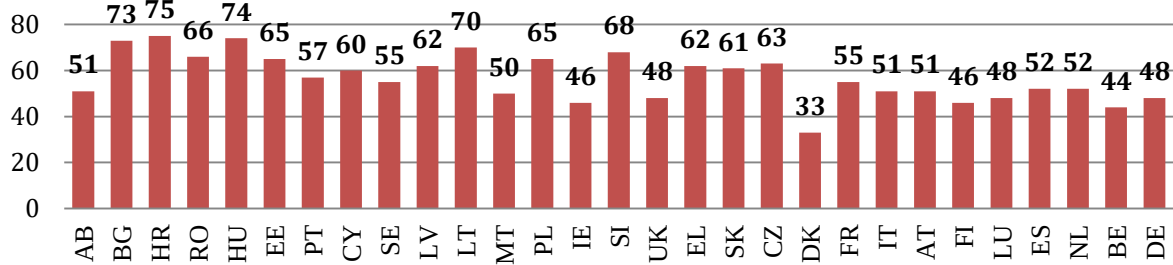


Source: http://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics, (01.05.2016).

In Graph 5, the shares of indirect taxes in tax revenues excluding social security contributions are presented. The share of indirect taxes in EU raises up to 51% when social security contributions are not included. In this case, the share of direct and indirect taxes in EU can be observed as 49%-51%. Considering an ideal taxation system, these proportions are acceptable. Countries like Bulgaria, Croatia, Hungary and Lithuania are the ones with the highest shares of indirect taxes with 70%.

Source: http://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics. (01.05.2016)

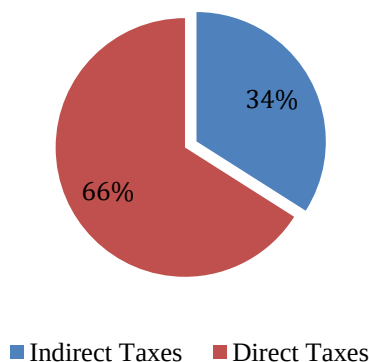
Graph 5: The Share of Indirect Taxes in Total Tax Revenues in EU States in 2014 (Excluding Social Security Contributions)



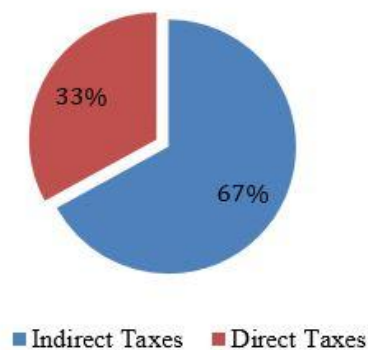
Looking at Graph 6 and Graph 7 together, the difference between the proportions of direct-indirect tax revenues of Turkey and EU can be clearly seen. While the proportion of direct and indirect taxes are 66%-34% in EU, it is 33%-67% in Turkey. The high rate of indirect taxes in Turkey is caused by public financial need and priority fiscal purposes.

Source: http://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics. (01.05.2016)

Graph 6. Direct and Indirect Tax Proportions in EU in 2014



Graph 7. Direct and Indirect Tax Proportions in Turkey in 2014



Source: Revenue Administration, http://www.gib.gov.tr/sites/default/files/fileadmin/user_upload/VI/GBG1.htm, (01.04.2016).

Comparing the shares of indirect taxes in tax revenues in Turkey EU, very different distributions appear. Indirect taxes are generally the biggest income source of developing countries like Turkey. The high rate of indirect taxes in developing countries is associated with economic growth. Since these countries do not have established taxation systems, indirect taxes are preferred (Temiz, 2008, p.2). In developed countries, direct taxes are dominant, yet indirect taxes are dominant in developing countries. One of the main reasons for this difference is about taxation technique, another reason is fiscal purposes depending on the development level of the countries. Taxational purposes can some time conflict with each other and policy makers can give importance to a purpose in some periods while pushing another into the background. In this case, main purpose in developing countries, in other words primary purpose, is growth and development. Since these purposes have been fulfilled in developed countries, the main purpose is to provide equal income distribution (Susam & Oktayer, 2007, p.113). Therefore, taxation policies are made and applied based on these objectives.

5. Conclusion

It is decided that whether a taxation system is ideal or not by looking at the proportion of direct and indirect taxes in tax revenues. Having a high share of indirect taxes in tax revenues is not a desired situation for an ideal taxation system. Direct taxes are dominant in taxation system of developed countries, yet in developing countries indirect taxes are dominant. As the development level of a country increases, the share of indirect taxes is expected to reduce and progression for providing equality in income distribution is anticipated.

Comparing direct and indirect taxes; indirect taxes serve mostly for economic growth but direct taxes serve for equality in income distribution. Increasing share of indirect taxes negatively effect the equality in income distribution. High rate of indirect taxes in developing countries like Turkey is an indicator for departing from equality in income distribution. Compared with European Union Member States, indirect tax rate is quite high in Turkey. In terms of direct and indirect tax distributions, EU and Turkey are in opposite directions. While the share of indirect taxes is between 30%-40% in EU, it is around 70% in Turkey.

Based on this, the distribution of direct and indirect taxes in Turkey should be changed. In order to have a more equal taxation system, these two types of taxes should have equal proportions. Reducing the proportion of indirect taxes in the system can be realized by decreasing tax amount and/or rate along with increasing direct tax share. Also, reducing unrecorded economic activities can increase direct tax revenues. As a candidate country for EU, Turkey should have a proportion in tax revenues suitable for EU standards and reduce the share indirect taxes for an ideal taxation system.

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Effect Of Health Transformation Program On The Out-Of-Pocket Health Expenditure: A Comparative Analysis

1. Introduction

Health expenditures generally include expenditures made to preserve and enhance health (Akar, 2014). There is an increase in health expenditures as a result of the technological advancements of recent years. This increase was greater than the growth rate of countries during the 2008 global crisis period thus resulting on a pressure on the budgets of countries (Yereli, Kobal and Köktaş, 2010). It is important with regard to discussions on sustainability to monitor and analyze health expenditures and policies regularly in this period of transformation in the health sector in Turkey (Memiş, 2012).

Primary reasons of the increase in health expenditures include structural and global scale reasons such as the aging of the population, technological advancements, increased expectations of the public and patients in addition to periodical reasons such as the financing model, expansion of the scope of health insurance, low share of protective health services, service presentation and the change of doctor payment models which are specific to the health environment in Turkey and which have come about as a result of the Health Transformation Program (HTP) that has been applied since the year 2003 along with the social security reform that has been in effect simultaneously (H. H. Yıldırım, T. Yıldırım and Erdem, 2011). The financing of the increasing health expenditures is met by the resources of the public and private sectors (Aydemir and Baylan, 2015). It is also observed that out-of-pocket health expenditure of households provide a significant source of financing for the private sector. Since the financial load brought about on the households and individuals as a result of their use of healthcare services affect their health status, the level and structure of such expenditures have to be analyzed properly (Bayram, Tatar, Karabulut, Oğuzhan and Çınaroğlu, 2014).

Even though studies in literature that examine the relationship between health expenditures and especially economic growth (Hayaloğlu and Bal (2015), Aydemir and Baylan (2015), Tıraşoğlu and Yıldırım (2012), Yumuşak and Yıldırım (2009), Akar (2014), Selim, Uysal and Eryiğit (2014) et al.) along with studies that examine the factors that affect the total health expenditures (Korkmaz and Yılmaztürk (2011), Çalışkan (2009), et al.) attract attention, it has also been observed that the number of empirical studies carried out on out-of-pocket health expenditures is limited. The objective of this study was to analyze and compare the factors that determine the out-of-pocket health expenditures of households which make up a significant source of financing for the periods before and after HTP thus contributing to the relevant literature.

2. Quantile Regression Model

Quantile regression is a model suggested by Koenker and Bassett (1978). Its basic logic is the modelling of the conditional quantiles as a function of the independent variables. (Akar, 2013) Whereas the traditional regression model tries to explain the changes in the conditional average of the dependent variable, the conditional quantile regression explains the changes in the quantiles. (Akar, 2013, Koenker and Hallock, 2001). θ th regression quantile, $0 < \theta < 1$, is defined as any solution to the minimization problem: (Koenker and Bassett, 1978)

$$\min_{b \in R^K} \left[\sum_{t \in \{t: y_t \geq x_t b\}} \theta |y_t - x_t b| + \sum_{t \in \{t: y_t < x_t b\}} (1 - \theta) |y_t - x_t b| \right]$$

3. Econometric Analysis

3.1. Data, Variables and Descriptive Statistics

In this study, data of the Household Budget Survey carried out by the Turkish Statistical Institute (TSI) in 2002 and 2012 were used to examine the factors that affect out-of-pocket health expenditures of households in Turkey before and after the HTP via OLS and Quantile regression model. The dependent variable used in the models is household health expenditures whereas the independent variables are the age of the household head, education level, marital status, gender, place of residence, the shape of house warming, ownership of the residence, size of the household, income of the household head, status of the household head at his/her job and the type of the residence. Model results have been given in Table 1 and Table 2.

3.2 The Findings

According to the OLS results for 2002 and 2012; the health expenditures of those in the age groups of 18-29, 30-44 and 45-59 are smaller in comparison with the health expenditures of the individuals aged 60 and above. When the quantile regression results are considered, it was observed that whereas the health expenditures of the individuals in the other age groups were smaller in comparison with the health expenditures of the individuals aged 60 and above in 2002, they increased in the 75th and 90th quantile. Whereas health expenditures in 2012 had a fluctuating course for the aforementioned age groups.

Whereas the coefficients of the education variable were determined to be statistically insignificant in both the OLS and quantile regression results in 2002, it was find out that those university graduates made greater health expenditures in 2012 and that the health expenditures increased even further especially at the increasing values of the quantile. It was determined in 2002 that similar to education; marital status also did not have a statistically significant effect on health expenditures. Whereas it has been find out by the OLS and quantile regression results in 2012 that the health expenditures of those who are married was greater and that this was apparent especially in the 75th quantile. It was determined as a result of the OLS regression in 2002 that the health expenditures of males were greater in comparison with those of the females, but that this had a fluctuating course in quantile regression. When the year 2012 is considered, it was observed that the OLS and Quantile regression results find out that the health expenditures of males were lower in comparison with those of the females.

When the shape of house warming is examined, it was observed that the health expenditures of individuals who use central heating, residential independent boiler-combi boiler was greater in comparison with those who use heating stove in 2002 and 2012 and that the health expenditures of individuals who use residential independent boiler-combi boiler continued to increase further in comparison with the health expenditures of those who use heating stoves especially in the year 2012.

When the effects of the place of residence on health expenditures were examined, it was observed as a result of the OLS and Quantile regression that the health expenditures of those who live in cities were lower in comparison with those who live in rural areas in 2002 and that these expenditures continued to decrease especially at the increasing values of the

quantile. Whereas it was observed in 2012 that the place of residence did not have any statistically significant effect on health expenditures.

Whereas the effects of the ownership of the residence on health expenditures were not determined to be statistically significant in 2002 according to the OLS and quantile regression results, it was determined that the health expenditures of homeowners and other were greater in the 10th and 90th quantiles in comparison with renters and that it had a statistically significant effect.

When the effects of household size on health expenditures were analyzed, it was determined according to the OLS regression results in 2002 that the health expenditures were lower only for households with 4 and 5 people in comparison with those of 1 and 2 people. Whereas it was found out as a result of the quantile regression that the health expenditures of households with 4 and 5 people along with those with more than 5 people were smaller in the 10th quantile in comparison with households 1 or two people.

When the household incomes were examined, it was observed that health expenditures increased with increasing income in both 2002 and 2012 and that households with an income of over 25.000 continued to make more health expenditures at increasing rates in comparison with households with an income of below 10.000 especially in 2002.

The effect of the status of the household at work was determined to be statistically insignificant in 2002 for both regressions, whereas it was observed in 2012 that the health expenditures of wage earners and daily workers continued to decrease in comparison with those of unemployed especially in the 75th and 90th quantiles.

Whereas the effect of the type of residence on health expenditures was not determined to be statistically significant in 2002, it was observed in 2012 Quantile Regression that the health expenditures of those who live in duplex and loft apartment were greater at fluctuating rates in comparison with the health expenditures of those who live in detached house and that similarly, OLS estimation results supported this.

4. Conclusion

The issue of financing for healthcare services for a quality and sustainable healthcare system in Turkey is among the most important issues that should be considered. Important changes have occurred in the healthcare policies related with the financing of health expenditures in 2003 with the HTP. In this study that examines the experienced changes with regard to the out-of-pocket health expenditures which are used in healthcare financing, household budget survey data for the year 2002 and 2012 carried out by the Turkish Statistical Institute were used to obtain OLS Method estimation and the Quantile regression models for Turkey and the analyses results were evaluated comparatively. It was determined that the age, education level, marital status, gender of the household head, place of residence, shape of house warming of the residence, ownership of the residence, size of the household, income of the household head, employment status of the household head and the type of the household were effective on out-of-pocket health expenditures of households. It was observed that especially the income of the household head had greater impact proportionally on out-of-pocket health expenditures in 2002 in comparison with the year 2012.

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Effect of Health Transformation Program on the Out-of-Pocket Health Expenditure

Table 1: OLS and Quantile Regression Model Results of the Health Expenditure in Turkey in 2002

	OLS			QuantileRegression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.
Age groups																		
18-29	-0.214	-1.880	0.060***	-0.422	-1.780	0.075***	-0.346	-2.210	0.027*	-0.296	-1.700	0.088***	-0.138	-0.800	0.421	-0.012	-0.070	0.942
30-44	-0.113	-1.320	0.186	-0.325	-1.800	0.072***	-0.226	-1.930	0.054***	-0.152	-1.160	0.244	-0.019	-0.140	0.885	-0.079	-0.650	0.519
45-59	-0.044	-0.570	0.572	-0.244	-1.460	0.145	-0.154	-1.440	0.151	-0.085	-0.710	0.479	-0.132	-1.110	0.267	-0.081	-0.720	0.473
Education level																		
Not completed school	-0.030	-0.270	0.789	-0.150	-0.660	0.510	-0.052	-0.340	0.731	0.001	0.010	0.994	0.096	0.570	0.566	0.030	0.190	0.847
Elementary school	0.058	0.630	0.528	0.014	0.070	0.943	0.040	0.310	0.753	0.086	0.620	0.537	0.163	1.200	0.232	0.047	0.370	0.709
Secondary school	0.056	0.500	0.619	0.037	0.160	0.876	-0.008	-0.050	0.957	0.153	0.890	0.373	0.125	0.750	0.454	-0.108	-0.680	0.495

	OLS			QuantileRegression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coef .	t value	Prob.	Coef .	t value	Prob.	Coef .	t value	Prob.	Coef .	t value	Prob.	Coef .	t value	Prob.
High school	-0.055	-0.530	0.599	-0.317	-1.470	0.141	-0.138	-0.960	0.336	-0.004	-0.020	0.982	0.013	0.080	0.934	0.071	0.500	0.619
Marital Status																		
Single	-0.232	-1.150	0.252	-0.119	-0.290	0.768	-0.264	-0.930	0.355	-0.302	-0.980	0.327	-0.284	-0.950	0.344	-0.310	-1.100	0.271
Divorced, separated, widowed	-0.044	-0.320	0.750	-0.240	-0.980	0.325	-0.138	-0.730	0.466	0.006	0.030	0.976	0.096	0.480	0.630	0.014	0.070	0.944
Gender																		
Male	0.056	0.410	0.684	0.082	0.330	0.744	0.013	0.070	0.943	0.037	0.180	0.858	0.047	0.240	0.811	0.195	1.020	0.309
The shape of house warming																		
Joint or central heating	0.159	1.750	0.080***	0.286	1.510	0.131	0.290	2.330	0.020**	0.145	1.050	0.295	0.158	1.170	0.241	0.045	0.350	0.727

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	OLS			QuantileRegression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.
Boiler-combi boiler	0.314	3.160	0.002*	0.478	2.370	0.018*	0.281	2.060	0.040*	0.306	2.020	0.044*	0.282	1.910	0.057**	0.225	1.630	0.103
Other	0.483	1.850	0.065**	0.755	1.370	0.170	0.645	1.860	0.062**	0.643	1.630	0.104	0.415	1.080	0.282	0.046	0.140	0.888
Place of the residential																		
Urban	-0.326	-4.370	0.000*	-0.551	-3.520	0.000*	-0.303	-2.970	0.003*	-0.310	-2.720	0.007*	-0.314	-2.830	0.005*	-0.150	-1.470	0.142
Ownership of house																		
House owner	-0.009	-0.150	0.883	-0.082	-0.620	0.534	-0.044	-0.520	0.606	0.033	0.350	0.727	-0.036	-0.390	0.695	-0.028	-0.320	0.746
Digandother	0.114	1.160	0.247	-0.079	-0.380	0.701	0.199	1.480	0.139	0.224	1.490	0.136	0.129	0.880	0.377	0.042	0.310	0.760

	OLS			Quantile Regression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.	Coef.	t value	Prob.
Household size																		
3	-0.005	-0.060	0.955	0.031	0.180	0.857	0.101	0.880	0.377	-0.050	-0.390	0.694	-0.036	-0.290	0.772	-0.019	-0.160	0.872
4-5	-0.170	-2.330	0.020*	-0.310	-2.030	0.042*	-0.134	-1.330	0.183	-0.133	-1.200	0.232	-0.136	-1.260	0.209	-0.073	-0.710	0.476
5	-0.112	-1.330	0.184	-0.473	-2.700	0.007*	-0.104	-0.900	0.367	0.011	0.080	0.933	0.036	0.290	0.775	0.041	0.350	0.730
Income groups																		
10000-15000	0.471	6.520	0.000*	0.540	3.650	0.000*	0.530	5.360	0.000*	0.568	5.160	0.000*	0.569	5.310	0.000*	0.259	2.530	0.011**
15001-20000	0.796	7.710	0.000*	0.895	4.170	0.000*	0.654	4.650	0.000*	0.824	5.230	0.000*	0.837	5.460	0.000*	0.971	7.000	0.000*
20001-25000	0.968	6.090	0.000*	0.922	2.810	0.005*	0.909	4.170	0.000*	1.131	4.670	0.000*	0.897	3.770	0.000*	0.615	2.810	0.005*
25000 +	1.247	9.880	0.000*	0.964	3.670	0.000*	0.884	5.090	0.000*	1.477	7.670	0.000*	1.376	7.330	0.000*	1.310	7.340	0.000*

[illegible]

	OLS			QuantileRegression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coef .	t valu e	Prob.	Coef .	t valu e	Prob.	Coef .	t valu e	Prob.	Coef .	t valu e	Prob.	Coef .	t valu e	Prob.
Cook-Weisberg test $\chi^2(1)$																		

Note: *, ** and *** denotethesignificance at 1%, 5% and 10% respectively.

Effect of Health Transformation Program on the Out-of-Pocket Health Expenditure

Table 2: OLS and Quantile Regression Model Results of the Health Expenditure in Turkey in 2012

	OLS			Quantile Regression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.
Age groups																		
18-29	-0.012	-0.140	0.892	0.026	0.200	0.841	0.202	1.770	0.077**	0.101	0.930	0.354	-0.124	-1.030	0.302	-0.085	-0.540	0.587
30-44	-0.015	-0.240	0.808	0.029	0.310	0.757	0.165	2.060	0.040*	-0.003	-0.040	0.967	-0.072	-0.890	0.372	-0.064	-0.610	0.540
45-59	-0.155	-2.870	0.004*	-0.104	-1.350	0.177	-0.080	-1.210	0.227	-0.153	-2.430	0.015**	-0.140	-2.060	0.040*	-0.177	-2.060	0.039*
Education level																		
Not completed school	-0.452	-5.560	0.000*	-0.190	-1.560	0.119	-0.262	-2.500	0.012*	-0.438	-4.360	0.000*	-0.557	-5.100	0.000*	-0.733	-5.160	0.000*
Elementary school	-0.546	-9.020	0.000*	-0.480	-5.510	0.000*	-0.405	-5.370	0.000*	-0.558	-7.790	0.000*	-0.624	-8.040	0.000*	-0.583	-5.840	0.000*
Secondary school	-0.447	-6.310	0.000*	-0.327	-3.190	0.001*	-0.411	-4.570	0.000*	-0.457	-5.310	0.000*	-0.541	-5.780	0.000*	-0.487	-4.040	0.000*
High school	-0.385	-6.290	0.000*	-0.33	-3.85	0.000*	-0.30	-4.010	0.000*	-0.40	-5.600	0.000*	-0.46	-5.840	0.000*	-0.44	-4.340	0.000*

[illegible]

	OLS			QuantileRegression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.
10000-15000	0.074	1.050	0.294	-0.057	-0.510	0.613	-0.056	-0.570	0.566	0.151	1.600	0.109	0.166	1.620	0.105	0.107	0.820	0.413
15001-20000	0.220	3.080	0.002*	0.126	1.110	0.265	0.184	1.860	0.062**	0.249	2.630	0.009*	0.290	2.810	0.005*	0.224	1.700	0.089**
20001-25000	0.274	3.680	0.000*	0.318	2.690	0.007*	0.178	1.730	0.083**	0.280	2.850	0.004*	0.361	3.360	0.001*	0.329	2.400	0.016*
25000 +	0.501	7.010	0.000*	0.302	2.690	0.007*	0.324	3.310	0.001*	0.574	6.170	0.000*	0.652	6.430	0.000*	0.614	4.750	0.000*
Employment status																		
Wage earner, daily worker	-0.044	-0.870	0.384	0.072	0.950	0.344	0.042	0.630	0.531	-0.029	-0.470	0.637	-0.129	-1.960	0.050*	-0.253	-3.030	0.002*
Employer and self employed	0.006	0.110	0.909	-0.001	-0.020	0.985	-0.078	-1.180	0.238	-0.046	-0.740	0.457	0.053	0.780	0.434	0.013	0.150	0.878
Type of house																		
Basement	-0.007	-0.080	0.932	0.017	0.150	0.879	-0.086	-0.890	0.376	-0.099	-1.050	0.292	0.039	0.380	0.701	0.061	0.460	0.642
Apartment	0.043	0.880	0.380	0.051	0.730	0.465	-0.012	-0.200	0.841	0.053	0.900	0.368	0.108	1.660	0.097**	0.087	1.010	0.311

Effect of Health Transformation Program on the Out-of-Pocket Health Expenditure

	OLS			QuantileRegression Model														
				0.1			0.25			0.5			0.75			0.9		
	Coef.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.	Coe f.	t value	Prob.
Duplex and loft apartment	0.356	2.600	0.009*	0.381	1.920	0.054**	0.466	2.750	0.006*	0.378	2.340	0.019**	0.570	3.300	0.001*	0.298	1.370	0.171
Constant	3.408	26.770	0.000*	1.709	9.320	0.000*	2.304	13.880	0.000*	3.217	20.100	0.000*	4.359	25.380	0.000*	5.130	23.070	0.000*
Breusch-Pagan / Cook-Weisberg test $\chi^2(1)$	33.040		0.000															

Note: *, ** and *** denote significance at 1%, 5% and 10% respectively.

The Analysis Of Turkey's Hazelnut Exportation With A Quantitative Approach

1. Introduction

Hazelnut, having a considerable importance in Turkey's economy, along with being grown in 5 continents in the world, is grown the most in Northern Anatolian region since it has the convenient ecological characteristics (Sayılı, 1995). It is being grown in nearly all the cities with a shore to the Black Sea (Anonymous, 2013a). The hazelnuts being grown in Turkey fall under 3 groups as round, pointed and almond hazelnuts by means of fruit shape and features. Hazelnut, though not being so selective in soil requirements, shows a good growing progress in humid, mild climatic zones and loamy, humic and deep soils which are rich in nutrients. Hazelnut fruit is consumed as fruit but also widely used in pastry, halva making, confectionery and especially in chocolate industry (Anonymous, 2014).

There are many factors (biological, physiological and geographical) affecting the crop in hazelnut growing. For this reason, the hazelnut production in both Turkey and the world seems to demonstrate changes (Sayılı & Esengün, 1999). The world hazelnut production amount rose to 914 gross tons in 2012 while it was around 749 gross tons in 1992. Turkey, holding an important place in world hazelnut production, comes as first with its 72% share. Italy comes second with 9.3%, being followed by USA with 3.2%, Azerbaijan with 3.2% and Georgia with 2.7% share (FAO, 2012).

In Turkey, along with the last five years' average hazelnut production amount being 548 gross tons, the highest production in the last 15 years was in 2008 with 801 gross tons. In Turkey, 660 gross tons of hazelnut was produced in 2012 and this outcome was even more regressed to 412 gross tons in 2014 (FAO, 2012; TÜİK, 2015).

Hazelnut, generally produced in Black Sea Region, is grown in 33 cities according to the Farmer Registration System in Turkey. But, almost all of the tradable production is carried out in Ordu, Samsun, Giresun, Düzce, Sakarya, Trabzon, Bartın, Artvin, Kocaeli, Zonguldak, Sinop, Kastamonu, Rize and Gümüşhane cities. According to the 2013 data of TÜİK, hazelnut growing is done in 702 thousand hectares area (TÜİK, 2015).

According to the 2014 data of TÜİK, Ordu city comes as first in hazelnut production with 84874 tons. Ordu is followed by Sakarya (84865 tons), Samsun (65011 tons), Düzce (56306 tons) and Trabzon (31065 tons) (TÜİK, 2015).

According to the 2012 data of FAO, the total amount of shelled hazelnut exportation in the world is 210 gross tons. Turkey performs 69.52% of it. The other important exporters are Italy, Azerbaijan, Georgia, Spain and the USA (FAO, 2012).

In Turkey's hazelnut exportation, according to the 2013 data, Germany comes first with 23%, while Italy comes second with 19%. The other important markets are France (11%), Austria (4%), Switzerland (3.5%), Canada (3.4%), Poland (3.3%), Belgium (3.1%) and Netherlands (3%) (Anonymous, 2013b).

Hazelnut, as having a very important place for the agricultural sector and being one of the traditional export products, provides a substantial amount of foreign currency entry. There is a need for quantitative studies on the subject.

There are a few quantitative studies made in this field in Turkey. Yavuz et al. (2004), formed the sector's econometric model and made a survey study to present suitable alternative solutions to bring solutions to hazelnut sector's problems, leaning towards the sector's situation, problems and inclinations. In the research, most of the variables are found to be statistically important in 1% importance level in explaining the equality. In the model formed for Turkey's hazelnut exportation by Oğuz & Kan (2004); world almond production amount,

world hazelnut kernel exportation price, almond-hazelnut world price parity, Turkey GNP per capita, Turkey exportation fund and a dummy variable were used. All of the variables used (except the dummy) were found to be statistically meaningful in the model. Aktaş et al. (2011) In the research they made in the Black Sea Region (Sakarya, Düzce, Samsun, Ordu, Giresun and Trabzon), the contingent translogue profit limit model formed the profit deactivation in hazelnut agriculture and in the model, they specified the business firm's normalized profit as an independent variable while they specified the business firm's total labour cost, normalized other expenses total, total hazelnut area, hazelnut trees' average age and the business firm's total hazelnut facilities as dependent variables. Bozoğlu (2001), made the econometric analysis of the productivity in the first two cities in hazelnut production, Ordu and Giresun, and stated that there is a need to reduce the number of facilities per hectare, rejuvenate the old hazelnut yards and prefer the suitable plantation areas to increase the productivity. Also, he stated that the usage of fertilizers and medicines should be just in the accurate and enough amount and only when needed and the maintenance activities should be carried out in time.

In the study made by Yavuz & Birinci (1996), it is stated that the hazelnut surplus supply, which is a big problem, might be solved by expanding the foreign market and increasing the domestic consumption according to the mathematical model results.

In this research, it is aimed to predict the econometric models in which different variables were used for Turkey's hazelnut exportation (hazelnut exportation model, hazelnut supply model and hazelnut demand model).

2. Materials and Methods

The data used in the model are the 21 year time sequence that involves 1992-2012 years. In the model; hazelnut production, hazelnut planted areas, hazelnut exportation, domestic hazelnut consumption, hazelnut stocks, hazelnut market prices (the previous year prices are taken), income per consumer, hazelnut consumer price, hazelnut and almond world prices are used as data. Only for the hazelnut and almond price parity the world prices were used, for all the others Turkey data was used. A part of this data was used directly right after being obtained from Provincial Directorates of Food, Agriculture and Livestock, Black Sea Exporters' Association, Universities, FAO, TÜİK, Research Institutes and web pages related to hazelnut and another part of it was used after being derived from the existing data.

In this study, Cobb-Douglas type function was used, which is widely accepted as the most prominent type of function by means of being suitable with agricultural production's properties and used in many previous agricultural researches (Erkus et al., 1996; Sayılı, 2001; Gözener & Sayılı, 2015; Karagölge, 1973; Zoral, 1975; Karkacier, 1991). Cobb-Douglas type function is in exponential template, which can be converted into linear form by logarithmic conversion (Karkacier, 2001):

$$Y = a \times x_i^{b_i} \quad \text{or} \quad (1)$$

$$\log Y = \log a + b_i \times \log x_i \quad (2)$$

By the regression analysis, the partial regression and the determination coefficient that belongs to the model are calculated and it had been determined, tested and interpreted if there was an autocorrelation.

Hazelnut exportation (HEA), supply (HSA) and demand (HDA) functions and the variables in these functions are depicted in Table 1, 2 and 3.

The acquired equations related to the function are as follows:

$$HEA = \alpha_1 + \beta_1 HWP + \beta_2 YBS + \beta_3 HPA + \beta_4 DCA + \beta_5 AEA + \beta_6 APA \quad (3)$$

$$HSA = \alpha_1 + \beta_1 HMP + \beta_2 WHP + \beta_3 HPA \quad (4)$$

$$HDA = \alpha_1 + \beta_1 AHP + \beta_2 HPA + \beta_3 WP + \beta_4 GNP + \beta_5 HCP \quad (5)$$

Table 1. The variables used in the regression analysis for the hazelnuts exports and descriptions of their

DEPENDENT VARIABLE		INDEPENDENT VARIABLES	
Y = HEA	Total hazelnut exportation amount (tons)	HWP	Hazelnut world price (\$ 100 kg ⁻¹)
		YBS	Year beginning shelled nut stock (tons)
		HPA	Turkey hazelnut production amount (tons)
		DCA	Determined domestic hazelnut consumption amount (tons)
		AEA	Almond exportation amount (tons)
		APA	Almond production amount (tons)

Table 2. The variables used in the regression analysis for the hazelnuts supply and descriptions of their

DEPENDENT VARIABLE		INDEPENDENT VARIABLES	
Y = HSA	Hazelnut supply amount (tons)	HMP	Hazelnut market price, t-1, (TL kg ⁻¹), 1987=100
		WHP	Walnut-hazelnut price parity, t-1, (%)
		HPA	Hazelnut plantation areas (ha)

Table 3. The variables used in the regression analysis for the hazelnuts domestic demand and descriptions of their

DEPENDENT VARIABLE		INDEPENDENT VARIABLES	
Y = HD.	Hazelnut demand amount (tons)	AHP	Almond-hazelnut consumer price parity (%)
		HPA	Shelled nut production amount (tons)
		WP	Walnut price (TL kg ⁻¹), 1987=100
		GNP	GNP per capita (thousand TLs), 1987=100
		HCP	Hazelnut consumer price (TL kg ⁻¹), 1987=100

The second (fourth equalization) and the third (fifth equalization) model above, is originally the first model's (third equalization) expansions.

The models in this study, are formed by three equations which represent the sector's different categories and elements:

- First equation (third equalization) is the hazelnut exportation model where the hazelnut world price, year beginning hazelnut stock, hazelnut production amount, domestic hazelnut kernel consumption amount, almond exportation amount and almond production amount were explained.

- Second equation (fourth equalization) is the hazelnut supply model where hazelnut market price, walnut-hazelnut price parity were explained by the hazelnut plantation areas.
- Third equation (fifth equalization) is the hazelnut demand model which was explained by almond-hazelnut consumer price parity, shelled hazelnut production amount, walnut price, GNP per capita and hazelnut consumer price.

The amount of production and consumption becomes evident as an important factor in the change in hazelnut exportation amount. For this reason, it is convenient to predict it with the supply and demand equations.

3. Findings and Discussion

Turkey's hazelnut exportation econometric model is basically composed of hazelnut supply, hazelnut domestic demand and hazelnut exportation equations. A supply model which was based on the fact of 1% level of being statistically meaningful of some of the independent variables used in the hazelnut exportation model and a demand model which explains the consumption were formed.

The determination coefficient or the explanatoriness ratios in the hazelnut sector econometric model which is composed of hazelnut supply, hazelnut demand and hazelnut exportation equations (R^2 variables) vary between 0.482 and 0.979. In the study made by Yavuz et al. (2004); the model which was composed of market price, plantation area, supply, demand, exportation and stock equations explain the sector splendidly with a R^2 value of 0.998. The R^2 values in the model vary between 0.602 and 0.915 and most of the variables were found to be statistically important with 1% importance level by means of explaining the equation.

The first equation formed in this research, Turkey Hazelnut Exportation Model (HEA) is as follows:

$$\text{HEA} = 1.04 - \text{HWP}^{0.0933} - \text{YBS}^{0.0260} + \text{HPA}^{2.53} - \text{DCA}^{1.70} + \text{AEA}^{0.0336} - \text{APA}^{0.108}$$

$$\text{HEA} = 1.04 - 0.0933 \text{ HWP} - 0.0260 \text{ YBS} + 2.53 \text{ HPA} - 1.70 \text{ DCA} + 0.0336 \text{ AEA} - 0.108 \text{ APA}$$

The definitive statistics for the hazelnut exportation model are given in Table 4.

Table 4. Descriptive statistics for the hazelnuts exports models

VARIABLES		Mean	Std.Dvtio n	Maximu m	Minimu m
Y = HEA		5.1533	0.0114	5.2675	5.0497
HW P	Hazelnut World Price (\$ 100 kg ⁻¹)	3.2664	0.0373	3.5081	3.0062
YBS	Year beginning shelled nut stock (tons)	5.1831	0.0791	5.7202	4.1761
HPA	Shelled nut production amount (tons)	5.7082	0.0210	5.9035	5.4843
DC A	Determined domestic hazelnut kernel consumption amount (tons)	5.5598	0.0297	5.8236	5.2071
AEA	Almond exportation amount (tons)	4.6654	0.0200	4.9045	4.5185
APA	Almond production amount (tons)	2.8220	0.1610	4.2940	1.6630

In the regression analysis, the determination coefficient (R^2) was calculated as 0.883 (Table 5). This result shows that the ranging in independent variables in the equation can explain 88.3% of the ranging in dependent variable in the equation. The function's corrected

determination coefficient (R^2 -adj) was calculated as 0.832 and the standard error was calculated as 0.0213281.

Table 5. Elasticities of production factors in the hazelnuts export function and importance of production

INDEPENDENT VARIABLES		Regression Coefficients (b_i)	Regression Coefficients' Std. Dvition	t- Calculation Value	Importance Level (P)
Constant term (a)		1.0413	0.8105	1.28	0.220
HWP	Hazelnut World Price (\$ 100 kg ⁻¹)	-0.09326	0.05215	-1.79	0.095
YBS	Year beginning shelled nut stock (tons)	-0.02597	0.01531	-1.70	0.112
HPA	Shelled nut production amount (tons)	2.5281	0.3070	8.24	0.000
DCA	Determined domestic hazelnut kernel consumption amount (tons)	-1.7036	0.2218	-7.68	0.000
AEA	Almond exportation amount (tons)	0.03365	0.01721	1.96	0.071
APA	Almond production amount (tons)	-0.1078	0.1019	-1.06	0.308
S = 0.0213281		$R^2 = 0.883$	R^2 (adj) = 0.832		

By the nature of Cobb-Douglas type production functions, the coefficients of the variables in the function supplies the marginal production elasticity of the production factor they belong to. The sum of the marginal elasticity also specifies the yield in the scale (Zoral, 1984). In the estimated HEA Model, the sum of the production elasticities is 0.63112. This means there would be a 0.63% alteration in production amount against the 1% alteration in production factors amount. This situation demonstrates the decreasing returns to scale.

When the correlation matrix belonging to the function was examined, the positively and strong relation between the DCA and HPA variables was noticed (Table 6).

Table 6. Correlation matrix for the variables for the hazelnuts exports models

	HWP	YBS	HPA	DCA	APA
YBS	0.066				
HPA	0.362	0.110			
DCA	0.383	0.125	0.984		
AEA	0.562	0.368	0.265	0.253	
APA	0.749	0.332	0.241	0.221	0.844

Autocorrelation problem usually seems to appear more frequently in researches built upon time series. For this reason, the possible existence of autocorrelation problem was firstly researched with respect to the Durbin-Watson statistic. Durbin-Watson statistic belonging to the equation (d)=2.26, n=21, k=6, in 5% importance level dl=0.732 and du=2.124.

$$4 - du \leq d \leq 4 - dl = 4 - 2.124 \leq 2.26 \leq 4 - 0.732 = 1.876 \leq 2.26 \leq 3.268$$

When the calculation value and the critical table values are compared; the irresolute region is observed according to the $du < d < dl$. In this case, Von-Neumann test was relied upon to see if there was an autocorrelation problem.

$$n' = n - k = 21 - 6 = 15$$

$$v = d \cdot (n' / n' - 1) = 2.26 \cdot (15 / 14) = 2.26 \cdot 1.071 = 2.421$$

Critical table values; $v = 0.988$ and $v^* = 3.2977$, Von-Neumann value (v) being 2.26, no autocorrelation problem was found in 1% level.

The marginal production elasticities of the production factors in the exportation function can be explained as below:

HWP (Hazelnut world price): The sign of this production factor's coefficient is negative. Statistically, it was found to be sufficient to explain the exportation amount. By the 1% increase in hazelnut world price (with the condition of the other production factors staying the same) there would be a 0.0933 unit decrease in hazelnut exportation amount.

YBS (Turkey year beginning shelled nut stock): This was not interpreted since this production factor's partial regression coefficient was not found to be meaningful.

HPA (Hazelnut production): The sign of this production factor's coefficient is positive. Statistically, it was found to be important by means of explaining the exportation amount. With the condition of the other production factors staying the same, by the 1% increase in shelled hazelnut production there would be a 2.53% increase in exportation amount.

DCA (Determined domestic hazelnut consumption): The sign of this production factor's coefficient is negative. Statistically, it was found to be important by means of explaining the exportation amount. With the condition of the other production factors staying the same, by the 1% increase in domestic hazelnut kernel consumption there would be a 1.70% decrease in hazelnut exportation amount.

AEA (Almond exportation amount): The sign of this production factor's coefficient is positive. Statistically, it was found to be important by means of explaining the exportation amount. With the condition of the other production factors staying the same, by the 1% increase in almond exportation amount there would be a 0.0336 unit increase in hazelnut exportation amount.

APA (Almond production amount): This was not interpreted since this production factor's partial regression coefficient was not found to be meaningful.

The Hazelnut Supply Model (HSA) formed as the second equation in the study is as follows:

$$HSA = 2.17 + HMP^{0.0964} + WHP^{0.635} + HPA^{0.531}$$

$$HSA = 2.17 + 0.0964 HMP + 0.635 WHP + 0.531 HPA$$

The definitive statistics for the hazelnut supply model are given in the Table 7.

Table 7. Descriptive statistics for the hazelnuts supply models

VARIABLES		Mean	Std.Dv tion	Maximu m	Minimu m
Y = HSA		5.7082	0.0210	5.9035	5.4843
HM P	Hazelnut market price, t-1, (TL kg ⁻¹), 1987=100	0.0280	0.1340	0.7310	-1.3360
WH P	Walnut-hazelnut price parity, t-1, (%)	-0.1006	0.0234	0.1072	-0.2896
HPA	Hazelnut plantation areas (ha)	6.7764	0.0113	6.8963	6.7135

In the regression analysis, the determination coefficient (R^2) was calculated as 0.48200 (Table 8). This result shows that the ranging in independent variables in the equation can explain 48.2% of the ranging in dependent variable in the equation. The function's corrected determination coefficient (R^2 -adj) was calculated as 0.390 and the standard error was calculated as 0.0750323.

Table 8. Elasticities of production factors in the hazelnuts supply function and importance of production

INDEPENDENT VARIABLES		Regression Coefficients (b _i)	Regression Coefficients' Std. Dv'tion	t- Calculation Value	Importance Level (P)
Constant term (a)		2.171	3.007	0.72	0.480
HMP	Hazelnut market price, t-1, (TL/kg), 1987=100	0.09643	0.04107	2.35	0.031
WHP	Walnut-hazelnut price parity, t-1, (%)	0.6347	0.1972	3.22	0.005
HPA	Hazelnut plantation areas (ha)	0.5311	0.4441	1.20	0.248
S = 0.0750323		R ² = 0.482	R ² (adj)= 0.390		

The production elasticities sum in the estimated hazelnut supply model is 1.26223. This result demonstrates increasing returns to scale.

The possible existence of multiple correlation in the function was determined by checking the correlation and there was not a correlation found between variables (Table 9).

Table 9. Correlation matrix for the variables for the hazelnuts supply models

	HMP	WHP
WHP	-0,602	
HPA	0,676	-0,481

When the autocorrelation problem for the equation related to hazelnut supply amount was examined;

$d = 2.56$, $n = 21$, $k = 3$, in 5% importance level $dl = 1.026$ and $du = 1.669$.

$4 - du \leq d \leq 4 - dl = 4 - 1.669 \leq 2.56 \leq 4 - 1.026 = 2.331 \leq 2.56 \leq 2.974$, $d = 2.56$

The calculation value appears to be in the irresolute region. In this case, Von-Neumann test was relied upon to see if there was an autocorrelation problem.

$n' = n - k = 21 - 3 = 17$

$v = d * (n' / n' - 1) = 2.56 * (17/16) = 2.56 * 1.062 = 2.72$

Critical tabble values, $v = 1.0352$, $v^* = 3.2148$

Since the Von-Neumann value was 2.56, there was no autocorrelation problem found in %1 level.

The marginal production elasticities of the production factors in the supply function can be explained as below:

HMP (Previous year hazelnut market price): The sign of this production factor's coefficient is positive. Statistically, it was found to be sufficient to explain the production amount. With the condition of the other production factors staying the same, by the 1% increase in hazelnut market price there would be a 0.0964 unit increase in hazelnut production amount.

WHP (Walnut-hazelnut price parity): The sign of this production factor's coefficient is positive. Statistically, it was found to be sufficient to explain the production amount. With the condition of the other production factors staying the same, by the 1% increase in walnut-hazelnut market price there would be a 0.635% increase in hazelnut production amount.

HPA (Hazelnut plantation areas): This was not interpreted since this production factor's partial regression coefficient was not found to be meaningful.

The Hazelnut Demand Model (FTM), formed as the third equation in the study is as follows:

$$\text{FTM} = -2.36 + \text{AHP}^{0.253} + \text{HPA}^{1.31} + \text{WP}^{0.0937} - \text{GNP}^{0.0263} + \text{HCP}^{0.0426}$$

$$\text{FTM} = -2.36 + 0.253 \text{ AHP} + 1.31 \text{ HPA} + 0.0937 \text{ WP} - 0.0263 \text{ GNP} + 0.0426 \text{ HCP}$$

The definitive statistics for the hazelnut demand model are given in the Table 10.

Table 10. Descriptive statistics for the hazelnuts domestic demand models

VARIABLES		Mean	Std.Dvtio n	Maximu m	Minimu m
Y = FTM		5.5598	0.0297	5.8236	5.2071
BFT	Almond-hazelnut consumer price parity (%)	0.0054	0.0186	0.1704	-0.1423
URE	Shelled nut production amount (tons)	5.7082	0.0210	5.9035	5.4843
CFY T	Walnut price (TL kg ⁻¹), 1987=100	3.3705	0.0450	3.6801	3.0902
GEL	GNP per capita (thousand TLs), 1987=100	3.4349	0.0663	4.0216	2.9490
FTF	Hazelnut consumer price (TL kg ⁻¹), 1987=100	5.4290	0.0569	5.9540	5.1074

In the regression analysis, the determination coefficient (R^2) was calculated as 0.979, the corrected determination coefficient (R^2 -adj) was calculated as 0.972 and the standard error was calculated as 0.0226700 (Table 11). This result shows that the ranging in independent variables in the equation can explain 97.9% of the ranging in dependent variable in the equation. The production elasticities sum in the estimated hazelnut supply model is 1.26223. This situation depicts that by the 1% increase in every independent variable in the equation there would be a 1.67% increase in the production amount, which demonstrates increasing returns to scale.

Table 11. Elasticities of production factors in the hazelnuts domestic demand function and importance of production

INDEPENDENT VARIABLES		Regressio n Coefficie nts (b _i)	Regression Coefficients' Std. Dvtion	t- Calculati on Value	Importan ce Level (P)
Constant term (a)		-2.3574	0.3315	-7.11	0.000
BFT	Almond-hazelnut consumer price parity (%)	0.2527	0.0924	2.73	0.015
URE	Shelled nut production amount (tons)	1.3067	0.0689	18.95	0.000
CFY T	Walnut price (TL kg ⁻¹), 1987=100	0.09371	0.0497	1.89	0.079
GEL	GNP per capita (thousand TLs), 1987=100	-0.02629	0.0203	-1.29	0.215
FTF	Hazelnut consumer price (TL kg ⁻¹), 1987=100	0.04260	0.0291	1.46	0.164
S = 0.022670		$R^2 = 0.979$	R^2 (adj) = 0.972		

When the Correlation Matrix in the function was examined, there was no sign of correlation between the variables (Table12).

The Analysis of Turkey's Hazelnut Exportation with a Quantitative Approach

The possible existence of autocorrelation problem related to the demand equation was firstly researched with respect to the Durbin-Watson statistic. Durbin-Watson statistic belonging to the equation (d)=2.16, n=21, k=6, in 5% importance level dl=0.829 and du=1.964.

$$4 - du \leq d \leq 4 - dl = 4 - 1.964 \leq 2.16 \leq 4 - 0.829 = 2.036 \leq 2.16 \leq 3.171$$

Table 12. Correlation matrix for the variables for the hazelnuts domestic demand models

	BFT	URE	CFYT	FTF
URE	0.045			
CFYT	-0.455	0.333		
FTF	-0.192	0.030	-0.447	
GEL	0.009	-0.108	0.335	-0.088

When the calculation value and the critical table values are compared; the irresolute region is observed according to the $du < d < dl$. In this case, Von-Neumann test was relied upon to see if there was an autocorrelation problem.

$$n' = n - k = 21 - 5 = 16$$

$$v = d * (n' / n' - 1) = 2.16 * (16 / 15) = 2.16 * 1.066 = 2.303$$

Critical table values; $v = 1.0124$ and $v^* = 3.2543$, Von-Neumann value (v) being 2.16, no autocorrelation problem was found in 1% level.

The marginal production elasticities of the production factors in the supply function can be explained as below:

AHP (Almond-hazelnut price parity): The sign of this production factor's coefficient is positive. Statistically, it was found to be sufficient to explain the production amount. With the condition of the other production factors staying the same, by the 1% increase in almond-hazelnut price parity there would be a 0.253 unit increase in hazelnut consumption amount.

HPA (Shelled hazelnut production): The sign of this production factor's coefficient is positive. Statistically, it was found to be important to explain the production amount. With the condition of the other production factors staying the same, by the 1% increase in hazelnut production there would be a 1.31% increase in hazelnut consumption amount.

WP (Walnut price): The sign of this production factor's coefficient is positive. Statistically, it was found to be important to explain the production amount. With the condition of the other production factors staying the same, by the 1% increase in walnut price there would be a 0.0937 unit increase in hazelnut consumption amount.

GNP (GNP per capita): This was not interpreted since this production factor's partial regression coefficient was not found to be meaningful.

HCP (Hazelnut consumer price): This was not interpreted since this production factor's partial regression coefficient was not found to be meaningful.

4. Results

Hazelnut, holding an important place in Turkey's economy and being one of the traditional exportation products and still protecting its place as the most important agricultural product of the Black Sea Region, is clearly known to be the livelihood of a wide farmer family population. An important amount of the hazelnut produced in Turkey is exported. There are many factors (world hazelnut price, hazelnut production and consumption, the production and the exportation amounts of the rival products to nut) affecting the hazelnut exportation in a positive or negative manner. The changes in the production and consumption affects the hazelnut price, hence its exportation. In other words, while the increase in hazelnut production amount increases the hazelnut exportation amount, the domestic hazelnut consumption

decreases it. For this reason, the emphasis should be put on the increase of the hazelnut crop (high quality hazelnut).

Turkey performs an important part of its hazelnut exportation to Europe, mostly Germany. For this reason, the hazelnut world price ingenerates in Hamburg (Germany) stock market. So, new markets should be found where Turkey's hazelnut would be sold since the hazelnut production areas and in accordance with that the production amount keeps increasing through the years.

Turkey hazelnut production areas demonstrate an increase with every passing year. The reason to this is, the starting of the production of hazelnut in bottom lands of many regions in Turkey (such as Samsun, Sakarya, Düzce). This situation increases the country's hazelnut production amount (hazelnut supply). At the same time, the highness of the sale price of hazelnut in the previous year pushes the producers towards showing more effort to increase the yield. It also motivates them to take precautions against natural disasters such as having agricultural insurance. So, the producers must be informed to be aware of the market and agricultural developments and act organized.

Since the highness of the price of shelled hazelnut and hence the hazelnut kernel, an important amount of the produced product which has a low consumption rate in the domestic market is exported. The price of rival product to hazelnut, production amount (crop), sale price and GNP per capita affect the hazelnut demand of the country. Especially, in the years when the hazelnut production amount is high, the hazelnut sale price in the domestic market decreases. In the opposite condition, the opposite of this happens. Hence, along with the other factors, the sale price of the hazelnut in domestic market directly affects the consumer demand. On the other hand, hazelnut's domestic sale price ingenerates in the free market depending on many factors (world price, rival product prices, cost, production amount, stock amount, exportation amount). For this reason, measures should be taken to increase the consumers' hazelnut demand (taking the product into supporting extent, cost decreasing precautions).

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Development Of Foreign Direct Investments In Turkey After 2000

I. Introduction

Foreign capital investments can be defined in general as the financial or technical resources that a country will acquire from external sources and add to its economic strength with the provisions to be paid later (Uras, 1979, p.19). Foreign direct investment is the transformation of a capital that is transferred from one country to another into production via investment in that country. Such investments can be in the form of a firm establishing a branch in a foreign country, purchasing a current local company or making joint investments, founding a new subsidiary or capital increase (Özer, 1993, p.125).

Foreign direct investments contribute to the country economy due to many reasons such as its contributions to the increase of fixed capital stock in the country, bringing new technologies and management know-how, establishing new opportunities for labor, developing competition, decreasing balance of payments deficit, providing dynamism to the domestic market or decreasing technical staff and executive vacancies. In addition, foreign investments do not only affect growth and development only in the invested country but also provide various advantages for the investing country (Aydemir, Arslan&Uncu, 2012, p.69-70).

In our study, first of all the concept of foreign direct investment is defined and the fundamental factors that affect foreign investment inflow are expressed. Afterwards, brief information is provided about the latest developments regarding foreign investments in the world as well as the position of Turkey in the foreign direct investments listing; the development of foreign direct investments in Turkey after 2000 is tried to be put forth with its various facets in addition to attracting attention to certain aspects that are thought to have adverse effects on the country economy in the conclusion section.

II. Foreign Direct Investment: Definition and Theoretical Framework

Foreign capital inflow to a country generally occurs in three ways which are: direct investments, portfolio investments, credits and deposits. Foreign direct investments are generally implemented as an investor founding or purchasing a company in another country or by joining the capital of an already existing company for carrying out certain long term commercial activities as well as for controlling the investment and production stages and for earning some profit. Portfolio investment is the purchasing of financial instruments from the monetary and capital markets of another country in order to gain short term interest, dividend and capital earnings. Whereas credit and deposits consist of deposits made by foreigners to the local banks via commercial credits, international bank credits and syndicated credits provided by foreigners. (Karacan,1997, p.96-97).

The basic factors that affect foreign capital inflow to a country can be listed as follows (Karacan, 1997, p.97);

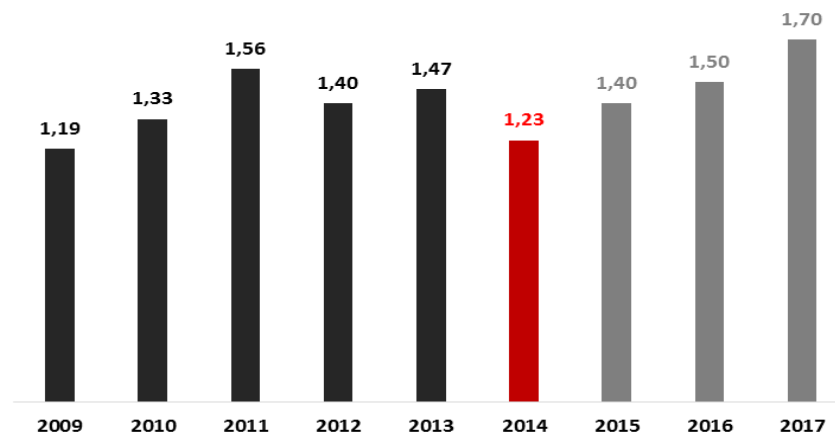
- Economic, social and political stability of a country,
- Supply and demand structure of a market and the size of the market,
- Growth potential of the economy, the level at which the economy is outward-oriented, the level at which the economy is integrated with world markets, whether market economy is applied or not,
- Incentives, warranties and tax system provided by governments,
- Modernity of the justice and legal system,

- Development and effectiveness of financial markets, perspective of the society with regard to foreign capital,
- Investment, consumption and savings tendencies of the country, income and expenditure balance of the public sector, internal-external debt burden,
- Inflation, exchange rates and interest rates, budget deficits and balance of payments,
- The structure of the sector, competition status, development of infrastructural elements such as transportation, communication and energy,
- Status of labor and natural resources etc.

III. Recent Developments in the World Related with Foreign Direct Investments

There is a competition among the world countries for benefiting from foreign capital regardless of economic systems. The reasons for this are benefits provided by foreign direct investments to the economies of countries such as capital, technology, modern technical know-how, administrative skills, marketing and export. These thoughts lead to the spreading out of foreign direct investments to all over the world thus speeding up the competition among the countries for taking their shares from these investments. The following graph shows the development of foreign direct investments in recent years at the global level. According to the 2015 World Investment Report by UNCTAD, foreign direct investments (FDI) that reached 1,47 trillion \$ in 2013 after a 4.6% increase in comparison with the previous year actualized as 1,23 trillion \$ in 2014 following a decrease of 16,4%.

Graph-1: Development of Foreign Direct Investments at the Global Level (2009-2017) (trillion \$)



Source: UNCTAD, World Investment Report 2015, p.21.

Even though possibilities for negative developments due to geopolitical risks and uncertainties related with macroeconomic politics are mentioned in the 2015 World Investment Report prepared by UNCTAD, it is anticipated that FDI inflows will develop in the coming years as a result of the gradual recovery in developed countries, recovery in demand caused by low oil prices, expansionary monetary policies and positive developments related with the investment environment. Thus, it is estimated that global FDI inflows will increase during the next 3 years thus reaching 1,4 trillion \$ in 2015, 1,5 trillion \$ in 2016 and 1,7 trillion \$ in 2017. Other reasons for this expectation related with increase are that the percentage of companies went up from 24% to 32% which plan to increase their FDI operations during the next 3 years as well as the promising number of global purchasing and mergers along with new investment projects according to the multi-national company surveys carried out by UNCTAD (UNCTAD, 2015).

Development of Foreign Direct Investments

Table-1: Global Direct Investment Stock (million \$)

Country	Amount (million \$)	2014 Ranking	2000 Ranking
USA	5.409.884	1	1
Spain	2.134.247	2	10
United Kingdom	1.662.858	3	2
Hong Kong, China	1.549.849	4	3
China	1.085.293	5	8
Singapore	912.355	6	16
Brazil	754.769	7	13
Germany	743.512	8	4
France	729.147	9	9
Switzerland	681.849	10	18
Netherlands	664.442	11	5
Canada	631.316	12	6
Australia	564.608	13	15
Belgium and Luxembourg	525.612	14	7
Russian Federation	378.543	15	28
Italy	373.738	16	12
Ireland	369.168	17	11
Mexico	337.974	18	14
Sweden	321.103	19	17
Indonesia	253.082	20	33
Turkey	168.645	31	42

Source: YASED, *UNCTAD World Investment Report 2015 Launch*, 24 June 2015, Istanbul.

USA has been in the lead during the past decade with regard to foreign direct investment stock. Foreign direct investment stocks of Spain, Brazil, India, China, Russia and Indonesia have increased significantly during the past 14 years. Whereas Turkey was ranked 42 in this list in 2000 with 18.812 million \$; it climbed up to the 31st spot in 2014 with 168.645 million \$ and is now 11 places up. Increase in privatization activities has an important effect on this 11 spot increase of Turkey during the period after 2000. An income of 67.6 billion \$ has been attained until today from the privatization activities that started in 1986. 8.2 billion \$ of this

income was obtained during 1986-2003 whereas the remaining has been obtained from the privatizations that took place intensively after 2004 (http://www.oib.gov.tr/program/uygulamalar/yillara_gore.htm, 2016). Thus, the significant effect of privatization activities on the increase in foreign direct investment stock in Turkey that took place in recent years should be mentioned.

IV. Legal Basis for Foreign Direct Investments in Turkey

The fundamental principles related with foreign direct investments that are carried out in Turkey were first arranged with the Law of Encouragement of Foreign Capital numbered 6224 that first went into effect in 1954. This Law was revised in accordance with the developments in economic life as well as recent international applications and Foreign Direct Investment Law numbered 4875 went into effect on the 17th of June 2003. The Law that resembles a “legal guidebook” gives clear and understandable messages to the investor and that puts forth the rights as well as the obligations that they are subject to was transformed via the Law numbered 6224 into a briefing system for the permission/approval system; thus redefining the fundamental concepts related with investment such as “foreign investor and foreign direct investment” within the framework of international standards. According to article 3/a of the Law numbered 4875; “Unless stipulated by international agreements and other special laws;

1. Foreign investors are free to make foreign direct investments in Turkey,
2. Foreign investors shall be subject to equal treatment with domestic investors.”

The basic aspects of foreign direct investment regime generated in Turkey within this framework comes across as, “Freedom to Invest and National Treatment”. Foreign direct investors operate within equal rights and obligations with local investors excluding limited sectoral limitations (www.ekonomi.gov.tr, 2016).

Whereas the Regulation for Implementation of Foreign Direct Investment Law for the Law numbered 4875 went into effect after being published in the Official Gazette dated August 20, 2003 and numbered 25205. In addition, Bilateral Investment Treaties are signed since the 1960’s with countries that we have intensive investment and commercial relationships or countries with which such a potential is foreseen. Negotiations related with the Bilateral Investment Treaties which was first signed with Germany in 1962 have gained speed starting from 1985. 82 of the agreements that have been signed until today have been approved by The Grand National Assembly of Turkey and went into effect. In recent years, Turkey has signed Bilateral Investment Treaties with European Union countries such as France, Slovenia, Malta, Slovakia and Romania in addition to various other countries such as Afghanistan, Australia, Singapore and Thailand. In addition, Bilateral Investment Treaties have also been signed with Northern Africa and Middle East countries for which our mutual relationships have made positive developments in recent years. Countries such as Lebanon, Syria, Bahrain, United Arab Emirates, Saudi Arabia, and Oman are among the countries in this group (www.ekonomi.gov.tr, 2016).

V. Development of Foreign Direct Investments in Turkey During the Period After 2000

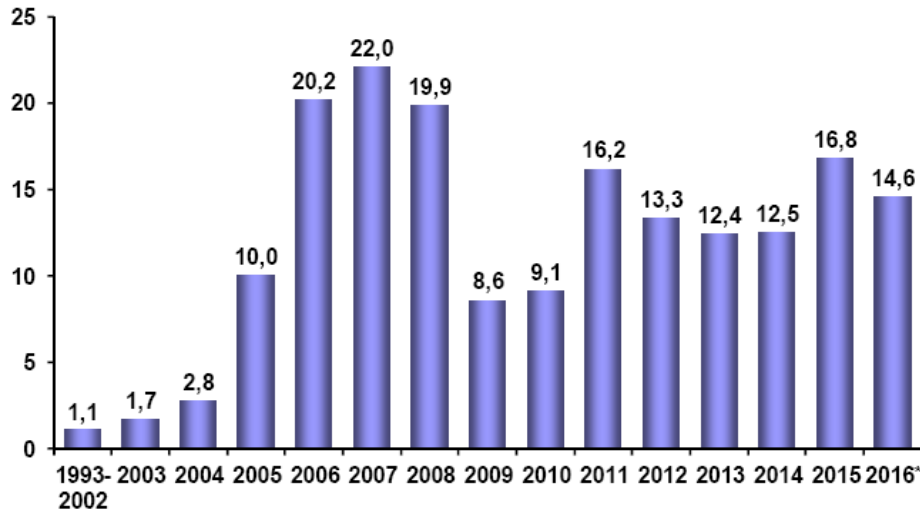
Foreign direct investments have rapidly increased in Turkey especially after 2003. Improvement in economic indicators, starting of the negotiations with EU and the Foreign Direct Investment Law numbered 4875 that went into effect have made Turkey an attractive country for international investors. Turkey broke through the vicious cycle of average annual

Development of Foreign Direct Investments

foreign capital inflow at around 700 million \$ until the 2000's thus increasing foreign direct investment inflow after the 2000's.

When the progress of foreign direct investments (including real estate purchases) in Turkey is examined from the graph below, a fluctuating structure attracts attention. Whereas the weight of foreign direct investments on the economy was at a negligible level until the 2000's, it increased significantly especially after 2004. It decreased again in 2009 and 2010 with the effect of the global crisis after which it started improving again.

Graph-2: Foreign Direct Investment Inflows (billion USD)

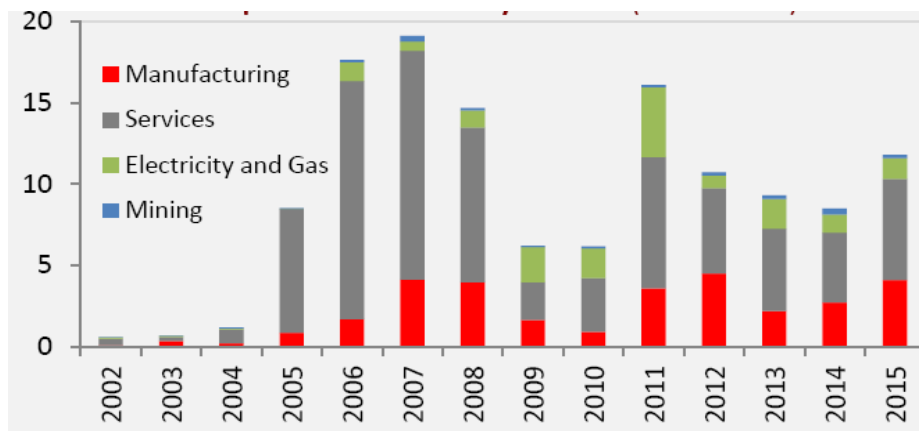


(*)Annualized as of March

Source: Hazine Müsteşarlığı, Ekonomi Sunumu [Turkish Economy Presentation], 2016, www.hazine.gov.tr

When the development of foreign direct investment with regard to different sectors is examined, it can be observed that foreign direct investment inflows have focused especially on the services sector. Whereas it is observed that an average 80 % of the foreign direct investments that gained momentum starting from especially the first half of 2000's focused on the services sector, the share of the services sector decreased starting from 2009.

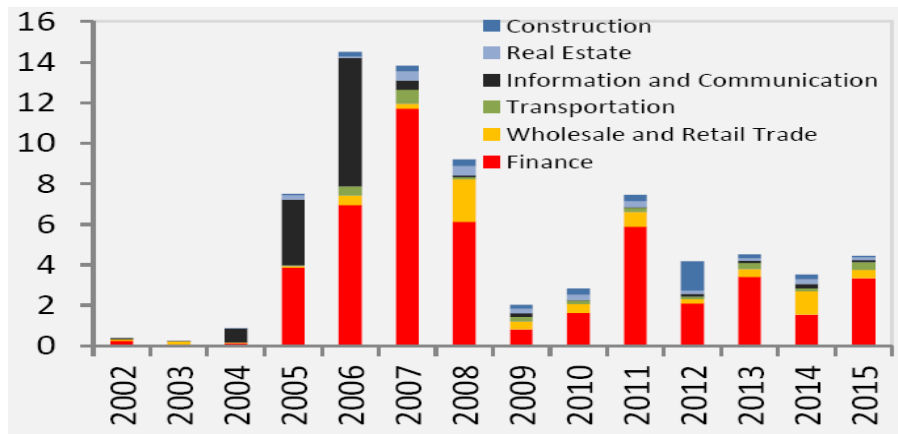
Graph-3: FDI Inflows by Sectors (billion USD)



Source: Central Bank of The Republic of Turkey, Balance of Payments Report 2015-IV, p.21.

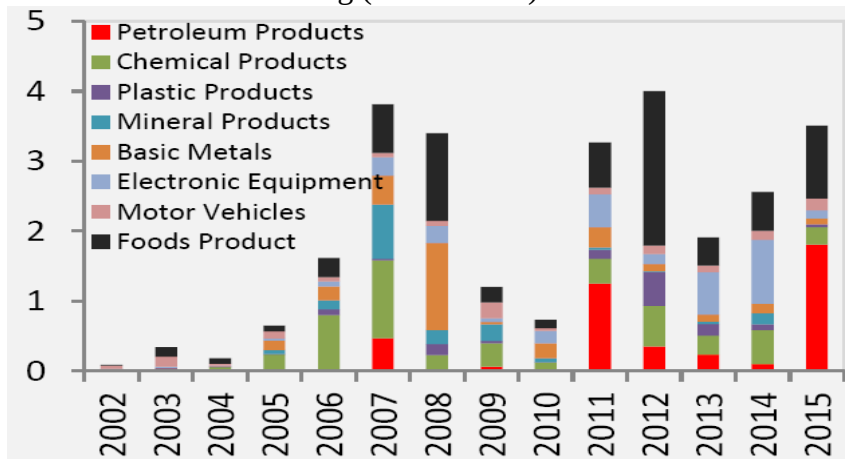
When the service sector is considered with regard to sub-items, the focus on finance sector attracts attention. The fact that there were many bank mergers and purchases following the banking crisis in 2001 was effective in the increase of the share of the finance sector.

Graph-4: FDI Inflows in Services (billion USD)



Source: Central Bank of The Republic of Turkey, Balance of Payments Report 2015-IV, p.21. When the distribution in manufacturing industry is examined more closely, it is observed that there is foreign direct investment inflow to the petroleum products and foods product sectors.

Graph-5: FDI Inflows in Manufacturing (billion USD)



Source: Central Bank of The Republic of Turkey, Balance of Payments Report 2015-IV, p.21. When the distribution is examined for the past decade during which the foreign direct investment inflow was at the highest level (excluding real estate purchases), it is observed that finance and insurance sectors are ranked the highest with 44 billion \$. Sectors that attract the highest FDI after finance-insurance sector are manufacturing sector (26.3 billion \$), energy (electricity, gas, steam and acclimatization manufacturing and distribution) sector (15.6 billion \$), information and communication (telecommunication) sector (10.9 billion \$) and wholesale and retail commerce sector (6.2 billion \$).

Development of Foreign Direct Investments

Table-2: Distribution of Foreign Direct Investment Among Sectors (2005-2014) (million \$)

Sectors	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Manufacturing	865	1.701	4.131	3.972	1.640	924	3.597	4.343	2.207	2.894	26.274
Finance and Insurance	3.856	6.954	11.717	6.136	817	1.621	5.883	2.084	3.415	1.535	44.018
Energy (Electricity, Gas, Steam and Acclimatization Manufacturing and Distribution)	2	1.164	567	1.055	2.153	1.824	4.293	924	2.334	1.322	15.638
Wholesale and Retail Commerce	78	456	234	2.088	389	435	709	221	377	1.165	6.152
Mining and Quarrying	41	123	336	145	89	136	146	213	242	449	1.920
Construction	81	215	287	337	209	310	301	1.427	178	232	3.577
Real Estate	216	79	448	453	210	241	300	173	128	226	2.474
Information and Communication	3.263	6.353	472	97	173	36	36	133	110	211	10.884
Human Health and Social Services	26	71	176	147	105	112	232	546	106	200	1.721
Transportation and Storage	21	453	679	96	230	183	222	130	300	142	2.456
Total	8.535	17.639	19.137	14.748	6.266	6.256	16.137	10.759	9.866	8.708	118.051

Source: Ekonomi Bakanlığı, Uluslararası Doğrudan Yatırımlar 2014 Yılı Raporu, Eylül 2015, p.14.

When foreign direct investments are examined with respect to sector distribution according to years, it is observed that the finance and insurance sector is ranked first in 2005 with 3.856

billion \$ followed by the information and communication sectors with 3.263 million \$. Whereas the manufacturing sector is ranked third with a share of 865 million \$.

Finance and insurance activities were ranked first in 2006 as well with 6.954 million \$ and the information and communication sector came second with 6.353 million \$. The manufacturing sector was ranked third with a foreign direct inflow of 1.701 million \$. Vodafone (Holland)-Telsim agreement, purchasing of Denizbank stocks by Dexia Bank (Belgium), NBG (National Bank of Greece)-Finansbank agreement, purchasing of Türk Telekom stocks by Oger Telecom (United Arab Emirates) within the scope of privatization and Petrol Ofisi-OMV (Austria) agreement were the most important investments of this period.

The sector with the highest inflow in 2007 was again finance and insurance with 11.717 million \$, followed by the manufacturing sector with 4.131 million \$. The purchasing of 20 % of shares of Akbank by Citibank, the purchasing of OYAK Bank by ING Bank were among the most important investments of this year.

The sector with the highest inflow in 2008 was finance and insurance with 6.136 million \$. Manufacturing sector was ranked second with 3.972 million \$; wholesale and retail commerce sector was ranked third with a foreign capital inflow of 2.088 million \$; whereas energy sector was ranked fourth with 1.055 million \$. Finance and insurance sector went into a decline in 2009 due to the effect of the crisis reaching a level of 817 million \$. Energy sector reached a new maximum with 2.153 million \$ in comparison with the previous years, whereas the foreign capital inflow to the manufacturing sector was 1.640 million \$.

Finance and insurance sector recovered slightly in 2010 reaching 1.621 million \$ whereas the energy sector once again became the sector with the highest inflow with 1.824 million \$. 5.883 million \$ of the 16.137 million \$ foreign direct investment inflow that took place in 2011 was due to the finance and insurance sector. Whereas the energy sector was ranked second with 4.293 million \$.

The total foreign direct investment inflow in 2012 was 10.759 million \$ with 4.343 million \$ to the manufacturing industry and 2.084 million \$ to the finance and insurance sectors. Whereas the total foreign direct investment inflow in 2013 was 9.866 million \$ with 3.415 million \$ to the finance and insurance sector and 2.334 million \$ to the energy sector.

The first three sectors in 2014 with respect to foreign direct investments were manufacturing (2.894 million \$), finance and insurance (1.535 million \$) and energy (1.322 million \$) with 66% of the foreign direct investments taking place in these three sectors. Transfers by Panasonic Holding Netherland B.V. to Viko Electrical ve Electronics Company for 496.7 million \$ and by Amgen company to Amgen Drug Inc. for 273 million \$ were among the most important transactions for the manufacturing sector in 2014. The most important transactions that took place in the finance-insurance which was the second sector that attracted the highest FDI after the manufacturing industry in 2014 were the transfer of 335 million USA dollars for the foundation of Rabobank Inc. along with 300 million \$ that was transferred as the founding capital for the Istanbul Headquarters of Intesa Sanpaolo SPA Italy. The most important transactions that took place in the energy sector which was ranked 3rd in 2014 in the listing of sectors that attract the highest FDI were the capital transfer by Zao Rusatom Overseas to Akkuyu Nuclear Company and the 636 million \$ capital transfer by Azerbaijan state oil and gas company Socar (Ekonomi Bakanlığı, 2015).

When we examined the numbers of companies that are currently active in Turkey with foreign capital, it is observed that 41.945 companies and branch offices with foreign capital have been founded as of the end of February 2016 and that foreign capital investment has been made to 6.500 companies with local capital. There are a total of 48.445 companies in Turkey that are active with foreign capital (Ekonomi Bakanlığı, 2016).

Table-3: Number of Companies with Foreign Capital According to Foundation Types in Years

Year	New	Participation	Branch	Total
1954-2010	19.696	4.668	640	25.004
2011	3.608	628	94	4.330
2012	3.605	574	82	4.261
2013	3.482	206	87	3.775
2014	4.415	196	72	4.683
2015	5.095	204	75	5.374
2016/February	983	24	11	1.018
Grand Total	40.884	6.500	1.061	48.445

Source: Ekonomi Bakanlığı-Teşvik Uygulama ve Yabancı Sermaye Genel Müdürlüğü, Uluslararası Doğrudan Yatırım Verileri Bülteni, Nisan 2016, p.7.

48.445 companies with foreign capital are active in primarily wholesale and retail commerce in addition to real estate rental and business activities as well as manufacturing industry sectors. Chemical substance and products manufacturing is ranked first among companies with foreign capital active in the manufacturing industry which is followed by textile products manufacturing along with beverage and tobacco manufacturing. Companies with EU origin partners among the 48.445 companies with foreign capital are ranked first with 20.797. Whereas Germany is ranked first among companies with EU origin partners with 6.555 companies, England comes next (2.921 companies) followed by Holland (2.599 companies) (Ekonomi Bakanlığı, 2016).

VI. Position of Turkey in Foreign Direct Investments

Turkey climbed up 4 spots in 2014 in comparison with 2013 thus becoming the 22nd country among countries that attract the highest amount of foreign direct investment.

Table-4: First Ten Companies Attracting the Highest FDI and Turkey (2012-2014) (billion \$)

2012			2013			2014		
Ranking	Country	FDI	Ranking	Country	FDI	Ranking	Country	FDI
1	USA	169,7	1	USA	230,8	1	China	128,5
2	China	121,1	2	China	123,9	2	Hong Kong	103,3
3	Luxemburg	79,6	3	Hong Kong	74,3	3	USA	92,4
4	Hong Kong	70,2	4	Canada	70,6	4	United Kingdom	72,2

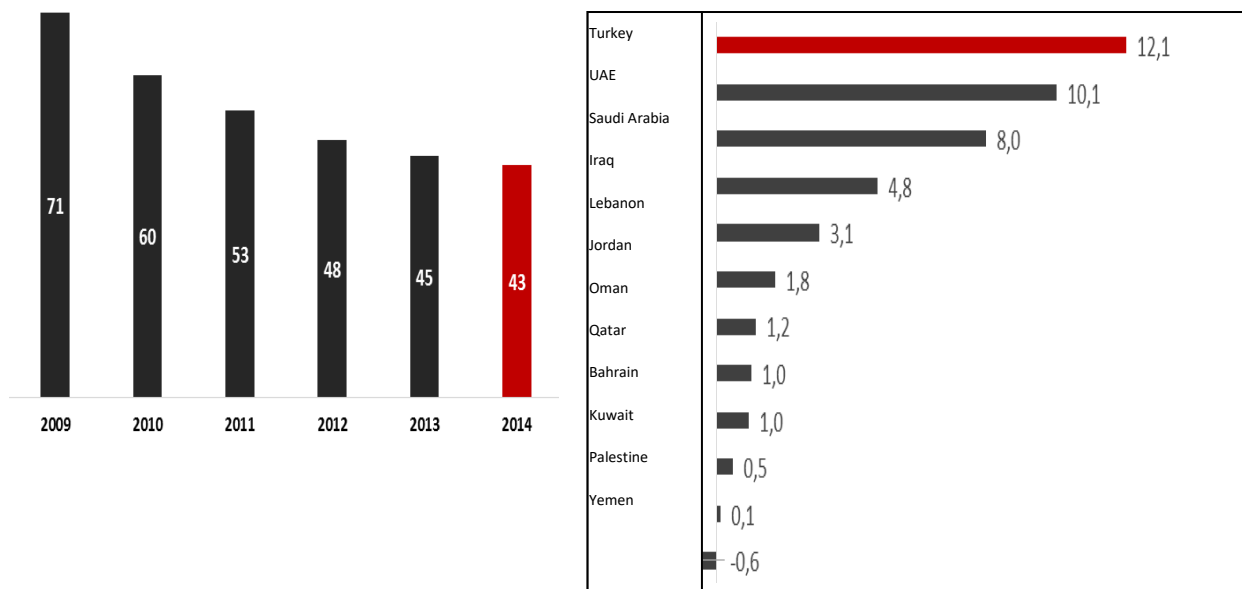
5	Brazil	65,3	5	Russian Federation	69,2	5	Singapore	67,5
6	United Kingdom	59,4	6	Singapore	64,8	6	Brazil	62,5
7	Singapore	56,7	7	Brazil	64,0	7	Canada	53,9
8	Australia	55,8	8	Australia	54,2	8	Australia	51,9
9	Russian Federation	50,6	9	United Kingdom	47,7	9	India	34,4
10	Ireland	45,2	10	Mexico	44,6	10	Netherlands	30,3
27	Turkey	13,2	26	Turkey	12,4	22	Turkey	12,1
	World Total	1.402,9		World Total	1.467,2		World Total	1.228,3

Source: Ekonomi Bakanlığı, Uluslararası Doğrudan Yatırımlar 2014 Yılı Raporu, Eylül 2015, p.4.

The share that Turkey received in 2014 from among the foreign direct investments made globally increased to 0.99 % from its value of 0.84 % in 2013, whereas its share among developing countries reached 1.66 % (it was about 1.60 % in 2013). It is also observed that the share Turkey receives from global FDI inflows reached a consistent level thanks to the breakthrough it made in 2004 and after. In addition, developments in the economies of the 10 countries (Holland, Austria, USA, Germany, England, Luxembourg, Belgium, Greece, France and Spain) that make up 72% of the FDI inflows that Turkey attracts also have direct effects on the investments directed to Turkey. (Ministry of Economics, 2015)

According to the classification by UNCTAD, Turkey is part of the West Asia Region (West Asia Region Countries: Bahrain, Iraq, Jordan, Kuwait, Lebanon, Amman, Qatar, Saudi Arabia, Palestine, Syria, Turkey, UAE, Yemen). Turkey is ranked the highest in the region as of 2014 as the country that attracts the highest amount of foreign direct investment with 12.1 billion \$. The graphs below put forth relevant data for 2014.

Graph-5: FDI Inflows in West Asia (Billion \$)



Source: UNCTAD, World Investment Report 2015, p.52-55.

Foreign direct investment inflows to the West Asia Region have decreased continuously during the past six years thus declining to 43 billion \$ in 2014 from the 71 billion \$ foreign direct investment made in 2009. Undoubtedly, wars and terror incidents that have significant effects on the region have also been effective on this decrease in the foreign direct investments made to the West Asia Region along with the geopolitical problems of the region.

VII. Conclusion and Evaluation

Foreign direct investments can be expressed as the establishment of a manufacturing facility or the purchasing of already existing manufacturing facilities by a company outside of the borders of its country of origin in order to expand its investment. It is important for developing countries such as Turkey to attract foreign direct investments. The decrease of the ratio of domestic savings about 14% further increases the importance of foreign direct investments.

Turkey has started to approach foreign direct investments in a more conscious manner starting especially during the 1980's. Foreign direct investments started to increase in the 1980's when structural regulations were implemented. The importance of foreign direct investments increased significantly during the 2000's. Despite the negative effects of the 2001 banking crisis, considerable value increases were observed in investments due to fundamental factors such as the increase of sector variety, importance of bank mergers and the coming into prominence of information-communication technologies along with financial services sector in addition to the Foreign Direct Investment Law numbered 4875 dated 2003.

Significant increases in foreign direct investment inflows can be observed especially after 2004. It should not escape our attention that the increases in this period have been affected from the increase in privatization activities. An income of about 67.6 billion \$ has been obtained from privatization activities that started in 1986. About 60 billion \$ of this income was obtained from privatizations that increased starting with 2004. Thus, it is important that foreign investors make direct investments in addition to privatizations.

Another important issue with regard to the economy of Turkey is that companies with foreign capital started to use inflow from their own countries or other foreign countries more in comparison with local inflow. Indeed, foreign origin tobacco started to be used more in comparison with local tobacco products after the privatization of the TEKEL tobacco factories and this had an adverse effect on local tobacco manufacturers.

Mustafa Kemal Atatürk, the founder of the Republic of Turkey stated his opinions on foreign capital as such during the 1st Economic Congress (1923); *"You should not think that we are opposed to foreign capital when talking or thinking about economy. No. Our country is very large. We need lots of labor and capital. We are always ready to provide the required assurance to foreign capital provided that they abide by our laws. Foreign capital should contribute to our labor and thus results should be obtained that are beneficial both for them and for us."*

The problems that will be caused by foreign direct investments should also be considered when demanding foreign direct investments that are essential for our world today with their beneficial as well as harmful effects. The optimum point where country benefit coincides with

foreign capital should be calculated well and regulations should be made accordingly instead of being opposed to or on the side of foreign capital.

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An Investigation Of Green Purchase Behaviour Among Mothers

1. Introduction

Environmental pollution, sustainability and the extinction of scarce resources have recently become crucially important. The governments, enterprises, NGO's and consumers have become much more conscious regarding environmental issues. This consciousness to protect environment and environmental concerns have resulted in a higher level of awareness on the part of consumers so mothers have started to prefer green companies when purchasing and consuming. A large number of studies indicate that environmental concerns and attitudes towards green products and green ads have an impact on purchasing behaviours of consumers (Haytko & Matulich, 2008; Dagher & Itani, 2014; Koçer & Delice, 2016; Alauddin, Shah, & Hasan, 2014; Anvar, & Venter, 2014; Kanchanapibul, Lacka, Wang, & Chan, 2014; Paylan & Varinli, 2015).

Although most products are intensively advertised in order to convince consumers, not all of them cultivate a desire for purchase on the part of consumers. Likewise modern consumers have started to look for the product's effects on environment along with its other specifications. For instance, in a study conducted on laundry detergents, advertisements with an environmentalist claim have more persuasive power than those without one (Schuhwerk & Lefkoff-Hagius, 1995). Being aware of this, relevant enterprises had to produce green products in accordance with the consumers' sensitivities and to deliver these products through accurate advertising messages.

Environmentally aware consumers think that one of the easiest ways to protect environment is to purchase environmentally friendly products. Bearing this in mind, consumers started to refrain from purchasing the products harmful to human health, including risks during production, having various harms to the environment and giving harm to environment during production, disposing harmful things and having harmful effects to plants, animals and natural habitat (Delafronz, Taleghani & Nouri, 2014:2). It is clear that individuals with such awareness will raise their children as generations conscious about the environment protecting it. Children education starts in the family and the first educator is the mother. Mothers show what is right or wrong starting from birth and put effort to raise their children as good individuals.

As the environmental education is one of the most important issues on which mothers educate their children, it is important to identify mothers' attitudes, behaviours and perceptions about the environment and green products. To this end, the study aims to identify mothers' personal opinions regarding green issues, knowledge level on green issues and the impact of their resolution to purchase green products on their behaviours to purchase green products. A model has been developed for this aim and relevant hypotheses are analyzed by checking the conformity of the model through structural equation modeling.

2. Literature Review

We haven't found in our literature analysis any studies dealing with mothers' behaviours and attitudes on the conduction of green marketing and purchasing green products among studies conducted to analyze consumers' attitudes and behaviours about green marketing and green purchasing process. It is observed that most of these studies have been conducted on university students or young people. The results of some studies are thought to be relevant to

the essential theme of the study and to consumers' green product purchasing behaviours and environmentally attitudes.

It is clarified in Straughan and Roberts' 1999 dated study, on university students to identify criteria to classify green consumer market, that psychological criteria are more important than demographical ones when classifying consumer market (Straughan & Roberts, 1999).

In a 2008 dated study conducted in Adana (Turkey), significant correlations have been found between consumers' green purchasing behaviours and some variables like gender, marital status, age, educational background and income. According to the study, consumers purchasing green products are mostly women, married, young, educated and have a high house income (Çabuk, Nakiboğlu, & Keleş, 2008).

In another study conducted on university students in Eskişehir (Turkey) in 2009, it is found that environmental consciousness does not have direct impact on environmental behaviour, however those who develop environmental attitudes exhibit environmentally friendly behaviours thus tending to purchase ecological food products (Yılmaz, Çelik, & Yağız, 2009).

In a study by Yeniçeri conducted in 2009, it is identified that consumers with high environmental awareness and environmentally sensitive purchasing behaviours are usually women with relatively higher level of educational background income (Yeniçeri, 2009).

In another study conducted in 2010 to identify environmental behaviours of university students in regards to green marketing activities, it is clarified that there is a connection between students' parents jobs and their green purchasing behaviours and that most of the students are worried about rapid destruction of environment while not being able to behave accordingly during purchase, use and after use (Tunç Hussein & Cankül, 2010).

The results of the study by Cheah and Phau conducted on lecturers in 2010 to identify their attitudes about environmentally friendly products could be briefed as below; consumers with favorable attitudes towards environmentally friendly products are more likely to purchase environmentally friendly products. Perceived product necessity moderates the relationship between attitudes toward environmentally friendly products and the willingness to purchase environmentally friendly products (Cheah & Phau, 2011).

According to results of Boztepe's survey in 2012 it can be said that, environmental awareness, green product features, green promotion activities and green price affect green purchasing behaviours of the consumers in a positive way. Demographic characteristics have moderate impact on the model (Boztepe, 2012).

In a research conducted in 2013 on consumers, 4 environmentally aware groups of consumers have been identified in Turkey. These groups could be referred as genuine greens, followers, indolents and apathetics. According to research outcomes, each group are different in terms of their attitudes about recycling (Cobanoğlu, Eren Erdogmus & Bayraktar, 2013).

Yeniçeri and Güner stated in their study that the confidence of consumers in energy saver products has an impact on their attitudes and similarly their attitudes have an impact on their intention to buy energy saver products. They also detected that environmentally friendly consumer behaviours have a positive impact on buying energy saver products (Yeniçeri & Güner, 2013).

The results from Anvar & Venter's study indicate that, social influence, environmental awareness and price, positively influence individuals' attitudes towards green products. The effect of attitude on purchase behaviour is also positive and consumers with positive attitudes towards green products are more likely to purchase green products. And also, the findings indicate that there is indeed a difference between males and females in regards to buying behaviour of green (Anvar&Venter, 2014).

According to the data obtained in the study of Kanchanapibul, Lacka, Wang & Chan in 2014, it can be said that the ecological effect and knowledge are significant in determining young consumers green involvement as well as their actual purchase (Kanchanapibul et al., 2014).

It is identified in a study analyzing the role of mothers' child raising attitudes on children's socialization as environmentally friendly consumers that mothers' child raising attitudes have their reflections in their own and their children's consumption behaviors (Bozyigit & Madran, 2015).

Gordon Wilson and Modi found that the openness personality trait to be positively linked to green behaviour, whilst the extraversion personality trait is negatively related to green behaviour. (Gordon-Wilson & Modi, 2015)

Üstündağlı and Güzeloğlu analyzed young people's green consumption profiles in terms of awareness, attitudes and behaviour practices. According to research outcomes, higher level of educational background leads to higher green awareness, green attitudes demonstrate more variability in higher level of awareness, young consumers do not exhibit green purchasing behaviour in spite of their awareness and the price has an impact on purchasing behaviours according to gender (Üstündağlı & Güzeloğlu, 2015).

3. Purpose of Research

The purpose of this research is to empirically investigate whether ecological knowledge, purchase intention and personal affective responses are factors which influence mothers green purchase behaviour.

4. Research Model and Hypotheses

The research model has been created taking into account the scope and the literature of the subject and it is shown in Figure 1.

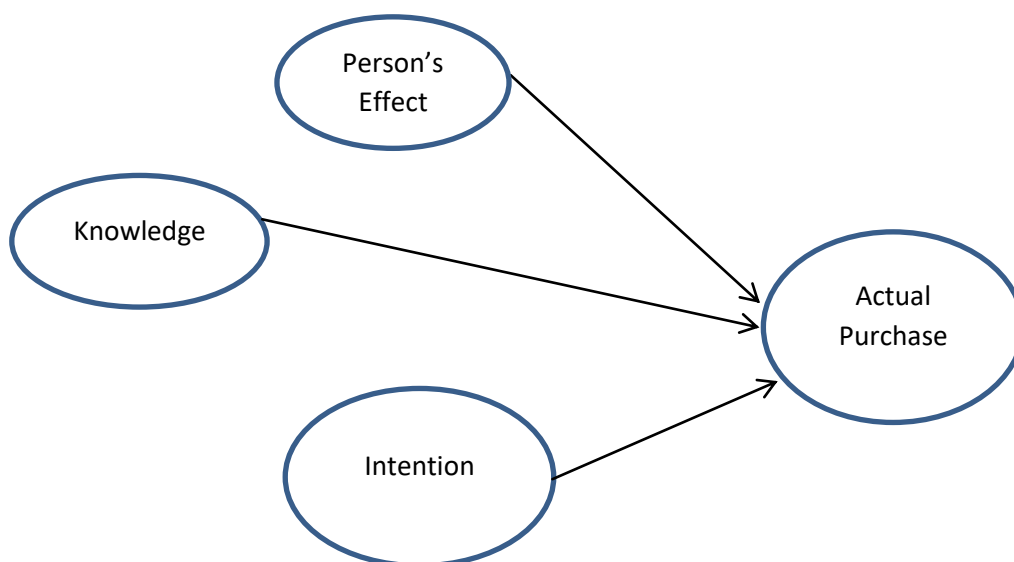


Figure 1. Research Model

H₁: Mothers with stronger affective responses to green issues will be more likely to become involved in actual green consumption and purchase.

H₂: Mothers with more knowledge about green issues will be more likely to become involved in actual green consumption and purchase.

H₃: Mothers with a strong intention toward green purchasing will be more likely to become involved in actual green consumption and purchase.

5. Research Methodology

5.1. Data Collection

The universe of this descriptive research is the mothers in Turkey. Given the difficulties and limitations to reach all mothers in Turkey, the research is conducted over the Baby Care and Maintenance Group (BYBO) providing service as a closed group on the Facebook actively used by mothers from all sections of society and with different demographical characteristics. The group, having 20 thousand members as of the research date, forms the research universe. The link for the survey form, prepared with Google Drive Form, was published and members were invited to fill in the form. Those signing up to the group from abroad are excluded for use in another study and 649 valid surveys are analyzed.

The survey form is developed on the scale used in a previous study by Kanchanapibul, Lacka, Wang & Chan in 2014 (Kanchanapibul, Lacka, Wang & Chan, 2014). While there are some demographical questions to get information about respondents, there are some others to identify their individual opinions about green issues, the third part identifies their level of knowledge about green issues, the fourth part deals with green purchasing intention and finally the fifth part includes some expressions about green purchasing behaviour. 5 Likert Scale is used in expressions and respondents are invited to indicate their view choosing one of the choices for each sentence. The choices include “I totally agree”, “I agree”, “I’m neutral”, “I disagree”, “I totally disagree”. The data are evaluated using the SPSS 23,0 and AMOS 23,0 packaged programs.

In order to analyze the reliability of survey questions, the reliability of four scales of Likert type is analyzed and the reliability coefficients (Cronbach Alpha) are described below.

Table 1. Cronbach’s Alpha Results

Constructs	Cronbach’s Alpha
<i>Person’s Effect</i>	0,783
<i>Knowledge</i>	0,613
<i>Intention</i>	0,812
<i>Actual Purchase</i>	0,720

If the scale is $0,60 \leq \alpha < 0,80$ based on Alpha coefficient, the scale is quite reliable and if $0,80 \leq \alpha < 1,00$, the scale is highly reliable (Kayış, 2005:405). According to this, the scales used in the research can be said to be reliable (Table 1).

6. Results

6.1. Descriptive Statistics

Detailed descriptive statistics of the respondents (mothers) are shown in Table 2.

Table 2. Descriptive Statistics of Respondents

	Frequency	Percent		Frequency	Percent
<u>Age</u>			<u>Education</u>		
<i>21-30</i>	264	40,6	<i>Primary School</i>	2	,3
<i>31-40</i>	360	55,4	<i>Secondary School</i>	4	,6
<i>41-50</i>	19	3	<i>High School</i>	83	12,8
<i>51 and over</i>	6	1	<i>University</i>	419	64,6
<i>Total</i>	649	100,0	<i>Master's degree</i>	98	15,1
<u>Marital Status</u>			<i>PhD</i>	43	6,6
<i>Married</i>	634	97,7	<i>Total</i>	649	100,0
<i>Single</i>	15	2,3	<u>Income</u>		
<i>Total</i>	649	100,0	<i>Less than 1500 TL</i>	57	8,8
<u>Number of Children</u>				157	24,2
<i>1</i>	515	79,4	<i>1501-2500 TL</i>		
<i>2</i>	114	17,6	<i>2501-3500 TL</i>	174	26,8
<i>3</i>	19	2,9	<i>3501-4500 TL</i>	95	14,6
<i>4 and over</i>	1	2	<i>4501 TL and over</i>	166	25,6
<i>Total</i>	649	100,0	<i>Total</i>	649	100,0

649 mothers have participated in the research. Given the breakdown regarding demographical statistics of mothers, it could be said that a large proportion (55,4%) of them are between 31-40 ages. 64,6% of them are university graduates. Most (97,7%) mothers are married. 174 respondents have an income level between 2501 and 3500 TL, while 166 of them have an income over 4501 TL. Most (79,4%) mothers have a single child.

6.2. Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a type of structural equation modeling that deals specifically with measurement models- that is, the relationships between observed measures or indicators (e.g. test items, test scores, behavioural observation ratings) and latent variables or factors (Brown, 2015:1). Confirmatory Factor Analysis indicates whether the data obtained by the researcher comply with the original structure (previously discovered and used in various studies). The rationale for analysis is to test the factor structure of relevant variable thus conducting reliability analysis (Meydan & Şeşen, 2011:57). To this end, Confirmatory Factor Analysis is conducted over Amos 23 program to be able to test the scale used in the survey. Goodness of fit indices, research model's results, desired values and abbreviations are

shown in Table 3. The applicable values for fit indices are formed based on studies of İlhan & Çetin, 2014, Bentler & Bonett, 1980, Schermelleh-Engel & Moosbrugger, 2003.

Table 3. Fit Statistics

Goodness of Fit Indices	Research Model (N=649)	Desired Values	Abbreviations
χ^2 Test Statistic	504,285	,000	CMIN
Degree of Freedom	128	0	DF
p	,000	<,005	P
χ^2/df	3,940	<5	CMIN/DF
Goodness of Fit Index	,917	$,90 \leq \text{GFI} \leq ,95$	GFI
Adjusted Goodness of Fit Index	,889	$,85 \leq \text{AGFI} \leq ,90$	AGFI
Normed Fit Index	,879	$,90 \leq \text{NFI} \leq ,95$	NFI
Incremental Fit Index	,906	$,90 \leq \text{IFI} \leq ,95$	IFI
Comparative Fit Index	,906	$,90 \leq \text{CFI} \leq ,95$	CFI
Root Mean Square Error of Approximation	,067	$,05 \leq \text{RMSEA} \leq ,08$	RMSEA

As shown in Table 3', the Chi-square statistics (χ^2 Test Statistic) is significant ($p=0,000$), which is the only scale forming the statistical basis of data set in structural equity model and of the goodness of fit indices indicating the conformance of model, and it is the most essential scale of fit used in the calculation of other fit scales (Bayram, 2010:71). The standard Chi-square value obtained by dividing the chi-square value with freeness value (χ^2/df) is 3,94. A common level of the (χ^2/df) ratio is below 5 (though below 3 is better) (Chen & Tsai, 2007:1118). In this case, the obtained value indicates a good fit. As the Chi-square statistics is sensitive to sample gratitude, other fit criteria are also checked to identify the conformance between the model and data. As shown in Table 3; the GFI value is identified as 917, AGFI value as 889, NFI value as 879, IFI as 906, CFI as 906 and finally RMSEA value as ,067. Given the acceptable fit values in Table 3, these values indicate the conformance between the data and model.

Table 4 indicates the factors loads of variables which are not observable in the model regarding the factors that could be effective on green product purchasing behaviours of mothers. The table shows to what extend are person's effect, knowledge, intention and actual purchase included in the research model are clarified by observed variables.

Table 4. Factor Loads of Unobservable Variables in the Model

	Estimate
<i>Actual Purchase</i> ←--- <i>Person's Effect</i>	,503
<i>Actual Purchase</i> ←--- <i>Knowledge</i>	,292
<i>Actual Purchase</i> ←--- <i>Intention</i>	,562
<i>S7.1</i> ←--- <i>Person's Effect</i>	,717
<i>S7.2</i> ←--- <i>Person's Effect</i>	,751
<i>S7.3</i> ←--- <i>Person's Effect</i>	,539
<i>S7.4</i> ←--- <i>Person's Effect</i>	,630
<i>S7.5</i> ←--- <i>Person's Effect</i>	,532
<i>S8</i> ←--- <i>Knowledge</i>	,482
<i>S9</i> ←--- <i>Knowledge</i>	,412
<i>S10</i> ←--- <i>Knowledge</i>	,443
<i>S11</i> ←--- <i>Knowledge</i>	,454
<i>S12.1</i> ←--- <i>Intention</i>	,760
<i>S12.2</i> ←--- <i>Intention</i>	,763
<i>S12.3</i> ←--- <i>Intention</i>	,575
<i>S12.4</i> ←--- <i>Intention</i>	,654
<i>S13.1</i> ←--- <i>Actual Purchase</i>	,713
<i>S13.2</i> ←--- <i>Actual Purchase</i>	,730
<i>S13.3</i> ←--- <i>Actual Purchase</i>	,646
<i>S13.4</i> ←--- <i>Actual Purchase</i>	,607
<i>S13.5</i> ←--- <i>Actual Purchase</i>	,782
<i>S13.6</i> ←--- <i>Actual Purchase</i>	,753

When factor loads are analyzed, the lowest factor load is identified as the one about the description of purchasing behaviour through ecological knowledge (,292). This can be observed as an indication that the level of knowledge on green products does not have a substantial impact on purchasing behaviour.

6. 3. Hypotheses Testing

AMOS 23,0 was used to examine the path coefficients of the casual relationships between constructs in the model in order to validate or disprove the hypotheses. As shown in Table 5, each hypothesis was tested with T Test Statistics. Given the fit goodness values obtained through model test, the model could be considered acceptable. ($\chi^2/df=2,291$; GFI=,907, AGFI=,890 NFI=,930, IFI= ,906, CFI=,960 and RMSEA=,045). It is necessary to analyze the T test results and significance levels on regression co-efficients identified in the model after analyzing fit indices of structural equation model. Path coefficient results of this analysis are given in Table 5’.

Table 5. Path Coefficient Results

Hypotheses	Path	S.Error	Estimate	T Value	P
H_1	Actual Purchase←---Person’s Effect	,059	,376	6,368	,000
H_2	Actual Purchase←---Knowledge	,078	,115	1,475	,140
H_3	Actual Purchase←---Intention	,056	,505	8,994	,000

As can be seen in Table 5 **H₁**: Mothers with stronger affective responses to green issues will be more likely to become involved in actual green consumption and purchase and **H₃**: Mothers with a strong intention toward green purchasing will be more likely to become involved in actual green consumption and purchase hypotheses have been accepted. But, **H₂**: Mothers with more knowledge about green issues will be more likely to become involved in actual green consumption and purchase hypothesis have been rejected. Although the hypotheses testing shows that mothers agree with green issues, more interestingly, it has to be said that not all of them have ecological knowledge.

7. Conclusion

The study uses structural equation model to identify whether mothers’ affective responses to green issues, green purchasing intentions and their information level on green issues have an impact on green purchasing behaviours. A confirmatory factor analysis has been initially conducted on the model and the model has been tested as a valid one. Then, path analysis and hypothesis tests are conducted on structural equation modelling in order to test the hypotheses. Among the hypotheses generated in accordance with the research objectives, “mothers with stronger affective responses to green issues will be more likely to become involved in actual green consumption and purchase” and “mothers with a strong intention toward green purchasing will be more likely to become involved in actual green consumption and purchase hypotheses” have been accepted. This result is in compliance with those identified in the study conducted by Kanchanapibul, Lacka, Wang & Chan in 2014. But,

“mothers with more knowledge about green issues will be more likely to become involved in actual green consumption and purchase” hypothesis have been rejected.

While mothers’ affective responses to green issues and green purchasing intentions have an impact on their green purchasing behaviours, their level of information on green issues do not have say on their green purchasing behaviours. This can be originated from two factors; not making enough research on environment or making do with current information and refraining from putting effort to learn about environmental issues. The promotion of information level regarding green issues will certainly result in higher preference of green products. It will be better if enterprises could be more conscious on the issue and provide useful information to consumers about green issues when introducing their products.

The research could be re-conducted in the upcoming years to observe the changes in mothers’ attitudes and behaviours on green issues. On the other hand, if this research is also conducted on fathers or children, it will pave the way to clarify the agents who are influential on environmental purchasing behaviours in the family.

8. References

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Growing Importance Of Innovation In Turkey And In The World And Canakkale Technopark

7. Introduction

Technoparks are the technology centers where the managers of countries and specialist individuals come together and enhance the international competitiveness power of enterprises. The fields which techno-enterprises (startups) are shaped and steer the world economy are spreading rapidly. These fields where intellectual production are intense such as technology development zones, science parks, technocities (technopolis), techno-parks, research parks and the like are referred by similar names. Domestic and foreign enterprises are focusing on new technologies with universities by coming together in technoparks particularly in Research and Development (R&D) and soft-ware programs.

Technoparks are the dynamic structures that form the backbone of knowledge economy. Today, all kinds of brands, patents and other outputs that are related to the new technologic products produced there form the source of wealth of the countries. The most striking example of the Technoparks is Silicon Valley in the United States. Many technology bases, the numbers of which increase rapidly that Silicon Valley constitutes a model have begun managing the today's World through virtual networks. Compared to Israel's economic size that they made technology-intensive production, the thing that they have realized about R&D, innovation and information export is quite remarkable.

In this study, it is discussed that the technoparks which are increasingly institutionalized in terms of globally and locally to what extent have achieved. Their contributions that have made to the global economy are drawn attention. Locally, it is examined the Canakkale technopark formation that is in the phase of establishment.

8. R&D And The Technoparks In The Context Of Innovation

As a result of remarkable changes in science and technology, there is a need the organization of a community of technology in addition to an industrial society. We can say that humanity is now living in an information society as well. Innovation, in the information economy growing like a snowball, constitutes the driving force in the economic development of countries and regions. Today, the places where innovations are revealed intensively are technoparks. Technoparks are spreading rapidly in the ecosystems that enhance the international competitiveness and shape the world economy.

Innovation is a process that is systematically built. This way, the chance of success can increase exponentially. According to Larry Keeley who performed the summit of BIF (Business Innovation Factory) that many large enterprise employees such as Coca Cola, and IBM attended, ten types of innovation have been determined through the works done since 1998. Ten basic type of innovation can be classified into three categories (Keeley, Pikkell, Quinn & Walters, 2013, xvi-xvii; Kırım, 2011, 244):

- Configuration: Profit model, network, structure, process;
- Offering: Product performance, product system;
- Experience: Service, channel, brand, customer engagement.

The attraction centers in which innovation is produced intensively get different names such as technology development zone, techno-parks, technopolis, science parks, research parks, technocity and so on. It is said that the two main objectives of technoparks are available (Yıldız, 2010, 59):

- Bringing domestic and foreign companies together with the Universities,
- Providing the technological advances particularly in R&D and soft-ware program areas.

Technoparks have been regulated by the name of Technology Development Zone in respect of the legal regulations in Turkey. These regions in question are the places that take advantage of the possibilities of innovative companies, universities, high-tech institutes or R&D center using high and advanced technology. Businesses in these places operate to produce and develop technology and software, and also to transform a technological invention into a commercial product, process or service. In addition, they contribute to the near region's development with the events operating in the area of universities, in high-tech institute or R&D center. Technology development zones imply the sites that academic, economic and social structures are integrated. Based on available information, technoparks can be defined as *the events operating in the area of universities, high-tech institute or R&D center, and as the sites or business establishments that contribute to the near region's development and that academic, economic and social structures are integrated.*

According to the development levels, each country's expectations from technoparks show differences. University research park, science park or science and technology parks are the areas which have been designed and managed to encourage the innovation (<http://www.bilimstore.com>). Particularly in the techno-parks, R&D support and incentives are applied. The common objectives of the centers operating under the names of the science park, technopark, technopole, technology centers, innovation centers in Europe and America, are as follows (Sarıhan, 1998,146-147):

- An opportunity (such as risk capital, secretarial, accounting, communication services) for entrepreneurs who have skills to develop a product of commercial value in hand or in mind should be provided so that they can have technical services to develop their products and operate their company,
- Improving the production, quality and competitiveness,
- Creating employment in the field of advanced technology,
- Encouraging the entrepreneurship,
- Increasing the regional development,
- Developing the cooperation between universities and industries,
- Providing the unutilized (idle) capacity of the large companies to be evaluated by small businesses.

In Turkey in terms of legal structure, the purposes of technology development zones can be ordered with the following statements (<http://www.mevzuat.gov.tr>):

- Ensuring the cooperation of production sectors together with universities, research institutions and organizations,
- Producing technological information in order that the industry of the country can reach an international competitive and export-oriented structure,

- Developing innovations in products and production methods,
- Upgrading the product quality and standards,
 - Increasing productivity, reducing production costs,
 - Commercializing the technological information,
 - Supporting technology-intensive manufacturing and entrepreneurship,
 - Providing Small and medium-sized enterprises to adapt to new and advanced technologies,
 - Creating the investment opportunities in technology dense areas considering the Science and Technology High Council resolutions as well,
 - Creating the job opportunities for researchers and qualified persons,
 - Assisting the transfer of technology,
 - Providing the technological infrastructure to accelerate the entry of foreign capital which will ensure high and advanced technology.

3. Technoparks

The basics of technology development that are based on 1950's indicate differences in the course of development in different countries. Economic, technical, social and legal infrastructure of their countries determine their formations and developments. In this sense, it would be useful to scrutinize the historical development of technoparks.

3.1. The Historical Development of Technoparks in the World and Turkey

Technoparks which are formed with the collaboration of entrepreneur experts and enhance the competitiveness of developing countries are spreading rapidly as the fields shaping the world economy and trade. Except for the things existing and taught, the curiosity of human beings to examine, research, discover and practise is transformed into added value in these areas. Technoparks where science and technology are produced intensively can be defined as the products of mankind's curiosity. First technopark was established in the state of California in the United States in 1950's, and there are nearly eight hundred technoparks in the world (Çengel, 2006, 1). A normalization process has been experienced in the world coming out from the Second World War. In the process of normalization, a breakthrough was available in the United States, the situation of which was in the best. The idea of building an industrial park emerged in the US state of California in 1950. The Stanford Industrial Park was established located on 8,000 acres in Stanford University. The aim is to create a high-tech center close to the university in cooperation with the private sector. The invitations of a quick suggestion called "our secret weapon" were made in Stanford, where the limited rentals have been made for high-tech companies (Terman, 1985, 6-7).

The world's largest science park is Silicon Valley consisting of a region covering San Francisco and southern cities. In terms of the uncertainty of its borders, a different image gives out of technoparks in Turkey. Twitter is in San Francisco, Facebook is in Menlo Park, Google is in Mountain View, Zynga is in San Francisco, and Apple is in Cupertino and Stanford University and a lot of investment firms are in Palo Alto (Unsal, ?, 10).

The process leading to Technopark has been provided with the industrialization in Turkey. The first phase of Technoparks is the small industrial sites. As the process progresses, there has been a transformation of technoparks and technopolis together with the R&D. As time goes on, the international platforms including Turkey that have the R&D centers have been formed. Founded in 1984, the International Association of Science Parks and Areas of Innovation (IASP) ranks first among these organizations. The purpose of the organization is to become a global network for 395 members in 73 countries to be able to sustain the growth, the internationalization and events with the science parks and innovation fields.

According to Wissema Hans, a former professor at Delft University of Technology, he has stated that universities undergo a fundamental (radical) change in the 21st century and they give up science-based and unidisciplinary institutions, moving towards a global information center. *The third generation universities* intend the information they produce to be its effective use and commercialized. They regard this as a third target for themselves as in of equal importance as scientific research and education. Stanford University, Harvard, MIT and Cambridge are regarded as the best examples of thematic universities in the world. In Turkey, Bogazici University, Istanbul Technical University and Bilkent universities seem among the third generation universities. The four common characteristics of these universities can be summarized as follows (Küçük, 2013):

- The most important feature of their training is in English,
- The most basic difference of their training is in interactive education,
- Distance education is in the foreground,
- They deepen the cooperation with industry.

One of the most important contributions of the third generation universities to the world is the technoparks. In technoparks or in similar institutions, the materials supplied in low price by increasing their added values are able to be offered to the markets as the products of high economic value. Just like the conversion of a grain of sand to a computer material, 1 kilogram of Quartz sand costs about € 1,40 at its source (<http://www.gittigidiyor.com>). GlobalFoundries, with a semiconductor business company, makes quartz sand processor by converting into the layers called silicon with high heat (<http://www.globalfoundries.com>).

Table 1. The Market Values Of Materials In Kilogram

Material	The Market Values	Material	The Market Values
1 Kg Chemical Material	2 USD	1 Kg Metal	5 USD
1 Kg Plastic	10 USD	1 Kg PC	500 USD
1 Kg CPU (Pentium 4)	2.000 USD	1 Kg Aircraft (F-16)	5.000 USD
1 Kg Missile (Tomahawk)	10.000 USD	1 Kg Gold	15.000 USD
1 Kg Missile (Patriot)	20.000 USD	1 Kg Satellite (The Space Shuttle)	500.000 USD

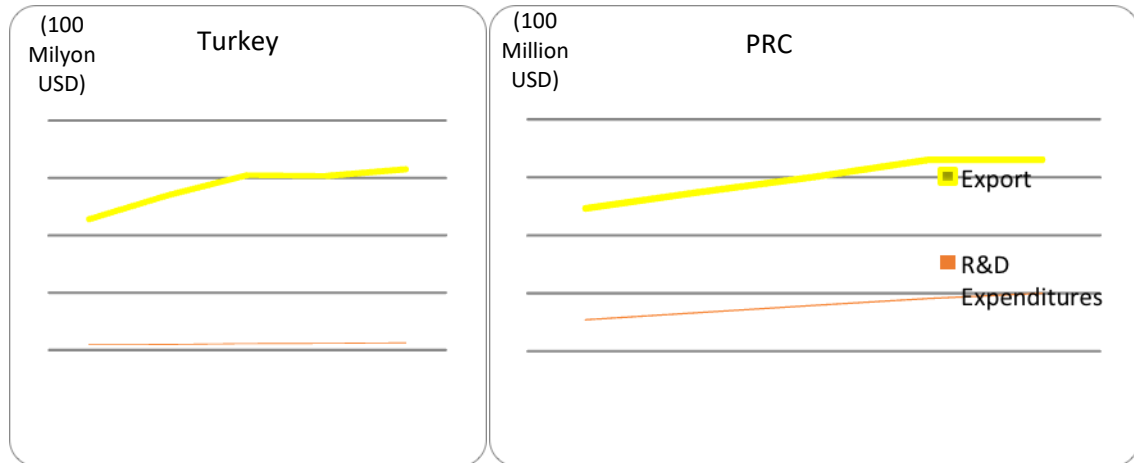
(Marangoz, 2013, 259)

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GlobalFoundries increases the quartz sand of the value € 1.40 to the value of € 6.192 (<http://www.hepsiburada.com>; <http://forum.donanimhaber.com>). As seen, an innovative company can increase a market value of goods produced with high technology the 4.423 fold. Similarly, a remarkable relationship can be seen in Table 1. R&D equipped with product or service is emerging the goods that have won high value-added through innovation and creativity.

When we look at the importance of the country's economy on a world scale, the importance of tech development zones is understood better. Technoparks are dynamic structures that form the backbone of knowledge society. All kinds of brand, patents and other similar outputs related to the new technologic products produced there form the source of wealth of the country. Many technology bases that Silicon Valley constitutes exemplary and the numbers of which are increasing, began managing today's world through virtual networks. Compared to the size of Israel, in respect of the countries giving importance to technology products, the information export that R&D made about innovation is quite remarkable. The People's Republic of China, which also hosts the majority of the world's population is another example. The data that the People's Republic of China and Turkey

Figure 1. The Relation Between R&D Expenditures And Export Of PRC And Turkey, Between The Years 2010-2015

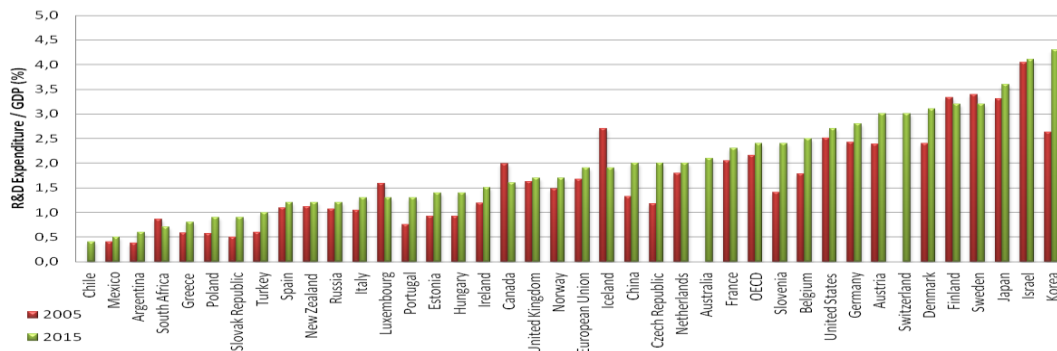


(<http://www.stats.gov.cn/tjsj/ndsj/2015/html/EN2001.jpg>;
<http://www.tuik.gov.tr/UstMenu.do?metod=temelist>;
https://www.tubitak.gov.tr/sites/default/files/bty05_0.pdf)

have made related to R&D expenditures and exports in the last five years can be seen in

Figure 1. On a world scale, considering the rate of the Gross National Product in R&D expenditures of the countries, South Korea ranks the first place as shown in Figure 2. Israel ranks second place. In near future, Turkey aims at increasing the rate over %3. The countries that are aware of the importance of innovation are focusing on this field to be a pioneer in the competition. For example, France, with the works that it has made in recent years, has turned the Île de France Region into the technology base as Paris-axial. It has succeeded in attracting over ninety engineering, research and design companies such as Facebook, Pharmaseed, Claas, Velizy and Huawei to this region. The Île de France Region, with the budget allocated 18.5 billion euros for R&D, accounts for %03 of gross domestic product (Estival, 2016: 102-114). The number of patents received in the region is about eight thousands yearly.

Figure 2. Some Countries R&D Expenditure / GDP Ratio (%) (2005, 2015)



(<https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>;
<http://www.compareyourcountry.org/science-and-technology>)

3.4. The Legal Size And Technology Development Zones Of The Technoparks In Turkey

The ecosystems in which Techno-enterprises are massed are the technoparks. Its legal basis in our country is the law no. 4691 of Technology Development Zones. These areas are expressed as the science parks or teknoparks in general in the world. It is only referred by the name of Technocity in Japan. Reason is that it is composed of multiple technoparks. There are the places used by the name of technocity in Turkey.

The establishment of Technopark and the manager company's operations are mentioned in the article no. 4 and 5 of the law of Technology Development Zones. Technopark controls are included in the Article 6 of the Technology Development Law. The activities and practices of the managing company and entrepreneurs in Technology Development Zone are overseen by the Ministry of Science, Industry and Technology. The situation of employees is described in the article 7 of the relevant law. Staff are employed according to the job and work legislation in force in the managing company and activities taken place in the area.

The Deputy Undersecretary and Directorate General of Industrial Zones see about the Technology Development Zones in association with the Undersecretariat within the body of the Ministry of Science, Industry and Technology in hierarchical order. The clustering works among the General Directorate of services are an approach increasing the national and regional competitiveness. Clustering has become a micro-policy tool used widely in many OECD countries. It has also shown a significant increase widespread in Turkey in recent years since the early 2000s. These areas are the fields where the firms getting qualified labor force and specialized are concentrated to increase the competitiveness of the industry in Turkey and achieve high added value. Moreover, the fact that the associations are supported through the institutions of support together with the innovative companies, educational and research where the information sharing peaks the top level is among the priorities of the Ministry of Science, Industry and Technology (<http://kss.sanayi.gov.tr>).

According to the data of the year 2015 of the Ministry of Science, Industry and Technology in Turkey, 48 technology development zones which operate are available. Moreover, the inactive technology development zones, which are at the foundation stage, are also available. Technology development zones that are active are given in Table 2. Sixteen of them the members of International Association of Science Parks / IASP (<http://www.iasp.ws/>). Canakkale Technology Development Zone (Technopark Canakkale / COMU Technopark) is not a member yet.

Table 2. The Technology Development Zone In Which Active, In Turkey

1	Ankara	25	Istanbul University
2	Ankara University	26	ITU Bee Technopolis
3	West Mediterranean Technopolis	27	Izmir Science and Technology Park
4	Bogazici University	28	Izmir
5	Bolu	29	Kahramanmaras
6	Bozok	30	Kirikkale University
7	Cumhuriyet	31	Kocaeli University
8	Canakkale	32	Kutahya Dumlupınar Design
9	Cukurova	33	Malatya
10	Dicle University	34	Marmara University
11	Dokuz Eylul	35	Mersin
12	Duzce Technopark	36	Namik Kemal University
13	Ege Technopark	37	METU Technopolis
14	Erciyes University	38	Pamukkale University
15	Erzurum	39	Sakarya University
16	Eskişehir	40	Samsun
17	Firat	41	Selcuk University
18	Gazi Technopark	42	Tokat
19	Gaziantep	43	Trabzon
20	GOSB Technopark	44	Edirne Trakya University
21	Lake District	45	TUBITAK Marmara Research Center Technopark
22	Hacettepe University	46	Ulutek
23	Harran University	47	Yildiz Technical University
24	Istanbul	48	Centenary University

(http://sagm.sanayi.gov.tr/userfiles/file/TGB%20g%C3%BCncel%20d%C3%B6k%C3%BCmanlar/ekim%202015/WEB_tgb%20iletisim_eylul%202015.docx)

4. Canakkale Technopark

Technopark Canakkale, is legally registered as Technopark Canakkale Joint Stock Company. It became operational on April 6, 2014. 134,000 square meters of land and a R&D building built by private sector as grant-in-aid are available. COMU is the largest partner with its %52 share proportion. Other partners are: Canakkale Exchange of Commerce, Biga Mining, Inspark Computer, Ala SÜT (Milk) and Güre Salça (Tomato Paste) (<http://teknopark.comu.edu.tr>). The purposes of the Technopark Dardanelles (Canakkale) are listed below:

- Ensuring the science and technology development in Canakkale by being increased the cooperation between the private sector and the public sector together with COMU in the region,
- Attracting the investors working in high-tech fields outside the city,
- Ensuring the establishment and the growth of small and medium-sized enterprises with technology and innovative features, (such as startups),
- Providing high-tech manufacturing to be developed in Canakkale,
- While the 1st generation university trains the educator and the 2nd generation university educates the researchers, the 3rd generation university, as a new generation, transforms the educator and researcher into entrepreneurs.

According to the data presented by General Directorate of Canakkale Technopark, Canakkale technopark has 26 subsidiary companies as of February 12, 2016. It is not still at the desired level to meet the needs of building construction, equipment and staff in Canakkale Technopark. The infrastructure needs, such as building construction are tried to be met. The works on innovation of the companies in Çanakkale technopark are continuing. The emergence of innovation activity results is time-consuming. Likewise, the impact on the profitability of innovations requires a certain amount of time (Geroski, Machin and Van Reenen, 1993, 208), and it can be said that this time will be able to last five years on the average (Leiponen, 2005, 319). The whole Technopark has been operating for one year. While %50 of businesses in Technopark improve the new products, services or business processes, %25 of them appears to export.

Canakkale Onsekiz Mart University, the most important shareholder, became 45th in Entrepreneurial and Innovative University Index determined by TUBITAK in 2012. However, in subsequent years, it could not take place in the first fifty university in ranking. In table 3, the top five universities in ranking in Entrepreneurial and Innovative University Index of the year 2015 can be seen. Through entrepreneurial and innovative University Index, universities are ranked according to the 23 indicators that measure the size.

Tablo 3. Entrepreneurial and Innovative University Index, 2015 Ranking.

Sequence Number	The Universities	Total	Competence to Scientific & Technological Research	Intellectual Property Pool	Cooperation and Interaction	Entrepreneurship and Innovation Culture	Economic Contribution and Commercialization
1	Sabancı University	88,4	19,9	11,3	25,0	13,5	18,8
2	Middle East Technical University	86,0	19,7	11,4	23,1	13,1	18,8
3	Bogazici University	79,7	18,0	8,8	24,7	9,4	18,8
4	Bilkent University	78,1	16,4	8,2	25,0	11,0	17,5
5	Koc University	76,4	16,6	10,9	23,8	7,8	17,4

(<http://www.tubitak.gov.tr>)

of commercialization and economic contributions, scientific and technological research competencies, intellectual property pool, cooperation and interaction with the culture of entrepreneurship and innovation.

5. Conclusion

Their competencies determine the wealth of nations about innovation and R&D issues today. Communities that place a great emphasis on innovation and R&D are performing important development moves. These opportunities are obtained in collaboration with the State-University and the Private Sector in Technopolis. Technology development areas should be diversified more and such organizations as technocities, techno-parks, research parks, science parks should be established, but their support and cooperation at the State level must be ensured. The geographical durability of the technoparks in Turkey seem to be disadvantage. Because of the dispersed regional settlements, the projects of all the technoparks should be continuously scanned within the scope of General Directorate of Technology Development Zones; the coordination of the joint projects at the level of management and financing must be ensured. The value added growths of technoparks should be measured accurately and should be supported by the General Directorate accordingly.

The third generation university applications should be extended. Technopark COMU should be ensured to be a member of the IASP. The connections should be established with the world's best examples of thematic universities within the context of the IASP. The connections and contacts should be developed at the level of human resources with such universities as Bogazici University, Istanbul Technical University and Bilkent in Turkey. Foreign language education should also be considered important. Interactive and distance education should be used more effectively. The local governments should be involved among

the Dardanelles Technopark's shareholders. The awareness of those concerned about the opportunities and benefits provided by Technopark should be increased. Taking care of the ecosystem that the area provides, the large businesses should be provided to prefer the Technopark COMU.

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Assesment Of Gender Budgeting To Increase The Women Employment In Turkey

1. Introduction

The term ‘gender’ signifies the biological difference between women and men whereas the term ‘social gender’ defines women and men according to a certain context. It deals with the relationship between women and men, boys and girls and how this relationship is established. Moreover, the roles that social gender suggests is dynamic and its content may change according to time and place. One of these roles is certainly the contribution degree of women to the employment. It’s a well known fact that women employment has considerable effect on the develeopment level of a country. The contribution of women to the workforce effectively and in an honourable way is not only an individual gaining. Furthermore, woman employment as a fundamental value that enables family and social transformation should be regarded as a part of whole development process in a country. The women who take part effectively in the working life and decision-making process has a vital effect in placing a gender equality perspective during the process of identifying social politics and for the provision of social transformation. (TBMM, 2013).

Women's employment in state policies is extremely important in terms of state policies and for this purpose the most powerful financial tool is the government budget. Government budget may be described as the document which is the route map and program for the future of governments. Thus, these documents contain a lot of information about political structure and public relations of a country. The government budget of a country may contain significant information about demographic social structure. In the light of this type of information, the current status of social structure may be pictured and projection can be made about the future. For this purpose, the establishment of gender-sensitive budget approach can be seen as an important step. The aim of this study is to emphasize the importance of supporting women employment in Turkey, in the theoretical framework for gender-sensitive budget approach by illustrating the similar applications around the world.

2. Theoretical Framework of Gender Sensitive Budgeting Approach

The economic studies for standing out the women in social life by preventing gender discrimination have caused the development of feminist economics approach. There is budget in the financial aspect of feminist economics. For this purpose, the need for emphasis of gender equality in government budget has reveald the gender sensitive budgeting concept. According to the study of European Council in 2005, gender sensitive budgeting is the integration of gender aspect to the budgeting process. It is an assesment of gender-based budget which retstructures the revenues and expenditures with an aim of supporting gender equality and including the gender perspective at all levels. In this approach, the equal distrubution of public expenditures according to the priorities of women and men and its use for the reduction of gender discrimination is suggested. (Tüßen, 2014).

Gender sensitive budgeting approach can be identified as the planning, programming and budgeting of government policies for ensuring gender equality and women's rights (<http://www.gender-budgets.org/>) . It is that the revenues and expenditures of the government are distributed to ensure the gender quality and thus a gender-sensitive approach is included in the budget process. http://www.genderbudgets.org/index.php?option=com_joomdoc&view=documents&path=resources/by-region-country/europe-cee-and-cis-documents/gender-budgeting-final-report&Itemid=542).

This approach is a strategy aimed at moving policies about gender equality and empowering the women to the essence of budgeting and planning areas. Studies conducted in accordance with this approach aim that planning and budgeting practices be used to promote efforts for ensuring gender equality and improvement of the situation of women. Although this application does not foresee a separate budgeting for women and other disadvantaged groups, it represents budget preferences to be responsive to social inequality and budgeting and to be organized to remove these inequalities. Such budgeting approach is divided into three categories; these are expenditures directly targeting women and social gender, expenditures to create equal employment opportunities in the public sector and basic public expenditures. (Toprak, 2016).

Gender-sensitive budgeting approach can be established in five stages. These are (Seguino, 2013):

1. Sectoral analysis of the current status of men and women
2. Analysis of in whatever way gender policies contributed to the goal
3. Analysis of the contribution of budget resource allocation in terms of gender-sensitive policies
4. Monitoring of public policies and public spending in this way
5. The evaluation of the outcomes.

These budgeting studies have three main objectives. These are; placing ideas to government policies according to gender, to make the government's commitment towards gender equality more accountable, to change of policy about budget. These budgets have advantages such as reducing the existing inequity between the genders in terms of socio-economic aspects and allowing more effective use of public resources. In addition they have inherent benefits to the government in terms of providing data about how the public resources are used for women and men. The budgeting is a significant tool in terms of testing the commitment of government about gender. In this way, it is presented that how the commitment of the government is reflected on the budget. Without creating an appropriate economic structure, it is not possible that government's commitment for gender equity would be realistic. Meanwhile, the effectiveness of women for determining the state policies during the budgeting process should be used as an important measure (Tüğen & Özen, 2008).

3. Activities for Gender Sensitive Budgeting Approach

The first significant steps about gender sensitive budgeting are discussed in Fourth World Conference on Women held in Beijing on 4-5 September 1995. At this meeting, consensus is presented on the need of the inclusion of a gender-sensitive perspective in the budgetary decisions of the states. Then, since the date 1997, the United Nations have begun to promote gender responsive budgeting programs with various organizations. The European Union has introduced a project aimed at the introduction of a gender-sensitive budgeting approach in Europe since 2001. Indeed, gender-sensitive budgeting approach, which was launched in Australia started to be implemented at national level in countries such as France, Belgium, the Scandinavian countries Ireland and the United Kingdom since the early 2000s and implemented in regional level in Scotland, Spain (Basque Country) and in Italy (Emilia-Romagna). It is partly implemented in African countries such as Rwanda, Mozambique, Tanzania and Mauritius and in Latin American countries such as Chile and Mexico (Tüğen, 2014).

The first regulations for gender-sensitive budgeting approach were implemented in Australia. With this budgeting approach which was firstly implemented with the name "The

Australian Women's Budget" in 1984-1986 there has been a significant increase in expenditure for women. (http://www.genderbudgets.org/index.php?option=com_joomdoc&view=documents&path=resources/by-region-country/asia-documents/advancing-the-process-of-gender-budgeting-in-the-pacific&Itemid=543). Since 1987, the process has had a formal status and implemented as a report which was over 300 pages. With this approach, corporate and bureaucratic transformation of women's rights has been achieved in a significant level. (Budlender & Hewitt, 2002).

The studies for gender-sensitive budgeting in England were initiated by British Women's Budget Group (WBG) in 1989 for the first time and a report on the national budget was published. This group is an independent organization among the members there are academics and representatives of non-governmental organizations. This group encourages the government to benefit from the analysis of gender in economic policy decisions, and is conducting a study on compliance with Treasury Agency (Tüğen, 2014).

Another study by Women's International League for Peace and Freedom (WILPF) was published under the name gender-sensitive budget initiative in Canada in 1993. In 1995, an important study was published by "South Africa's Women's Budget Initiative". In the late 1990s, a report called "jaune budgétaire" for gender-sensitive budgeting has begun to be published in France. In Sweden, the gender-sensitive budget has been implemented since 2004. In this understanding the basis is that each ministry would be responsible for gender equality in matters falling within their policy area. Furthermore, within the budget proposals of the ministries there are aims and goals on gender equity and a report on the distribution of economic resources between women and men is added to the budget bill and presented by the Ministry of Finance to the Parliament every year (Tüğen, 2014). Today there are various studies on gender sensitive budgeting in more than 40 countries. (http://www.genderbudgets.org/index.php?option=com_joomdoc&view=documents&path=resources/by-region-country/europe-cee-and-cisdocuments/gender-budgeting-final-report-europe&Itemid=542).

The studies for establishing the background for gender-sensitive budgeting in Turkey date back to the mid-1980s. In our country during the process of institutionalization of gender equality in the state, Policy Advisory Board Against Women was established within the the State Planning Organization and Women's Policies for the Social Planning in the Directorate. With the regulations on March 29, 2003 date and 25063 numbered in Official Gazette it has begun to operate as Women Status General Directorate within the Prime Ministry. For this budgeting approach many non-governmental organizations have studies rather than the public sector. There are Women Entrepreneurs Association of Turkey (Kagider) and Istanbul Research Centre on Women among these non-governmental organizations. Moreover, The Women Entrepreneurs Association of Turkey attended the 52th. meeting which was organized by Woman Status Commission and held in headquarters of United Nations in New York between February 24 to March 7, 2008. Such developments suggest that some important financial regulations about the gender sensitive budgeting would be implemented in our country soon. However, considering the studies practiced so far in Turkey, it can be observed that rather than conducting a gender sensitive budgeting approach there are still many conflicts on the subject in our country (Tüğen & Özen, 2008). In conclusion when we consider the gender sensitive budgeting approach in the context of Turkey we can conclude that the process is still on the developing stage. (http://www.genderbudgets.org/index.php?option=com_joomdoc&view=documents&path=resources/by-region-country/europe-cee-and-cisdocuments/gender-budgeting-final-report-europe&Itemid=542).

4. Current Status of Women's Employment in Turkey

One of the indicators for a country to be accepted as 'developed' is the equal participation of women and men in the social and economic life and to what extent they get their share from the welfare. One of the most important criteria in the participation of women in economic and social life is the women's employment rate. When analyzed carefully it will be seen that the high rate of female employment is common in the countries which are considered as "developed countries". It will be a more realistic approach to see that as a result of the followed state policy rather than a coincidence. Indeed, in the European Union which includes the world's most advanced countries today the women's employment rate is 58,5 % according to 2011 data while the same rate is 62 % in the United States and 60,3% in Japan. With its thirty three members (including Turkey) which are the world's most developed economies, (OECD) Organisation for Economic Co-operation and Development countries, the ratio of women in the workforce is 64,9 % according to 2010 data (TBMM, 2013).

One of the foremost international contracts that include provisions relating to the women's employment and giving responsibility to the states within this context is Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). It was adopted with United Nations's number.34/180 decision in 18 December 1979. It was opened to the signature, ratification and participation and enured in September 3, 1981. Our country has become a party to CEDAW which is one of the the most important regulations on gender equality at the international levei in 1985. The main purpose of the CEDAW is to ensure gender equality in all spheres of social life, and eliminate all the applications including stereotypical gender roles, as well as traditional and other similar discriminations. With the regulation made at the 90th item of Constitution the provision 'in the case of disputes about agreements on basic rights and freedom which are prevailed legally that may contain different provisions on the same matter with national laws of international agreements, the international agreements are taken as basis. In this context Elimination of All Forms of Discrimination Against Women (CEDAW) was made a superior over national regulations. (TBMM, 2013).

The following points are forefront about women's employment in our country (<http://kadininstatusu.aile.gov.tr/data/542a8e86369dc31550b3ac33/KSGM%20%C4%B0%C5%9EG%C3%9CC%C3%9C.pdf>):

- Female employment and the participation rate in the labor force are increasing in years. According to the TUIK (Turkish Statistical Institue) data the female employment rate which was 20,8% in 2004 has increased by 5,9 points and became 26,7 % at the end of 2014. According to the 2004 data, female participation rate in the labor force rose to 30.3%, with an increase of 7 points compared to 2004.

- Women are mostly employed in the services sector with a rate 49, 9% in 2014. The female employment rate in agriculture sec tor which was 50, 8% in 2004 has fallen to 33% as the end of 2014 year. The female employment rate in the industrial sector which was 16, 1% in 2004 increased to 17,1% as of year-end 2014. The paid and casual employees rate in the industrial sector which was 44,8% in 2004 increased to 60, 2 % as of year-end 2014. The rate of unpaid family workers which was 44, 5 % in 2004 has fallen down by 15 points to 29, 5%. The ratio of women who work without any registration to a social security institution was 67% in 2004 and this ratio decreased to 48,4% as of the end of 2014.

- Among the reasons for not participating of women in the labor force first comes being busy with household chores with a ratio of 57, 6%. Women do not participate in the labor force for the reasons: not looking for job, seasonal work, being busy with household chores, to continue education / training and retirement.

Assesment Of Gender Budgeting To Increase The Women Employment

➤ Once the level of education increases, women's labor force participation rate also increases. While 25, 8% of women in the labor force are graduates of high school or lower education level, 71, 3% of them are graduates of higher education. Table 1 shows various data about employment as of November 2015. It is seen that in this period total employment has reached to 29 million 801 thousand people by increasing 831 thousand people compared to the same period of the previous year. The labor force participation rate is 51,2 % by 0.7 points increase. According to the comparisons for the same period; labor force participation rate for men rose by 0.3 percentage points and reached to 71, 3 % while there is 1.1 percentage point increase in women with a rate 31,6%. (<http://www.tuik.gov.tr/PreHaberBultenleri.do?id=21576>). According to the TurkStat Household Labour Force Survey; In 2013, the employment rate in the population aged 15 and over in Turkey is 45, 9%, and this rate is 65, 2% for male and 27, 1% for women. Considering the employment rate of European Union member states; the country with the highest female employment rate is Sweden with a rate 72, 5% in 2013, while Greece is the country with the lowest rate which is 39, 9%. The average female employment rate is 58,8 % in European Union member countries (28 countries). Among European Union member states Netherlands is the country with highest male employment rate with 78, 7 % and Croatia has the lowest rate which is 56, 5% in 2013. The average male employment rate is 69, 4 % in European Union member countries (28 countries). (<http://www.tuik.gov.tr/PreHaberBultenleri.do?id=18619>).

Table 1. Non-seasonally adjusted main labour force indicators, november 2014-2015

	Total		Male		Female	
	2014	2015	2014	2015	2014	2015
Population 15 years old and over	(Thousand)					
Population	57 326	58 215	28 311	28 751	29 015	29 464
Labour force	28 970	29 801	20 114	20 492	8 856	9 309
Employed	25 874	26 876	18 168	18 575	7 706	8 101
Agriculture	5 180	5 154	2 812	2 802	2 368	2 352
Non-agriculture	20 694	21 522	15 357	15 773	5 337	5 749
Unemployed	3 096	3 125	1 946	1 917	1 151	1 208
Not in the labour force	28 356	28 414	8 197	8 259	20 159	20 156
	(%)					
Labour force participation rate	50.5	51.2	71.0	71.3	30.5	31.6
Employment rate	45.1	45.8	64.2	64.6	26.6	27.5
Unemployment rate	10.7	10.5	9.7	9.4	13.0	13.0
Non-agricultural unemployment rate	12.7	12.4	10.9	10.5	17.5	17.2
15-64 age group						
Labour force participation rate	55.2	56.0	76.3	76.8	33.9	35.2
Employment rate	49.1	50.0	68.8	69.5	29.4	30.5
Unemployment rate	10.9	10.7	9.8	9.5	13.3	13.2
Non-agricultural unemployment rate	12.8	12.4	10.9	10.5	17.5	17.3
Youth unemployment rate (15-24 age)	19.9	19.1	18.1	17.7	23.2	21.7

Source: <http://www.turkstat.gov.tr/HbPrint.do?id=2157>

Despite many studies conducted in order to increase women employment, informal employment has been an ongoing problem for many years. As of year 1988, the rate of women who work without registering to any social security system has reached a rather high rate such as 82,3%. However, as a result of the policies against unregistered employment this rate has been decreasing in years. Accordingly unregistered female employment rate was seen as 67, 1% in 2004 while in 2012 it fell to 54, 1 %. The salaries for the unregistered employment is rather lower than their costs for household chores and child care so the women

prefer to be out of the labor market by saying ‘I would rather look after my child myself’ (TBMM, 2013).

Our country aims to become one of the world's 10 largest countries in 2023 which is the 100th foundation anniversary of the republic. Towards achieving this goal, the duties of the women are very important and it seems that to achieve this objective would be possible with a significant increase in their participation in economic life. For this purpose, it is necessary to support the policies towards women.

It is an indisputable fact that women's education is the most basic requirement for increasing women's employment in our country and the World. It is a frequently observed fact in both our country and the world that due to their increased levels of education women are employed in more qualified jobs which create higher added value. Thus it should be emphasized that women in order to take part in labor force especially in ‘worthy of human affairs’ should have adequate education and a stronger relation between the education and employment should be established. Accordingly, the participation rate in the labor force of illiterate women in our country is 16, 7%, it is 24, 2 % in whom the education level is high school or less and it is 70, 9 % among higher education graduates. This is an indication that how strong the relationship between education and employment. (TBMM, 2013):

✓ In our country the main obstacle for the women employment increase is the harmonization problem of work and family life. The failure to achieve a balance between work and family forces women to make a single choice among taking part in working love of staying at home.

✓ One of the reasons for the low employment of women in Turkey is that they fail to harmonize the relationship between working hours and the requirements of family life.

✓ The higher the education level is, the higher the rate for participation of labor force is in both women and men. According to 2012 data the participation rate in the labor force is 16, 7% in illiterate women in our country, 30, 6 % in high school graduates, 38, 1 % in vocational and technical graduates and 70, 9 % in higher education graduates. This data is important in terms of showing the direct relationship between education level and labor force participation.

✓ In our country the proportion of women entrepreneurs is rather low. According to 2012 data the rate of women employers is only 1, 3 %. Among the reasons underlying the low female entrepreneurship in Turkey are: lack of adequate education, the access to finance difficulties needed to become entrepreneurs, the negative perspective on society in this area, inadequate child care services and lack of representation of women in decision making mechanism.

✓ The women who couldn't get enough places in employment can be organized in union structures very limitedly. The fact that unions have operated as institutions under the domination and control of men for many years and the continuation of this perception resulted in the limited number of women in the unions. As of the year 2012 in Turkey the rate of women working in agricultural sector is 39, 3%, the rate of women working as unpaid family worker is 33, 6%. When considered that the unregistered women employment rate is 54, 2 % it is not surprising that women do not take part in trade unions as much as they should do.

5. Evaluation and Results

The general trend in today's modern society is to prevent every kind of application that leads to gender discrimination and ensuring gender equality in all areas of society. At this point all

institutions in the state have various responsibilities. The state which is the decision making authority should make political applications in order to ensure gender equality.

Another way to make an improvment in women employment is the adoption of a state policy by all public institutions on increasing the women employment. In this context, to improve the women employment rate and to reach the same employment rate as the developed countries, it is necessary to place the importance of this area on the national documents and make some regulations in our legislation. The following steps are recommended to be taken on gender-sensitive budgeting in order to increase women's employment in Turkey (Özen, 2014).

✓ To create social awareness:

- A direct line can be established with civil organizations in order to improve the effectiveness: Women's Status General Directorate, civil society organizations can have an appropriate responsibility for this purpose.
- Media can be used in an active way. Public spotlight can be prepared for the prevention of gender discrimination across the country with popular names

✓ To Improve Corporate Motivation

- Women's employment in public institutions should be encouraged. Financial incentive would be provided for public instututions to improve corporate motivation.

✓ To Ensure Gradual Transition to Process:

- To take the attention of public by including a section to the development plans about women employment.
- Detailed targets may be included to medium-term program and financial plan.
- The socio-economic developments would be announced regularly by including a report named "Women's Movement Action Report" to the Central Government Budget Draft Law.
- To encourage women employment tax relief and lower insurance premium payment would be provided. Items can be added to the state budget for this purpose.
- As a result, for the access of women to the status that she deserves in economic and social life the inclusion of a gender-sensitive approach to the government budgetis needed. Thus, binding decisions will be taken for public sector and an encouraging tendency would be ensured for the private sector.

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The Multi Criteria Decision Analysis On Economics And Public Finance

1. Introduction and Terminology

Most of the methods developed to solve the complicating problems in economy and public finance employ mathematics and computer-assisted analysis techniques. However, most of these methods compensate for economic or financial problems due to human behavior with mathematic approaches that do take human behavior or preferences into account. People are heterogeneous and emotional economic units with not rational but limited perception of economy and are not a part of a working machine of economy (Sapir, 2004). Therefore, approaches that only utilize mathematic perspectives to solve social or economic problems may lack the necessary explanatory power and over-restricted models, intended only to prove or criticize a theory, may emerge.

Solow argues that a good model can explain multiple phenomena with a limited number of assumptions. However, the model should also present empirically testable alternative hypotheses. These alternative hypotheses should be rational, respectful of tangible phenomena and manageable-applicable (Solow, 2004).

In this sense, Multiple Criteria Decision Making Theory (MCDMT) provides approaches with several alternatives; human behavior is among the parameters that direct these approaches. Therefore, Multiple Criteria Decision Making Approaches (MCDMA) employ human behaviors as variables, surpassing other electro-mathematic economic models.

The history of MCDMT goes back to classic economists of the 19th Century; however, the actual point of origin is the Social Choice Theory, guided by the Portfolio Theory in economy and finance (Arrow; 1951). The Game Theory, the Individual Decision Making Theory and the Bounded Rationality Theory influenced the development of MCDMT (Simon, 1976). The first Multiple Criteria Decision Making Congress was held in the middle of the 1970s. In the 1980s, several MCDMA models were developed and became preferable to conventional optimization methods (Pomerol and Barba Romero, 2000).

2. Objective and Scope

The objective of this paper is to introduce the Multiple Criteria Decision Making Theory, which is capable of offering solutions to economic and financial problems and conduct a limited literature review in the field. Unlike other Decision Making Theories (linear programming, dynamic programming, investment models, etc.), there is no consensus on MCDMT (Triantaphyllou, Kovalerchuk, and Mann, 1997). Therefore, making a complete definition of the methods and process used on the literature or reach an agreement on the definitions appears to be difficult. This paper aims to provide information on the theoretical structure of multiple criteria decision making analysis in economy and finance.

The most important problem in economy and relevant fields is ensuring efficient distribution of limited resources and capital to alternative areas of use (Hallerbach and Spronk, 2002). In this aspect, the 3E concept in English (economy, efficiency, effectiveness) gains importance. It is possible to regard efficiency as a maximization-minimization or benefit-cost problem. However, a typical neoclassic optimization approach can only provide a mechanical explanation to the problem. This explanation does not reflect various possible

objectives of decision maker(s) and the fact that there could be human-based contradictions between the objectives is ignored, and absolute validity of rationality is accepted. In parallel, Economic Sociology has come to accompany MCDMT in recent years, originating from the USA.

There is a decision making process consisting of economic units that cannot be fully rational to solve problems in the fields of economy or finance. This process often combines qualitative and quantitative parameters and many nonmonetary factors influence the resolution of a monetary problem. Especially in economy and other complex structures, different problems must mostly be resolved simultaneously by different decision makers. Polanyi argues that a system that includes humans features value judgments and, consequently, subjectivity (Olson, 2004). In this environment, MCDM methods can be used to solve identified problems.

Decision makers, i.e. partners or social parties, adapt to each other and compromise to solve problems, which can make it much easier to solve the problem. In the MCDM process, to solve any problem in line with specified objectives, a new model is often devised (Omann, 2004). The models were developed by two schools using the MCDM approaches.

- The European-oriented Multi-Criteria Decision Aid (MCDA) School,
- The American-oriented Multi-Criteria Decision Making (MCDM) School (Omann, 2004).

It is impossible to name any one method or approach to describe MCDA; methods used for all models are different. The actual methodological problem emerges when data measured in different scales are measured (Triantaphyllou and Baig, 2004). Human behavior and purely mathematical data are combined on the same lane. As of the 1980s, MDCA became more prevalent in the solution of problems with multiple criteria (Keefer, Kirkwood and Corner, 2004).

3. The Implementation process

MCDM models consist of several phases (Martel, 2005). However, we can divide these phases into two categories and six stages. In the first phase, objectives and possible trade-offs, which can emerge between the objectives specified for various implementations, are identified (Pearce, Hett and Özdemiroğlu, 1999). In the second phase, the identified problems are analyzed to find a solution.

3.1. The First Phase: Identification

In the first phase, objectives desired to solve the specific problem are identified and arrangements are made to accomplish these objectives. This phase consists of six stages (www.odpm.gov.uk, 2005).

1. Identification of the Problem and Objectives

Objectives to be accomplished towards the resolution of a problem should be identified by the individual or the group who determines what is going to be done and when. The decision maker(s) who will develop the model of the problem and the solution are identified. A separate objective group can be evaluated for the opinion of each decision maker (Bruen, 2002). The objectives should be clear, understandable, realistic and measurable. The objectives can be divided into two groups.

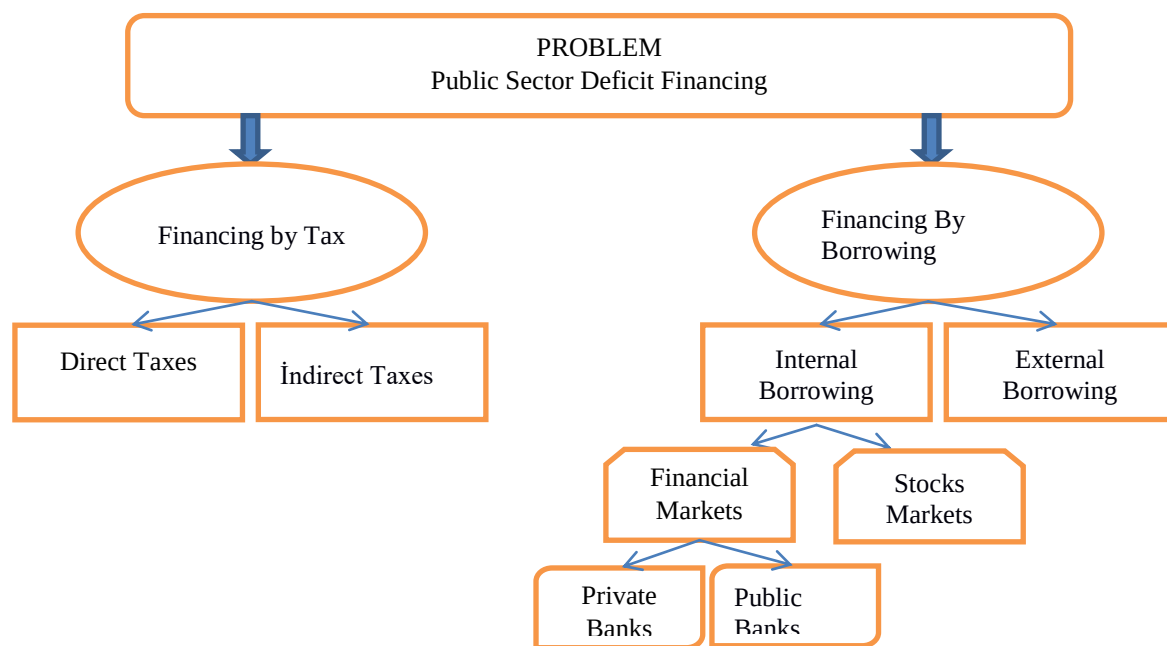
a. Primary objectives are the more important objectives aimed to be accomplished. For instance, reduction of unemployment or the inflation rate are primary objectives.

b. Secondary objectives are the objectives that can provide assistance on the way to accomplishing primary objectives. Fiscal or financial policy options to reduce the inflation rate are secondary objectives.

2. Identification and Evaluation of Alternatives

Various alternatives are identified in the direction of policies to be devised to accomplish objectives. For instance, financial policy alternatives as well as fiscal policy alternatives should be listed to reduce the inflation rate. In this step, each decision maker can specify a different alternative and the process gets more complicated as the number of decision makers increases (Mohammadpour, Zolfaghari and Jabal 2005). The alternatives identified are ordered with the *decision tree* method. In the decision tree, the alternatives are subcategorized according to their costs and benefits and the subcategories are grouped among each other (Danielson and Ekenberg, 2007).

Table 1. Decision Making Process



The problem to be solved is placed at the top of the decision tree. The decision maker predicts two main alternatives to solve the problem.

3. Identification and Evaluation of Selection Criteria

Criteria should be able to afford qualitative or quantitative evaluation, and measure the performance or results when the alternative is selected to solve the problem (Tille and Dumont, 2003).

Because a different model is developed for each problem, it is observed that the selection criteria are based on subjective elements, in other words, opinions of the decision maker and

the model he develops. The alternative creation process and evaluation of the alternatives according to the selection criteria can be schematized as follows (www.odpm.gov.uk, 2005).

3.2. The Second Phase: Analysis

In the analysis phase, the best one(s) among the applicable alternatives to solve the identified problem are determined. This phase also consists of three stages (www.odpm.gov.uk, 2005).

1. Measurement of the alternatives

Considered alternatives are weighted according to each selection criterion and their performance is measured. The selection criteria are based on the decision maker's opinions. Moreover, the other partners to be affected by this decision participate in the evaluation process. Decision makers as well as other parties to be affected are included in the model.

2. Evaluation

The alternative(s) with the best performance in the measurement stage are reevaluated in the evaluation stage. The evaluation is intended to correct possible mistakes in the alternative selection and measure sensitivity before settling on the alternative to be used. The selection criteria should be reevaluated if there is an unexpected occurrence. This evaluation respectively includes the steps of:

- Consultation with other experts on the subject,
- Evaluation of the second best alternative to the inapplicable best alternative if another evaluation system can be used (Lipsey and Lancaster, 1956),
- Repetition of the sensitivity analysis under the new conditions.

3. Feedback

The MCDM is a continuous and complex process that needs development. Each new model generated in the modeling process provides guidance for the next study. Therefore, mistakes made and facilitative methods developed by scientists studying the field are crucial to the development of the MCDM theory.

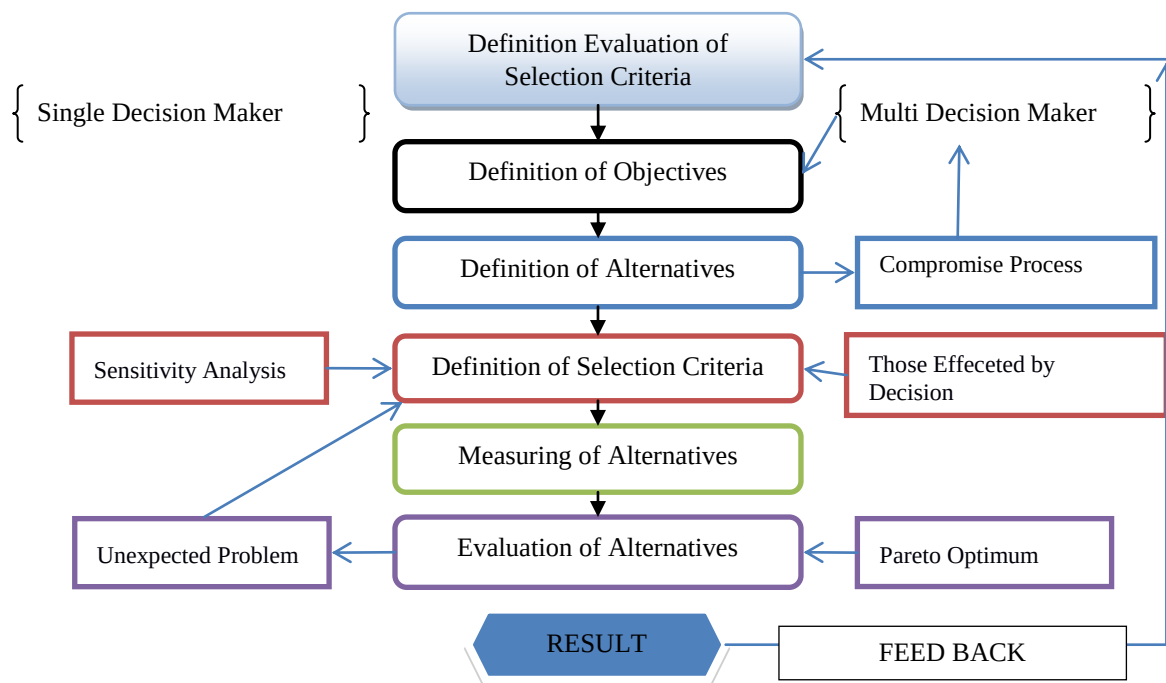
3.3. The Measurement Process

The Multiple Criteria Decision Making (MCDM) Methods are examinations with systematic, numerical and normative qualities and make it easier to solve specific problems (Keefer, Kirkwood and Corner: 2004). The MCDM methodology is a debated subject and there is not any single measurement method agreed upon (Triantaphyllou E., Kovalerchuk B., and Mann, 1997). Moreover, although there are many models based on real economic and financial problems, it is debatable which method is more reliable because there is little *ex post* evaluation on these models (www.lamsade.dauphine.fr 2005). The MCDM generally proposes good solutions under the following conditions (www.diap.polimi.it, 2004).

- Problems consisting of various preferences to be organized,
- Problems where numerical and behavioral data are to be evaluated together,
- Problems with which the decision maker's approach is important.

There are various measurement techniques used in MCDM; however, a Performance Matrix constitutes the starting point. Alternatives identified based on objectives specified in the performance matrix are evaluated according to the selection criteria. The following table demonstrates the entire process.

Table 2. Definition and Evaluation of Selection Criteria



3.4. Performance Matrix Evaluation

An evaluation named the Performance Matrix shows sets of selection criteria and alternatives together (www.odpm.gov.uk, 2005). Each row shows alternatives to be selected and each column shows the selection criteria. There may be quantitative values or qualitative properties among the developed criteria. The performance matrix evaluation can be used directly for problems that are easy to solve. However, the process becomes complicated with economic selections and separate performance matrixes are used to generate solutions for several objectives simultaneously. The following table shows the variables and notations used while generating a performance matrix.

Notation	Variable	Size
A	Alternatives generated to solve the problem	$i=1,2,3,...,M$
C	Selection criteria used in the evaluation of alternatives	$j=1,2,3,...,N$
W	Weight of the importance the decision maker gives to the criteria	W_j
a_{ij}	Level of importance given to alternative i in the type of criterion j	
P_i	Order of preference in alternatives generated in the	$i=1,2,3,...,M$

decision process

Some models process the weight given by the decision maker to the selection criteria (w) and the values attributed to the alternatives (a) prior to the measurement process and use the processed values during measurement (Triantaphyllou, 2001). Accordingly, a model that consists of n selection criteria, the following normalization should generally be ensured to calculate the weight given to the criteria:

$$\sum_{j=1}^n w_j = 1$$

The normalization implies that the sum of weights of the selection criteria must be equal to 1. SAATY argues that the most difficult phase of the models is determination of the level of importance to be given to the selection criteria. Performance Matrixes are used to make these determinations.

1. Selection Criteria

The Multiple Criteria Decision Making Theory is used to offer solutions for the objectives and alternatives generated according to a specific problem simultaneously with the selection criteria (Spronk Steuer and Zopounidis, 2003). Decision makers should evaluate a finite number of objective alternatives with a finite number of decision making criteria, which must be pinpointed correctly to make a choice between various alternative solutions (Triantaphyllou and Baig, 2004). Selection criteria often contradict each other (Triantaphyllou, Kovalerchuk and Mann, 1997). As problems in economy and finance are generally appraised on the basis of cost and benefit categories, which are opposites, identification of the selection criteria becomes more difficult than other fields. Aspects generally sought in the selection criteria may be listed as follows:

Internal consistency and validity, transparency, comprehensibility, ease of use, auditability, independence (the criteria must not cover the same scope or overlap), selection of no more or less criteria than necessary.

2. Scoring and Weighting

Scoring and weighting measurements are used in the evaluation of Performance Matrixes.

a. Scoring

Each alternative is evaluated according to various criteria and is scored between the lowest (0) and the highest (100) grades. Scoring can also employ good, bad and average grades for some approaches and computer programs.

b. Weighting

Weighting is a method used when measurement units are different. For instance, USD and Euro have different purchasing powers and mile and kilometer refer to different distances. Problems that may stem from such diversities and qualitative aspects can be solved by weighting. This type of imaginative comparisons are generally made by mathematic programs that can order words like "good," "better" and "beautiful" and the weight of the selection criteria is used in determining levels of importance among the alternatives. These methods are generally called Compensatory Multi Criteria Analyses Techniques (www.odpm.gov.uk).

Additionally, in decisions made by groups of multiple decision makers, the levels of importance assigned to the criteria by decision makers may be summed up or averaged or the weight may be directed towards the opinion of the most competent decision maker on the subject. In the cases where the use of surveys is appropriate, the weight to be given to the criteria are determined by computer programs based on individual selections.

c. Performance order

Performance order (S_j) of the alternatives is determined according to the scored or weighted selection criteria. Pareto Optimality rules prevail in the performance order. The Pareto Optimum is reached when relocation of the alternatives or the addition of new alternatives do not increase but decrease performance measurements. The order can be accepted as valid in this case. The validity can be evaluated through sensitivity analyses (Triantaphyllou, 1997).

The Pareto Optimality is not a standalone model; it is used to compare selection criteria, especially in the measurement phase, and evaluate the decision made in the alternative selection. Preliminary preparation is not necessary to determine the Pareto Optimum in measurements with homogenous selection criteria consisting of the same units, whereas it is necessary to create homogeneity from heterogeneous units (Podinovski, 2002). This is explained in sensitivity analyses.

3. Sensitivity Analyses

Sensitivity Analyses are performed to evaluate the results obtained with a performance matrix and obtain the results eluded by the matrix. In the literature, there are studies that regard sensitivity analyses as a separate model and others including it in the Analytical Hierarchy model (Triantaphyllou, 1997). Sensitivity analyses are generally examined within the framework of four separate main models. In general, it can be said that the Multiple Criteria Decision Making Approaches are based on the "Multi-Attribute Utility Theory" (MAUT). This model was shaped up in economy based on the utility theory.

The Multi-"Attribute" Utility Theory is based on Bentham's utility theory, which was built on the Anglo-Saxon doctrine (Mateu, 2002).

4. Conclusion

Many of the measurement methods employed in economy and public finance consist of purely mathematical analyses based built on the neoclassic finance theory. However, progressive structure of economy and finance is influenced by human nature during the decision making process. Therefore, analyses that only include quantitative scales are insufficient in handling human-oriented projects. The Multiple Criteria Decision Making Analyses provide an opportunity to evaluate qualitative and quantitative scales together, incorporating human nature and appreciation into the analyses. The Multiple Criteria Decision Making method has become a frequently used process by both public and private sectors for its attributes and advantages. These methods make it much easier to answer questions about which objectives should be renounced and which instruments should be used while pursuing the policy objectives, and how these instruments should be selected and arranged.

As a result of the globalization process, countries are influenced by internal as well as external dynamics. In an environment with such intense external factors, it becomes crucial to

identify alternatives and determine their costs. In the implementation process of the Multiple Criteria Decision Making Analysis, qualified workforce, computer infrastructure and a good communication network is necessary. Additionally, the management approach needs to be reconstructed. Pro-status quo approaches and single-centered management mentalities must be abandoned and the management must become dynamic, open to change and participative. Considering the objectives pursued in economy and finance and the sheer number of variables of these objectives, the importance of the Multiple Criteria Decision Making Process becomes clear.

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The Evaluation Of The Central Government Budget In Turkey After The Financial Crisis Of 2008

1. Introduction

Budget (Government Budget) is scientifically defined as a legal economy which determines the future income and expenses of the state and other public entities and ensuring the accreditation and application of these. In our country after the Constitution which directs the budget implementation dated 2003 number 5018, in Public Financial Management and of the Control Law F paragraph of Article 3 the budget is defined as “ a duly enacted document which shows the specific revenue and expenditure estimates for a certain period and matters related to the application of them “ The same law in Article 15 it is defined that “ an act showing the revenue and expenditure estimates of Central Government Budget Law within the Central government and permitting the implementation and conduction of them”. Central Government Budget including the whole of General Budget, Special Budget Administrations, Regulatory and Supervisory Authority represents a large part of the public and has a very significant place in the national economy.

As the Central Government Budget is shaped within the national economy, the budget affects the development of national economy. Together with Central Government Budget when we consider the budgets of Extra-Budgetary Funds, Social Security Administration, Stat-owned Enterprises and Local Governments we can conclude that public sector has the size of over 40% in our national economy.

The economic crisis which affected mostly USA and many other global state economies had a negative effect on Turkish economy in terms of the latest development and the balance between central authority and budget. Specifically, a decrease in tax revenues had an increasing effect on budget deficits. However, with the economic stability as a result of the application of economic strategies between the years 2001-2008 the budget deficits had considerably decreased in Turkey. Since the year 2010 Central Government Budget balance has developed according to objectives of pre 2008 again. The aim of this study is to analyze the effects of 2008 global financial crisis on government budget and evaluate the government implementations within the light of current improvements.

2. 2008 Financial Crisis and Its Effects

The residence prices have increased dramatically in the USA during the 2000s. The reason for this increase was the mortgage credits which could be obtained easily. The ongoing increase of the residence prices created an excessive optimistic atmosphere and caused banks to provide low income families with mortgage credits easily. When the house prices began to decrease suddenly the subprime mortgage (high risk and high interest credit) market was collapsed in 2008. Therefore, the families with low income could not pay their debts and moreover they experienced a bad situation during which their houses were seized by the banks. Through the end of 2008 subprime mortgage crisis affected not only the people with low income but the whole USA financial system. In addition to USA other developed economies were affected negatively via their relation with financial markets. (Merrouche & Nier, 2010:4).

The financial institutions which opened high risk credits to the low income families consolidated their loan contracts and brought into bonds that can be bought and sold on stock exchanges. They sold them to the investment banks and commercial banks. Bear Stearns investment bank holding a large amount of high-risk mortgage loans went bankruptcy in

March, 2008 and was sold to JPMorgan Chase, another US investment bank, by the government. This bankruptcy was followed by the bankruptcy of another investment bank Lehman Brothers and Merrill Lynch due to their sustained huge losses caused by the mortgage subprime market. And lastly the bankruptcy of American International Group which was an insurance company. (Mckibbin & Stoeckel, 2009:9). Other bankrupt banks such as Washington Mutual and Wachovia were sold to other banks. The US Congress in late September 2008 has approved a \$ 700 billion rescue package to stop this crisis. (Ataman Erdönmez, 2009: 91).

The USA crisis leapt to Europe in a short time and Iceland's three biggest banks went into bankruptcy. The residence prices in England were declined as in the USA. The crisis has affected especially the economic growth and other economic indicators (investment, unemployment, foreign trade) in USA and European countries in a negative way.

In Europe where the 2008 global crisis has turned into a banking and public debt crisis, the main problems have been limited growth, limited employment, limited demand, and deflation risk, increasing public debts, unemployment and financial fragility.

The crisis has affected Turkish Economy as well. Together with this crisis, our economic indicators and budget balance were distorted. For example, during the year 2009 economic growth was concluded as -6% while the target was 4 %. For the year 2010 growth rate was 9.2 % and inflation rate was 6.4 %. In the year 2012 which was a "rebalance " term in economy especially in the second half of the year Turkish Economy grew 2.2 % which was under the expectations while the inflation rate was 6.2 %. In the following years economic growth and inflation rates have increased to some extent. However, after the domestic economic crisis in 2001 the regulations especially on the banking field have limited the effects of crisis on finance sector.

3. The Effects of the Crisis on Central Government Budget in Turkey

2008 crisis had some negative effects on revenue and expenditure items of central government budget and budget balance. The table 1 shows the central government budget expenditures and revenues between the years 2006-2015.

The Evaluation Of The Central Government Budget

Table 1. Budget Revenue and Expenditure Realizations (2006-2015)

	Millions of TL									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Revenues	173.4	190.3	209.5	215.4	254.2	296.8	332.4	389.6	425.3	483.3
	83	60	98	58	77	24	75	82	83	86
General Budget Revenues	168.5	184.8	03.0	208.6	246.0	286.5	320.5	375.5	408.6	464.7
	47	03	27	10	51	54	36	64	76	85
Tax Revenues	137.4	152.8	168.1	172.4	210.5	253.8	278.7	326.1	352.5	407.4
	80	35	09	40	60	09	81	69	14	75
Non-Tax Revenues	26.97	23.94	24.54	33.00	30.91	28.80	36.69	37.96	44.42	46.19
	0	5	8	6	8	3	4	3	7	6
								10.10		
Capital Income	1.841	6.080	9.114	2.044	3.376	2.530	2.054	5	9.549	7.932
Grants and Aids	2.255	1.845	850	807	966	1.068	1.652	1.096	1.281	2.208
Receivable Collections	0	97.6	407	312	232	344	1.355	231	905	973
Special Budget Revenues								11.44	13.52	15.09
	3.530	3.972	4.825	5.037	6.333	8.174	9.622	5	4	3
Rev.of Reg.and Sup.Agency	1.407	1.585	1.747	1.811	1.893	2.095	2.318	2.673	3.183	3.509
	178.1	204.0	227.0	268.2	294.3	314.6	361.8	408.2	448.7	505.9
Expenditures	26	68	31	19	59	07	87	25	52	92
Personnel Expenditures	37.81	43.56	48.85	55.94	62.31	72.91	86.46	96.23	110.3	125.0
	2	9	6	7	5	4	3	5	70	46
Govern. Premiums to S.S.I.					11.06	12.85	14.72	16.30	18.92	21.04
	5.075	5.805	6.408	7.208	3	0	8	6	9	2
Purc.of Goods and Service	19.00	22.25	24.41	29.79	29.18	32.79	32.89	36.38	40.80	45.44
	1	8	2	9	5	7	4	6	1	4
	45.96	48.75	50.66	53.20	48.29	42.23	48.41	49.98	49.91	53.00
Interest Payments	3	3	1	1	9	2	6	6	3	6
	49.85	63.29	70.36	91.97	101.8	110.4	129.4	148.7	162.2	182.7
Current Transfers	1	2	0	6	57	99	77	43	82	87
Capital Expenditures	12.09	13.00	18.51	20.07	26.01	30.90	34.36	43.76	48.20	56.87
	8	3	6	2	0	5	5	7	1	5
										10.46
Capital Transfers	2.637	3.542	3.174	4.319	6.773	6.739	6.006	7.666	7.707	0
									10.55	11.33
Lending	5.689	3.846	6.644	5.698	8.857	5.671	9.537	9.134	0	3
Contingency	0	0	0	0	0	0	0	0	0	0
	-	-	-	-	-	-	-	-	-	-
	-	13.70	17.43	52.76	40.08	17.78	29.41	18.54	23.37	22.60
Budget Balance	4.643	8	2	1	1	3	2	3	0	6

Source: Ministry of Finance, <https://www.maliye.gov.tr>, (22.02.2016)

Table 2 shows the ratio of central government budget expenditures and revenues to GDP within the term 2006-2015.

Table 2. Budget Revenue and Expenditure Realizations (2006-2015) (Ratio to GDP %)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Revenues	22,9	22,6	22,1	22,6	23,1	22,9	23,5	24,9	24,3	24,6
General Budget Revenues	22,2	21,9	21,4	21,9	22,4	21,1	22,6	24	23,4	23,7
Tax Revenues	18,1	18,1	17,7	18,1	19,2	19,6	19,7	20,8	20,2	20,8
Non-Tax Revenues	3,6	2,8	2,6	3,5	2,8	2,2	2,6	2,4	2,5	2,4
Capital Income	0,2	0,7	1	0,2	0,3	0,2	0,1	0,6	0,5	0,4
Grants and Aids	0,3	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Receivable Collections	0	0	0	0	0	0	0,1	0	0,1	0
Special Budget Revenues	0,5	0,5	0,5	0,5	0,6	0,6	0,7	0,7	0,8	0,8
Rev.of Reg.and Sup.Agency	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Expenditures	23,5	24,2	23,9	28,2	26,8	24,2	25,6	26	25,7	25,8
Personnel Expenditures	5	5,2	5,1	5,9	5,7	5,6	6,1	6,1	6,3	6,4
Govern. Premiums to S.S.I.	0,7	0,7	0,7	0,8	1	1	1	1	1,1	1,1
Purc.of Goods and Service	2,5	2,6	2,6	3,1	2,7	2,5	2,3	2,3	2,3	2,3
Interest Payments	6,1	5,8	5,3	5,6	4,4	3,3	3,4	3,2	2,9	2,7
Current Transfers	6,6	7,5	7,4	9,7	9,3	8,5	9,1	9,5	9,3	9,3
Capital Expenditures	1,6	1,5	1,9	2,1	2,4	2,4	2,4	2,8	2,8	2,9
Capital Transfers	0,3	0,4	0,3	0,5	0,6	0,5	0,4	0,5	0,4	0,5
Lending	0,8	0,5	0,5	0,6	0,8	0,4	0,7	0,6	0,6	0,6
Contingency	0	0	0	0	0	0	0	0	0	0
Budget Balance	-0,6	-1,6	-1,8	-5,5	-3,6	-1,4	-2,1	-1,2	-1,3	-1,2

Two tables above can be examined under headings budget expenditure, revenue and deficit after the 2008 global financial crisis.

3.1. In Terms of Expenditures

After the 2001 economic crisis ratio of central government budget expenditures to GDP was 34,1 % in the year 2002, it dropped back 23,9 % in 2008. In 2009 this ratio was 28,2 % increased by 18 % compared to the year 2008. In the year 2010 it was 26,8 % increasing by 12 %, in 2011 it was 24,2 % increasing by 1,2 %. The ratio was of expenditures to GDP was 25,6 % in 2012, 26, 0 % in 2013, 25, 7 % in 2014, and 2015 estimation was 25,8 %. As we have seen, the crisis especially in 2009 and 2010 led to a significant increase in budget expenditures, and the increases have returned to normal degree in subsequent years. In the years 2009 and 2010 budget personnel expenditures, goods and service purchases, interest payments in 2009, especially in current transfers, capital expenditures showed a significant increase compared to 2008. According to the Medium Term Program (MTP) including 3-year period 2016 – 2018 the ratio was expected to be 26 % for the year 2015. The estimation for the year 2016 is 25, 2 %.

3.2. In Terms of Revenues

While the ratio of Central Government Budget to GDP was 22, 7 % in 2002 it was 22, 1 % in 2008. It was 22,6 % in 2009 with a slight increase 23,1% in 2010, 22,9 % in 2011, 23,5 % in 2012, 24,9 % in 2013, 24,3 % in 2014 and 2015 estimation was 24,6 %. Tax revenues which make up a large part of budget revenues has a ratio of 17,7 % in GDP in 2008. This ratio was 18, 1 % in 2009, 19, 2 % in 2010, 19, 6 % in 2011, 19,7 % in 2012, 20,8 % in 2013, 20,2 % in

2014, and it was estimated 20,8 % in 2015. Therefore, no regression in absolute value of the tax revenues is observed with the crisis. There was a considerable increase in non-tax revenues in the year 2009. According to MTP including the three-year term between the years 2016-2018, the ratio of Central Government Budget revenues to GDP is estimated 24,8 % in 2016 and 24,4 % in 2016.

The tax burden including social security contributions was 24,7 % in 2009 and 27, 6 % in 2012. The 1,2 point percentage of the 2.9 point percentage increase in the tax burden is of social security contributions and 1,7 point is of taxes. Restructuring of public receivables within the scope of Law No. 6111 in 2011, social security contributions amnesty in the years 2006-2006 and paid military service in 2012 have provided significant resource. Moreover, during the Ninth Development Plan nearly 0, 6 % customization income was gained.

In 2002 the ratio of budget deficit to GDP was 11.5%, it began to decrease from the year 2003 and has dropped to 0,6 % level in 2006. In 2009 the ratio of GDP showing more than three-fold increase rose to 5.5 % which was at the level of 1.8 %, in 2008. The most important reason for increases in budget deficit was the considerable increase of the expenditures. After all, tax income which was the biggest item in budget revenues revealed a slight increase in 2009 compared to 2008.

While deficit was estimated as 10, 5 billion liras for the year 2009 it was 52 billion liras, so domestic and foreign budget debt has increased significantly in 2009 budget. (Korkmaz ve Tay, 2010:6). The budget deficit began to decline in 2010 and it was 3,6 % in 2010, 1,4 % in 2011, 2,1 % in 2012, 1,2 % in 2013, 1,3 % in 2014. The 2015 estimation is 1,2 % and this ratio is far below the 3% rate determined by Maastricht criteria for member states to be a member of Economic and Monetary Union.

60% of the public debt criteria of the Maastricht criteria are available from 2004. The ratio of public debt to GDP which was 74 % in 2002 fell to 59.6 % in 2004, reaching 40 % in 2008 has risen to 46 % with impact of the global crisis in 2009. As a result of developments in the public deficit that ratio was 42.3 % in 2010, 39.1 % in 2011, 36.2% in 2012, while 33.5 % and 36.1 % in 2013 and 2014. In 2015 the ratio is expected to occur in 30% and is expected to be reduced to 34 % level in 2018.

Budget debt interest payments limit the budget to fulfill its functions, and it is desired to increase non-interest expenses. The relative decline in the budget deficit and borrowing needs, non-interest expenses which was 19, 4 % in 2002 has become 22.8 % in 2014. Personnel expenses, education, health, transportation, and social transfers and social security expenses, supports given to real sector and the agricultural sector have been the main determinant of the increase in general government expenditure in this period.

In 2016-2018 period MTP, it is estimated that the budget deficit will be 24 billion 506 million by the end of 2015, while the ratio of budget deficit to GDP is estimated to be 1.3 %. On the other hand, the primary surplus is expected to be 29 billion 494 million TRY, while the ratio to GDP is expected to be 1.5 %. The budget deficit / GDP ratio forecast for 2016 is 0.7 %. In 2017, this ratio is expected to gradually decrease to 0.6 % and in 2018 it is expected to be 0, 4 %.

4. Developments in the Central Government Budget

Some developments concerning the central government budget after the crisis of 2008 is as follows:

Since the second quarter of 2010, performance monitoring and evaluation system is introduced to 120 public administrations. Thus, the public has been informed about the development of infrastructure for the performance of the administration. General government

finance statistics has been the case with published per-three months periods by harmonizing with international standards. Tax Authorities Control Information System for the control of tax authorities and tax transactions, Accountancy and Control Information System for the control of public spending, the National Real Estate Audit Information System for the control of the national real estate transaction projects have been implemented by the Ministry of Finance. The first time, all tax offices are introduced with the system of remote control by a single system.

To speed up and simplify the notification, E-notification system and for collection e-collection implication is planned. In order to reduce the cost of compliance of taxpayers and to strengthen taxpayer rights the Rulings Automation System is implemented across Turkey since 26 January 2010. With this system the rulings given to the taxpayers (tax ruling are) are ensured to be on certain standards and a unity in application by authorities has been made.

In parallel with the changes made to the Constitution, overseas prohibition by the administrations without court order by the administration is ended. Risky institutions with taxpayers are determined with the Central Risk Analysis and stratification (MERAK) project. For the KDV refund of Corporation Tax by taxpayers Risk Analysis Project has been implemented.

The human resources of the Revenue Administration is strengthened and the number of control employees is increased. Risk Analysis Center is established in order to carry out tax audit and review with the information taken periodically from various institutions and organizations and stored in the computer-based database (VERIA) effectively and efficiently.

The workload of the tax offices is reduced by delivering the documents such as: Tax return, the attachments for the tax return, and balance via internet. Current Account System which will allow taxpayers monitoring of the account balance up to date was introduced. Taxpayer Current Account System has been introduced. With E-foreclosures system it is easier to follow public will. With E-book "Electronic Book" and E-archive (electronic document storage) applications it is aimed to ease the duty of both taxpayer and administration.

The privatization process carried out from November 2010 until 1986 is over 41 billion dollars. The resulting 29.4 billion of this revenue has been transferred to the public purse and 9.3 billion dollars is transferred to the institutions within the privatization process, the remaining portion is used for other expenses.

On 3.12.2010 to increase the effectiveness of No. 5018 Public Financial Management and Control Law which is the second most important legislation after the Constitution, Court of Accounts Law No. 6085 was adopted.

With Law No. 6107; a development and investment bank called "İller Bankası Bank Corporation" as a subject to the provisions of private law, legal personality and the joint-stock company was founded. The abbreviated title of the Bank "İLBANK," and its center is in Ankara. The bank is concerned with Ministry of Environment and Urban Planning. The Bank is an important provider of finance for local authorities.

The government formed after the June 12, 2011 general elections abolished the state ministries and: Economy, European Union, Development, Customs and Trade, Youth and Sports, Family and Social Policy Ministry was established. Some arrangements are made with some ministries and their names are changed as: Ministry of Industry to Ministry of Science, Industry and Technology; Ministry of Agriculture and Rural Affairs to Ministry of Food, Agriculture and Livestock; the Ministry of Environment to Ministry of Environment and Urban Planning, Ministry of Forestry to Ministry of Forest and Water Affairs.

With the Decree-law No. 646 of Tax Control Board Resolutions published in Official Gazette of the Republic of Turkey dated July 10, 2011, Tax Control Board was established in

the Ministry of Finance, It is unified tax audit units in the Ministry of Finance and tax audits are gathered under one roof.

With the Law on Collection Procedure of Public Receivables No. 6322 dated 31.05.2012 with Certain Laws Amendment, some regulations promotion of investment and employment, the reduction of regional disparities, for the promotion of strategic investments were introduced.

5. 2016 Fiscal Year Central Government Budget, Some Evaluations Regarding The Budget and Application System

Government established after the general elections of June 7, 2015 prepared the 2016 Fiscal Year Central Government Budget Draft Law on time and presented it to the Turkish Parliament 75 days before the 1th of January which is considered as the financial year according to the Article 162 of the 1982 Constitution.

On 2016 Central Government Budget Draft Law central government budget expense is designated as 540 billion 876 million TRY excluding treasury aid and the shares from revenues. Accordingly, the ratio of total budget expenditures to GDP is 25.3 %. Central government budget net income is 525 billion 448 million TRY. The major item in the budget revenues is tax revenues and it is indirect taxes in tax revenues. In 2016, the budget deficit is 15 billion 428 million TL, while the primary surplus is 39 billion 572 million TRY. Accordingly, the ratio of budget deficit and primary surplus is foreseen respectively as 0,7 % and 1,8 %.

According to the bill, for the 2016 year as in the 2015 the largest share in general government budget are respectively transfers made to Social Security Institution, agricultural support, current transfers such as losses of state-owned enterprises, personnel expenses and interest expenses. The ratio of these items to GDP is 9, 4 % for current transfers, 6,8 % for personnel expenses and 2,6 % for interest expenses. According to the functional classification considering the distribution of central government budget expenditures in 2016, the largest shares are respectively general public services, social security and social aid services and educational services. For health services 26 billion 541 million TRY allowance is foreseen. In this case, the ratio of education and health services to GDP is respectively 4.6 % and 1.2%.

Due to the renewal of the general elections in November 1, 2015, 2016 Fiscal Year Central Government Budget Draft Law couldn't be discussed in the Parliament on the time specified in the Constitution (The draft law was obsolete), and a temporary budget draft law was prepared by the government formed after the elections. Covering the period from 1 January to 31 March 2016, No. 6654 quarterly temporary budget law was adopted in Parliament on December 18. With the temporary budget, the amount of the expenses would be up to the ratio of initial allowances of the marked rules depending on the 2015 Central Government Budget Law (A).

In this case, the Medium Term Programme (2016-2018) and the Medium Term Fiscal Plan (2016-2018) and the 2016 Fiscal Year Central Government Budget Draft Law with their new shapes, are supposed to be presented to the Parliament by the government including the January-March 2016 period. According to the refurbished Medium-Term Programme (2016-2018) and the Medium Term Financial Plan (2016-2018) the ratio of central government budget to GDP is intended to be respectively as 25, 9 %, 24, 9 % and 24, 2 %.

At the end of the 2016-2018 financial plan period, the ratio of central government revenues to GDP supposed to be 23,3 %, while the ratio of tax revenues to GDP is foreseen as 20.5%. The ratio of 2016 central government budget deficit to GDP is supposed to be around 1.3 %, while in 2017 and 2018 it is intended to fall to 1 % and 0.8 %, respectively. In Medium

Term Fiscal Plan period, the ratio of primary surplus to GDP is foreseen as 1,2 % in 2016, while in 2017 and 2018 it is projected to be 1,4 %. Relative to GDP, in 2016 the EU (European Union) defined general government debt which is supposed to be 31,7 % by the end of 2016 is intended to fall down to 29,5 % level till the end of program period (2018).

According to the 2016 Fiscal Year Central Government Budget New Draft Law it is estimated that economic growth rate of 4, 5 %, inflation 7, 5% and budget expenditures 570.5 billion TL . (The estimated 2016 ratio to GDP is 25,8 %), Budget revenues 540.5 billion TRY (The estimated 2016 ratio to GDP is 24,5 %), tax revenues 459,2 billion TRY (The estimated 2016 ratio to GDP is 20,8%), budget deficit 29,7 billion TRY (The estimated 2016 ratio to GDP is 1,3 %), the primary surplus 26.3 billion TRY (The estimated 2016 ratio to GDP is 12 %).

In our country, the provisional budget implementation has been made several times in the past. For example, in the years 1949, 1965, 1970, 1974, 1988, 1992, 1996, 1999 and 2003 it was implemented. Although there was not a provision about temporary budget in 1982 Constitution, in Public Financial Management and Control Law dated 2003 and No. 5018 Article. 19 there is a provision about temporary budget. According to this provision, a temporary budget would come into force in the case that a central government budget fails to be applied on time because of compulsory reasons. Provisional budget allowances are determined on the basis of a certain percentage of the previous year's initial budget allowances. Provisional budget implementation shall not exceed six months. With the entry into force of the current year budget, temporary budget implementation will end and the expenses with collected revenues are included in the current year budget.

Temporary budget application contains some problems too. The temporary budgets weaken the control of parliament as there is no partly confirmation. They also restrain the development of government services and investments and their goals to reach the targets. The fiscal policy measures to be implemented by the general budget cannot be applied and the application will be delayed. It can lead to confusion in the public accounts. However, in some states such as UK temporary budgets are considered as normal and general budget term begins with temporary budget implication. Later a new budget is implemented. With this application, budget expenses and revenues estimation is to be more realistic, deviation between the realization of the budget and estimations are intended to be reduced.

Both temporary and central government budget which is supposed to be applied in April 1 2016 should be conformed to the realization of promises of the ruling party who gained the single authority in November 1 elections. The total cost of the election promises of the ruling party is estimated to be 22.3 billion. The minimum wage concerning approximately 8,5 million workers was increased to TRY 1,300 net from January 1, 2016. 110 TRY which is the 40 % of the 274 TRY increasing cost for employers will be paid by the state. The approximate cost of 100 TRY extra-payments for Social Security and Self –Employed retirees is 10.7 billion TL. The cost of removing VAT for forage and fertilizer is 2,5 billion TRY. There will be an increase on the allowance of soldiers and salaries of reeves and police officers. There will be a tax benefit for the artisans. The first year cost of the 50 000 TRY support for the young people who want to establish their own business is 500 million TRY and the cost of interest-free credit line is 100 million TRY. The cost of first year salaries of employed young people which will be met by the state will be 2.3 billion TRY. Surely the realization of commitments will increase the burden on the budget in the first plan, yet it is certain that in the long term those commitments will lead to an increase in spending and relatively the tax revenues including VAT.

Fiscal discipline in the 2015 budget showed positive results in terms of public debt stock. In 2016 this tendency is said to be continued. In 2016, it is also said to continue this action. The interesting thing is that in an environment where the low rate of economic growth

(3 %), the current account deficit (-5.2 %), inflation (7.6 %), unemployment rate (10.5 %) and debt interest are still available the budget balance is still improving. Certainly it is possible to raise the rate of economic growth by increasing the budget deficit and reduce the unemployment rate. This choice has emerged been made in the past several years, and emerged as an increase in economic and political instability. In this regard this choice is not conformed to economic and fiscal politics which were implemented after the 2001 economic crisis and still continue. The government is trying to get over the limitation of public investment expenses by mobilizing private sector sources with build-operate-transfer models.

In any case, it is necessary to reflect the positive developments in budget balance to economy and realize structural reforms including the education sector. Other issues related to our central government budget can also be stated as follows:

- Technological advances, electronic communication systems, e-budget, provide faster processing of the budget process, and facilitate the budget management.

- No. 5018 Public Financial Management and Control Law dated 2003 has brought drastic changes in our budget implementation. Multi-year budgeting, the expansion of Parliament's control over public budgets, performance-based budget system based on strategic planning, transparency and accountability in the budget, are among the important changes. Performance-based budget system based on strategic planning does not meet the expectations yet. Performance measurement is a challenging field

- It is necessary to restructure the Plan and Budget Commission with bylaw changes in Turkish Grand National Assembly and to establish a separate sub-committee to examine the final accounts.

- The need for staff in public services is significant. Although the deficit is tried to be resolved by a limited number employment of contract staff, the differences in personal rights affects the work efficiency negatively. Social expectations are as follows: budget should be based on environment, the social structure, sensitive to gender equality and participation.

- Tax revenues will increase when the fight against the off the record tax is more efficient.

- Terrorism has a destructive effect on the budget spending and the income balance, the fight against terrorism must continue versatile.

6. Conclusion

Turkey has felt the negative impacts of 2008 crisis on the budget especially in spending during the years 2009 and 2010. Since 2011, the budget balance has begun to return to pre-crisis situation. While the developments in budget balance have met the expectations the problems of economic indicators remain unsolved. This situation shows that budget would be benefited more in terms of improving the economic indicators. However, the situation of the global economy in recent years, the slowdown of the EU economies with which we have intense relations, political turmoil and uncertainties in the southern neighboring countries, their direct and indirect effects, Syrian immigrants are among the factors that will affect the fulfillment of our budget functions in negative way.

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Economic Impacts Of International Terrorism Based Migration Movements

1.Introduction

Immigration is historical issue as old as states' past. There have been many causes of immigration for hundreds of years, and has come true for special reason in different times. But, whatever, the most important reason of immigration is security. Human communities who feel unsecure need to immigrate regions where they think it's safer.

As immigration has been different reasons the security issue has own special reasons, as well. These can be considered as war or possibility of warfare (such as probability of political crisis cause to warfare), the presence of natural disasters (tsunami, active volcanoes, earthquake zones or continuously seen floods etc.), raising and out of control fears over crime of terrorism. In this study, we have been considered economic aspects of international migration flows based on terrorism.

Concept of the international migration has been defined, economic impacts of it by the perspective of economic approaches and basic immigration policies has been considered in an overall point of view. Our study targets to explaining the terrorism based immigration movements in view of countries which are departed and arrived.

2. Conceptual Framework of International Migration

People has to leave or forced to leave where they live because of war, natural disasters, or exiling that is called the forced migration. Other side, people leave just because they want to have better life standards, that is called as voluntary migration. In addition, if they go through another country for better job opportunities, that is called as labor migration (Yılmaz, 2014).

Another classification of migration depends on whatever it comes true or not. Namely, when time of migration is unknow and unpredictable, and social, demographic and economic characteristics change very quickly, that is called irregular migration (Yılmaz, 2014). Unsatisfactory social and economic opportunities, civil war, war, and regional conflicts can cause them to look for better conditions and irregular migration from less developed countries toward European countries which have tight immigration policies (Yılmaz, 2014).

For thousands of people not only economic reasons but avoiding the military conflicts are reason to immigration. Immigrants that classified with the names of asylum seekers, refugees etc. can be evaluated in this group as who have to leave their own country because of military conflicts (Valvo, 2016).

Refugee is defined in the Convention and Protocol Relating to the Status of Refugees as “ who can't benefit from the protection of the own country or doesn't want to benefit because of some fears that he or she scares to be persecuted because of his or her race, nationality, membership of a particular social group or political thoughts.” The oldest references about refugee status were written documents from the era of largest empires such as Hittites, Ancient Greeks, Babylonians, and Assyrians, 3.500 years ago. But basic aim to establish United Nations High Commissioner for Refugees was to protect rights of people who left their homeland and become refugee after World War II (<http://www.unhcr.org/turkey/home.php?page=56>).

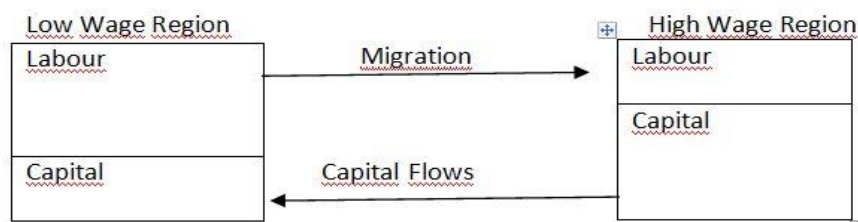
Inadequacy about asylum seekers's statement problems of 1951 Geneva Convention (that has important issues about defining refugees and solutions for problems they come cross) was wanted to eliminate by accepting the United Nations Declaration on Territorial Asylum by the United Nations General Assembly on December 14, 1967. Although there is no definition of asylum, the right to seek and to enjoy asylum has been subject to regulation clearly.

3.Economic Schools and International Migration

According to classical economic approach population growth prevents national income per capita in long term. In another words, if an increase of income per capita as a result of some soincidences, this not only increase birth rate but also increase immigration of people who seks to benefit from advantages of increased income. In this case, economy would increase life standards with low possibilty. But, in 19th century occuring very increased migration flows to some countries (Argentina, USA, Canada, and Autralia) and also increased income per capita simultaneously showed this approach is invalid (Bodvarsson & Berg, 2013).

According to neo-classical economic approach real wage differences between countries leads to a two-way flow. First is a flow of low skilled labour from low wage countries to high wage countries. Second is a capital flow from high wage countries to low wage countries. This capital flow mostly does consist of labor intensive industrial capital and high skilled labour migration will accompain this capital (Jennissen, 2006). Factor flows in capital or labour intensive regions is presented by the Figure 1.

Figure 1. Factor Flows in Capital/labour-intensive Regions



Source: Öberg, 1995

Net labour and net capital flows will be equal to zero when achived to new equilibrium. But neo-classical approach is far from explaining to international migration. It mostly attempts to explain migration movements between countries that's like EU where restrictions are less between capital and labour flows (Jennissen, 2006).

According to Keynesian economic approach labour supply is not only function of real wage, but also function of nominal wage. This difference grow out of the role of money in the economy. The main point is that money is not only medium of exchange but also medium of saving. Here saving function of money attracts potentially immigrants to immigrate to where nominal wages are high. If immigrants send remittances then this further increases important of nominal wages compared to real wages. In this case, a new equilibrium would not occur as neo-classsical economists claimed. According to Keynesian theory international migration movements eliminate unemployment differences rather than real wage differences (Jennissen, 2006).

The Marxist approach claims that class based political process and economic factors shape international migration policies. According to this, capitalists import migrant workers to make pressure to down wages and raise their profit. In another words, capitalists are part of development and divition of international labour force (Meyers, 2000).

International migration movements are the structural part of capitalism. Governments develop policies with prevention or inversion to prevent recesseion to turning to crisis. Although this thoughts, some Marxist authors criticize communities's views against to immigrant workers. Because this kind of tendencies, like exclusionary policies, divide and weaken the work class. For other Marxists immigrant labour force enters the society at the lowest tier of the socioeconomic grade, and this decreases the intensity of class conflict and increases the grade of native workers. Developed capitalist economies regulate immigrant worker policies, temporarily restricts or limiting immigration, and/or even deports immigrants in case of recession turning to capitalism crisis during time of recession (Meyers, 2000).

4. International Migration Policies

Where immigration policies are certain, immigrants will contiune to arrive into there and after some time if eventually they get voting rights, and they would able to influence subsequent immigration policies (Benhabib, 1996).

Even international migration is seen as threatening to some developed countries, but some of these countries has not fertility rate sufficent to maintain their current population in the long term, in the absence of immigration. For example, there is no a single country in Europe that has a fertility rate sufficent to maintain current population in the long term (Dolmas & Huffman, 2004).

While a state which composed of immigration supports immigrants, ethnic states tend to stand against such immigrants. Meissner (1992) argues that for European countries accepting to their community is tied to shared ethnicity and nationality that is very different from Canada, Australia, and the US. Ethnic diversity is rejected by the European countries as positive societal value. Therefore, immigration is seen as threat to their national unity and the common interests. Homogeneous countries are less likely to accept immigrants from other ethnic people as permanent immigration than heterogeneous countries (Meyers, 2000).

Developed countries encourage free trade and remove costums barriers, but on the other hand they take opposite position for immigration, and this give an appearance of paradox. However, according to Castles (1998) international migration is important for globalization, and it is unlikely that countries would support mobility of capital, trade commodities, and ideas but block mobility of people. Otherwise, practice of two different regimes simultaneusly difficulties will be arised. When liberal policies are being practiced, practicing different policies for immigrants will be difficult (Sassen, 1996).

Present or potantial conflicts among countries have influence on international policies, and immigration policies. For example, Arab neighbors had encouraged Israel's Jewish immigration movements (Ben-Gurion, 1969). Also, during Cold War period, western democracies welcomed and favored in order to show their anti-communist and anti-Soviet ideologies to refugees who come from communist countries (Meyers, 2000).

5. General Economic Impact of International Migration

A country where there is high-skilled population may favor and welcome the immigration rather than let the low-or-unskilled wages to increase by supporting immigrant movements (Benhabib, 1996). Low-or-unskilled immigrants are likely net cost on native taxpayers in case of they settle in country of destination while high-skilled immigrants provide large fiscal contributions. Many empirical studies find that the fiscal contribution of immigrants is quite small (Rowthorn, 2008).

Immigrants do not have direct impact on natives' benefit function. Besides, preferences of immigrants and natives for consumption goods are the same. Immigrants may be entitled to vote in home countries in the future, and then having right to vote leads increase in tax rates which are financing public expenditures performed to be utilized by immigrants. Immigration have a significant impact not only on the tax policy but also have important impact on the international migration balance (Dolmas & Huffman, 2004). National research council (1997) and MaCurdy et.al. (1998) advocate that resources or benefits those captured by migrants are creates costs which natives bear. To them, immigrants are net economic drain on resources of government.

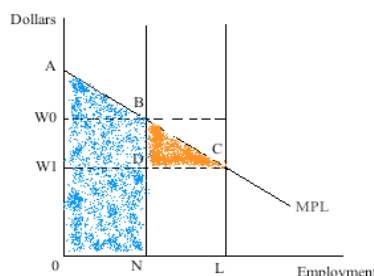
Increasing in disparity between the natives gives rise to causes the more opposition of middle class to high level immigration. Where the inequality in the distribution of primary capital is higher middle class is consisted of high proportion of individuals who get labor income. Whereat middle class is highly sensitive to immigration which may cause reverse effect on labor income. Meanwhile, poor people would be more sensitive than middle class to high capital gains that immigration provides. Because, the poorer ones could become more richer than middle class by decreasing in the distribution of primary capital. In case of primary capital allocation is low enough, the majority of local population would prefer high immigration instead of zero immigration (Dolmas & Huffman, 1161)

Some migrants return back to their home country after a certain period of time while others settle, aging and examines begins fall in the birth rate of them as they are assimilated to the norms of the country in the host country. So, new migratory movements are necessary for the rejuvenation of the population. Effects of temporary and permanent kinds of international migration differ from each other. Temporary migration increasing population allows much smaller contributions to the rejuvenation of the population. To remain rises at birth rates is considered as an alternative to permanent migration. Newborns will start paying taxes after many years and will cause net charge on the government spending until that time comes. On the contrary to newborns, immigrants usually move to another country when their ability to work is at peak level and then they start to work immediately. Immigrants provide financial contributions to government as soon as they start to work. For instance, if a 25 -year-old immigrant have worked up to 60 years, he or she would have paid both income taxes and social security contributions for 35 years. When we compare immigrant who starts to work at 25th age with a native worker who starts to work at 18th age and be retired at 60th age, native worker will be paying both income taxes and social security contribution for more 7 years than the migrant pays. In this case native workers pays more for government expenditures, *ceteris paribus* (Rowthorn, 2008).

Immigration surplus is defined by some economists as one of the benefits of immigration on the economy of the host countries. Immigration surplus may be considered as net increases at national product by immigrant's bring. Borjas (1995) describe immigration surplus as Figure 2 shows.

Figure 2. Immigration**Source:** Borjas, 1995

MPL curve indicates force curve. Area is under economic output. Supply immigrants arrives to host an decreasing at wages to workers' share of the



Surplus

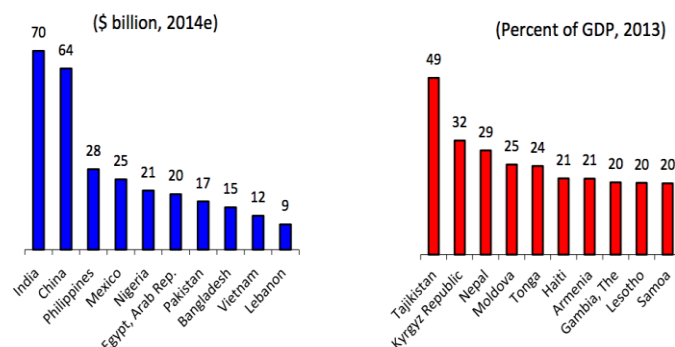
marginal product of labour the MPL curve describes curve changes as country, that change leads w1 from w0. Native income declines because of

the decreasing at wages. Before the immigrant workers join the workforce share of the native workers was shown with w_0BN_0 (rectangle). But, after the immigrant workers join the workforce share of the native workers, native workers' share of income is shown with w_1DN_0 a smaller rectangle. Before immigrants join the workforce in the host country, share of income of capital owners is indicated by area Aw_0BS . After immigrants join the workforce, share of capital owners is shown by Aw_1C triangle by the help of immigrants' contributions to national income. Amount of immigrants earn is shown by $DCNL$ area (It's also cost of production employers pay for). ACL_0 area shows the national income which increased by immigration surplus. Finally, net increase in national income is defined as immigration surplus, shown at figure as BCD triangle. As it's apparent that the capital owners who directly benefit from increases in national income thanks to immigrants. On the other hand, the losers of immigrant surplus are natives (Borjas, 1995 & Borjas, 2010).

Assumptions can be ordered as below when benefits from immigration surplus are calculating:

- ✓ There is one good in the economy.
- ✓ There are two factors of production, labor and capital.
- ✓ All labor is homogeneous; all capital is homogeneous.
- ✓ The supply curve for the various types of labor is inelastic.
- ✓ Natives own all the capital, and the capital stock is fixed. (So that immigrants do not bring in any capital).
- ✓ The labor market is competitive.
- ✓ Define the good such that one unit of the good sells for \$1. (Borjas, 2010).

Remittances come into prominence as a financial instrument in terms of reaching economic development goals for developing and underdeveloped countries. In the context of the global deliberations on financing the implementation of Post-2015 development goals, migration and remittances can be leveraged to raise development financing via reducing remittance costs, lowering recruitment costs for low-skilled migrant workers, and mobilizing diaspora savings and diaspora philanthropic contributions. Remittances can also be used as collateral, through future-flow securitization, to facilitate international borrowings with possibly lower costs and longer maturities. And they can facilitate access to international capital markets by improving sovereign ratings and debt sustainability of recipient countries (The World Bank, 2015). Graph 1. shows the remittances of several countries got.

Graph 1. Workers' Remittances Obtained by Several Countries

Source: The World Bank, 2015.

As its obvious at Graph 1. smaller countries in terms of population obtain less workers' remittances while bigger countries obtain more workers' remittances.

Another effect of immigration on economy is to having alterable effects on labor market and wages. Borjas and his friends (1996) established the fact that immigration movements had caused diminishing at wages of un-skilled workers in U.S. Similarly, Topel (1994) estimated that un-skilled immigrant workers could cause 10 percent of decreasing in wages un-skilled native workers. Likewise others, Scheve & Slaughter (2001) determines that un-skilled native workers have more conservative manner against to immigration when compared to skilled ones. According to Martin & Olmstead (1985), even occurring an expectation towards immigrant workers take place at economy in U.S. may cause an rising in rents 10 to 20 percent (Transmitting Dolmas & Huffman, 2004).

If the skills of migrants and existing workers are substitutes, immigration can be anticipate to increase competition in the labour market in the short run. Under these circumstances immigration can be expected to lower wages, too. As closer the substitute, adverse wage effects will be greater. Willingless of existing workers to accept the new lower wages assigns whether and to what extent declining wages increase unemployment or inactivity among existing workers. On the other side, if the skills of migrants are complementary to those of existing workers, there can be expected raising in the wages of existing workers thanks to increased productivity all workers experience (Ruhs & Vargas-Silva, 2016: 3).

6. Economic Impacts of Terrorism Induced International Migration Movements

6.1. Effects of Immigration in the Home Countries

Emigrating countries where people move to abroad caused by terrorism are usually experiencing security vulnerability. That security vulnerabilities or weaknesses demonstrate that governments of these emigration countries are not able to fulfill the one of the basic duties imposed on the state as the fulfillment of the classical economists. This situation either

may be due to the threat coming from the outside or might be due to a regime crisis in the country or state other ethnic or religious group associated with the policy implemented.

Terrorism induces immigration of large masses. This kind of migration movements can be further disrupting effect on production factors which already are already inoperative. So, disruption of production factors might engender labor force on a large scale in the home countries. On the contrary of experiencing drop off the amount of revenues derived from taxes and social security contributions in the emigrating countries and reduction in public spending due to decreases in revenues, nature of inefficient public expenditures such as military expenditures rise. Rising of inefficient public expenditures will stand as pressure on budget balance of governments in the emigrating countries. An emigration country will be held probably return migration at the end of the period of turmoil in the country and witness an increase in the construction and infrastructure works. Acceleration of construction and infrastructure works will be led to budget constraints again. In such a case, increasing the tax rates, emissions (coining) and sequestration or borrowing are featured as financial instruments may be applied for financing increased public expenditures. Having destroyed the factors of production during the disturbance, absence of enough agricultural products neither to feed population nor to be used at agricultural production, settling of skilled and trained workers in the countries where they immigrate, getting bigger of the number of people in need of care because of the population in males due to confusion may be ordered as some of problems occur by immigration directly or indirectly give rise to stabilization of tax rates. Analyzing of countries grappled with security flaws by sectors as food industry, drug industry, and military ammunition industry shows rising trend at prices occurs. In addition to rise in drug prices, price increases in military ammunition, rise in drug prices, price increases in military ammunition, stockists achieve the huge profits. Trafficking and hoarding widespread hose of countries the public order is almost disrupted entirely. In such an environment it can be considered as a difficult ideal to prevent trafficking and hoarding .

6.2. Economic Impacts of Immigration in the Host Countries

Angrist & Kugler (2003) found that each 100 immigrant male worker make 35-83 number of native male workers unemployed in European Union. Dustman& his friends (2005) estimated that as 100 immigrant arrives the UK, 23-60 number of native workers loss their job. Jean & Jimenez (2011) determined that immigration may have only temporary effects on local employment at OECD.

Elderly population ratio and so costs of supporting elderly population increases in advanced economies. In principle, international migration provides financing of pension and welfare programs for the elderly by increasing tax revenues, providing population rejuvenating and additional workers. Immigrants typically consists of young and working population. Therefore, the fastest impacts of the immigration is to lower the average age of population and to expand the potential tax base (Rowthorn, 2008).

Immigrants can expand both labor supply and the consumer demand for goods and services. Hence, it may lead an increasing necessity for labor. Increasing the demand for goods and services can ensure the investment growth in the medium to long term. Increasing of labor demand can provide rising at wages and employment. Immigration can increase of competition for existing jobs and it can also create new jobs. Expand to investments and labor demand respond to immigration depends on the characteristics of the economy. The increase in labor demand in the economy during an economic downturn is likely to lead to a slower

economic effect than during times of economic growth. To sum up the other effects immigration creates in the labor market can be ordered as follows: (Ruhs & Vargas-Silva, 2016: 3).

- ✓ Immigration may change the mix of goods and services produced in the economy.
- ✓ Immigration may change the technology used for producing (providing) certain products (services). For example, the immigration of skilled workers may encourage the adoption of more skill intensive technologies which would again affect labour demand.

International migrants moves illegally have been prominent in the services sector. Seasonal tourism, retail trading and catering are seen as main sources of employment for illegal immigrants. The growth in services to businesses such as equipment maintenance and servicing, caretaking and services to households such as child minding and other domestic services also provides openings for undocumented workers. The growth in outsourcing in most OECD countries may also favour the recruitment of undocumented immigrants. It has enabled firms in many sectors to evade their social security contributions as well as the constraints imposed by labour legislation. The textile/clothing and building/civil engineering industries often use outsourcing, as do services. This practice has led to what might be termed “false” dependent employment, whereby employees of an outsourcing firm are effectively self-employed free-lancers (OECD, 2001).

In Turkey, the refugee problem has increased the unemployment rate and to get a job has become more difficult through emerging refugee matter. Besides, regular wages and salaries have declined and the job loss rate has increased among local population. Housing rents increased and to find housing has become more difficult as results of undocumented employment (Uzun, 2015). Firms have benefited from the illegal working. Syrians began to work as seasonal agricultural worker or a construction worker, and in particular there has been an explosion in the unskilled labor market. Rapid population growth has brought a revival in the manufacturing and retail sectors. Procurement of goods used in the camps of refugees from local suppliers has revived the local economy. To compete with the low-cost labor has led to a big fall at labor market. Increased housing rents and rise in food prices are among the factors adversely affecting the middle-income population (Orhan, 2014).

Jordan has been facing with crucial economic problems occur by the refugee crisis. To host the refugees who fled from Syria with a population of up to 10% of the current population of Jordan has created burden on the economy which have been already fragile. According to officials of the UNHCR and the Ministry of Planning of Jordan (the majority of the land is desert with 80% in Jordan, and the country suffers from low industrial production and being poor in terms of natural resources), Syrian refugees creates pressure over 10 percent on the country's budget (Orhan, 2014).

7. Conclusion

Destructive effects of immigration movements can be examined not only on the economy of the country of emigration, but also be examined on the economies of host countries. Countries closer to the countries experiencing turmoil heavily exposed to migratory flows due to low transportation costs. Countries which is the most heavily exposed to the immigration are facing with more large-scale economic problems when compared to countries immigrants' leaving are facing. Increased unemployment among locals, falling wages, rising at rents and deterioration of the government's fiscal balance are among the main economic

issues in the host country. Meanwhile, governments of host countries might be faced political responses during the locals as significant portion of tax revenues are used up for immigrants during the country is being exposed to heavily immigration flows. On the other hand, the acceleration of economic growth, increasing young population, and the increase in national income as well as growth in the labor force are determined as advantages of immigration flows for host countries. Similar to host countries, emigrating countries may enjoy workers remittances to be an important financing tool that can be applied to achieve their development goals.

Consequently, for reasons mentioned above to assess the economic impacts of immigration in one glance as positive or negative and to determine policies could lead misleading results

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Impact Of Tax Penalties In Turkey On Tax Collection: An Empirical Analysis Between 1980 And 2014

1. Introduction

Tax is an important source of revenue which is necessary for the governments to fulfill public expenditures. Governments efficiently use this source in accordance with power of sovereignty. There can be different reactions of taxpayers based on type of tax applications or its perception in the eye of taxpayers. Tax evasion, tax avoidance, immigration to tax heavens, not fulfilling the liabilities specified in the legislation on time or not fulfilling them at all and higher level of tax rebellions are can be given as an example of these reactions.

When these reactions constitute a crime, a criminal liability occurs. In this regard, impact of available tax penalties on tax collection has been discussed in literature.

In the study, Vector Autoregressive (VAR) model will be used and impact of tax penalties applied in Turkey between 1980 and 2014 on tax collection will be tried to be put forward. Therefore; some suggestions will be provided in terms of the efficiency of penalties.

Literature focuses on some points in terms of tax penalties. These are the deterrence effect of tax penalties on tax offences, determination of tax payers' awareness towards tax offences and penalties and sufficiency of penalties. Studies in these fields are empirical also including theoretical and descriptive information. In foreign literature, Feria and Tanawong (2015) analyzed tax penalties in theoretical context in England and they explained the impact of global economic crisis on tax penalties. They concluded that global crisis increased tax penalties. Collins and Piggan (2007) evaluated tax penalties imposed on taxpayers specific to the principle of justice and they advocated that these penalties affected justice negatively. White (2010) evaluated tax penalties imposed on taxpayers in his study. He put forward that increasing penalties would decrease the level of committing tax offences. Doran (2009) touched upon the impact of tax penalties on tax compliance and made suggestions to enable much more efficient tax compliance towards tax appliers. Drennan (2009) explained strict liability in tax penalties. Another interesting study carried out by Johnson (2011) emphasizes that religious rules order that tax penalties should completely be obeyed. In Turkey, Çiçek et al. (2012) in their studies evaluated the ideas of taxpayers in Tokat regarding the elements and applications which prevent tax evasion and they considerably contributed to creating an opinion to deterrence of penalties. Again, Çiçek and Herek (2012) examined tax offences and penalties in Turkey specific to Antalya and tried to determine tax payers' awareness.

Studies examining the impact of tax penalties on tax collection are theoretical abroad while they are both theoretical and descriptive in Turkey. It can be said that there is a gap in empirical studies regarding the impact of penalties on tax collection in literature. Tax penalties must be detailed at this point. Tax penalties are divided into two groups as administrative penalties and penalties restricting personal freedom. Administrative penalties are pecuniary penalties in Turkey which provides information for analysis part of the study. On the other hand, penalties restricting personal freedom are imprisonment punishments having a much more abstract area of analysis.

There are two elements which require punishment in Turkish tax system: Offenses and misdemeanors. Penalties of tax offences restrict personal freedom while penalties of tax misdemeanors are pecuniary. Likewise, such two main elements as default fee and default interest which guarantee public receivables are punitive. Tax misdemeanors, default fee and default interest will be explained and elements having the characteristics of material penalty will be stated in this part of study.

1.1. Tax Misdemeanors and Its Penalties in Turkey

2nd Article of Misdemeanor Law defines that all actions which require administrative sanction are described as misdemeanors and entails that tax offences which require administrative measure except for punitive fine and imprisonment are regarded as tax misdemeanors (Şenyüz, 2013:43). Since some of offences and penalties regulated by Tax Procedure Law are pecuniary and deal with tax law, these penalties are imposed by Tax Administration without any necessity of judicial decision and without looking for any scienter (Arslan, 2016:303). In this regard, tax misdemeanor is the name attributed to all actions which require administrative sanction.

Which action to regard as a misdemeanor is at the sole discretion of legislator and directly related to criminal policy. In this regard, governments must prioritize the scale of legal interest which is protected within the principle of justice while making decisions regarding which action to be regarded as a misdemeanor (Şenyüz, 2013:43). While determining misdemeanors, characteristics of these misdemeanors must be well-analyzed. In this regard, characteristics of tax misdemeanors can be listed as the following:

- Tax misdemeanors are slight violations against law,
- Penalties which are imposed against tax misdemeanors aim at protecting administrative order,
- Penalties which are imposed against tax misdemeanors are imposed and applied by the Administration,
- Sanction of tax misdemeanors is a pecuniary penalty,
- Tax misdemeanors are identified through administrative procedures (Tax audit, inspection etc.),
- There is no necessity of deliberation, the slightest negligence (presumption of negligence) is sufficient,
- Penalties which are imposed against misdemeanors are for real and legal entities.

Tax misdemeanors can be classified within the framework of a hierarchy among themselves based on protected values. Thus; misdemeanor of loss of tax has been established in order to protect the accrual of tax claims while misdemeanor of irregularity has been established in order to protect accrual norms (Şenyüz, 2013:70). It's of vital importance for taxpayers to fulfill their tax liabilities duly specified by tax laws in collection of taxes which is the main revenue of the government. If taxpayers do not accrue or incompetently accrue their taxes to the extent and within the period specified in the law, they hide all or some of the claims of the government (Kocahanoğlu, 1983:110-111).

In accordance with the 341st Article of TPL, loss of tax means that taxpayers do not fulfill or incompetently fulfill their taxation liabilities on time and so that tax cannot be accrued or incompetently accrued on time. At this point; it should be noted that the provision of loss of tax includes misstatements regarding personal, marital or family status as well as causing deficient accrual of taxes or unjust restitution of taxes through other methods.

In accordance with the 344th Article of TPL, misdemeanor of loss of tax is caused by taxpayers under the circumstances written in the 341st Article of TPL. Pecuniary penalties are imposed on people who commit the offence of loss of tax. This penalty is regulated in accordance with the 1st Clause of the 344th Article of TPL as "If the offence of loss of tax is committed under the circumstances written in the 341st Article of TPL, a pecuniary penalty shall be imposed on the taxpayer in the ratio of one time of this amount". It is stated in the 2nd Clause of the 341st Article of TPL that if the offence of loss of tax is committed through tax evasion, a pecuniary penalty shall be imposed on the taxpayer in the ratio of 3 times of this amount.

In accordance with the 351st Article of TPL, irregularity is non-compliance with the formal and procedural provisions of tax laws. It is the punishment of violation of some formal and procedural laws specified in tax laws for the circumstances which are regarded as irregularity without considering whether or not there is a loss of tax and whether or not there is an intention of taxpayers to commit offences (Arslan, 2016:307). Actions of irregularity are divided into two sections in TPL: General irregularities which are valid for multiple taxes (first section) and special irregularities which are specific to just one tax or just one case (second section).

352nd Article of TPL divides general irregularities into two levels: First level irregularity actions are misdemeanors which mostly disturb administrative order and lead to loss of tax. Second level irregularity actions are less dangerous actions which less likely disturb administrative order when compared to first level irregularity actions.

In accordance with the 352nd Article of TPL, some of first level irregularity actions are as the following:

- Delayed submission of tax and charge statements,
- Not keeping any of books which are compulsory to be kept in accordance with TPL,
- Incomplete, irregular or complicated books, records and relevant certificates to an extent that will not allow any accurate tax audit,
- Farmers' not accepting the invitation which is sent by village headmen and community councils in accordance with the 245th Article,
- Violation of the provision of TPL on the ordinance of recording (Articles 215-219) (irregularities which are determined for the same calendar year in each audit by the date of inspection shall be regarded as one single action),
- Delayed notification of employment date,

In accordance with the 352nd Article of TPL, some of second level irregularity actions are as the following:

- Submission of the statement of inheritance and transfer tax within the period specified in the first clause of the 342nd Article of TPL,
- Not preparing the statements of planting and inventory on time or in a way that they will not include the information required in the legislation,
- Delayed submission of written notifications in tax laws (except for the notification of employment),

If the action of irregularity requires ex-officio discretion, penalties written in the charter are applied in the ratio of double times.

Special irregularities are related to violation of submitting or receiving such evidencing documents as invoices, bills, self-employment vouchers, note of expenses, producer receipts in taxation process (Altuğ et. al., 2016:74). They also include daily records or such actions as failure to furnish information.

As a penalty of special irregularities in Turkey, fixed pecuniary penalties are imposed on people who do not submit or receive invoices, self-employment vouchers, note of expenses and producer receipts in the ratio of less than 10 % of the amount which is required to be written in the document. Consumers are punished with one fifth of these penalties.

1.2. Application of Default Fee and Default Interest

Default fee is applied if public receivables are not paid when due. In the 1st Article of Law on Collection Procedure of Assets (AATUHK) numbered 6183, there is a statement that the

provision of this law is enforceable in terms of litigation costs, tax penalties and punitive fines arising out of enquiry and pursuance of taxes, dues, charges and penalties belonging to the government, provincial special administrations and municipalities as well as secondary public receivables such as default fee and default interest and other receivables of the aforementioned administration bodies arising out of the enforcement of public service except for the ones arising out of contract, wrongful act and usurpation.

In accordance with the 51st Article of AATUHK numbered 6183, there shall be a separate default fee imposed on the amount of public receivables which is unpaid within due time starting from the end of maturity for each month. Default fee corresponding to month fractions shall be calculated on a daily basis.

In accordance with 112/3 Article of Tax Procedure Law, a default interest shall be imposed on taxes which are finalized without being a matter in dispute starting from the normal maturity date of assessment specified in their respective tax laws until the accrual date of the last assessment and on the unpaid amount of taxes in dispute starting from the normal maturity date of assessment specified in their respective tax laws until notification date of the judicial body decision last assessment in the ratio of default fee determined by the Law numbered 6183 in additional, ex-officio and administrative assessments. Default interest shall also be paid within the same period. Month fractions are ignored while calculating default interest. Ratio of default fee and interest is applied as 1,40 % in accordance with the Council of Ministers' Decision dated 19.10.2010 and numbered 2010/965.

1.3. Tax Collection and Factors Affecting Tax Collection in Turkey

Tax revenues are the primary source financing public expenditures. Moreover; the fact that tax is an economic variable which can be controlled by public authorities is of vital importance for the implementation of economic policies (Doğan and Demirhan, 2009:27).

Concrete characteristic of taxes is based on their collection. Collection is the last phase of taxation process. In accordance with the 23rd Article of TPL, tax collection is a legal and duly payment of taxes. Tax liability which is finalized after the completion of accrual process is generally removed by the voluntary payment of the taxpayer which is called as tax collection. This voluntary payment is also called as the voluntary compliance of tax. At this point, it should be noted that there are various elements which are effective in tax collection.

It is possible to say that tax revenues follow a fluctuant course in developing countries. Some economic and social variables are directly or indirectly determinative in tax revenue performance, in other words, tax collection (Ekici, 2009:201). Among these variables, especially income level per person, growth and inflation rate, opening level of economy to foreign trade, share of agriculture and grey economy in general economic structure, efficiency of tax administration and level of social tax awareness are determinative variables in tax collection (Ekici, 2009:201).

2. Method

This part of study includes an empirical analysis of the impact of tax penalties which were applied in Turkey between 1980 and 2014 on tax collection. Vector Autoregressive (VAR) model has been used in this analysis.

Complexity and sophistication of the interaction between economic relationships makes it required to use simultaneous system of equations. Furthermore; difficulties which are encountered while determining dependent and independent variables as a natural outcome of the mutual interaction between economic parameters are also important factors which affect

the consistency of the analysis. Therefore, there may sometimes be a requirement of limitation on structural model in simultaneous system of equations in order to overcome the problem of determination (Adrain and Darnell, 1990:114-116). Complex structure of simultaneous system of equations and the related problems can easily be solved through VAR analysis. Since VAR models reveal dynamic relationships without limitation of structural model, they are frequently preferred in terms of time series (Keating, 1990:453-454). Availability of deferred values of dependent variables in VAR models makes it possible prospective strong estimations (Mucuk and Alptekin, 2008:162).

Impulse-response functions obtained from VAR models are frequently used in order to analyze the effects of a shock in any of the variables in the system on the other variables in the system (Güloğlu, 2005:1). In other words, impulse-response functions show dynamic reaction of each variable in VAR model towards these shocks when structural shocks arise.

Main reason of preferring VAR analysis in the study is that it is efficient in making much more concrete estimations. In this regard, tax revenues (vg) are a dependent variable while tax penalties (vc) and gross domestic product per real person (RGDP) are independent variables. Functional relationships have been created as the following:

$$vg_t = (u_t^{RGDP}, u_t^{vc}, u_t^{vg}) \quad (1)$$

$$\Delta VG = \alpha_1 + \sum_{i=1}^n \gamma_i \Delta VG_{t-i} + \sum_{i=1}^n \theta_i \Delta VC_{t-i} + \sum_{i=1}^n \lambda_i \Delta RGDP_{t-i} + \varepsilon_{1,t} \quad (2)$$

Function no (1) is a function of error periods of variables. Equation no (2) shows the effect of tax amnesty and gross domestic product on tax revenues deferred for one period.

It can be said that different factors other than tax penalties and gross domestic product per real person are also effective in tax collection. For example, tax amnesties and preferences can be given as an example to these factors.

It is seen that relationship between tax penalties and tax collection is not a matter of research in domestic literature. This relationship has been tried to be analyzed in the study. In general, increasing tax penalties have an effect which increases tax collection.

3. Evaluation of Results and Findings

It can be said that there is no stability problem through normalized values in the study. It is also clear from the findings regarding inverse origins of AR characteristic polynomial in Figure 1 that there is no stability problem, either.

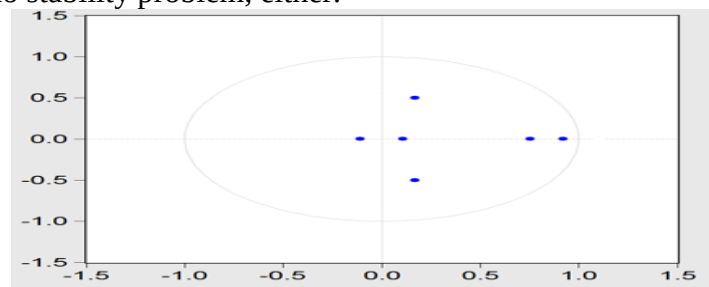


Figure 1. Inverse origins of AR characteristic polynomial

The fact that all of the origins are inside the circle in Figure 1 is an indication that model and VAR system are stable.

Following the stability test, it is important to determine deferment length which is appropriate for VAR model. After it is tested regarding whether or not model meets the requirement of stability, diagnostic test should be carried out. Therefore; Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criteria (SC) and Hannan-Quinn Information Criteria (HQ) have been used in the study and the results have been indicated in Table 1.

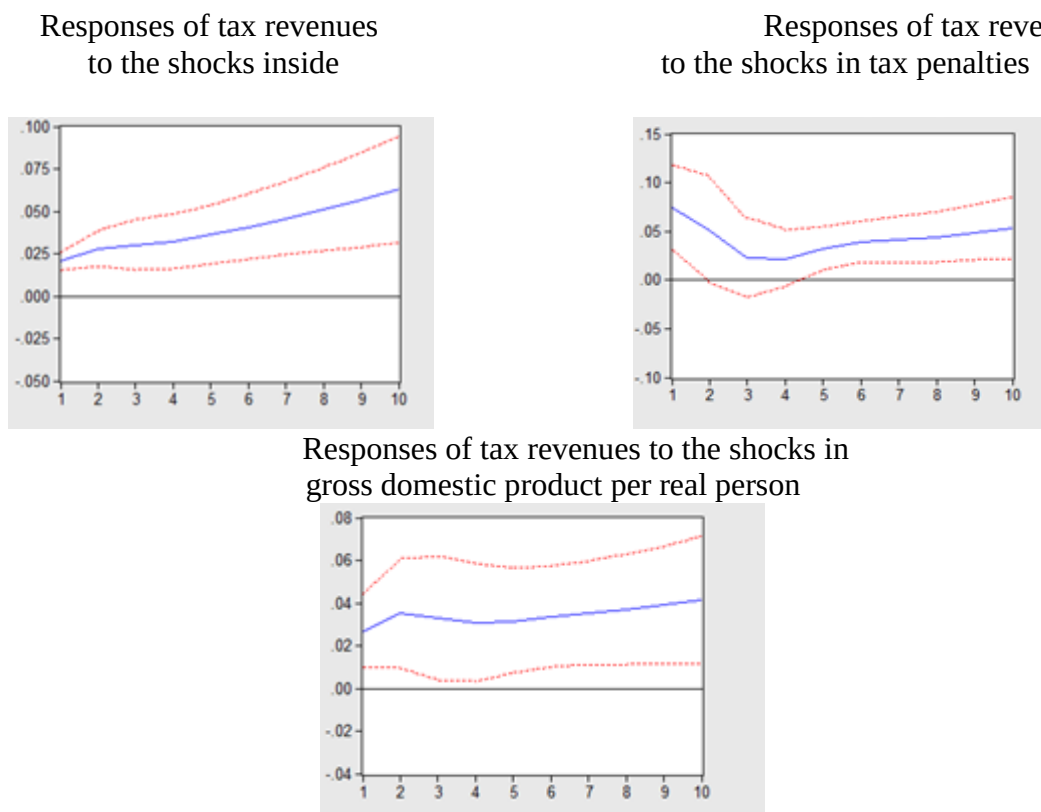
Table 1. Determination of Deferment Length of VAR Model (1980-2014)

Number of Deferment	Log Likelihood Function	Final Prediction Error (FPE)	Akaike Information Criteria (AIC)	Schwarz Information Criteria (SC)	Hannan-Qinn Information Criteria (HQ)
0	41.41435	1.82e-05	-2.400897	-2.263484	-2.355349
1	163.0106	1.60e-08	-9.438164	-8.888513*	-9.255970
2	166.8265	2.26e-08	-9.114156	-8.152267	-8.795317
3	185.4683	1.29e-08*	-9.716771*	-8.342644	-9.261287*

Note: (*) It indicates the length of deferment chosen by the criteria.

When taking five criteria in the table into consideration, it is seen that four criteria indicate 1st level deferment.

Impulse-response analysis is used in order to determine dynamic interaction between variables. Therefore, impulse-response analysis has been carried out in order to determine the source of changes in total tax collection. Response level of a dependent variable towards a standard error shock on any variable can be determined through impulse-response analysis. In this regard, Figure 2 indicates how total tax revenues respond to shocks in themselves, tax penalties and gross domestic product per real person.

**Figure 2.** Results of Impulse-response analysis

In Figure 2, it is seen that tax revenues positively respond to a shock in tax penalties in a decreasing stream for the first 3 periods. It is also observed that positive tendency continues in long term while tax revenues respond by increasing. A shock occurring in gross domestic product per real person positively affects tax revenues in the first period in an increasing stream while it makes a positive effect until the fifth period in a decreasing stream. However;

Impact of Tax Penalties in Turkey on Tax Collection

tax revenues positively respond to a shock in gross domestic product per real person in an increasing stream in long term.

Table 2. Effects of Shocks on Total Tax Revenues: Variance Decomposition

Period	Shocks in Tax Revenue	Shocks in Tax Penalty	Shocks in Gross Domestic Product Per Real Person
1	100.0000	0.000000	0.000000
2	99.53652	0.060301	0.403179
3	98.65038	1.119287	0.230335
4	97.29374	2.539850	0.166405
5	96.72015	3.092607	0.187243
6	96.48318	3.200457	0.316363
7	96.21266	3.246965	0.540372
8	95.86718	3.312763	0.820054
9	95.50222	3.370968	1.126814
10	95.14821	3.406322	1.445470
11	94.80915	3.425145	1.765702
12	94.48510	3.436048	2.078852

When Table 2 is analyzed, it is seen that tax penalties reveal 0,06 % of tax revenues with a deferment of one month in the beginning. It indicates a positive but decreased impact for the first period. However; this impact shows a considerable increase in long term in the ratio of 3,4 % in the last period. While it makes an impact in the ratio of 0,4 % in gross domestic product per real person with a deferment of one month in the beginning, this impact is actualized in the ratio of 2 % in long term. At this point, it is realized that tax penalties are much more effective on tax revenues compared to gross domestic product per real person.

4. Results and Suggestions

In the study, impact of tax penalties on tax collection in Turkey has been handled for 1980-2014. Within this framework, analyses have been carried out through VAR technique in order to make suggestions in the phase of estimations. Positive impact of tax penalties on tax revenues increasingly continues in long term in accordance with the results of impulse-response functions and variance decomposition. It also indicates that penalties have an important impact in tax collection. It is notable that gross domestic product per real person, another independent variable which is analyzed at this point, keeps off the positive impact of tax penalties on tax revenues. While gross domestic product per real person constitutes 2,07 % of tax revenues, this impact ratio is 3,4 % on tax penalties.

In accordance with these findings, it should be stated that tax penalties have a serious impact on tax collection. As the tax penalties increase, monetized tax revenues will increase.

There is also another argument in the study that tax penalties which are already applied have a weak impact of deterrence. Because imposed tax penalties have increased each year and it indicates that taxpayers are indifferent to these penalties. Main reason of this indifference is tax amnesties. Because tax amnesties which are constantly granted as well as removing or restructuring penalties encourage taxpayers to commit tax misdemeanors or offences.

Tax penalties have an important impact on the collection of tax revenues in terms of enabling tax compliance. At this point; by considering that increasing these penalties has a deterrence effect, it is believed that it will also be beneficial for increasing tax revenues. In this regard, it is of high importance to restructure tax penalties and make them much more effective.

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