Journal of Business, Economics and Finance

Volume 3, Issue.1, 2014

ISSN 2146-7943

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http://www.pressacademia.org/jbef

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Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

THE PERCEPTION AND CAUSES OF MOBBING: TURKEY EXAMPLE

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Keywords: Mobbing, Bullying, Work life, Leadership

ABSTRACT
Mobbing is an important problem which workers in both industrial societies and the new economic period face. The study carried out within this context has the characteristics of a literature review. The aim of this study is find out the relationship between mobbing and resources of mobbing. To achieve this aim we conducted a survey at a public institution in Turkey. We used SPSS 20.0 statistical package for analyses. In order to test the hypothesis, factor analyses for structure validity, correlations and regression analyses to test the hypothesis is conducted. As a result of research we found that, there is a positive relation between causes of mobbing and personal dignity, job dignity and physical pressure.

1. INTRODUCTION

Work conditions today, which are constantly changing and getting harder and excessive competitive market, bring about competition in work life. This makes pre-existing good labor relations, loyalty to the work and companies give place to new currents. One of the newest currents is the policy of emotional pressure and intimidation to employees in workplaces, which takes place in literature as mobbing. Actually, work life, which has gained a place in human life from the beginning of history, has been a witness to different types of oppression even though its name has not been known as mobbing. However, this oppression or better known as mobbing now is a complex, multi-dimensional and multi-disciplinary concept that is ignored and avoided revealing due to human nature. Mobbing (psychological violence) is a fact, which has always existed in our work life but has not been named until a short time ago. The common point in which the results of international researches meet is in accordance with the fact that victims of mobbing (psychological violence) are much more than victims of other violence and harassment.(Yavuz, 2007). The concept of mobbing is a significant subject, which has been academically researched with all aspects recently.

The aim of this study is to gain a general point of view to mobbing concept and investigate the relation between causes and the perception of mobbing within the organizations. In accordance with this aim, after the definition and related terms of mobbing and the causes of mobbing we developed hypotheses and conducted the empirical study.

2. LITERATURE REVIEW

2.1. What is Mobbing?

The concept of mobbing etymologically derives from "mob" in English. The word "mob" means a crowd or "gang" uses violence in an illegal way. The word mobbing as a behavior pattern means psychological violence, blockade, attacking as a whole, disturbance or annoyance (Webster's New World Dictionary).

Biologists used the concept in the 19th century for the first time. Later, in 1960s it was seen to be used by social psychologist Konrad Lorenz, who analyzed animal behavior, with the aim of expressing that small groups of animals move away the stronger and alone one by attacking as a whole or the situation experienced among covey that birds exclude the weakest bird by sending it away from food and water, make it quite weak and finally move it away from the group by killing it with physical attacks (Tınaz, 2006). Afterwards, it was defined by Heinz Leymann in order to express psychological violence which employees commit each other (Leymann, 1996) and Einarsen and Raknes (1997) defined it as a galling, annoying, disturbing behavior which is consciously or unconsciously displayed by one employee or several employees and decreases job performance/causes unpleasant job environment (Einarsen, 1999). While Özen (2007) defines mobbing as "harassing, tyrannously behaving, disturbing, socially excluding or exposing an employee to a lower position by giving disturbing tasks", Arpacıoğlu (2005) describes it as "systematic, long-term emotional torture which is practised to an employee posing a threat due to his/her success in the workplace, knowledge and positive behavior by one person or several people as a gang".

Since mobbing is a new concept taking part in literature, there is no clear Turkish definition and there is a terminology problem in Turkish literature. The concept is used in a similar way to Western literature by experts who are doing research about the subject as "emotional tyranny/harassment" by Solmuş (2005), "psychological violence" by Tutar (2004) and "intimidation" by Yücetürk (2003) (Bayrak-Kök, 2006). In short, when the literature is analyzed, it is seen that mobbing is expressed with similar definitions such as "harassment, tyranny, violence in the workplace, workplace terror/violence, intimidation, psychological violence, and etc." and a problem related with terminology is confronted. We are going to use the word mobbing in the forthcoming parts of our study in order to avoid any scientific confusion.

2.2. Mobbing in the Work life

The concept of mobbing in the work life was used for the first time by Heinz Leymann, German working environment psychologist who lived in Sweeden in 1980s as a result of determination about the existence of long-term, similarly hostile and aggressive behavior among employees in a certain workplace (Tınaz, 2006).

In the work life mobbing concept states the element of psycho-social violence related with work life. From the past decade to present, mobbing has been dealt as a problem which seriously affects physical and psychological states of employees in the modern societies (Kudielka, 2004). The reasons for it are competitive pressure increased with globalization, economic instability, organizational reengineering and inequalities in power distribution. Mobbing, which has no limitations about how to be practiced on employees, is an organizational psycho-violence type (Bayrak-Kök, 2006). Mobbing, which we often face in the work life, consists of various, planned, direct and indirect, conscious, motivated, aggressive behavior. These behaviors sometimes disrupt the spiritual unity of individuals and make them turn active state into passive state. This affects the performance of the employees negatively.

On the other hand, one of the serious problems we confront about this subject is that mobbing is regarded as a workplace behavior and these behaviors are tolerated. This problem is, probably, as important as the existence of mobbing. In fact, mobbing which is defined as pressure applied by more powerful people in a systematical way (Farrington, 1993), oppression, terrorization, ganging up on someone, attacking emotionally (Baldry ve Farrington, 2000; Leymann, 1990), can produce results which no one can ignore in addition to individual, organizational and social results. When it is evaluated in the light of this information, mobbing is the process of deliberate and systematic type of behavior/behaviors which pursue(s) an attrition goal via emotional attacks by targeting certain person or people in a workplace directly or indirectly and choosing a hostile and unethical attitude and cause(s) psychological and/or physical damage on a person or people in accordance with this goal (Yavuz, 2007). It will be beneficial to have a look at mobbing concept being mentioned most often within the frame of Turkey and the World and to diversify the subject with the examples of female leaders who are exposed to mobbing in order to understand the subject better.

Mobbing concept, which people working on organizational psychology research with increasing interest in the world, is a matter of fact, which is not used so much and not thought over in Turkey (Bayrak-Kök, 2006). Although it is not known as a concept, so much, many people confront a situation in their work lives directly or indirectly. Various studies related with mobbing are available in Turkey. These studies give theoretic information about the process, extent and stages of mobbing, what must be done in order to prevent this process (Yücetürk, 2002), characteristics being prone to mobbing and the ways to deal with mobbing (Tutar, 2004) We can make a list about mobbing studies in various business lines such as mobbing in tourism establishments (Çalışkan, 2005), mobbing in the industry sector (Kılıç, 2006), mobbing over teachers and managers at public and private schools (Gökçe, 2006). Akça and İrmiş (2006), Aktop (2006), Tanoğlu (2006), Karacaoğlu, also conduct similar studies and Reyhanoğlu (2006), Tınaz (2006), Kök (2006) and Işık (2007)

As we understand from these academic studies, mobbing can be seen in many different fields and situations.

Significant steps have been taken in EU countries about mobbing which has become a significant problem all over the world. Altuntaş (2010) summarizes these studies: Mobbing is directly and legally accepted as crime in Scandinavian countries. Occupational Health and Safety Law issued in Sweden in 1994 states mobbing is crime.

In addition to physical violence, psychological violence was added to Occupational Health and Safety Law issued in 2000 in Finland. Trade Union movements were effective on legislating mobbing in Germany.

As stated above, while mobbing concept as a fact in our country and in the world has already taken place in the legislation of many countries, especially developed countries, it has not been the subject of any legal regulation so far. Although mobbing is frequently seen in Turkey indeed, even it has not been known what mobbing, which is experienced in the organizations, really means. Moreover, it is a fact, which the victim has difficulty in giving a name and a meaning to psychological harassment she/he is exposed to, even tolerates or ignores it by accepting that it is normal due to the stress and competitive environment of business life and sometimes hesitates to speak out (İlhan, 2010). As mentioned, mobbing includes a wide range and many kinds of psychological violence. We can count some of them: suppression, oppression, intimidation, threatening. According to the findings from researches, there are no distinctive qualities of mobbing victims; in other words, mobbing can happen to anyone. (Salin 2003). According to Davenport and et al. (1999), the qualities increasing the possibility of being exposed to mobbing are to disturb others via thinking creatively and independently and asserting new ideas and methods Yücetürk (2003) draws attention that people who are smart, talented, creative, success-oriented, honest, trustworthy. It can be told that poor or strong management skills, changes in business structure, periods of downsizing and merging are the general atmosphere, which reveals mobbing. In some situations, it can cause mobbing if the target is in a different type. As is known, a person has unchangeable qualities such as color, gender, accent, class being represented, being more or less mannered and cultured in comparison with others. These qualities increase the possibility of being exposed to intimidation. (Davenport et al., 1999). Public opinion and media demonstrate that behaviors, which attract attention and cause negative impact, are displayed verbally, indirectly and deliberately rather than physically and directly. (Aquino and Bayron, 2002). According to the points of view of victims who claimed that they were intimidated, one of the important reasons for intimidation is organizational climate and problems about organizational operation. Actors of intimidation are the products of social customs and organizational culture hosting. When we have a look at what encourages the actor, it will be understood that the answer is "competitive organization" because competition is a zero-sum game. One wins, the other loses (ERQ, 2000). In that case, mobbing will continue to be a problem in today's world where competition is getting higher and higher day by day with globalization.

2.3. Causes of Mobbing

There has been a considerable amount of research on (mobbing), no specific agreement on the causes. Researchers' argued that some of the victims are the cause, their touchy behavior or a pre-existing disorder cause the executor to engage in bullying (Allen, 2005).
Several possible causes of bullying have been accepted (Buttigieg et.al, 2011). The prevalence of bullying was connected with attributes of the bully and organizational distinctiveness; although it could be argued that, many of the supposed attributes of the bully were also related to organizational characteristics (Buttigieg et.al, 2011).

Some as being similar to those motivating interpersonal aggression have noted the incentives for encouraging the bullying and mobbing: control of others, supremacy, anger, revenge, power show, and enhanced self-image. Others investigate the organizational structures and the key that enable and encourage bullying, such as the use of valid organizational change processes or performance management procedures (Vickers, 2010).

In the fast growing competitive environment, a business is spending great effort to maintain market shares and profit margins. This pressure frequently lead organizations to downsize, reform or de-layer with the belief that less overhead will get back lost revenues. These kinds of measures are not always beneficial for the organizations (Allen, 2005). Buttigieg et.al (2011), argued that, although there were victims of mobbing caused by their personal characteristics, mobbing caused from organization-based factors were higher than personal ones. In addition, most of the participants stated that poor organizational climate was an issue at their workplace. As a result, the most important determinants of mobbing were the attributes of the mobbing and organizational characteristics, as well as the power of the doer and discrimination based on certain characteristics. Most of the participants stated that the personality or personal attributes of the doer was a significant determinant of the mobbing behavior (Buttigieg et.al, 2011). Organizations endure bullies in positions of command, because they believe that by nature the good leader possesses the characteristics of a bully. Many offenders are sitting at the leadership roles and in advantaged positions where they can impose pain on their targets (Sloan et.al, 2010). Any organization that fails to address hostile and insulting acts implies by their very effective that those behaviors are acceptable. Once employees believe that “this is how the things done here”, maltreatment becomes part of the organizational culture (Allen, 2005). Leadership can affect the chance of bullying within an organization in one of two ways; either by its nonappearance, or by the behaviors of those in positions of power. A lack of leadership creates a void whereby employees are hesitant about what is important, what is expected of them, and how they are supposed to act (Allen, 2005).

In this research, we try to investigate the relationship between the causes and the perception of mobbing within the organization.

Hypothesis

To achieve this goal we developed following hypothesis:

H_1: There is a relation between causes of mobbing and the communication interference.
H_2: There is a relation between causes of mobbing and the offence to personal dignity.
H_3: There is a relation between causes of mobbing and the offence to job dignity.
H_4: There is a relation between causes of mobbing and the physical pressure.

3. DATA AND METHODOLOGY

In this research, we aim to the relationship between the causes and the existing level of mobbing within the organization. To test the assumption one scale was conducted.
The contributors in the current study comprised 124 public sector institution employees in Turkey. The institution included nearly 200 employees completely and all of them participated to questionnaire. Questionnaires were spread by the researcher to every participant in different sessions in all of the institution.

When the returned questionnaires were examined, 4 were invalid. As a result, a total of 124 valid responses were used in the research.

Table 1: Demographics

Demographics	n	%
Age		
20-35	71	57.3
36-45	37	29.9
46-55	16	12.8
55 - ↑	-	
Gender		
Female	39	38.5
Male	85	68.5
Marital Status		
Married	41	33.1
Single	83	66.9
Education		
Elementary school	10	8.1
Junior High	41	33.1
High School	72	58.1
University	1	0.8
Tenure		
Less than 1 years	7	5.6
1-4	33	26.6
5-1l	40	32.4
11- ↑	44	35.4
Sum	124	100

The samples included 39 (38.5%) female and 85 (68.5%) male volunteers. Their education level was; 10 (8.1%) elementary school. 41 (33.1%) junior high. 72 (58.1%) high school and 1 (0.8%) University. Participants had been working in their jobs; 7 (5.6%) for less than 1 year, 33 (26.6) 1-4 years, 40 (32.4%) for 5-11 years, 44 (35.4%) for 11 or more years.

Data produced in this study were collected by survey. The survey consisted of three measures.

In the first part questions about the demographic characteristics of public sector institution employees; in the other part questions designed to measure mobbing level in organization were asked. At the last part, we asked the causes of mobbing.

Mobbing was measured by the “mobbing perception scale” developed by Laymann (1993) and revised by Yavuz (2008). The measure included 23 items, each item was answered through a five-point Likert scale ranging from “1=very frequently” to “5=never.” In the present study, the Cronbach’s alpha coefficient for the scale was .73. The cause of mobbing was measured by another part of the same surveys.

The measure included 8 items, each item was answered through a five-point Likert scale ranging from “1=strongly disagree” to “5=strongly agree.” In the present study, the Cronbach’s alpha coefficient for the scale was 0.89.

4. RESULTS AND IMPLICATIONS

To ensure the validity and reliability of the study variables, explanatory factor analysis was conducted by using SPSS software. The mobbing measure produced four factors upon factor analysis. The first factor named “Communication interference”, explained 28.82% of the total variance. The second factor was named “Offence to personal dignity” and it explained 18.94% of the variance. The third factor “Offence to job dignity” with a variance of 14.08 %. The last factor named “Physical pressure” and it explained 18.94% of the variance. The factors all together explained 69.21% of the variance. KMO Bartlett's Test of Sphericity was 0.795.

Table 2: Mobbing Perception Factor Analysis

Mobbing Perception				
	Communication interference	Offence to personal dignity	Offence to job dignity	Physical pressure
Q 22	**.894**			
Q 17	**.870**			
Q 5	**.796**			
Q 4	**.726**			
Q 19	**.631**			
Q 3		**.829**		
Q 9		**.726**		
Q 2		**.704**		
Q 13		**.628**		
Q 12			**.834**	
Q 15			**.808**	
Q 20				**.741**
Q 6				**.719**

The third part of survey we used the causes of mobbing measure produced two factors upon factor analysis. The first factor named “Leader”, explained 46.86% of the total variance. The second factor was named “Management” and it explained 33.45% of the variance. The factors all together explained 80.32 % of the variance. KMO Bartlett's Test of Sphericity was 0.856.

Table 3: Causes of Mobbing Factor Analysis

	Cause of Mobbing	
	Leader	Management
AS 8	**.923**	
AS 7	**.899**	
AS 6	**.790**	
AS 5	**.717**	
AS 3	**.668**	
AS 4	**.617**	
AS 2		**.915**
AS 1		**.902**

The correlations between research variables listed below in Table 4. There is a positive relationship between "Offence to Personal Dignity", "Leader" and "Management". There is a positive relationship between "Offence to Job Dignity" and "Management". We also found that there were a positive correlation between "Physical Pressure" and "Leader". We could not find any relation between Communication Interference and causes of mobbing.

Table 4: Correlation Analyses

Scale	1	2	3	4	5	6
1. CI	(.89)					
2.ODP	0.0	(.90)				
3. OJD	0.0	.00	(.91)			
4. PP	.40	-.20	.18	(.88)		
5. Leader	.,89	-.17*	.19	.,28**	(.81)	
6. Management	-.55	,.261**	.,30**	,48	0,0	(.79)

CI: Communication Interference, OPD: Offence to Personal Dignity, OJD: Offence to Job Dignity, PP: Physical Pressure , *p<0,05 **p<0,01

To explore whether the independent variables had a significant impact on the dependent variables, hierarchical regression analyzes were conducted. Table-5 shows the regression analysis results for each mobbing dimension. In the regression analysis, causes of mobbing variables (Leader, Management) were entered to control their effects, after which, CI: Communication Interference, OPD: Offence to Personal Dignity, OJD: Offence to Job Dignity, PP: Physical Pressure emotional exhaustion, personnel achievement and depersonalization. The results show that, leader had a positive significant effect on OPD and PP. Moreover, management had a positive significant effect on OPD, OJD and PP.

Table 5: Hierarchical Regression Analyses

Dependent	CI	OPD	OJD	PP
	β	**β**	**β**	**β**
Leader	0.89	0.178*	0.19	0.287**
Management	-0.55	0.261**	0.30**	0.48***
ΔR²	0.89	0.188	0.70	0.145
ΔF	0.67	6.726	6.044	5.6169**

*p<0.05 **p<0.01 ***p<0.001

Thus, hypotheses H_2 (There is a relation between Causes of mobbing and the Offence to personal dignity) and H_3 (There is a relation between Causes of mobbing and the Offence to job dignity), H_4 (There is a relation between Causes of mobbing and the Physical pressure) accepted H_1 (There is a relation between Causes of mobbing and the Communication interference) was rejected.

5. CONCLUSION

In recent years, mobbing practices becoming widespread especially in developed countries where intensive competition is seen considerably damages both individuals and organizations. Thus, while the performance of an organization depends on the performance of the employees, the employees must be in a healthy work environment in order to be efficient. Mobbing experienced in organizations decreases the efficiency and performance of the employees by affecting them both in the short and long run. In this regard, there is a great effort related with either preventing mobbing practices or treating the victims in the Western countries. In our country, it is seen that this process experienced intensively is being tried to be given the meaning. The aim of research is to explain the relationship between the causes and the perception of mobbing within the organization. To achieve this aim we conducted an empirical research. We conducted a survey to explain the proposed relationship. The results showed that mobbing perception consisted of four factors upon factor analysis. The first factor named "Communication interference", second factor was named "Offence to personal dignity", third factor "Offence to job dignity" and the last factor named "Physical pressure". Moreover, the causes of mobbing measure produced two factors upon factor analysis. The first factor named "Leader" and second factor was named "Management.

As a result of correlation analyses, we found that, there is a positive relationship between "Offence to Personal Dignity", "Leader" and "Management" and positive relationship between "Offence to Job Dignity" and "Management".

We also found that there were a positive correlation between "Physical Pressure" and "Leader". The hierarchical regression analysis displayed that, leader had a positive significant effect on offence to personal dignity and physical pressure and management had a positive significant effect on offence to personal dignity, offence to job dignity and physical pressure.

The main finding of this research is physical pressure is the common factor that is imposed by both leader and management.

Physical pressure can be considered as, forcing the employee to achieve far reach goals by overloaded objectives. The results showed that both of the imposers agreed upon forcing the employee beyond the limits of himself/herself. The perception of employees united on this factor as a main tool of mobbing. Other findings of the current study are there is a common understanding of the causes of mobbing. The two actors of work place, leader and management is the sources of mobbing. The leaders focused on more personnel factors like offence to personnel dignity and physical pressure. As we mentioned before most of the organizations considers the leaders are powerful beings and has no limits on employees. They accepted this as a natural behavior and understandable and tolerable. The main reason why we can not stop the leader posed mobbing is this idea. We expected the poser of offence to job dignity as a leader. But surprisingly result indicated the management is the reason. Offence to job dignity can be explained by the perception of employees feelings about the position within the organization. The promotions and salary increases and the managerial changes and the reward process inside the organization are the indicators of appreciation of employee in different ways. If any other of these ways are not used and verbal or behavioral attitudes towards the employee about his or her job performance can be understand as a mobbing. Moreover, the leader won't accept the whole responsibility of this attitude and let the management handle with this issue. The work life regulations among the whole industry should be re-structured to prevent mobbing. In this study, we found that two key actors of mobbing and the effects on mobbing perception among the organization. The perceptions of employees are important because sometime perception can go beyond the facts. To prevent this effect, necessary actions should be taken. In order to achieve this, organizations can follow worldwide examples to ensure their employees they are protected by rules, laws or formal attitudes. Without any doubt, these findings are limited by the sample and the assessment instruments used in the present study. This research conducted on banking employees in Turkey; the findings might not be transferable to other organizations. Thus, it is recommended that further researches can be conducted on different sectors and also in different countries for the generalizability of the results. The fact that the present sample is composed of only 124 personnel is another drawback of this study.

REFERENCES

- Aguino K. and Byron K. (2002) "Dominating Interpersonal Behavior and Perceived Victimization in Groups:Evidende for a Curvilinear Relationship", *Journal of Management*, 28(1), 69-87.

- Akça, B., A. İrmiş, (2006) "Yıldırma Davranışının Algılama Boyutu: Üniversite Öğrencileri Üzerine Bir Araştırma", 14. *Yönetim Organizasyon Kongresi Bildiriler Kitabı*, Atatürk Üniversitesi, Erzurum, 181-189.

- Aktop, G.N. (2006), "*Anadolu Üniversitesi Öğretim Elemanlarının Duygusal Tacize İlişkin Görüşleri ve Deneyimleri"*, Yayınlanmamış Yüksek Lisans Tezi, Anadolu Üniversitesi Sosyal Bilimler Enstitüsü, Eskişehir

- Altuntaş, C. (2010). "Mobbing kavramı ve örnekleri üzerine uygulamalı bir çalışma", Journal of Yasar University, 18(5) 2995-3015.

- Beth A. Allen, (2005*), "A Springboard for Building a More Respectful Workplace"*, Royal Roads University, Master Thesis, 33

- Arpacıoğlu, G. (2005). "*İşyerindeki Stresin Gizli Kaynağı: Zorbalık ve Duygusal Taciz"*, <http://www.ntvmsnbc.com/news/313446.asp#Body>,(04.03.2005).

- Baldry A.C. and Farrington D. P. (2000). Bullies and Delinquents: Personal Characteristics and Parental Styles*, Journal of Community & Applied Social Psychology*,10,17-31.
- Bayrak-Kök, S. (2006). "İş Yaşamında Psiko-şiddet Sarmalı Olarak Yıldırma Olgusu ve Nedenleri", Atatürk Üniversitesi İ.İ.B.F. Erzurum 14. *Ulusal Yönetim ve Organizasyon Kongresi*, 25-27.

- Buttıgıeg, Donna M., Melanıe Bryant, Glennıs Hanley and Jıe Lıu, (2011), "The Causes and Consequences of Workplace bullying and discrimination: Results from an exploratory study", *Labour and Industry* 22:1/2 August/December, 117–142

- Çalışkan, O. (2005). "*Turizm İşletmelerinde Çalışanlara Yapılan Yıldırma Davranışları"*, Yayınlanmamış Yüksek Lisans Tezi, Mersin Üniversitesi Sosyal Bilimler Enstitüsü, Mersin.

- Davenport, N., R. D. Schwartz, P. ve Gail E. (1999). "*Mobbing: İşyerinde Duygusal Taciz"* 1.Baskı, İstanbul, Sistem Yayıncılık.

- Einarsen, S. and Rakness, B (1997). "Harassment in The Workplace and Victimization of Men", *Violance and Victims*, 12, 247-263.

- Einarsen, S. (1999). "The Nature and Causes of Bullying at Work", *International Journal of Manpower,* 20 (1/2), 16-27.

- Employee Rights Quarterly (ERQ) (2000). "Workplace Bullying: The Silent Epidemic".

- Gökçe, A. T.(2006). *"İş Yerinde Yıldırma: Özel ve İlköğretim Okulu Öğretmen ve Yöneticileri Üzerinde Yapılan Bir Araştırma"*, Yayınlanmamış Doktora Tezi, Ankara Üniversitesi Eğitim Bilimleri Enstitüsü, Ankara.

- Işık, E. (2007). "İ*şletmelerde Mobbing Uygulamaları ile İş Stresi İlişkisine Yönelik Bir Araştırma"*, Yayınlanmamış Yüksek Lisans Tezi, Yıldız Teknik Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

- İlhan, Ü. (2010). "İşyerinde Psikolojik Tacizin (Mobbing) Tarihsel Arka Planı ve Türk Hukuk Sisteminde Yeri". *Ege Akademik Bakış/Ege Academıc Revıew*, 10(4), 1175-1186.

- Karacaoğlu, K., M.Reyhanoğlu, (2006). "İşyerinde Yıldırma, KKTC'deki Sağlık Sektöründe Çalışanlara Yönelik bir Uygulama", 14. *Yönetim Organizasyon Kongresi Bildiriler Kitabı*, Atatürk Üniversitesi, Erzurum, 171-179.

- Kılıç, T. S. (2006). "*Mobbing (İşyerlerinde Psikolojik Şiddet) Sanayi Sektöründe Yaşanan Mobbing Uygulamaları, Kişisel Etkileri, Örgütsel ve Toplumsal Maliyetleri*," Yayınlanmamış Yüksek lisans Tezi, Anadolu Üniversitesi Sosyal Bilimler Enstitüsü, Eskişehir.

- Kudielka, B. (2004). "Cortisol Day Profiles in Victims of Mobbing"*, Journal of Psychosomatic Research*, No: 56, 149-150.

- Lewıs, D. (2004). "Bullying At Work: The İmpact Of Shame Among University And College Lecturers", *British Journal Of Guidance & Counselling*, 32(3), 281-299.

- Leymann, H. (1996). "The Content and development of Mobbinf at Work", *Europen Journal of Work and Organizational Psychology*, 5, 165-184.

- Leymann, H. (1990). "Mobbing and Psychological Terror at Workplace", *Violance and Victims*, 5(2).119-126.

- Lacey M. Sloan, Tom Matyók, Cathryne L. Schmitz, Glenda F. Lester Short, (2010), A Story to Tell: Bullying and Mobbing in the Workplace, *International Journal of Business and Social Science* Vol. 1 No. 3, 87-97

- Salın, D. (2003). "*Workplace Bullying among Business Professionals, Prevelance, Organizational Antecedents and Gender Differences*", Academic Dissertation, Helsingfors, http://www.hse.gov.uk/research/hsl_pdf/2006/hs0630.pdf.

- Stock, (1996). "*La Vérité d'une femme*", Paris, (ISBN2-234-04648-3). (ISBN978-2234046481)

- Tanoğlu, Ş.Ç. (2006). "*İşletmelerde Yıldırmanın (Mobbing) Değerlendirilmesi ve Bir Yüksek Öğrenim Kurumunda Uygulama*", Yayınlanmamış Yüksek Lisans Tezi, Selçuk Üniversitesi Fen Bilimleri Enstitüsü, Konya.

- Tınaz, P. (2006). "*İşyerinde Psikolojik Taciz", Çalışma ve Toplum*, No: 4, 13-28.

- Tınaz, P. (2006). "*İşyerlerinde Psikolojik Taciz (Mobbing)*", Beta Basım Yayım: İstanbul.

- Tutar, H. (2004). "*İşyerlerinde Psikolojik Şiddet"*, 3.Baskı, Platin Yayıncılık: Ankara.

- Vickers, Margaret H., (2010), "The Shifting Sands of "Acceptable" Violence", *Administrative Theory & Praxis*, Vol. 32, No. 1, pp. 7–24.

- Yücetürk, E. (2002). "Örgütlerde Durdurulamayan Yıldırma Uygulamaları Düş mü? Gerçek mi?" http://www.bilgiyönetimiorg/cm/paper/yaz.ark.php, (28.11.2005).

- Yücetürk, E. (2003). "Bilgi Çağında örgütlerin Görünmeyen Yüzü: Mobbing", http://www.bilgiyonetimi.org. (28.11.2005).

- Yavuz, H. (2007). "*Çalışanlarda Mobbing (Psikolojik Şiddet) Algısını Etkileyen Faktörler: Süleyman Demirel Üniversitesi Tıp Fakültesi Üzerine Bir Araştırma"*, Yüksek Lisans Tezi. Süleyman Demirel Üniversitesi, Isparta.

- Webster's New World Dictionary, David B. Guralnik, Basic School Edition, Pearson Learning, 1989.

Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

TOWARD AN INTEGRATED RATING METHODOLOGY FOR CORPORATE RISK DETECTION

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Keywords: Corporate risks, Rating, Firm behavior, Firm performance

ABSTRACT
The need to innovate rating methodologies toward an integrated approach is crucial in the Italian financial contest. Currently, the banking system and the economic actors are unable to create effective and efficient information flows to react to the crisis. Banks weakness derives from the adopted rating models, which are mainly based on credit tendencies. They produce cyclical effects on credit availability and are not able to anticipate anti-cyclical firms' trends. The separation between financial and industrial analysis might be a driver of such an inefficient flow of information. The aim of the paper is to show a framework for an original rating methodology derived from the integration of industrial and financial analysis, in order to identify best performers in crisis scenarios (i.e. anti-cyclically). Industrial analysis is based on firm heterogeneity approaches to measure three dimension of analysis: innovation, internationalization and growth. Financial analysis focuses on operational return and risks measures and develops an integrated classification of firms using standardized XBRL financial data. Further integration of the two methodologies is used to create the effective set of information needed for an original rating system based on a certainty equivalent model. The case of the very competitive manufacturing firms in Vicenza was considered. The results suggest the efficacy of the proposed methodology in order to identify clusters of best performing firms in crisis scenarios, while the validation test on the post crisis timeframe confirms the anti-cyclical capacity of an integrated rating methodology.

1. INTRODUCTION

The financial crisis hit strongly the manufacture and made people aware of the existence of corporate risk. Through a very traumatic way, managers, bankers and regulators learnt that corporate risks must be managed mainly in an ex-ante approach. Only by managing according to this approach, you can *i)* avoid intolerable risks, *ii)* try to gain profits from risks that are compliant with the investor's risk aversion and *iii)* define the degree of risk sharing between the stakeholders of the firm. If managerial decisions are taken in this way, they can increase the long term corporate sustainability. But, how can corporate risk be soundly detected?

Techniques adopted in the classical financial risk approaches are often useless, since they are based on the heterogeneous nature of risks. Instead, in real terms, corporate risks have huge endogenous components, mainly related to corporate decisions and business model standards, as described by the competitive models in industries. Risk is continuously crafted by managerial decisions, including those adopted in order to manage them. The simple financial approach in corporate risk management is reductive for sure, missing the business model determinants along with the managerial decisions contribution. In order to soundly support the managerial choices, an integrated approach is required.

Two immediate consequences arise from the above framework: *i)* classical risk measures can distort the risk depicture inside companies, for both the absence of connection with more traditional corporate information system and their heterogeneity assumptions; *ii)* none of the measures can be efficiently adopted in real firms if they cannot be included into a business concept used to adopt sound managerial decisions regarding the entire business model (i.e. at all the levels). The integrated approach can solve the puzzle as Mantovani, Daniotti and Gurisatti (2013) demonstrate in the case of a specific industry in Italy.

To have a clear evidence of the corporate risk you must be able to unbundle it into more analytic measures, related to specific decisions that have to be taken in order to increase competitiveness. The industrial analysis will help you to re-bundle the measures, in order to have more insights about the return-to-risk ratios of the company. Such measures are usually outside the standard methodologies of the financial analysis. In fact, they aim to measure possible paths of corporate performance evolution (ex-ante), while financial reporting usually measures specific results (ex-post). Nonetheless, the endogenous nature of corporate risk may support measurement techniques that can even solve the adoption of data sourcing from the corporate information system. The close relationship between corporate risk and managerial decision is guarantee of risk persistence into the firm due to the stickiness of the decision impacts. Thus, indicators that are computed on accounting data can be helpful, if used to focus on the long term persistence of volatility (instead of specific results).

The paper aims to depict the inner benefits that may arise from an integrated rating approach, through the analysis of a sample of companies acting inside the very competitive Italian area of Vicenza, in North-Eastern Italy. To reach the target, the paper compares results arising from a traditional analysis at the industry level and the ones arising from the most advanced approaches of corporate risk management analysis. The latter consists in two steps: *i)* the return-risk analysis that evaluates single firm's operational strategy (Mantovani et al. 2013); *ii)* the development of the Lintner's (1965) certainty equivalent methodology in a financial rating perspective (Gardenal, 2011) following the confident equivalent methodology (Mantovani et al. 2014) based on the original formulas of the T-Ratio (Mantovani, 2011). The convergence of results lets us conclude that the integrated approach is robust. Furthermore, we demonstrate that, integrating a rating confident equivalent approach with the industrial classification, we can improve the prediction capacity of the model. The paper is organized as follows. After a literature review in Section 2, Section 3 depicts the main techniques of industrial analysis, adopted to detect risks embedded into different business models.

Section 4 presents the sample and its qualitative features. In Section 5 the methodology of financial analysis is reported. The empirical evidence at quantitative level (both ex-ante and ex-post) is shown insection 6 which compares results and demonstrates the superiority of the integrated approach. Section 7 concludes.

2. LITERATURE REVIEW

The great financial crisis of 2008 has shown all the weaknesses of a World Bank regulation that presents high levels of pro-cyclical effects. The evidence of such limits and threats incorporated in Basel II regulation, was extensively proved by the academic world (Kashyap 2003, Sironi et al. 2003), but representatives of states and governments of the G20 waited until the crisis boom for a regulation that improves the resilience of the financial markets. Starting from 1st January of 2014, “Basel III” regulation is active in the European Union bank system. However, many doubts on the pro-cyclicality of the regulation remain on the discussion table. In particular, the cyclical amplification effect is expected from small and medium enterprises (SMEs) rating systems. In fact, SMEs scoring is produced using a retail mechanism that evaluates credit tendency, creating a shift mechanism in asset allocation strategies from SMEs financing to low risk assets – i.e. government bonds (Blundell-Wignall Atkinson, 2010). Such a turnover is mainly dependent on bank’s lack of capacity in measuring risk and return performance of SMEs, partially derived from an inefficient information flow among SMEs and banks. On one hand, most of SMEs do not present a complete and reliable report system. On the other, banks mostly consider firms’ credit history to evaluate credit merit (Dainelli et al. 2013). In addition, Mantovani and Daniotti (2012) report how, in crisis periods, banks of Treviso district tend to finance bigger enterprises, reducing credit availability for smallest ones. It is evident that new methodologies of rating are needed, especially for SMEs. The Italian economy is a good field for testing new rating models for SMEs. In fact, Italy has the highest proportion of SMEs among OECD countries and SMEs are also responsible for the majority of Italian economic growth (Manfra 2002). The North-East - in particular - presents fundamental characteristics for new studies implementation: firms located in the North East of Italy produce 25% of national GDP, and generate among 33% of national total export, reporting the high GDP pro-capite rate of growth in Italy in the last 40 years (Bank of Italy 2011). The high proportion of SMEs and the high productivity of the North East drive our sample choice on the manufacturing firms of Vicenza, which is one of the main Italian manufacturing regions. The integration of a financial methodology with an industrial one puts our work in line with some precedent papers that underline the importance of adding soft information to standard financial approaches for a correct valuation of firms’ merit of credit (Liberti 2005).

3. INDUSTRIAL ANALYSIS

In this section, we present the industrial analysis methodology used to classify firms by relevant structure and performance variables. This investigation was initiated with a survey sent to a sample of 309 industrial firms, selected by industry and size representativeness, located in Vicenza[1]. The aim of our analysis is to examine which business strategic feature can explain the different responses of firms to the financial and economic crisis. In other word, our research hypothesis refers to firm heterogeneity approaches (Bernard et al. 2012), where traditional variables – i.e. industry, size, location, etc. – are deemed insufficient to understand the different business dynamics. However, unlike other studies that immediately employ explanatory methods (regression analysis) based on the structure-performance relationship, our research takes an exploratory approach, with the purpose to identify different types of businesses in relation to three dimensions of firms' competitiveness: *i)* first of all, we look at innovation capabilities, collecting data on patents (with design and utility models too) and R&D offices; *ii)* secondly, we evaluate the international activities through information on firm's export, the occurrence of affiliates abroad and where firm see the main competitors; *iii*) finally, we measure the turnover and profit performance just after the 2008 crisis. Some control variables were also considered - such size and industry - but do not participate in the structural analysis. The choice is based on a theoretical framework of industrial analysis that considers competitiveness not just a sectors' matter, but a firm one (Porter 2000). More specifically, competitiveness is seen as interlinked between two dimensions: on one hand, the distinctive competences and the absorptive capacity of the firm; on the other, the economic ecosystem – i.e. local cluster, global value chain and markets – where the firm works (Buciuni et al. 2013).

The statistical model processed data in two steps. First, by a multiple correspondence analysis, we built a structural framework to study the main relations among variables and firms; then, by a cluster analysis, we identified five groups with peculiar features and a good quality of statistical representation. With the multiple correspondence analysis, we got that the 70% of the whole variability is explained by two axes: one discriminates firms by innovation capabilities and international position, and the other by performance. This means that best competitive features (i.e. innovation activities and openness) are not associated with good economic results. At the same time, weak innovation capacity and local markets are not associated with poor performance. For this reason, it is necessary to deepen the analysis with cluster analysis and by collecting more data on firms' balance sheet series.

[1] The survey was implemented from the 15th to the 22th of June 2011. The statistical universe was the set of firms joining the Industrial Association of the Vicenza Province (Associazione Industriali Provincia di Vicenza).

We identified five groups and named them as follows[2] - according to the emerging characteristics:

- **G1** - *International and reactive firms* (about 20% of the sample): the group collects firms with the best innovation capabilities and with a strong international position (high export propensity and often with foreign investments) and good performances even during the crisis;

- **G2** - *International but not reactive firms* (15% of the sample): this group shows firms that, despite the good structural variables (specially in terms of innovation and exports), have had negative performance;

- **G3** - *Local reactive firms* (20% of the sample): this group classifies small firms with weak innovation activities and for which local market is crucial but that have shown good economic performance during the crisis. In this group there are suppliers and service businesses linked to the value chain of local or national leader firms.

- **G4** - *National or local not reactive firms* (15% of the sample): this group pulls together firms with the worst conditions, i.e. either structural and performance variables are bad;

- **G5** - *Average or standard firms* (30% of the sample): as usual, correspondence analysis detaches those firms with no significant differentiations related to the variables set. So, this group pulls companies that present average performance and structural variables in comparison to other classifications.

In Appendix A figures, the five groups are described through several structural and performance variables. In the next section, we assume these groups as the industrial side of the analysis. For instance, we will try to understand if the belonging of firms in each group, may be explained by different risk management strategies adopted in previous years. Graphs D to G (in Appendix A) clearly describe the structural conditions of each competitive group on the first ax (innovation capabilities and international position), in line with the characterization summarized here above. G1 and G2 have a strong international attitude, while G3 and G4 are almost exclusively concentrated on the national market, with low rate of investment in R&D and innovation systems. To these key parameters, before any other comment on the performance ax, it's important to associate further details about the economic sector. Manufacturing is prevalent in the first two groups, with a remarkable role played by Mechanics. Differently Construction and Services play an important role in all the other groups, mainly G3. The Construction sector has a strong influence on performance of these groups. In Italy, and Vicenza, the sector has followed a very peculiar evolution: running very fast, far beyond the market saturation before 2008, and literally collapsing during the period 2009-2012.

[2] Specific group features of the, resulting from survey, are reported in Appendix A.

Performance data are highly informed by this sector's trend and by the downturn of the Italian consumption, also affecting Services. Furthermore, the first two groups are characterized by larger companies, competing head to head with advanced competitors, while the other groups are characterized by smaller companies, far less exposed to real competition (see Tables A and B in Appendix A).

Having this structural framework in mind, it is easier to interpret the performance data, presented in Graph B and C (Appendix A). Negative turnover variation is impressing in G2 and G4, with high rates of net losses, while G1 and G3 (the most reactive companies) travel in more safe waters. Reactivity, in using available competitive advantages (at the international and local level), comes out as the key asset of G1 and G3 by statistical analysis. Manufacturing specialization is the second key asset, beyond the specific situation of the Construction system in Italy during the period considered by the survey.

4. THE SAMPLE

The survey sent out to manufacturing firms located in Vicenza[3] also reported the "authority[4] identification code". Using identification codes, by the AIDA database[5] "research" function, we could extract complete balance sheets for the financial analysis implementation. The analysis was performed on a sample data containing continuous and complete standard financial reports from 2004 to 2012 (Table 1).

The first extraction was made on November, 22 2011 (software version, 179) and the criteria were: 309 firms' identification codes; continuous and complete 2004-2010 standard financial reports. The second extraction, to include the 2012 up-date, was made on October, 3 2013 (software version, 200) and the criteria were: 309 firms' identification codes; continuous and complete 2004-2012 standard financial reports. The first extraction delivered 182 firms' data, while the second extraction only 159 firms' data (Table 1).

Table 1: Search criteria* for extraction of sample database on AIDA software on 2012 up-date.

Variable	Criteria	Number of Firms selected
Identification code	BG0336110, MI0057076, MI1509019, MI1662809, MI1686807, …	225
Continuous years with available account	2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012	159

* Elaboration from AIDA Bureau van Dijk "research" function.

[3] The statistical universe was the set of firms members of the Industrial Association of the Province of Vicenza.

[4] In Italy all firms with a limited responsibility must file their balance sheets (at least once a year) to the Chamber of Commerce. The Chamber represent the authority that monitors the correctness of such documents and gives to each firm an identification code.

[5] Software with fee, edited by Bureau van Dijk, available at Ca'Foscari University in Venice.

For missing balance sheets in 2011 and 2012, further data was extracted from In.balance[6] database, by searching identification codes and checking the correspondence of data values for the last year of AIDA available accounts. The check on values confirms the possibility to integrate the two databases. Data from In.balance showed that 4 firms defaulted in 2012, balance sheets for 6 active firms were found and 1 firm was acquired by another firm in 2012.

The availability of data for the 2004-2010 timeframe covered 58% of firms that answered to the survey, with a percent that varies from 34% of G3 to 77% of G1 (Table 2). Differences come from the composition of each group. The majority of Italian small firms have no balance sheet on the AIDA database. For such a reason, G3 - that is composed by the majority of small firms - presents the smaller sample coverage. For the 2004-2012 timeframe, searches on AIDA and In.balance software produced a loss of data for 17 firms: 3 in G1, 5 in G2, 5 in G4, 4 in G5. G3 does not register any loss of data availability. As reported above, 4 of the 17 firms defaulted in 2011 or 2012: 1 in G1, 2 in G2 and 1 in G5. Such firms were considered as KO in the financial analysis and completed the final sample composition. During the post crisis timeframe, 169 firms were considered, covering the 93% of the sample for 2004-2010 financial analysis (Table 2). The firm acquired in 2012 was in G1.

Table 2: Original samples and update on 2013 – number of firms.

	Original samples			**Sample update** (26th September 2013)		
Groups	**Survey sample**	**2004-2010 financial sample**	**Cover percentage**	**2004-2012 financial sample**	***Defaulted (+acquired)***	**2004-2012 analysis sample**
G 1	61	**47**	77%	44	*1(+1)*	**45**
G 2	45	**30**	67%	25	*2*	**27**
G 3	62	**21**	34%	21	*0*	**21**
G 4	46	**23**	50%	18	*0*	**18**
G 5	91	**61**	67%	57	*1*	**58**
TOTAL	**313**	**182**	**58%**	**165**	***4***	**169**

Summarizing, data loss is present in particular in G2 (3 firms data loss and 3 defaults) and G4 (5 firms data loss), which are the groups of bad performers in the industrial analysis. G1 and G3 - that are considered the group of best performers in the industrial analysis - register the least loss of data

[6] In.balance is edited by Info Camere and collects data from Chambers of Commerce data base. Data is available starting from 2008, for firms that report balance sheets in XBRL format. We thank the Chamber of Commerce of Treviso, for the access to In.balance data base.

5. FINANCIAL ANALYSIS

In this section we present a quantitative financial model used to classify the sample according to return and risk indicators[7]. The intuition behind this model is the need to give an appropriate emphasis to risk dimensions in classifying a "performing" firm. The resulting matrix (Figure 1) classifies the sample into six quadrants: "OK firms", "KO firms", two quadrants identified as "Critic Firms" and two quadrants identified as "Anomalous Firms to be reclassified."

Figure 1: Financial Model Framework for the classification of Firms in the sample

		RETURNS		
		INCREASING ROC (ROC 2010 > ROC 2007)		DECREASING ROC (ROC 2010<ROC 2007)
		STEADY TREND (ROC 2010>ROC 2008)	UNSTEADY TREND (ROC 2010<ROC 2008)	WORSENING
RISK	DECREASING RISK	Ok	Anomalous Firms to be reclassified-Group B	Critic firms
	INCREASING RISK	Anomalous Firms to be reclassified-Group A	Critic firms	Ko

First, to capture the return dimension, we use a measure of return on capital "ROC", defined as:

$$ROC_t = \frac{EBIT_t}{FA_t + WKCA_t} \quad \text{Eq. 1}$$

Where:

ROC = Return on Capital

$EBIT$ = Earnings before interest and taxes

FA = Fixed Assets

$WKCA$ = Working Capital[8]

Further, the return dimension is divided into three sub-dimensions to capture a steady increasing trend, an unsteady increasing trend and a decreasing trend. Specifically, if $ROC_{2010} > ROC_{2007}$ two classifications were possible: if $ROC_{2010} > ROC_{2008}$, the state is defined as "steady increasing trend"; if $ROC_{2010} < ROC_{2008}$ it is defined as "unsteady increasing trend". Finally, if $ROC_{2010} < ROC_{2007}$ the state is defined as "worsening."

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[7] The methodology is presented for the 2007-2010 timeframe. In other timeframes (2004-2007 and 2010-2012) it was used the same process.

[8] It is to note that in our calculation for Working Capital, the account "Creditors" was missing for some companies in the sample. To solve for this problem, Creditors for some companies was estimated based on method and data from a prior paper authored by Mantovani et al. (2011)

Second, the risk dimension is identified by three accounting indicators:

$$DOL = \frac{AV_t}{EBIT_t} \quad \text{Eq. 2}$$

$$DPL = \left[\frac{\frac{AV_t}{OpRev_t}}{\frac{AV_t}{OpRev_t} - x} - 1\right] * 100 \quad \text{Eq. 3}$$

$$WKCA\ Intensity = \frac{WKCA_t}{OpRev_t} \quad \text{Eq. 4}$$

Where:

DOL = Degree of Operating Leverage

DPL = Degree of Price Leverage

AV = Added Value

$EBIT$ = Earnings Before Interest and Taxes

$OpRev$ = Operating Revenues

$WKCA$ = Working Capital

x = price variation for DPL calculation (1%)

Within this realm, a firm will be classified as having a “decreasing risk”, if two out of three indicators present a value at the end of the period (year 2010) that is lower than the value at the beginning of the analysis (year 2007). Conversely, if two out of three indicators present the end value greater than the beginning one, the firm will be classified as having an “increasing risk.” The intersection within the return and the risk dimensions creates five categorizations and six quadrants as follows (Figure 1):

1. “OK” firms, if return is increasing with a steady trend and risk is decreasing
2. “KO” firms if return is decreasing while risk in increasing
3. “Critic” firms if either both return and risk is decreasing or if return is increasing with an unsteady trend and risk is increasing
4. “Anomalous” firms Group A if return and risk are increasing
5. “Anomalous” firms Group B if return is increasing with an unsteady trend and risk is decreasing

Moreover “Anomalous” firms are to be reclassified based on an additional analysis as follows:

1. For Group A, if two out of three individual “return to risk” ratios calculated at the end of the period are superior the value at the beginning of the period, they are reclassified as “OK firm”, otherwise as “Critic firm”.

2. For Group B, it has to be checked the decreasing “steadiness” of risk in the intermediate year of 2008. If it is decreasing steadily, it will be classified as “OK firm”, otherwise as “Critic firm”.

3. For firms that present ambiguous data, the “Anomalous” classification was confirmed.

The above analysis is performed over three timeframes: the pre-crisis period (2004-2007), the crisis period (2007-2010) and the post-crisis period (2010-2012). The pre and crisis periods are considered as the “in sample” period while the post-crisis period serves as the “out of sample” (or verification) period. Table 3 shows the distribution of the firms classified according to the above methodology. What it is interesting is the fact that, during the crisis period (2007-2010), the number of OK firms more than halved, while the number of KO firms doubled. Further, the post-crisis period shows a progressive normalization of the sample classification, in line with the pre-crisis.

Table 3: Descriptive statistics of firms’ financial analysis by three timeframes selected.

2004 - 2007	**OK**	**KO**	**Critical**	**Anomalous**	**Total**
#	74	54	28	13	169
%	44%	32%	17%	8%	100%
2007 - 2010	**OK**	**KO**	**Critical**	**Anomalous**	**Total**
#	31	105	32	1	169
%	18%	62%	19%	1%	100%
2010 - 2012	**OK**	**KO**	**Critical**	**Anomalous**	**Total**
#	51	76	40	2	169
%	30%	45%	24%	1%	100%

In addition, we apply Mantovani et al (2013) methodology also to identify anomalous data, by considering single index distribution. In practice we looked at the years in which a firm presents an extreme data (outside 2 standard deviations) and excluded all the indexes of such a year from the data-set.

6. INTEGRATION OF RESULTS

To integrate the industrial and the financial classifications, we propose to use a rating methodology based on an original development of the the certainty equivalent method elaborated by Lintner (1965). Mantovani et al (2013) defined such a methodology by the adoption of a confident equivalent indicator as follows

$$CE = E(ROC) - \mathrm{z} * \sigma_{ROC} \qquad \text{Eq.5}$$

Where:

z = identify the firm’s threshold ROC, with the 90% of confidence.

To estimate σ_{ROC} the Authors focus on five measures of corporate risk (Gardenal, 2011) and the autoregressive component of ROC in order to find the future expected ROC.

In addition, we apply further Mantovani et al (2013) to identify anomalous data, by considering single index distribution. In practice we looked at the years in which a firm presents an extreme data (outside 2 standard deviations) and excluded all the indexes of such a year from the data-set.

We present the results of financial classification by industrial analysis clustering and the average levels of indexes for each group, in order to identify best performers groups and quantify the aggregate level of performance. We expect, in fact, that the best performers cluster presents the highest percentage of OK firms and the best aggregate relationship between return and risk indexes. In the second part, we show the changes in classification of firms by groups, in order to identify if the proposed scoring methodology of manufacturing firms presents an internal coherence also in the classification migration. We expect, in fact, that best performers' clusters of firms register the highest percentage of firms that improve their classification in comparison with the others groups and the lowest percentage of firms that worsen their classification in the timeframes considered.

6.1. Aggregate Analysis

For timeframe 2004-2007, any group presents a similar financial classification composition (Table 4) with an unexpected result: G1 firms - the international best performing firms - present the lowest percentage of OK firms and the highest percentage of KO. The other groups present similar percentages of OK firms, with G5 and G3 having the highest percentages of OK firms before the crisis period. G3 is also characterized by a high presence of anomalous firms - with a not clear trend in return and risk changes. Such a result may depend on the presence of many small firms in this cluster.

Table 4: Financial analysis results on 2004-2007 timeframe - number and percentage of firms by group.

2004-2007		OK	KO	Critical	Anomalous	TOT
G 1	#	16	18	9	2	45
	%	36%	40%	20%	4%	100%
G 2	#	11	8	4	4	27
	%	41%	30%	15%	15%	100%
G 3	#	10	5	1	5	21
	%	48%	24%	5%	24%	100%
G 4	#	8	6	4	0	18
	%	44%	33%	22%	0%	100%
G 5	#	29	17	10	2	58
	%	50%	29%	17%	3%	100%
TOTAL	#	74	54	28	13	169
	%	44%	32%	17%	8%	100%

Moving to the crisis timeframe (2007-2010), significant variations are produced. G1firms move from the lowest to the highest percentage of OK firms (33%), while all the other groups reduce significantly the percentage of OK firms. Best industrial clusters present the lowest difference of OK percentage (Table 5):

- G1 move from a 36% to a 33%;
- G3 move from a 48% to 19%;
- G5 move from 50% to 17%;
- G2 move from 41% to 7%;
- G4 presents 0% of OK firms, from an initial 44%.

During the crisis period, any group of firms show an increase of KO classification and a reduction in the percentage of critical firms.

Aggregate return and risk values integrate financial and industrial analysis results by completing the framework of information.

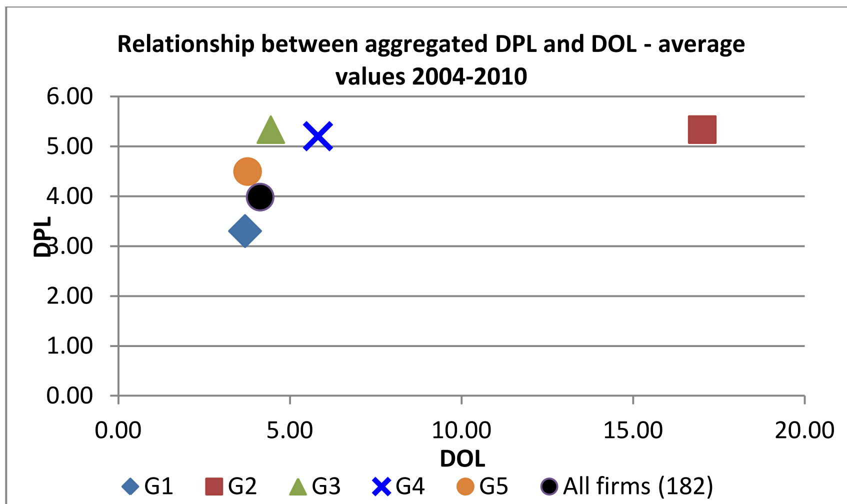
Table 5: Financial analysis results on 2007-2010 timeframe - number and percentage of firms by group.

2007-2010		OK	KO	Critical	Anomalous
G 1	#	15	24	5	1
	%	33%	53%	11%	2%
G 2	#	2	22	3	0
	%	7%	81%	11%	0%
G 3	#	4	13	4	0
	%	19%	62%	19%	0%
G 4	#	0	10	8	0
	%	0%	56%	44%	0%
G 5	#	10	36	12	0
	%	17%	62%	21%	0%
TOTAL	#	31	105	32	1
	%	18%	62%	19%	1%

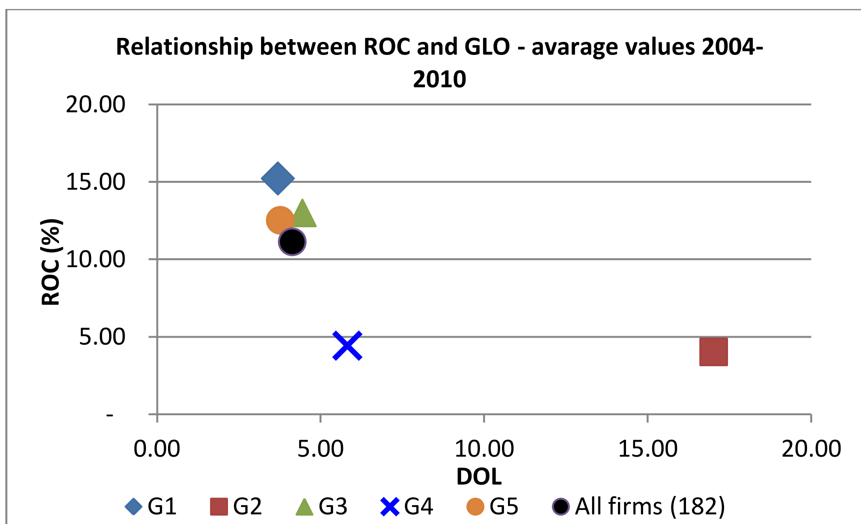
G1 presents the lowest risk exposure for both price and volumes variations (Graph 8) and the highest return rate (Graph 9). Differently, G2 - which groups international firms with bad performance - presents a high level of operational risk indexes. The differences among G1 and G2 firms are based on a different ability to manage risk in the international contest. G3 and G5 do not present relevant differences in risk composition, just G4 - gathering worst performers - reveals a significant level of DOL (Graph 8). Worst clusters - G2 and G4 - in crisis period, present the lowest level of ROC, while G4 high risk exposure is relevant in determining financial classification changes. It can be noticed how the financial analysis of firms confirms the industrial one. In fact, financial analysis confirm that G1 are the best performers in crisis period, followed by G3 and G5. G2 and G4 are the worst and, between them, G4 has no firms that react positively to the crisis.

The implementation of the model on the 2010-2012 timeframe is used as an out of sample timeframe for definitive model confirmation. In fact, the sample update gives some additional evidence on the default tendency. The presence of defaulted firms in G1, G2 and G5 and the lack of defaulted firms in G3 and G4 point out an higher tendency of default in international or partially international firms, in comparison to local or national ones. Among them, G2 presents the highest percentage of defaulted firms (6,7%), confirming itself as one of the riskiest clusters.

Graph 8: Relationship between aggregated DPL and DOL – average values on 2004-2010 timeframe.



Graph 9: Relationship between aggregated DPL and DOL – average values on 2004-2012 timeframe.



Financial analysis for the post-crisis timeframe confirms G1 as the best performing - with 42% of firms that are classified OK - while G3 is confirmed to be a good performing cluster - with 33% of OK firms. The anomalous data represents the 37% of OK firms in G2 - international bad performing firms - which represents a significant improvement of firms' classification for a non performing cluster (Table 6).

G2 firms' results may be due to the significant reduction of DOL, with an aggregate level of return and risk indicators that, instead, confirms the low performance of the cluster (Graph 10). Overall, G1 and G2 show the highest percentage of OK firms, signaling a good reaction to the crisis by firms playing on an international market.

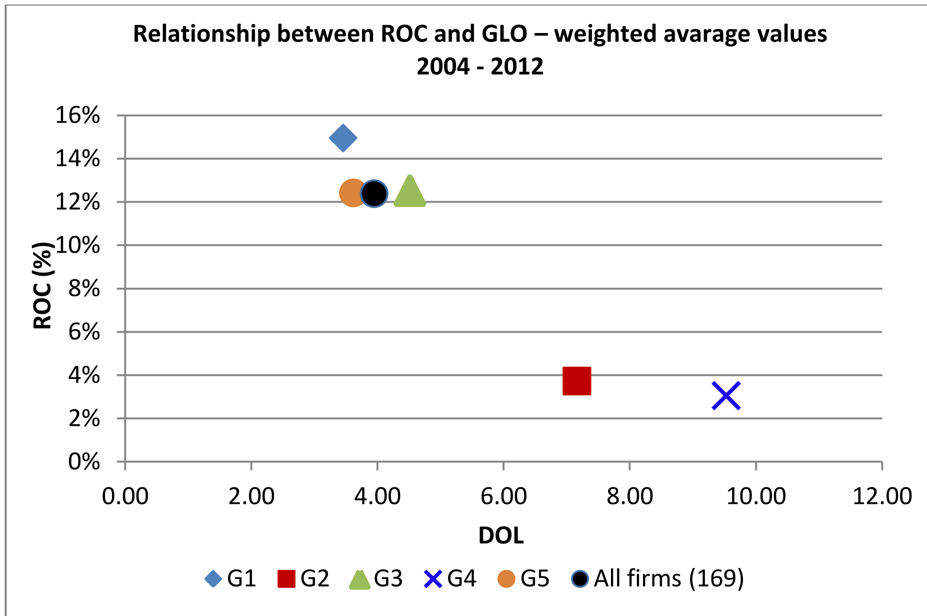
All clusters report an increase in OK firms (Table 6) after the crisis, while G5 presents the lowest improvement. All clusters keep a higher rate of KO firms than the pre-crisis level, even if it is decreasing. Such results depend on the firms' risk exposure. Excluding DOL for G2, all other clusters present a level of risk unchanged or increased in the last two years: G3 reports an increase only in DPL risk while G4 in both DOL and DPL risk; G2 presents a higher level of DPL (Graph 11). Such results point out an increased average risk - despite the high rate of OK firms - after the crisis, depicting a scenario with no definitive overcoming of the crisis.

Table 6: Financial analysis results on 2004-2007 timeframe - number and percentage of firms by group.

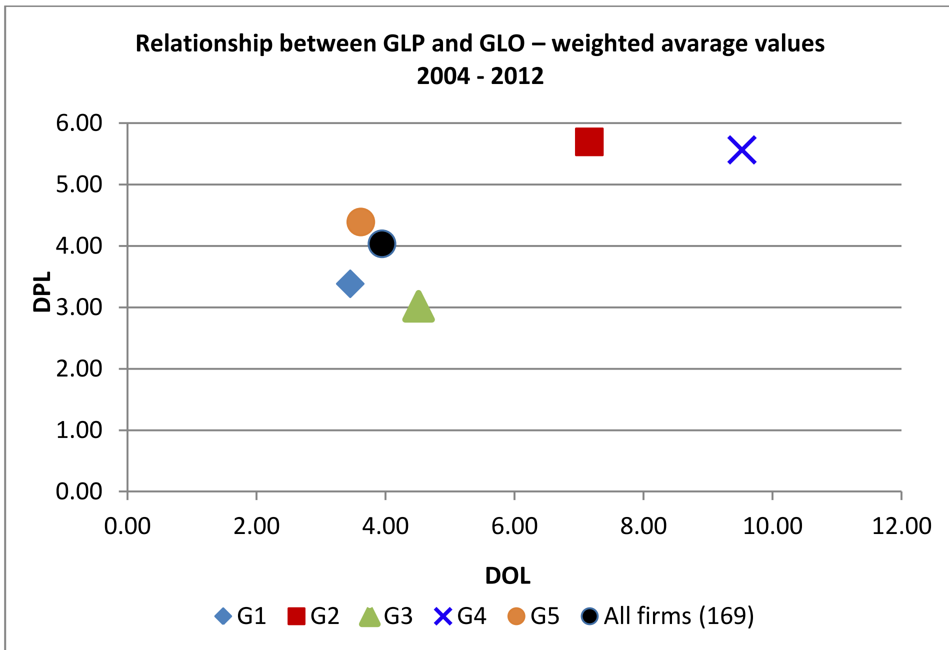
2010-2012		OK	KO	Critical	Anomalous
G 1	#	19	21	5	0
	%	42%	47%	11%	0%
G 2	#	10	12	4	1
	%	37%	44%	15%	4%
G 3	#	7	8	6	0
	%	33%	38%	29%	0%
G 4	#	4	10	4	0
	%	22%	56%	22%	0%
G 5	#	11	25	21	1
	%	19%	43%	36%	2%
TOTALE	#	51	76	40	2
	%	30%	45%	24%	1%

Summarizing, we can say that the industrial analysis produces a consistent method to identify best performers. On one hand, the industrial method identifies firms with high return rate and low risk exposure (i.e. G1, G3 and G5) and firms with low return rate and high risk exposure (i.e. G2 and G4). On the other, the financial method confirms the ability to react to the crisis by best performing groups (G1 and G3). Finally, the expectations about cluster performance are also confirmed after the crisis. Hence, the industrial methodology is able to detect long-term trends of firms' performance.

Graph 10: Relationship between aggregated ROC and DOL – average values during 2004-2012.



Graph 11: Relationship between aggregated DPL and DOL – average values during 2004-2012.



6.2. Migration analysis

A further in-depth analysis on singular firm classification for each timeframe will highlight the specific reaction of firms to the crisis and - at the same time - will test the coherence of the model. First of all, we notice that G1 keeps a high and constant level of OK firms in all three timeframes while the most volatile performance is registered in G2 and G4 (Tables 7).

Table 7: Resume of industrial and financial analysis output (percent of firms per group)

		OK	KO	Critical	Anomalous
G 1	2004-2007	36%	40%	20%	4%
	2007-2010	33%	53%	11%	2%
	2010-2012	42%	47%	11%	0%
G 2	2004-2007	41%	30%	15%	15%
	2007-2010	7%	81%	11%	0%
	2010-2012	37%	44%	15%	4%
G 3	2004-2007	48%	24%	5%	24%
	2007-2010	19%	62%	19%	0%
	2010-2012	33%	38%	29%	0%
G 4	2004-2007	44%	33%	22%	0%
	2007-2010	0%	56%	44%	0%
	2010-2012	22%	56%	22%	0%
G 5	2004-2007	50%	29%	17%	3%
	2007-2010	17%	62%	21%	0%
	2010-2012	19%	43%	36%	2%
TOTAL	2004-2007	44%	32%	17%	8%
	2007-2010	18%	62%	19%	1%
	2010-2012	30%	45%	24%	1%

Between the pre-crisis and crisis periods, a total of 28 firms confirms their classification, 95 worsen their position and 43 improve their status. G1 presents the highest percentage (33%) of improving performance firms during the crisis timeframe, followed by G5 (28%) and G3 (25%). G1 also registers the lowest percentage of worsening firms' performance during the crisis (42%) with all the other groups that register a percentage near 60% (Table 8). In the post crisis period, a total of 59 firms confirms the previous classification, 40 firms worsen their status, while 68 firms improves it (Table 9). Firms that improve performance are located more in G2 and G3 - 52% of each group - and less in G1 and G4 - 33% of each group. For G1, the low statistic depends on the high presence of good performers already in the crisis period. For G4, the result is a signal of the absence of firms that are able to react to crisis. In fact, in G4 there is also the highest percentage of firms that confirms the crisis classification (44%) while 33% of G4 firms confirms a KO position (Table 9).

The crisis and post-crisis timeframes present the highest correspondence of classification - 35% of firms do not change status - confirming the capacity of the model to predict crisis and post crisis performance. Between pre- and post-crisis timeframes the correspondence is also significant: 31% of firms restores the status before the crisis (Table 10).

Table 8: Detail on classification changes between two timeframes: 2004-2007 and 2007-2010

2004-2007 and 2007-2010		Group					Total
Classification		1	2	3	4	5	
Confirmed	OK	1	0	2	0	0	3
	Critical	2	1	0	1	1	5
	Anomalous	0	0	0	0	0	0
	KO	6	6	1	2	5	20
	TOTAL	9	7	3	3	6	28
Worsened	From OK to KO	14	10	7	5	25	61
	From OK to Critical	1	1	1	3	4	10
	From Critical to KO	3	2	1	3	5	14
	From Anomalous to KO	1	4	4	0	1	10
	TOTAL	19	17	13	11	35	95
Improved	From Critical to OK	3	1	0	0	4	8
	From KO to OK	11	1	1	0	6	19
	From KO to Critical	1	1	3	4	6	15
	From Anomalous to OK	0	0	1	0	0	1
	TOTAL	15	3	5	4	16	43
Others	Others	2	0	0	0	1	3

Table 9: Detail on classification changes between two timeframes: 2007-2010 and 2010-2012

2007-2010 and 2010-2012		Group					Total
Classification		1	2	3	4	5	
Confirmed	OK	8	0	1	0	1	10
	Critical	0	0	1	2	4	7
	Anomalous	0	0	0	0	0	0
	KO	11	8	3	6	14	42
	TOTAL	19	8	5	8	19	59
Worsened	From OK to KO	6	2	3	0	4	15
	From OK to Critical	1	0	0	0	5	6
	From Critical to KO	4	2	2	4	7	19
	From Anomalous to KO	0	0	0	0	0	0
	TOTAL	11	4	5	4	16	40
Improved	From Critical to OK	1	1	1	2	1	6
	From KO to OK	9	9	5	2	9	34
	From KO to Critical	4	4	5	2	12	27
	From Anomalous to OK	1	0	0	0	0	1
	TOTAL	15	14	11	6	22	68
Others	Others	0	1	0	0	1	2

Table 10: Detail on classification changes between two timeframes: 2004-2007 and 2010-2012

2004-2007 and 2010-2012		Group					Total
Classification		1	2	3	4	5	
Confirmed	OK	4	5	2	2	8	21
	Critical	0	1	0	1	7	9
	Anomalous	0	0	0	0	0	0
	KO	7	3	1	3	8	22
	TOTAL	11	9	3	6	23	52
Worsened	From OK to KO	8	4	4	5	15	36
	From OK to Critical	4	1	4	1	6	16
	From Critical to KO	5	2	1	2	1	11
	From Anomalous to KO	1	3	2	0	1	7
	TOTAL	18	10	11	8	23	70
Improved	From Critical to OK	4	1	0	1	2	8
	From KO to OK	10	3	2	1	1	17
	From KO to Critical	1	2	2	2	7	14
	From Anomalous to OK	1	1	3	0	0	5
	TOTAL	16	7	7	4	10	44
Others	Others	0	1	0	0	2	3

Summarizing, 63% of firms (106 firms) presents a correspondence between at least two periods of analysis. Only 11 firms present the same classification for all the three timeframes: 1 OK, 9 KO and 1 critical. Firms classified as OK in all the three periods belong to G1 while the one classified as critical is in G5. The 9 KO firms in all the timeframes belong to four of the five groups: 3 firms belong to G1, 2 firms to G2, 2 to G4 and 2 to G5. Only G3 does not present a firm classified KO for all the timeframes (Table 11).

Any elaboration of the financial analysis(aggregate and migration) demonstrates that the industrial classification correctly identifies the G1cluster as containing the best performers: G1 firms have the best capacity to react to crisis and the highest percentage of OK firms during the crisis and post-crisis period. At the same time, G4 is also correctly identified as the worst performing group. In fact, G4 firms have the lowest percentage of improving firms and the highest percentage of worsening firms in crisis and post crisis timeframes. As the industrial model predicts, G3 and G5 are clusters of good performers, even if the result is due to different features: in G5 firms, the partial presence of good structural variables and the partial openness to international markets compensate the lower rate of performance in comparison to G3.

The most interesting cluster is G2, the group of international firms with low performance. During the crisis, G2 suffered a high degree of risk exposure, being that one also the reason of the low performance during the three timeframes. However, the international openness of G2 firms permitted to reduce risk exposure after the crisis.

In fact, G2 firms report an improvement in financial classification, despite conserving low ROC levels. Differently, G4 firms do not present such improvement in risk exposure because of the geographic context of competition: the national one does not give the opportunity to react promptly to the crisis as the international one.

Concluding, financial analysis confirms the industrial classification (especially in crisis and post-crisis periods): G1 firms have the best performance also during crisis, followed by G3 and G5; G2 and G4 are the worst performing firms' clusters.

Table 11: Index matches by cluster and number of firm with 2 or 3 matches.

			OK	KO	Critical	No. corr.
G 1	2 ind.	#	10	15	2	18
		%	22%	33%	4%	40%
	3 ind.	#	1	3	0	41
		%	2%	7%	0%	91%
G 2	2 ind.	#	5	11	2	9
		%	19%	41%	7%	33%
	3 ind.	#	0	2	0	25
		%	0%	7%	0%	93%
G 3	2 ind.	#	5	5	1	10
		%	24%	24%	5%	48%
	3 ind.	#	0	0	0	21
		%	0%	0%	0%	100%
G 4	2 ind.	#	2	5	4	7
		%	11%	28%	22%	39%
	3 ind.	#	0	2	0	16
		%	0%	11%	0%	89%
G 5	2 ind.	#	9	21	9	19
		%	16%	36%	16%	33%
	3 ind.	#	0	2	1	55
		%	0%	3%	2%	95%
TOTAL	2 ind.	#	31	57	18	63
		%	18%	34%	11%	37%
	3 ind.	#	1	9	1	158
		%	1%	5%	1%	93%

6.3 Confident Equivalent Analysis

In this section, we show the confident equivalent estimation for any group, in order to measure the soundness of industrial and financial classifications. In fact, by using the confident equivalent methodology, we are able to produce a value of firms' investment by group, derived from expected return and risk estimations.

Table 12 presents the expected return on capital and the respective estimated standard deviation for every group as well as the total of the firms, derived from regressions on all available data:

- G1, G3 and G5 confirm industrial and financial classifications for the expected return level;
- national firms (G3 and G4) present the highest level of volatility of ROC;
- G3 and G4 present the lowest confident equivalent – lower than the total firms' one.

Table 12: Expected ROC, ROC volatility and confident equivalent – total data-set.

	G1	G2	G3	G4	G5	TOTAL
σ_{ROC}	10.3%	11.6%	30.0%	21.9%	17.5%	20.4%
$E(ROC)$	14.7%	9.7%	13.0%	8.1%	15.0%	13.3%
CE	1.5%	-5.2%	-25.5%	-20.0%	-7.4%	-12.9%
R-squared	*0.256*	*0.392*	*0.832*	*0.745*	*0.449*	*0.524*

The result could depend strongly on fewer anomalous values and, for this reason, we repeated the confident equivalent's estimation by cutting from the data-set the firm's data in the year in which it presents at least one anomalous index. Table 13 shows the statistics of the anomalous data distribution by group and year. As we can see from Table 13, G3 presents the highest level of outlier data with more than 1 outlier index per firm, followed by G5 and G2. Furthermore, it is evident that the highest concentration of anomalous data is in 2012 and not, as it could be expected, during the crisis period. Hence, we can conclude that outliers' data are not linked to a particular economic contingency but maybe on data reliability or availability. These considerations represent a further reason that supports the exclusion of the outliers' data from the final regressions' data-set.

Table 13: Average of Outlier Data (AOD) per firm.

	AOD TOT	AOD 2012	AOD 2011	AOD 2010	AOD 2009	AOD 2008	AOD 2007	AOD 2006	AOD 2005	AOD 2004	AOD (%)
G1	0.34	0.09	0.00	0.00	0.05	0.02	0.07	0.02	0.05	0.05	4%
G2	0.68	0.16	0.04	0.04	0.08	0.04	0.04	0.12	0.08	0.08	8%
G3	1.10	0.33	0.10	0.10	0.14	0.14	0.05	0.05	0.10	0.10	12%
G4	0.33	0.17	0.00	0.06	0.06	0.00	0.06	0.00	0.00	0.00	4%
G5	0.91	0.25	0.07	0.07	0.05	0.11	0.11	0.07	0.09	0.11	10%
TOTAL	0.68	0.19	0.04	0.05	0.07	0.07	0.07	0.05	0.07	0.07	8%

The AOD total represents the average number of outlier data per firm, i.e. the sum of AOD for each year; the AOD percentage represents the percentage of outlier data on the total of data.

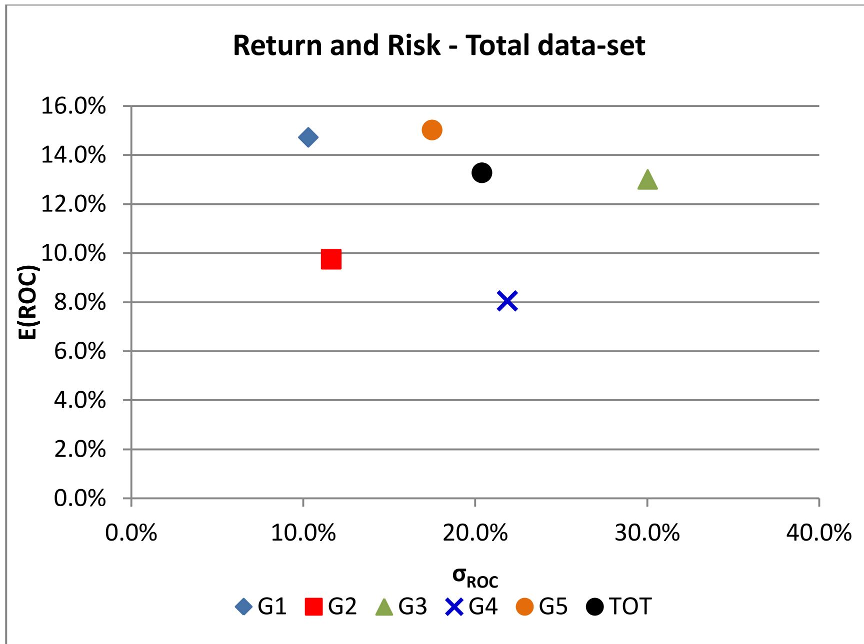
After outliers' data exclusion, re-estimated regressions (Appendix B) show a higher level of R-squared, thus giving the possibility to produce a more efficient estimation of expected ROC, ROC volatility and the confident equivalent. In fact, as we can see from Table 14, new regressions give a more coherent and sound confident equivalent classification:

- G1, G3 and G5 still present higher levels of expected return than total firms;
- the volatility is not too different from one group to another, and only G4 present a level of ROC volatility higher than total firms' estimation, while G1 has the lowest one.

Hence, the confident equivalent classification confirms industrial and financial ones: estimating the highest level for G1, followed by G3, G5, G2 and G4. Also, the financial classification presented in previous section produced the same results.

Graph 12 and 13 summarize the return-risk classification produced through the regressions' output, by which we can easily find that G1 firms present an absolute dominance in return-risk combination for both the firm evaluation and the investment choice perspective and for both the data-sets considered.

Graph 12: Expected ROC and ROC volatility by group – total data-set.



Graph 13: Expected ROC and ROC volatility by group – anomalous data excluded.

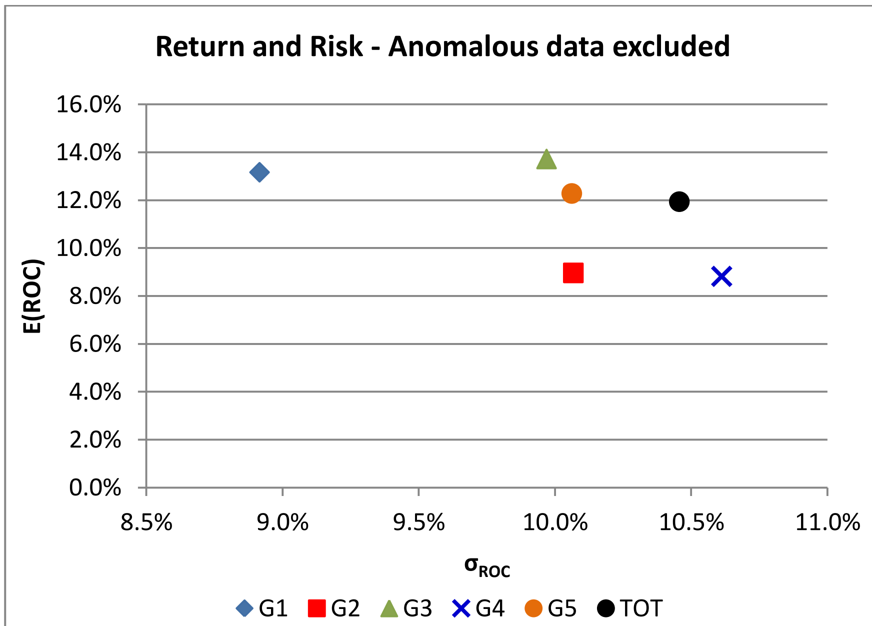


Table 14: Expected ROC, ROC volatility and certainty equivalent – anomalous data excluded.

	G1	G2	G3	G4	G5	TOT
σ_{ROC}	8.9%	10.1%	10.0%	10.6%	10.1%	10.5%
$E(ROC)$	13.2%	9.0%	13.7%	8.8%	12.3%	11.9%
CE	1.7%	-3.9%	0.9%	-4.8%	-0.6%	-1.5%
R-squared	*0.503089*	*0.614092*	*0.882785*	*0.853525*	*0.832314*	*0.760715*

7. CONCLUSIONS

Results from the empirical analysis are clear: an integrated approach in corporate risk detection is more efficient than standard financial (i.e. Basel) approaches. By adopting such a methodology, you can measure the impact of risks that do persist into the firm, along with their impact as a bundle. This means that you reduce short-termism and pro-cyclicality, looking through the real business risk. The choice of the indicators must be done according to both critical drivers arising from a sound business analysis and their ability to intercept corporate information. The first finding of this paper is that any efficient corporate risk measure in private (i.e. non-listed) companies must be conceived into a return-to-risk framework. The efficacy of the proposed measures is tested by comparing the results arising from a qualitative survey, mainly based on the industry analysis tools, with those arising from a more quantitative detection of corporate risks. Evidence clarifies the overlapping conclusions of the two approaches, thus demonstrating the soundness of the integrated rating approach.

In order to test the predictability of previous results, we ran an additional quantitative analysis on a more updated data set to verify how many companies remain in the same cluster years later. The persistency emerging from this test supports the soundness of the integrated rating approach even in an ex-post framework (i.e. in the long run). The opportunity to include the data sourced from industrial analysis into the integrated rating approach, increases the efficacy of the estimation. The result demonstrates the relevance of including qualitative industrial analysis in a rating system elaboration. In fact, the confident equivalent, produced for each group, presents an increase in regression outputs and estimations significance measured by R-squared statistic. Furthermore, $E(ROC)$, σ_{ROC} and CE estimations confirm industrial and financial results, depicting an efficient methodology for long-run financial merit estimation. This paper gives the proof that industrial analysis and financial elaborations are fundamental to develop an effective and efficient rating confident equivalent system. Future research must be aimed at applying the proposed methodology here to a wider set of firms, and integrate the survey used for industrial analysis with more qualitative information.

Appendix A – Results of Survey Data Collection

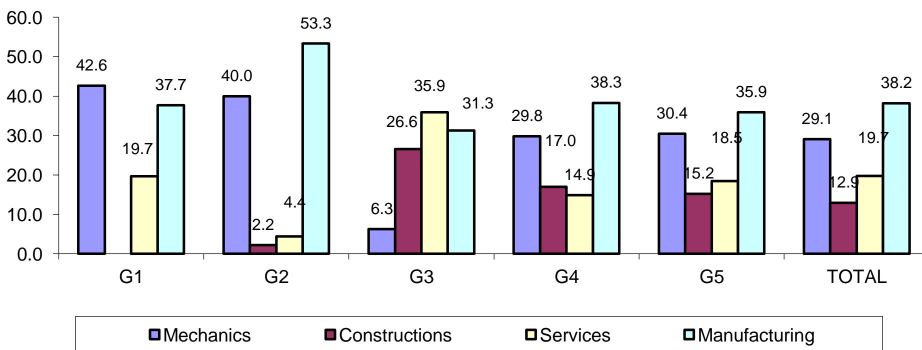
Table A: Group and firms' size (by number of employees)

Number of employees	G1	G2	G3	G4	G5	TOTAL
0-10	6.6	22.2	48.4	40.4	29.3	29.4
11-20	14.8	24.4	17.2	31.9	20.7	21.0
21-50	31.1	24.4	23.4	14.9	29.3	25.6
51-100	19.7	20.0	6.3	12.8	13.0	13.9
100+	27.9	8.9	4.7		7.6	10.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

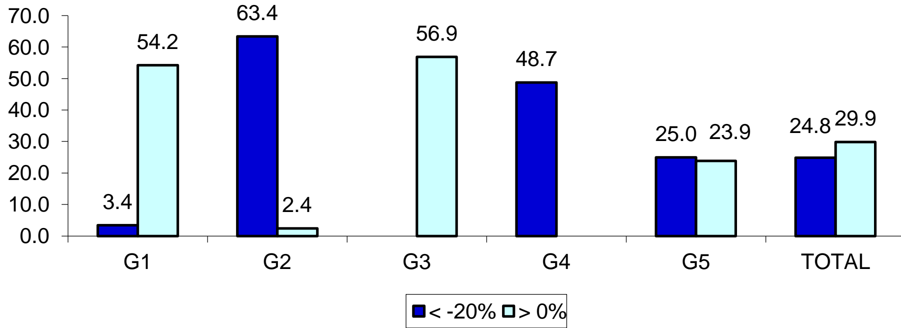
Table B: Firms typology of competitors - percentage per group.

	G1	G2	G3	G4	G5	TOTAL
Only advanced competitors	45.9	22.2	6.3		8.7	**16.2**
Only entering competitors		28.9		2.1	7.6	**6.8**
Advanced and entering competitors	21.3	11.1			1.1	**6.1**
No competitors	32.8	37.8	93.8	97.9	82.6	**70.9**
TOTAL	100.0	100.0	100.0	100.0	100.0	**100.0**

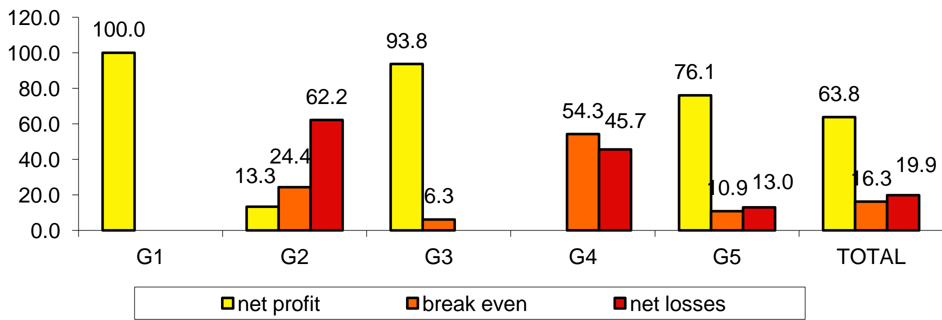
Graph A: Economic sector of firms - percentage per group.



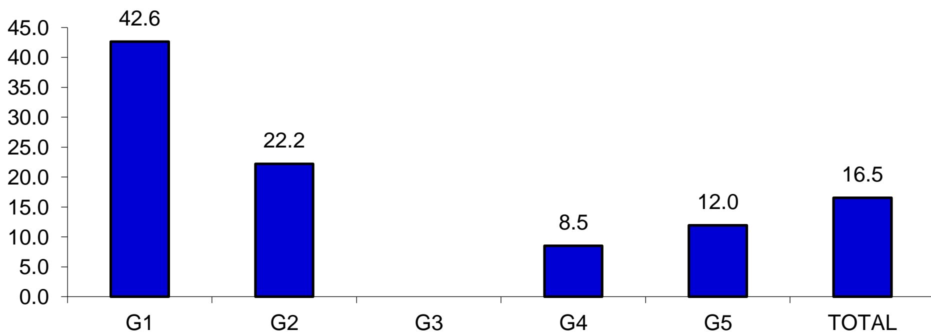
Graph B: Firms' turnover variation class on 2010 - percentage per group.



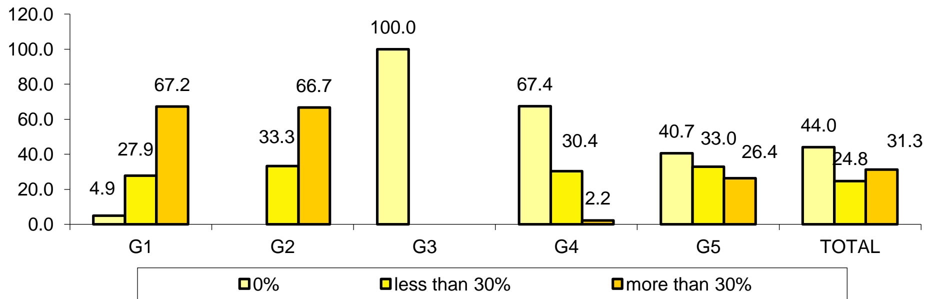
Graph C: Firms net income class - percentage per group.



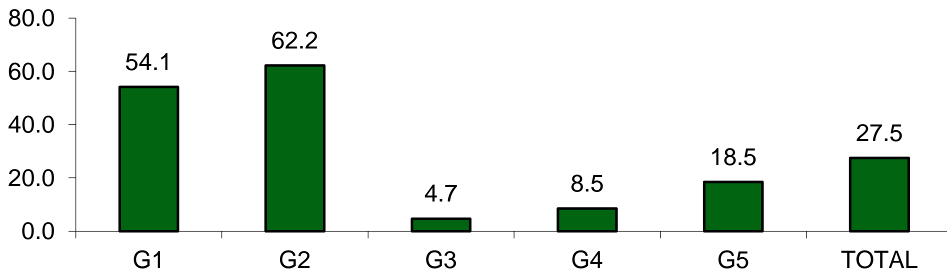
Graph D: Firms with foreign branches - percentage per group.



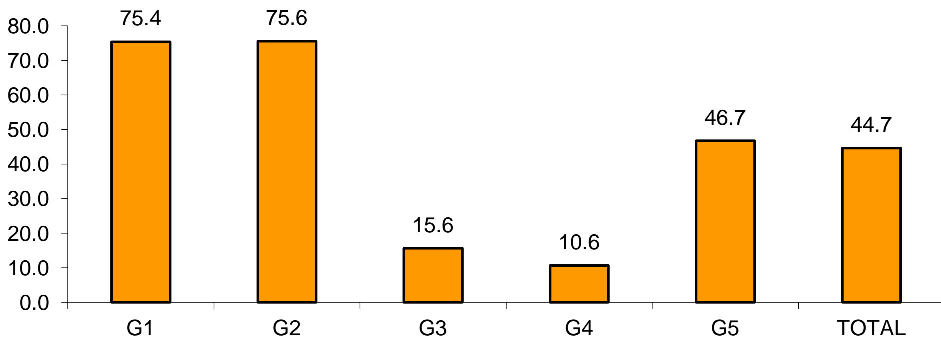
Graph E: Firms export rate on turnover class - percentage per group.



Graph F: Firms that register patents, or models - percentage per group.



Graph G: Firms with a R&D office - percentage per group.



Appendix B – Regression Estimated Outputs for Total Sample of Firms and the Five Goups – Outlier Data Excluded.

Table C: Total sample of firms

Dependent Variable: D(ROC)
Method: Panel Least Squares
Date: 02/13/14 Time: 10:02
Sample: 2004 2012 IF ANOM_TOT=0
Periods included: 8
Cross-sections included: 160
Total panel (unbalanced) observations: 1181

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.120097	0.004856	24.73267	0
DPL(-1)	-0.00151	0.000732	-2.05744	0.0399
DOL(-1)	-0.0001	4.28E-05	-2.36704	0.0181
NFP_I(-1)	-0.18824	0.015961	-11.7933	0
ROC(-1)	-0.83156	0.013604	-61.1258	0

R-squared	0.760715	Mean dependent var	0.014177
Adjusted R-squared	0.759901	S.D. dependent var	0.233772
S.E. of regression	0.114548	Akaike info criterion	-1.49142
Sum squared resid	15.43057	Schwarz criterion	-1.46994
Log likelihood	885.6846	Hannan-Quinn criter.	-1.48332
F-statistic	934.6605	Durbin-Watson stat	1.113558
Prob(F-statistic)	0		

Table D: Industrial analysis' G1 firms.

Dependent Variable: D(ROC)
Method: Panel Least Squares
Date: 02/13/14 Time: 10:02
Sample: 2004 2012 IF GROUP=1 AND ANOM_TOT=0
Periods included: 8
Cross-sections included: 43
Total panel (unbalanced) observations: 329

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.048837	0.014812	3.29722	0.0011
WKCA_I(-1)	0.142054	0.040998	3.46488	0.0006
NFP_I(-1)	-0.24655	0.035035	-7.03718	0
ROC(-1)	-0.59846	0.034197	-17.5005	0

R-squared	0.503089	Mean dependent var	-0.00298
Adjusted R-squared	0.498502	S.D. dependent var	0.156232
S.E. of regression	0.110638	Akaike info criterion	-1.55303
Sum squared resid	3.978231	Schwarz criterion	-1.50688
Log likelihood	259.473	Hannan-Quinn criter.	-1.53462
F-statistic	109.6801	Durbin-Watson stat	1.268532
Prob(F-statistic)	0		

Table E: Industrial analysis' G2 firms.

Dependent Variable: D(ROC)
Method: Panel Least Squares
Date: 02/13/14 Time: 10:01
Sample: 2004 2012 IF GROUP=2 AND ANOM_TOT=0
Periods included: 8
Cross-sections included: 24
Total panel (unbalanced) observations: 175

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.159592	0.028459	5.607703	0
DPL(-1)	-0.01092	0.004377	-2.49391	0.0136
DOL(-1)	-9.34E-05	5.37E-05	-1.7378	0.0841
NFP_I(-1)	-0.13302	0.040226	-3.30667	0.0012
ROC(-1)	-0.83265	0.051786	-16.0786	0
RL_FIAS(-1)	-0.00266	0.001351	-1.97146	0.0503

R-squared	0.614092	Mean dependent var	-0.01284
Adjusted R-squared	0.602675	S.D. dependent var	0.18485
S.E. of regression	0.116518	Akaike info criterion	-1.42786
Sum squared resid	2.294406	Schwarz criterion	-1.31936
Log likelihood	130.938	Hannan-Quinn criter.	-1.38385
F-statistic	53.78566	Durbin-Watson stat	1.472669
Prob(F-statistic)	0		

Table F: Industrial analysis' G3 firms.

Dependent Variable: D(ROC)
Method: Panel Least Squares
Date: 02/13/14 Time: 10:01
Sample: 2004 2012 IF GROUP=3 AND ANOM_TOT=0
Periods included: 8
Cross-sections included: 20
Total panel (unbalanced) observations: 146

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.166687	0.013782	12.09486	0
DPL(-1)	-0.00841	0.00294	-2.85908	0.0049
DOL(-1)	-0.00123	0.000629	-1.95986	0.052
NFP_I(-1)	-0.16376	0.054948	-2.98031	0.0034
ROC(-1)	-0.92168	0.028703	-32.111	0

R-squared	0.882785	Mean dependent var	0.044791
Adjusted R-squared	0.87946	S.D. dependent var	0.316865
S.E. of regression	0.110012	Akaike info criterion	-1.54281
Sum squared resid	1.706475	Schwarz criterion	-1.44063
Log likelihood	117.6249	Hannan-Quinn criter.	-1.50129
F-statistic	265.4791	Durbin-Watson stat	1.190828
Prob(F-statistic)	0		

Table G: Industrial analysis' G4 firms.

Dependent Variable: D(ROC)
Method: Panel Least Squares
Date: 02/13/14 Time: 10:01
Sample: 2004 2012 IF GROUP=4 AND ANOM_TOT=0
Periods included: 8
Cross-sections included: 18
Total panel (unbalanced) observations: 132

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.076249	0.017901	4.259473	0
WKCA_I(-1)	0.150351	0.070272	2.139554	0.0343
DPL(-1)	-0.00612	0.002568	-2.38302	0.0187
NFP_I(-1)	-0.14887	0.051451	-2.89338	0.0045
ROC(-1)	-0.94281	0.03507	-26.8836	0

R-squared	0.853525	Mean dependent var	0.029488
Adjusted R-squared	0.848911	S.D. dependent var	0.257731
S.E. of regression	0.10018	Akaike info criterion	-1.72655
Sum squared resid	1.274585	Schwarz criterion	-1.61735
Log likelihood	118.9521	Hannan-Quinn criter.	-1.68217
F-statistic	185.0102	Durbin-Watson stat	1.219034
Prob(F-statistic)	0		

Table H: Industrial analysis' G5 firms.

Dependent Variable: D(ROC)
Method: Panel Least Squares
Date: 02/13/14 Time: 10:01
Sample: 2004 2012 IF GROUP=5 AND ANOM_TOT=0
Periods included: 8
Cross-sections included: 55
Total panel (unbalanced) observations: 396

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.122865	0.006224	19.742	0
NFP_I(-1)	-0.18299	0.023883	-7.66205	0
ROC(-1)	-0.85886	0.019452	-44.1521	0

R-squared	0.832314	Mean dependent var	0.023875
Adjusted R-squared	0.83146	S.D. dependent var	0.260599
S.E. of regression	0.106985	Akaike info criterion	-1.62471
Sum squared resid	4.498209	Schwarz criterion	-1.59454
Log likelihood	324.6919	Hannan-Quinn criter.	-1.61276
F-statistic	975.3308	Durbin-Watson stat	1.052165
Prob(F-statistic)	0		

REFERENCES

- Bank of Italy, *The economy of the North East*, Workshops and Conferences, (2011).

- Bernard, A.B., Redding, S.J., Schott, P.K. *The Empirics of Firm Heterogeneity and International Trade,* Annual Review of Economics, (2012).

- Blundell-Wignall, A., Atkinson, P. *Thinking beyond Basel III: necessary solutions for capital and liquidity*, OECD journal: financial market trends - volume 2010/1, (2010).

- Buciuni G., Corò G., Micelli S., *Rethinking the Role of Manufacturing in Global Value Chains,* Industrial and Corporate Change (Advance Access published) November 26 (2013)

- Dainelli, F., Giunta, F., Cipollini, F. *Determinants of SME credit worthiness under Basel rules: the value of credit history information*, PSL Quarterly Review, vol. 66 n. 264, pp. 21-47, (2013).

- Gardenal, G. *A Lintner-based criterion to evaluate Private Equity Investments: can we rely on accounting measures? Evidence from the North-East of Italy*, presented ad IRMC (2011). Available at IRMC: http://www.irmc.eu/public/files/Gardenal_A%20Linter-based%20criterion%20to%20evaluate%20Private%20Equity%20Investments.pdf.

- Kashyap, S. *Cyclical implications of the Basel-II capital standards*, University of Chicago, working paper, (2003).

- Liberti, J.M. *How does organizational form matter? Distance, communication and soft information*, mimeo (2005).

- Lintner, J. *The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets*, The Review of Economics and Statistics, Vol. 47, No. 1, pp. 13-37, (1965).

- Manfra, P. *Entrepreneurship, firm size and the structure of the Italian economy*, Journal of Entrepreneurial Finance, pp. 99-111, (2002).

- Mantovani, G. M., *Competence Value Emersion: a key to sound practices in entrepreneurial finance. From "Q" to "T" ratios in the north-eastern Italian experience*, working paper, (2011). Available at SSRN: http://ssrn.com/abstract=1845616 or http://dx.doi.org/10.2139/ssrn.1845616.

- Mantovani, G. M., Daniotti E. Valori *e Capitali per un Nuovo Patto di Sviluppo del Sistema: il caso Treviso*, Ca' Fo scari editions – Digital Publishing, (2012).

- Mantovani, G.M., Daniotti, E., Gurisatti, P. *In Search of Corporate Risk Measures to Complete Financial Reporting. The Case of the "Caldarerie" industry*, working paper, (2011).

- Mantovani, G. M., Mestroni, M., Basilico, E. *What is worth more for the merit of credit? Evidence from the credit system in the North Eastern Italian District*, working paper, (2013). Available at SSRN: http://ssrn.com/abstract=2385466 or http://dx.doi.org/10.2139/ssrn.2385466.

- Porter M, *On Competition*, Harvard Business School Press (2000)

- Sironi, A., Zazzara, C. *The New Basel Accord: Implications for Italian Banks*, Review of Financial Economics, vol. 12, pp. 99-126, (2003).

Journal of Business, Economics & Finance ISSN: 2146 - 7943

Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

TESTING GROWTH EFFECTS OF EUROPEAN UNION STRUCTURAL FUNDS ACCORDING TO SIZE OF GOVERNMENT: A DYNAMIC APPROACH

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Keywords: Structural funds, dynamic panel method, size of government.

ABSTRACT

The aim of this study is to examine the relationship between European Union structural funds and economic growth rates of receiver countries. An econometric model is constituted and data are obtained in panel data form. The relationship is tested with system-Generalized Method of Moments (GMM), a dynamic panel method for 27 European Union countries between the period of 2000 and 2011. Data are divided into two samples according to size of government and model is re-estimated. Assuming capital accumulation and structural funds as endogenous, it is concluded that structural funds have no statistically significant effect on economic growth regardless of the sample choice.

1. INTRODUCTION

European Union which is constituted in order to ensure economic, political and social cooperation serves to some aims by using budget as a tool. European Union budget is financed by GNI shares of member countries, value added taxes (VATs), common trade tariffs etc. and it finances some common policies such as agriculture, energy, trade and environment. By this way competition power of different countries are balanced and positive effects of common policies support economic growth. In fourth multiyear financial framework which covers the period between 2007 and 2013, first sub category of European Union expenditure budget is sustainable growth. In addition, preservation and management of natural resources, strengthening the European Union as an area of freedom, security and justice, European Union as a global partner and administration expenditures which constitute other sun categories may affect economic growth, indirectly. In neoclassical Solow growth model; structural funds increase steady state income by improving physical capital. However that transition is from one steady state to another one, and is not continuous. Accordingly economic growth rate is not affected by public policies. Besides that, endogenous growth theory grants public policies an important role in the determination of growth rates in the long run.

Barro (1990) assumes public infrastructure as an input of private production function and hence public policies may affect long term growth by increasing marginal product of physical capital (Dall'erba and Gallo, 2004). Structural funds constitute an important share of European Union budget and in this study the effect of those funds on economic growth of member countries is tested empirically. 27 European Union member countries' data between the period of 2000 and 2011 is used and the relationship is tested with dynamic panel data analysis by using system-GMM method (Arellano and Bover, 1995). In addition this study relates with the question if the direction of effects differ with different size of governments. In order to examine that, countries are divided into two samples according to size of government and model is re-estimated. In the following section datum, methods and results of previous studies are examined. In third section, detailed information about methodology and data is given and model is estimated empirically. Econometrical tests are used in order to test the validity of instrumental variables and autocorrelation problem. The study concludes with empirical results and interpretations.

2. LITERATURE REVIEW

While analyzing the effects of structural funds it is important to realize (i) that the structural funds can be thought as an income transfer, (ii) they have to co-funded by the receiver country and that (iii) they have to be spent on pre-specified projects. Given those, it is impossible to formulate an unambiguous hypothesis on the expected effect of structural funds on economic growth. Depending on the circumstances, the effect can be positive, negative or zero (Ederveen, Groot and Nauis, 2006). Therefore, uncertainty about the issue is tried to be solved by empirical method and estimation results are of particular importance. The growth effects of structural funds were tested for both time series and cross- sections. There are also some studies that examined that relationship by using panel datum. Following those studies, panel data is used in this study, too. For this reason only the results of panel data studies are discussed in here. Garcia-Mila and McGuire (2001) tested the effect of structural funds on economic growth of receiver countries. They used data of 17 Spanian regions for two different time periods: 1977-1981 and 1989-1992. They observed no significant growth effect of structural funds.

Cappelen, Casellacci, Fagerberg and Verspagen (2003) examined the relationship with 1980-1997 data set for 9 countries. They concluded that structural funds affect economic growth in a positive way. Bussoletti and Esposti (2004) again observed a positive and significant relationship between structural funds and economic growth by using 1989-2000 data of 15 countries. Dall'erba and Gallo (2004) used sample of 145 European regions for the period of 1989-1999. They concluded that structural funds have a positive effect on economic growth but spillover effects are found to be very small. Puigcerver-Penalver (2004) examined the growth effects of structural funds in 15 countries for the period of 1989-2000. They found positive and significant growth effects of structural funds which serve to first objective. Rodriguez-Pose and Fratesi (2004) used data set of European NUTS2 regions for the period of 1989-1999. They found that only investments in education and human capital have middle term growth effects.

Beugelsdijk and Eijffinger (2005) used sample of 15 countries for the period of 1995-2001. They concluded that structural funds have a positive and significant effect on economic growth. Ederveen, Groot and Nauis (2006) used data set of 13 countries with the period of 1960-1995. Similarly, they found no significant effect on economic growth but they suggested that structural funds promote economic growth in the countries with "right institutions". Mohl and Hagen (2009) found insignificant effect of structural funds on economic growth for 124 NUTS Regions. Results and sample informations of previous studies are summarized in Table 1.

Table 1: Summary of Previous Empirical Studies

Study	Time Period	Cross Sections	Results
Garcia-Mila & McGuire (2001)	1977-1981 1989-1992	17 Spanian Regions	Structural funds have a no significant effect on economic growth.
Cappelen et al. (2003)	1980-1997	9 EU Countries	Structural funds have a positive and significant effect on economic growth.
Bussoletti & Esposti (2004)	1989-2000	15 EU Countries	Structural funds have a positive and significant effect on economic growth.
Dall'erba & Gallo (2004)	1989-1999	145 European Regions	Structural funds have a positive and significant effect on economic growth.
Puigcerver-Penalver (2004)	1989-2000	15 EU Countries	Structural funds have a positive and significant effect on economic growth.
Rodriguez-Pose & Fratesi (2004)	1989-1999	European NUTS2 Regions	Investments in education and human capital have middle term growth effects.
Beugelsdijk & Eijffinger (2005)	1995-2001	15 EU Countries	Structural funds have a positive and significant effect on economic growth.
Mohl & Hagen (2009)	1995-2005	124 NUTS Regions	Structural funds have a no significant effect on economic growth.
Ederveen, Groot & Nauis (2006)	1960-1995	13 EU Countries	Structural funds have a no significant effect on economic growth.

3. METHODOLOGY AND DATA

In order to test growth effects of structural funds in different member countries, panel data set is used. There are a number of advantages of using panel data compared to other methods. Panel data method offers work on models with more complex behavior (Gujarati, 2003) and helps to ensure more reliable results by reducing the linearity between variables (Baltagi, 2001). Dealing with both time dimension and cross sectional units, increases the number of observations and hence degrees of freedom. High degrees of freedom increase the reliability of parameter estimates. Lastly panel data is better suited to describe the dynamics of change (Baltagi, 2001, Hsiao, 2003). A data set of 27 European Union countries is used. These countries are: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom. Previous studies (Ederveen, de Groot and Nahuis, 2006; Mohl and Hagen, 2009) generally used saving or capital accumulation, human capital and population growth rate as explanatory variables. Similar to econometric approach of them; gross capital accumulation, labor force participation, school enrollment and structural funds are determined as explanatory variables. Different proxies such as number of patents or schooling rate are used for human capital accumulation in previous literature. In this study secondary school enrollment rates are used as a proxy of human capital. Datum of those and other explanatory variables are obtained from World Development Indicators 2013 (WB, 2013). Datum of structural funds which aims to serve growth and employment are obtained from European Union Commission Financial Budget Reports (EC, 1999).

In accordance with the previous studies econometric model is determined as follows:

$$GRPC_{it} = \beta_0 + \beta_1 GRPC_{it-1} + \beta_2 LABG_{it} + \beta_3 DCAP_GDP_{it} + \beta_4 STR_GDP_{it} + \beta_5 DSCH \quad (1)$$

GRPC: GDP per capita growth rate (%)
LABG: Labor force participation growth rate (%)
DCAP_GDP: Change in gross capital formation to GDP ratio (%)
STR_GDP: Structural Funds to GDP ratio (%)
DSCH: Change in school enrollment, secondary (% gross)

There may be some factors that affect structural funds and economic growth, simultaneously. In this case structural funds will have to be considered as an endogenous variable. If those effects are constant over time they are eliminated by fixed effects or by first differences. If these unobserved variables are not constant, methods such as instrumental variable estimators are necessary. However suitable instrumental variables are not available; identification may be based on internal instruments via a two-step system GMM estimator (Mohl and Hagen, 2009). For these reasons system GMM method is used in this study and structural funds variable is assumed as endogenous with capital accumulation variable.

Dynamic panel estimation method has some advantages. First, it eliminates **inadequencies** of static panel data estimates by giving unbiased and consistent results in case of the existence of correlation both between lagged dependent variable and error term and between explanatory variables and cross sectional effects (Greene, 2002). In addition, Blundell and Bond (1998) emphasized the importance of utilizing the extra moment conditions especially when N>T by showing that the lagged variables are poor estimates when there are continuous instrumental variables. Therefore dynamic model is estimated with the two-staged system-GMM method (Arellano and Bover, 1995) which takes the **heteroscedastic** structure of the error terms into consideration (Doornik and Hendry, 2001). In addition, this method is thought to be more efficient, **assymptoticaly** (Khadraoui, 2012). The estimation results are shown in Table 2. Econometric model is statistically significant as a whole according to Wald test statistic. Lagged dependent variable is insignificant at 10% level of significance. Capital accumulation variable is statistically significant and has a positive coefficient. So, capital accumulation has a positive effect on economic growth. This result is consistent with theoretical expectations such as Harrod-Domar growth model. Variable stating labor again has a positive and significant coefficient at 1% level of significance. Accordingly, labor force growth has a positive effect on economic growth.

Table 2: System-GMM Estimation Results for EU27 Countries

Dependent Variable: GRPC	
Two Step Arellano Bover Estimator	
Independent Variables	**EU27 (2000-2011)**
GRPC (-1)	0.0353 (1.62)
DCAP_GDP[a]	1.7100 (32.94)*
STR_GDP[a]	$-1.28*10^{-7}$ (-1.19)
LABG	0.2667 (7.62)*
DSCH	0.0146 (0.88)
CONSTANT TERM	2.5616 (19.82)*
Wald Statistic	1573.26*
Wald Probability	0.0000
Sargan Probability	1.0000
AR(1) Test	0.0075
AR(2) Test	0.2172

Note: *Figures in parenthesis are z statistics.*
** p<%1, ** p<%5, ***p<%10.*

a: *variable is included in the regression as endogenous.*

The coefficient of schooling variable is found to be negative and statistically insignificant at 10% level of significance. This may be surprising but it must be mentioned that school enrollment rate may not be a good indicator of human capital. That indicator may be missing in order to reflect the quality of education. In addition there are some studies which point to the insignificant or negative effects of education on economic growth (Islam, 1995; Pritchett, 2001; Rajkumar and Swaroop, 2002). Lastly, the coefficient of structural funds variable is found to be statistically insignificant. Accordingly, structural funds have no effect on economic growth in European Union member countries. This result is consistent with some previous studies such as Garcia-Mila and McGuire (2001), Ederveen, Groot and Nauis (2006) and Mohl and Hagen (2009). It is consistent also with neoclassical Solow growth model which indicates that public policies are not effective on economic growth.

The study continues with the Sargan test which proves validity of the instrumental variables. Null hypothesis which assumes that the instrumental variables are valid is tested against the alternative hypothesis which assumes invalidity of them. As the null hypothesis cannot be rejected, it is concluded that instrumental variables are valid. The result of autocorrelation test which proves the null hypothesis of “There is no second-order autocorrelation" for the residuals of first difference model are given in Table 2. Accordingly, there is a first order correlation and no second order correlation. As the lagged dependent variable is used in econometric model, first order correlation is an expected situation and does not constitute a problem.

The analysis continues with the creation of new samples according to government size. In order to measure government size, Fraser Institutes’ 2011 size of government index data (Gwartney et al., 2013) **is** used. Accordingly, size of government is measured by different components such as government consumption, transfers and subsidies, government enterprises and investment, top marginal tax rate. These four components indicate the extent to which countries rely on the political process to allocate resources and goods and services. High value of index indicates bigger size of government (Gwartney et al., 2013). 27 countries are divided into two sub groups according to their index value. 14 countries’ index values are bigger than EU27 average and rest 13 countries’ index values are smaller than it. Model is re-estimated for that samples and results are shown in Table 3.

Table 3: System-GMM Estimation Results According to Size of Government

Dependent Variable: GRPC		
Two Step Arellano Bover Estimator		
Independent Variables	**EU14 (2000-2011)**	**EU13 (2000-2011)**
GRPC (-1)	0.0190 (0.20)	-1.1447 (-5.81)*
DCAP_GDP[a]	1.800 (9.28)*	2.0119 (12.43)*
STR_GDP[a]	$1.43*10^{-9}$ (0.00)	$-7.193*10^{-7}$ (0.73)
LABG	0.4143 (0.71)	0.3433 (2.41)**
DSCH	-0.0073 (-0.13)	0.0030 (0.25)
CONSTANT TERM	3.2519 (2.87)*	1.9177 (7.02)*
Wald Statistic	497.89*	214.18*
Wald Probability	0.0000	0.0000
Sargan Probability	1.0000	1.0000
AR(1) Test	0.0395	0.0586
AR(2) Test	0.4511	0.4097

Note: *Figures in parenthesis are z statistics.*
** p<%1, ** p<%5, ***p<%10.*

a: *variable is included in the regression as endogenous.*

As seen from Table 3, the only variable that is statistically significant in both of samples is capital accumulation variable. Accordingly, capital accumulation has a positive effect on economic growth. Our main concern is structural funds variable and estimation results show that it has a statistically insignificant effect on economic growth in both of samples. So, it is concluded that size of government does not matter about the effects on structural funds. In addition the magnitudes of the coefficients are very small which is consistent with EU27 estimation results. Therefore, it must be noted that if the effects of structural variables were significant, they would be very small or nearly zero. This result is consistent with Harrod-Domar and neoclassical growth models and indicates that public policies are not effective on economic growth.

4. CONCLUSION

The effect of European Union structural funds on economic growth is a controversial issue and empirical studies reached different results. Most of previous studies are based on static panel data estimations. However economic growth is a dynamic process and may be affected from previous growth rates. In addition a number of variables may be endogenous. As previous studies suggest these variables are considered to be structural funds and capital accumulation. For those reasons, in this study the relationship is tested with dynamic panel data approach and structural funds and capital accumulation variables are assumed as endogenous. Instrumental variables which are determined internally by system-GMM method are used instead of endogenous variables. As a result of Sargan Test instrumental variables are found to be valid. Explanatory variables such as labor growth rate and capital formation are found to be statistically significant and positive. Nevertheless, the coefficient of human capital variable is found to be insignificant. The coefficient of structural funds is insignificant. Same results are reached when 27 EU countries are divided into two sub samples. Accordingly, European Union structural funds have no effect on economic growth. This result is consistent with some previous studies (Garcia-Mila and McGuire, 2001; Ederveen, Groot and Nauis, 2006; Mohl and Hagen, 2009) and also with Harrod-Domar and neoclassical growth theory.

REFERENCES

- Arellano, M. and Bover, O. (1995), Another Look at the Instrumental Variable Estimation of Error-Components Models, *Journal of Econometrics*, Vol. 68, No. 1, pp. 29-51.

- Baltagi B. H. (2001), *Econometric Analysis of Panel Data,* Chichester: Wiley.

- Barro R. J. (1990), Government Spending in a Simple Model of Endogenous Growth, *Journal of Political Economy*, Vol. 98, No. 5, pp. 103-125.

- Beugelsdijk, M., Eijffinger, S. C. W. (2003), The Effectiveness of Structural Policy in the European Union: An Empirical Analaysis for the EU-15 During The Period 1995-2001, *Centre for Economic Policy Research Discussion Paper,* No. 3879.

- Blundell, R. and Bond, S. (1998), Initial Conditions and Moment Restrictions in Dynamic Panel Data Models, *Journal of Econometrics*, Vol. 87, No. 1, pp. 115-143.

- Bussoletti, S. and Esposti, R. (2004), Regional Convergence, Structural Funds and The Role of Agriculture in the EU: A Panel-Data Approach, *Universita Politecnica delle Marche, Dipatimento die Economia Working Paper*, No. 220.

- Cappelen, A., Castellacci, F., Fagerberg, J., and Verspagen, B. (2003), The Impact of EU Regional Support on Growth and Convergence in the European Union, *Journal of Common Market Studies*, Vol. 41, No. 4, pp. 621-644.

- Dall'erba, S. and Gallo, J. L. (2004), Regional Convergence and The Impact of European Structural Funds 1989-1999: A Spatial Econometric Analysis, *Papers in Regional Science*, Vol. 82, No. 2, pp. 219-244.

- Doornik, J.A. and Hendry, D.F. (2001), *GiveWin: An Interface to Emprical Modelling*, London: Timberlake Consultants Press.

- Ederveen, S., Groot, H, L. F. and Nahuis, R. (2006), Fertile Soil for Structural Funds? A Panel Data Analysis of the Conditional Effectiveness of European Cohesion Policy, *Kyklos*, Vol. 59, No. 1, pp. 17-42.

- European Commission (1999), *Council Regulation* (EC), No. 1260/1999*, pp. 1–42.*

- Garcia-Mila, T. and McGuire, T. (2001), Do Interregional Transfers Improve the Economic Performance of Poor Regions? The Case of Spain, *International Tax and Public Finance*, Vol. 8, No. 3, pp. 281-295.

- Greene, W. H. (2002), *Econometric Analysis,* New Jersey: Prentice Hall.

- Gujarati D. N. (2003), *Basic Econometrics*, Boston: Mc-Graw-Hill.

- Gwartney, J., Lawson, R. and Hall, J. (2013), *Economic Freedom of the World: 2013 Annual Report*, Canada: Fraser Institution: Canada, http://www.freetheworld.com/ datasets_efw.html.

- Hsiao C. (2003), *Analysis of Panel Data*, Cambridge: Cambridge University Press.

- Islam N. (1995), Growth Empirics: A Panel Data Approach, *Quarterly Journal of Economics*, Vol. CX, No. 4, pp. 1127-1170.

- Khadraoui N. (2012), Financial Development and Economic Growth: Static and Dynamic Panel Data Analysis, *International Journal of Economics and Finance*, Vol. 4, No. 5.

- Mohl, P. and Hagen, T. (2009), Do EU Structural Funds Promote Regional Growth? Evidence From Various Panel Data Approaches, *24th Annual Conference of the EEA*, 23-27 August, Barcelona.

- Pritchett L. (2001), Where Has All The Education Gone?, *World Bank Economic Review*, Vol. 15, No. 3, pp. 367-391.

- Puigcerver-Penalver, M. (2004), The Impact of Structural Funds Policy on European Regions Growth: A Theoretical and Empirical Approach, *European Journal of Comparative Economics*, Vol.4, No. 2, pp. 179-208.

- Rajkumar A. and Swaroop, V. (2002), Public Spending and Outcomes: Does Governance Matter?, *World Bank Working Papers*, No. 2840.

- Rodriguez-Pose, A. and Fratesit, U. (2007), Between Development and Social Policies: The Impact of European Structural Funds in Objective 1 Regions, *Regional Studies*, Vol. 38, No.1, pp. 97-113.

- World Bank (2013), World Development Indicators (WDI-GDF 2013).

- http://data.worldbank.org/data-catalog/world-development-indicators.

Journal of Business, Economics & Finance ISSN: 2146 - 7943

Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

THE INFLUENCE OF EUROPEAN AND U.S. LEGISLATION ON TURKISH CAPITAL MARKETS REGULATION

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Keywords: capital markets, regulation, market abuse

ABSTRACT

Regulation of capital markets is vital when irregularities and abusive actions in the market are concerned. In order to protect investors and provide integrity for a fully functioning economic system, regulatory authorities should act with increased care and take recent developments into consideration. The aim of this paper is to depict the changes brought about with the new capital markets regulation and the effects of European and U.S. legislation as well as the International Istanbul Financial Center Project of the government. This is achieved by using a conceptual approach to analyze Turkish regulation. Accordingly, it is clear that the new Capital Markets Law (CML) of Turkey has its roots connected to the EU regulation, MiFID, especially where market abuse is concerned. Again, this relationship is signified in the following regulations such as communiqués on market abuse and foundations of brokerage firms.

1. INTRODUCTION

Financial markets are considered as the heart of the economy in developed and developing countries of today's complex and technology based world. Investment decisions are one of the major factors that define the outlook of the markets. Since financial sector is built on mutual trust, prevention of any disruptions in financial markets is paramount. Technologic developments can be considered as the starting point for an advanced economic structure. In addition to this, advanced means of communication simply shrank the perimeter of the earth in a figurative sense by enabling cheaper and quicker access to information available. This has become even more pronounced by advances on the information technology front such as internet and 3G in 1990s and 2000s respectively. Thus, the complexity of investment instruments has kept on increasing; especially in derivatives transactions it has become nearly impossible to guess the cost of default due to the domino effect.

That is why the recent sovereign debt crisis had a huge impact on the overall state of the economies globally. Because of the increased complexity of such transactions, global markets have become more integrated than ever. Even though financial instruments and related information technology have shown immense advancement, authorities have failed to keep up the pace for regulating these means of investments. Lack of regulation concerning complex capital market transactions have also fueled the malfunctioning performed by investment firms. This study aims to attract the attention towards the recent changes made in Turkish Capital Markets regulation and to point toward the increased integration of capital markets in today's competitive market environment and the cause effect relationship between global developments in regulations. The first section is literature review, where U.S. and European regulations are investigated to point out the foundations of Turkish regulation. The second and third sections look into the changes made in Turkish regulation that are based on foreign regulation and the final section sums up the effects and consequences of foreign regulation on local legislation.

2. LITERATURE REVIEW

From a general perspective, it is possible to say that there is a main agenda of securities regulations, regardless of who the regulator is. "Securities regulation may be divided into three broad categories: (i) disclosure duties, (ii) restrictions on fraud and manipulation; and (iii) restrictions on insider trading – each of which contributes to the creation of a vibrant market for information traders" (Goshen and Parchomovsky, 2006). Goshen and Parchomovsky simply point out three important reasons behind any securities regulation and accordingly, it is the same concept that is behind Securities and Exchange Act, MiFID (Markets in Financial Instruments Directive), and Capital Markets Law of Turkey. Securities fraud or corporate fraud has been an ongoing issue of capital markets. According to Gerding, insider trading and financial statements fraud result in securities bubbles. "A brief historical survey demonstrates that stock market bubbles almost invariably coincide with epidemics of securities fraud, and provides a compelling argument that the outbreak of fraud in the Enron era did not stem merely from factors unique to the 1990s, but from the dynamics of an asset price bubble as well." (Gerding, 2006). Since it is not possible to keep a bubble from bursting forever, such problems come to daylight, inevitably. "The manipulation equilibrium generates bubbles in Treasury security prices and specials repo rates", thus causes inflation and promotes channeling of funds into money markets instead of capital markets (Chatterjea and Jarrow, 1998). Manipulation is extremely hazardous to the price determination function of the markets. This is mainly achieved through information asymmetry. "Allowing for asymmetries introduces the possibility of profitable manipulation. This means that it is necessary to change the notion of equilibrium used so that the specialist takes account of the possibility that he is trading with a manipulator and in equilibrium manipulators just break even." (Allen and Gorton, 1991). Thus, securing publicly available information via public announcements is vital for obstructing information asymmetry. This is considered as one of the main indicators of corporate governance. There are a number of regulations in developed countries against market abuse. Securities and Exchange Act made the first move in regulation of securities in 1930s in the U.S. "Section 10(b), and specifically Rule 10b-5, of the sometimes trading.

Act made insider trading and other schemes in against their information." (John and Narayanan, 1997) Insider trading has some of the most devastating consequences in financial markets, perhaps after the financial statements fraud. Sarbanes – Oxley (SOX) is perceived as a touchstone in regulating capital markets, however Coates states that the SOX regulation is not a recent development. "The core ideas behind Sarbanes-Oxley had developed for years. Federal bills to create an auditing over sight body date to 1978, after hearings and reports prompted by auditing failures in the market downturn of the early 1970s. Similar legislation was debated again in 1995." (Coates, 2007). SOX emphasizes on internal control attestation rules and corporate responsibility, respectively in Sections 404 and 302. The Enron scandal and involvement of Arthur Andersen has been a turning point in the creation of SOX regulation, but once again internal audit is referred to as the responsible party. This sentence creates a responsibility on management to implement financial controls and test their effectiveness. Concerning investment fraud, an emphasis is also present in analyst conflicts of interest in Title V of SOX. This section is meant for regulating the analysts employed in intermediary institutions against abuses. "Regarding securities where their employer had an interest, there were supposed to be strong separations of responsibility between the people recommending a stock for investment and those selling it to investors." (Moeller, 2009). Thus, implementation of Chinese Walls in Brokerage Houses is very important for investor protection against investment fraud. The control of which again falls under the responsibility of internal audit. It is clear that this point is also reflected in MiFID. According to Moloney (2006) the law making process was approached with "increased levels of consultation, transparency, and assessment" in order to guarantee investor protection and well functioning capital markets. Recent scandals such as Enron, Parmalat, Worldcom, etc. are marked as the incidents where auditors have failed to detect fraud. The stricter regulations made after these scandals have increased the responsibility of internal auditors in detecting fraud. For instance SOX Titles VIII and IX are related to Fraud Accountability and White-Collar Crime. Especially Section 307 of Title VIII refers to investment fraud. According to this rule "whoever executes or attempts to execute a scheme to defraud any persons in connection with a corporation's securities or fraudulently receives money or property from that sale 'shall be fined or imprisoned not more than 25 years or both' (Moeller, 2009, p.74)".

The major regulation concerning financial markets in EU, MiFID, aims to bring together European Markets under a single platform in order to increase competition while enabling a broader market and lower transaction costs. It is effective since November 2007. This has enabled cooperation between Europe and U.S. argues Posner. "Euro-American regulatory condominium (is) characterized by close interactions among decision makers and mutual accommodation" (Posner, 2009) "Institutionally, a relatively sophisticated law-making apparatus, in the form of the Lamfalussy structures, a plethora of advisory bodies and stakeholder bodies, … had been established." (Moloney, 2011). Meanwhile, Ortino (2007) and Schammo (2008) argue that transatlantic stock exchange consolidation has some problems, such as which laws to be practiced and to what consequences.

These regulations aim to increase surveillance of financial markets, increase transparency of transactions and tracking the beneficial owners. This is a key point because anonymity is the first step in market abuse.

J. C. Sharman states that "The issue of anonymous corporations has been widely identified in a parade of reports and studies as crucial in combating a range of high-priority international problems: the drug trade, organized crime, terrorism, money laundering, tax evasion, corruption, corporate crime, and systemic financial instability"(Sharman, 2010). In order to eliminate problems and suspiciousness in MASAK (Financial Crimes Investigation Board) undertakes the responsibility to "establish policies, develop Implementation strategies, prepare drafts of laws, bylaws and regulations in accordance with the determined policies, make other necessary arrangements regarding implementation, ensure coordination among relevant institutions and organizations exchange views and information" regarding money laundering and terrorism financing as stated by the Board. As a result, it is possible to see that there has been a great deal of toil for trying to prevent market abuse and fraud in capital markets in the U.S. and EU. Since all capital markets are integrated one to another, similarities between different regulations are easy to spot. Furthermore, the effects of U.S. and especially EU regulations are much more significant in Turkish regulation, which is covered in broad perspective in the section below.

3. CHANGES MADE IN TURKISH REGULATION CONCERNING MARKET ABUSE

Currently, there is an increased trend in integration of capital markets, especially in Europe. "The integration of European equity markets is in large part explained by the drive towards EMU, and in particular the elimination of exchange rate volatility and uncertainty in the process of monetary unification." (Fratzscher, 2002). Meanwhile, Dunis et al (2013) state that new comers in EU have nothing in common with the other EU members except for the fact that they are small markets and all are in EMU. On the other hand, Guiso et al. (2004) argue that financial integration is promoting growth in EU and copying this movement in search of further growth in its stock market is Borsa Istanbul that has integrated Istanbul Gold Exchange and Turkish Derivatives Exchange in its newly updated organization. The new structure of Borsa Istanbul includes stock market and derivatives transactions under one roof, such as pair trade, stock futures and FX trading. Borsa Istanbul has reached a corporation status according to the new CML. This movement is not only signified in financial instruments and flow of capital, but the effects can be seen in the regulations, as well. Accordingly, the new Capital Markets Law No. 6362 was published in Official Gazette on December 30, 2012. This is also related to demands for regulating the economic developments and new instruments entering Turkish finance arena due to increased competitiveness. In addition to this, it is possible to see the effects of International Finance Center (IFC) project, which aims to present Istanbul as a new hub for international investors. Another important indicator is the rebranding of Istanbul Stock Exchange as Borsa Istanbul, which became official in April 2013.

Although the above are new developments on the scene, intermediation in Turkey dates back to establishment of the Capital Markets Board of Turkey (CMB) and the Capital Markets Law (CML) No 2499 in 1981. CML makes up the most important part of legislation that concerns intermediation and its preamble can be summarized as regulating capital markets, protecting investors' interests and securing trust and stability to ensure the efficiency of capital markets, help distributer savings to increase economic development and secure an even distribution of wealth.

Even though insider trading is considered as a fraudulent act in capital markets and corporations are required to follow certain rules, there weren't any other detailed regulations on insider trading in the previous Capital Markets Regulation in Turkey. In EU regulation a detailed application for insider trading measures is described in the directive specific to insider trading and market manipulation. This is taken as a basis for the new CML and related regulation. Recently, CMB, the main regulatory authority has published the new Capital Markets Law, and 67 communiqués in relation to this new Law, 3 of which concern market abuse and indicate the influence of MiFID in new Turkish regulation. These communiqués offer definitions on market abuse and activities that cause market abuse in capital markets and sanctions that will be awarded to those who succeed and gain an income from market abusing activities, thus leaving a loophole for market abuse attempts without any financial gain.

It is possible to see a similar structure to MiFID in the new CMB legislation. In the previous CML, insider trading, manipulation and speculation were featured in Article 47's first three clauses. Also internal auditors were cited as responsible for ensuring that all operations and transactions of intermediary institutions are compliant with CMB legislation and related regulations according to Communiqué Serial 5 No 68. Thus, there is coverage of investment fraud in Turkish legislation and internal auditors' main role is to detect and assess the fraud risk and suspicious transactions in Intermediary Institutions, similar to SOX. On the banking side increased regulation and supervising have resulted in a decreasing of significance of fraud although the frequency stays the same. Green and Reinstein state that this is reflected in fraud strategies (Green and Reinstein, 2004). Also post SOX perception of internal audit's role in fraud risk assessment and detection of fraud has changed dramatically towards a better understanding of such regulations (Foster et al. 2010). However there isn't any significant research on Intermediary Institutions in audit or finance literature concerning the effects of regulation or changes in regulation.

MiFID holds the basis for the new Capital Markets Law in Turkey. In MiFID, the definition of inside information is very detailed and covers every possible perspective. In other words, insider information is not only defined according to the source but it is defined to feature all possible parties to be involved in case. Also a very interesting move is made by defining passive orders as inside information, as well.

The previous CML lacked description of inside information; however insider trading was defined even though the definition of inside information in Article 47 was missing. Also in CML derivative instruments and commodities were completely ignored in the definition. The description of manipulation in CML was very plain. When the effects of manipulation are considered, the previous CML seemed out of date, because it was written in and in effect since 1981.

In the old CML the following article was featured to define actions that are abusive in nature.

"Article 47 – …

1. To benefit to his/her self-owned property or to eliminate a loss so as to damage equal opportunity among the participants operating in capital markets with the aim of gaining benefit for himself/herself or for third parties by making use of non-public information which will be able to affect the values of capital market instruments is insider trading. The chairman and members of the Board of Directors, directors, internal auditors and other staff of the issuers within the scope of Article 11, capital market institutions or of the subsidiary or dominant establishment, and apart from these the persons who are in a position to be have information while carrying out their professions or duties, and the persons who are in a position to have information because of their direct or indirect relations with these.
2. Real entities, the authorized persons of legal entities and those acting together with them all which trade capital market instruments in order to artificially affect their demand and supply, to give the impression of existence of active market, to hold the prices at the same level, to increase or decrease the prices.
3. Real entities, authorized persons of the legal entities and those acting together with them all which give and those acting together with them all which give and disseminate misleading, false, deceiving, information and news, make comments or do not disclose the information which he/she should disclose."

If we look into the events that have been going on in Turkish Capital Markets and capital markets around the world, one of the most important and striking events is market abuse. While there is a global trend to increase the awareness of public at large towards market abuse and in Turkey it is possible to see the effects of this development in the New Capital Market Law. The term "market abuse" is given a considerable place in the new CML. The new CML No. 6362 defines market abuse as follows:

"ARTICLE 104 – (1) Actions and transactions which cannot be explained with a reasonable economic or financial justification, which are of a nature deteriorating the functioning of exchanges and other organized markets in security, openness and stability, shall be regarded as market abuse actions, provided that they do not constitute a crime. An administrative fine from twenty thousand Turkish Liras up to five hundred thousand Turkish Liras shall be given to those who perform the market abuse actions determined by the Board. However, in case when a benefit has been procured by this means, the amount of the administrative fine to be given cannot be less than twice of this interest."

The new CML also defines insider trading and manipulation as given below:

"ARTICLE 107 – (1) Those who make purchases and sales, give orders, cancel orders, change orders or realize account activities with the purpose of creating a wrong or deceptive impression on the prices of capital market instruments, their price changes, their supplies and demands, shall be sentenced to imprisonment from two years up to five years and be punished with a judicial fine from five thousand days up to ten thousand days. However, the amount of the judicial fine to be imposed due to this crime cannot be less than the benefit obtained by committing the crime.

(2) Those who give false, wrong or deceptive information, tell rumors, give notices, make comments or prepare reports or distribute them in order to affect the prices of capital market instruments, their values or the decisions of investors, shall be sentenced to imprisonment from two years up to five years and be punished with given a judicial fine up to five thousand days."

Under all circumstances it is very important to provide investors with necessary, valid and timely data in order to overcome principal – agent problems in capital market activities, thus helping investors avoid institutions that aid market abusers or that aspire to abuse and manipulate market for financial gain should be the main purpose of auditors both employed in public and private institutions.

There are also regulations on improper public offer and unauthorized capital market activities, abuse of confidence and forgery that aims to prevent any institution being formed without the validation of CMB. Furthermore, irregularities in legal books, accounting records and financial statements and reports are regulated in Article 112 of CML, undeniably influenced by SOX.

"ARTICLE 112 – (1) Those who intentionally;

a) Do not duly keep the books and records they are legally obliged to keep,

b) Do not preserve the books and documents they are legally obliged to preserve throughout the legal period, shall be sentenced to prison from six months up to two years and punished with judicial fine up to five thousand days.

(2) Those who intentionally;

a) Draw up the financial statements and reports so as not to reflect the truth,

b) Open accounts contrary to facts,

c) Commit all kinds of accounting frauds on records,

d) Draw up wrong or misleading independent audit and assessment reports as well as the responsible managers or members of the board of directors of issuers, who provide their drawing up, shall be penalized according to the related provisions of the Law numbered

5237. However, in order to impose a penalty due to the crime of forgery on private documents, the usage of the forged document shall not be stipulated." Borsa Istanbul Regulation has listed a number of certain conditions that define manipulation and is forbidden for intermediary institutions to perform in Article 24. According to this article, creating an impression of trading volume where in truth there is none by performing several buy and sell transactions that are not bound to client orders.

In case of proprietary trading this is very hard to detect due to the nature of these transactions. Proprietary trading is performing buy and sell transactions in Company portfolio by the intermediary institution. In this case, buy and sell orders should be controlled regarding time stamp mechanism. In other words, cross transactions which are "buy" and "sell" orders concerning a certain stock at precisely the same time and same price should be investigated.

Borsa Istanbul announced Circular Letter No 395 on June 27, 2012 and with the Letter Borsa Istanbul has restricted the amount of cross transactions performed for proprietary trading with respect to contract numbers, trading volume in TRY and arithmetic mean of both. Gross settlement is required for and a boycott for 180 days may be applied to the institutions that do not abide this rule. With the new legislation in effect as of July, 2014, this rule and related sanctions are included in the newly published Communiqué called "Communiqué on Sanctions to be awarded to Information Fraud and Market Abuse Investigations". In addition to this, CMB requires reporting of suspicious transactions similar to that in Anti-Money Laundering applications.

4. CHANGES MADE IN OTHER ARTICLES

There are several changes for capital market actors brought into discussion with the new Law and perhaps the most important of these changes is the introduction of new financial instruments and CMB's increased regulatory authority on over –the –counter markets. In addition to this Initial Public Offering process is changed to resemble European practices by introduction of a new system related to public awareness, instead of granting of permission by CMB. There are remarkable changes on enforcement of Corporate Governance principles and aligning CMB Legislation with the European Regulation MiFID, as well. There are significant changes concerning investment firms, especially on fund management, which will be allowed for Asset Management companies. Before this change took place, banks and brokerage houses were allowed to establish funds and manage these funds. Moreover, the uptick rule was removed from legislation recently, which can be interpreted as a step to synchronize Turkish Capital Market with European Capital Markets as a part of IFC Project. By July 2014, intermediary institutions will be called investment firms and they will be grouped into different categories according to their capital adequacy ratios. These categories will define the ability to perform settlement and custody services. Another new article that grabs attention is the obligation for reporting of suspicious transactions to CMB by investment firms, which once again emphasizes the importance of preventing of market abuse. In order to comply with this rule investment firms will have to perform specific controls for the purposes of detecting manipulation.

The newly introduced regulations also impose articles in relation to custody services, which were again ignored in the previous regulation. New rules on IT infrastructure are introduced, penetration tests are now required from Investment Firms. Clients should answer to some tests to be used for client classification. Client classification is almost directly copied from MiFID, with two different strata of clients; professional and general are imposed. Conflicts of interest are given more importance and a written policy is required.

Finally, outsourcing requirements are newly introduced to Turkish capital markets regulation. A minor comparison that sums up the points discussed above is given in the following table.

Table 1: Comparison of Old and New CML

Old CML	New CML
There isn't any definition of market abuse.	Market abuse is defined thoroughly.
There isn't any definition of inside information.	Inside information is defined and categorized according to content.
Limited sanctions on manipulation and insider trading.	Sanctions for market abuse, manipulation and insider trading are defined in detail.
No need for reporting market abuse to CMB.	Reporting of market abuse to CMB is mandatory.
Brokerage firms are defined as intermediary institutions.	Brokerage firms are defined as investment institutions.
Brokerage firms are not categorized.	Brokerage firms are categorized according to capital adequacy.
There aren't any rules on precautions on protecting IT infrastructure.	Precautions are imposed on protecting IT infrastructure.
Fund management can be performed by brokerage firms.	Fund management can only be performed by asset management companies.
There aren't any rules on custody services.	Custody services are introduced as a new facility and periodic reconciliation for custody accounts are mandatory.
There aren't any rules on wealth management.	Wealth management is presented as a new facility for brokerage firms.

5. CONCLUSION

In Turkish capital markets, CMB is the main regulatory institution that is responsible for regulating market abuse. Also CML's most important baseline is to create a safe and trustworthy environment and markets for investors to participate in. This is only possible by imposing strict measures for preventing market abuse. Intermediary institutions take up an important space in this subject because investors can only enter capital markets by becoming clients of intermediary institutions. Thus, every possible crime involves intermediary institutions, whether they take part in these crimes on purpose or not. There is an air of confusion in Turkish capital markets as a new communiqué is published by the main regulatory authority CMB almost daily. There are major changes imposed by this act of publishing the new CML and related regulations. Some of these changes are establishment of Istanbul Stock Exchange under the name of Borsa Istanbul and integration of several exchanges under one roof, in line with European capital market integration. Secondly, there is a major development concerning market abuse. In the old CML the concept of market abuse was totally ignored and only insider trading and manipulation were just mentioned.

In the new CML, a similar perspective that is influenced by MiFID is adopted. Market abuse, manipulation and insider trading are thoroughly defined and there are additional communiqués published for each issue that clearly states the sanctions imposed for noncompliance with these rules.

There are changes made in other issues to signify the similarities between MiFID and CML as well. In a nutshell, it is possible to say that Turkish capital markets regulation is clearly influenced by its European and U.S. peers. This development may be considered in line with the IFC project and takes a big step in filling the missing fragments in becoming a part of Europe.

REFERENCES

- Allen, F. and Gorton, G. (1991), Stock Market Manipulation, Market Microstructure and Asymmetric Information, European Economic Review, Elsevier, Vol. 36, 2- 3, p. 624- 630.
- Chatterjea, A. and Jarrow, R. A. (1998), Market Manipulation, Price Bubbles and a Model of the U.S. Treasury Securities Auction Market, Journal of Financial and Quantitative Analysis, Vol 33,2, p. 255 – 289.
- Coates, J. C. (2007), The Goals and Promise of the Sarbanes-Oxley Act, The Journal of Economic Perspectives, Vol. 21, 1, p. 91-116.
- Dunis, C., Sermpinis, G., and Karampelia, M. (2013). Stock Market Linkages Among New EMU Members and The Euro AreaImplications for Financial Integration and Portfolio Diversification. Studies In Economics & Finance, Vol. 30, 4, p. 370-388. doi:10.1108/SEF-04-2012-0048
- Foster, B. P., McClain, G., and Shastri, T. (2010), Impact on Pre- and Post-Sarbanes Oxley Users' Perceptions by Incorporating the Auditor's Fraud Detection Responsibility into the Auditor's Internal Control Report, Research in Accounting Regulation, Vol 22, p 107-113.
- Frarzscher, M. (2002), Financial Market Integration in Europe: On the Effects of EMU on Stock, International Journal of Finance and Economics, Vol. 7, 3, p. 165 – 193.
- Gerding, E. F. (2006), The Next Epidemic: Bubbles and the Growth and Decay of Securities Regulation, Connecticut Law Review, Vol 38.3, p. 393-453.
- Green, B. P. and Reinstein, A. (2004), Banking Industry Financial Statement Fraud and The Effects of Regulation Enforcement and Increased Public Scrutiny, Research in Accounting Regulation, Vol. 17, p. 87-106.
- Goshen, Z. and Parchomovsky, G. (2006), The Essential Role of Securities Regulation, Duke Law Journal, Vol. 55,4, p. 711 – 782.
- Guiso, L., Jappelli, T., Padula, M. and Pagano, M. (2004), Financial market integration and economic growth in the EU, Economic Policy, Vol. 19, p. 523–577. doi: 10.1111/j.1468-0327.2004.00131.x

- John, K. and Narayanan, R. (1997), Market Manipulation and the Role of Insider Trading Regulations, The Journal of Business, Vol. 70, 2, p. 217 – 247.
- Moeller, R. (2009), Brink's Modern Internal Auditing: A Common Body of Knowledge, John Wiley and Sons, USA.
- Moloney, N. (2006), Financial Market Regulation in the Post-Financial Services Action Plan Era, The International and Comparative Law Quarterly, Vol. 55, 4, pp. 982 – 992.
- Moloney, N. (2011), Reform or Revolution? The Financial Crisis, EU Financial Markets Law, and The European Securities and Markets Authority, The International and Comparative Law Quarterly, Vol. 62, 2, p. 521 -533.
- Ortino, M. (2007), The Role and Functioning of Mutual Recognition in the European Market of Financial Services, The International and Comparative Law Quarterly, Vol. 56, 2, p. 309 – 338.
- Posner, E. (2009), Making Rules for Global Finance: Transatlantic Regulatory Cooperation at the Turn of the Millennium, International Organization, Vol. 63, 4, p. 665 – 699.
- Schammo, P. (2008), Regulating Transatlantic Stock Exchanges, The International and Comparative Law Quarterly, Vol. 57, 4, p. 827 – 862
- Sharman, J. C. (2010), Shopping for Anonymous Shell Companies: An Audit Study of Anonymity and Crime in the Intertional Financial System, The Journal of Economic Perspectives, Vol. 24, 4, p. 127-140.
- www.tcmb.gov.tr
- www.masak.gov.tr
- www.borsaistanbul.com

Journal of Business, Economics & Finance ISSN: 2146 - 7943

Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

FISCAL ADJUSTMENTS AND STIMULI: TURKISH CASE

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Keywords: Fiscal policy and adjustments in Turkey, fiscal stimuli, expansionary adjustments, successful adjustments

ABSTRACT

We examine the fiscal adjustment and stimulus episodes in Turkey by using data from 1986 to 2012. After identifying 5 fiscal adjustment and 3 fiscal stimulus episodes, we find that the fiscal adjustments relied on revenue increases are neither successful nor expansionary, while the two fiscal adjustments based on spending cuts are both successful and expansionary. Our results seem to suggest that expectation channel is important in explaining expansionary fiscal adjustments while the changes in trade balance are not. We think that Turkish case clearly shows that fiscal adjustments can be expansionary. However the contributions of several other important factors behind the episodes should also be noted. Successful and expansionary fiscal adjustments when combined with favourable political and economic conditions may not be associated with political costs. One of the fiscal stimulus episodes is expansionary while the remaining two are not.

1. INTRODUCTION

In many developed countries, significant increases in the budget deficits and public debts in 1970s forced governments to implement various fiscal adjustment or consolidation programs. Since how the programs are implemented has important implications for social welfare, these adjustments have drawn attention for a long time. After the last global crisis, many developing countries have implemented some kind of fiscal stimulus programs and have seen some increases in their budget deficits and public debts. There is an ongoing debate as to whether these countries should implement fiscal austerity or adjustment programs, namely cuts in government spending and/or increases in taxes, now or later. On the one hand, it is reasonable to argue that fiscal adjustment programs can have damage on or retard already fragile growth rates. On the other hand, it is also plausible to argue that fiscal adjustment programs don't have to be necessarily contractionary or damaging for the economic growth.

In several cases, indeed, even larger fiscal adjustments are not associated with contractions. Many studies clearly document that expansionary fiscal contractions are possible under certain conditions. However it would be misleading to think that all fiscal consolidations are successful or expansionary. Therefore it is very important to design a fiscal adjustment program which will be both successful at reducing budget deficits and public debt and also will not be contractionary.

This paper examines the fiscal adjustments and stimuli in Turkey using data over the period 1986-2012, but focusing more on the adjustments. The present paper differs from Ozatay (2008), who also studies fiscal adjustments in Turkey, in several aspects, such as using data for a longer time period and different definitions for fiscal adjustment, taking the changes both in the primary balance and cyclically adjusted primary balance into consideration, employing the more disaggregated spending data, looking at the political consequences of adjustments, examining fiscal stimulus episodes as well. We briefly explain the theoretical background in section 2, survey the empirical literature in section 3, give a short overview of Turkish fiscal policy during the period examined in section 4, examine the fiscal adjustment and stimulus episodes in section 5 and finally conclude in section 6.

2. THEORETICAL BACKGROUND

According to the standard Keynesian model, a fiscal adjustment is typically contractionary not expansionary. A fiscal adjustment (stimulus), such as a cut (increase) in government spending or an increase (cut) in taxes or a combination of them, causes a decline (rise) in aggregate output through the well-known demand channel. But, as mentioned above, several studies show that some fiscal consolidations are expansionary. Since expansionary fiscal consolidations are stark contrasts with the predictions of standard Keynesian model, these effects are called non-Keynesian or non-conventional effects of fiscal policy. How a fiscal adjustment can be expansionary? There are some demand and supply channels that can lead to expansionary fiscal adjustments. A change in fiscal policy can alter people's expectations and hence their economic behavior. Giavazzi and Pagano (1990, 1995), Blanchard (1990) and Bertola and Drazen (1993) highlight this point to explain non-Keynesian effects of fiscal policy. As Giavazzi and Pagano (1990) argue if fiscal policy decisions convincingly signal a change in fiscal policy, fiscal adjustment can have different effects from conventional Keynesian model predicts. Blanchard (1990) points out that it is possible for a government to eliminate a greater tax increase in the future by increasing taxes today and this can have a positive effect on the current consumption. Following a similar line of reasoning, Bertola and Drazen (1993:12) suggest that "*A policy innovation which would be contractionary in a static model may be expansionary if it induces sufficiently strong expectations that future spending and therefore taxes will be significantly lower it may induce an expansion in current private spending*". Sutherland (1997) shows that when the public debt is very high, since people expect to pay additional taxes, an increase in deficit can have a contractionary not expansionary effect.

This approach suggests that after a fiscal crisis or when the debt/GDP ratio is very high, the probability of an expansionary fiscal adjustment may be higher due to the possible change in the expectations.

Alesina and Perotti (1996), giving a good and some critical overview of both expectation view and the channels that lead to the expansionary fiscal consolidations, suggest that the compositions of fiscal adjustments are very important. Their argument is that the composition of fiscal adjustment can matter through the expectation, credibility and labor market effects. According to the this approach, the fiscal adjustments based on cuts in government spending, particularly in some categories, like transfers, would be more successful and expansionary than those based on revenue increases. Alesina and Perotti (1996) describe the fiscal adjustments based on spending cuts and tax increases, as Type 1 and Type 2 respectively. Unlike Type 2, Type 1 adjustments seem to be more persistent and can indicate how serious the government is to improve public finance. For example if a fiscal adjustment is based on the cuts in public investment, it may not be persistent because these cuts can be mainly temporary. In a similar way, since cutting some spending categories, such as government wages or social transfers, is politically risky or unattractive only a resolved government can make reductions in these categories.

Many studies, such as Giavazzi and Pagano (1990), Perotti (2011), Alesina and Ardagna (2012) indicate the role of accompanying policies, such as exchange rate and monetary policies, structural reforms and wage moderation for the fiscal adjustments. For example a devaluation can probably eliminate or decrease the possible contractionary effects of the fiscal consolidation. Likewise a loose monetary policy may mitigate the contractionary impacts of the fiscal adjustments on the economy. The absence of appropriate policies can make fiscal adjustments unsuccessful and contractionary. Expansionary fiscal consolidation hypothesis does not suggest that every fiscal consolidation will be necessarily expansionary. It only suggests that, in some cases, a fiscal consolidation can be expansionary if it is implemented appropriately and accompanied by a good supporting policy package.

As for fiscal stimulus, neoclassical model totally differs from Keynesian one. Although in a neoclassical model, a change in government spending or taxes can lead to a change in the economic activity, neoclassical approach generally does not support the view that government must change government spending or tax rates as a response to cyclical conditions or for stimulus purposes. Also according to the well-known Ricardian equivalence hypothesis by Barro (1974) when a government cuts the tax rate, assuming the government spendings stay constant, people will save more than they did before, because they expect to pay more taxes in the future. Expectations are also important for fiscal stimulus programs.

3. EMPRICIAL LITERATURE

There is a really vast literature estimating the effects of fiscal policy changes or shocks on the economy, like Blanchard and Perotti (2002), Perotti (2002), Romer and Romer (2007), Mountford and Uhlig (2008).

However we only focus on a certain strand of the literature, namely the literature examining the fiscal adjustment and stimulus episodes. This literature overwhelmingly focuses on the fiscal adjustments. There are many studies examining the fiscal adjustments in developed countries.

Giavazzi and Pagano (1990) examine the fiscal consolidations in Denmark and Ireland in 1980s and find that they are expansionary. Giavazzi and Pagano (1995), using data for 19 OECD countries and focusing on Swedish fiscal expansion in early 1990s, conclude that changes in fiscal policy can have non-Keynesian effects in some cases and both the changes in government spending and taxes and transfers can cause these effects.

Some studies, such as Alesina and Perotti (1995, 1996), Alesina et al. (1998), Alesina and Ardagna (2009, 2012), using data for OECD countries, strongly argue that the composition of fiscal adjustment matters. Alesina and Perotti (1995) present some evidence that successful fiscal adjustments are not recessionary and also argue that coalition governments are not successful regarding the fiscal adjustments. Alesina and Ardagna (1998) confirm the previous results that cuts in spending, particularly in transfers, welfare programs and government wage payments are critical for lon lasting and expansionary fiscal adjustments. They also point out that the accompanying devaluation is important. Alesina et. al. (1998), focusing on the political economy of fiscal adjustments, find that fiscal adjustments can be expansionary in some cases and argue that fiscal adjustments don’t lead to the poltical punishment of the governments which implemented some adjustment programs. Afonso et al. (2005) using data for 10 Central and Eastern European countries over the period 1991-2003 conclude that expenditure based consolidations are more successful than the revenue based ones. Alesina and Ardagna (2009) find that fiscal stimuli based on tax cuts are more expansionary than those based on spending increases while the reverse is true for fiscal adjustments, namely the adjustments based on spending cuts are more successful than those based on tax increases. They also argue that, in some episodes, spending cuts are associated with expansions rather than contractions. Broadbent and Daly (2010), examining large fiscal adjustments in OECD countries and three case studies in Ireland, Sweden and Canada, argue that fiscal adjustments based on the government expenditure, unlike tax based ones, are successful and boost growth. Alesina et al. (2012) estimate the output effect of fiscal adjustments in OECD countries and conclude that spending based adjustments are less costly than tax based ones. They argue that the accompanying policies, including monetary policy, can not explain the difference. In another recent paper, Alesina and Ardagna (2012), using data from 21 OECD countries, suggest that spending based fiscal adjustments are more successful and permanent than the tax based ones and also argue that spending based adjustments cause smaller recessions. They also discuss the role of related polices, such as changes in goods and labor markets, for expansionary fiscal adjustments.

Some papers don’t find evidence in favor of expansionary fiscal contractions hypothesis. Hogan (2004), using panel data for OECD countries, finds that there is a limited evidence for expansionary fiscal contractions and the increase in private consumption is not enough to offset the reductions in public consumption. IMF (2010) identifies fiscal adjustment episodes for OECD countries in a different way than the previous literature did.

More precisely it examines the fiscal policy actions, which aim at reducing budget deficits and making public finances sustainable, instead of budget outcomes, to identify the adjustment episodes and finds that fiscal consolidations have negative effects on the output in the short run and cause an increase in the unemployment rate.

IMF (2010) concludes that reductions in interest rates and devaluation have a positive effect on output and reports that spending based consolidations seem to have smaller negative or contractionary effects because the latter partly arises from the fact that a more loose monetary policy implemented following spending based adjustments. Guajardo et al. (2011), using a data set from 17 OECD countries, find that fiscal consolidations have contractionary effects on consumption and GDP, but when the ratio of cyclically adjusted primary balance to GDP is used to find the episodes, their findings support expansionary fiscal adjustment hypothesis. They also suggest that a rise in exports, associated with devaluation, can help mitigate the decline in private consumption and investment. Perotti (2011) examines 4 fiscal adjustments in Ireland, Denmark, Finland and Sweden and points out some doubts about expansionary fiscal consolidation hypothesis. He argues that these fiscal consolidations relied on tax increases more and spending cuts less than previously thought and indicate the role of exchange rate policy, interest rates, wage moderation and competitiveness.

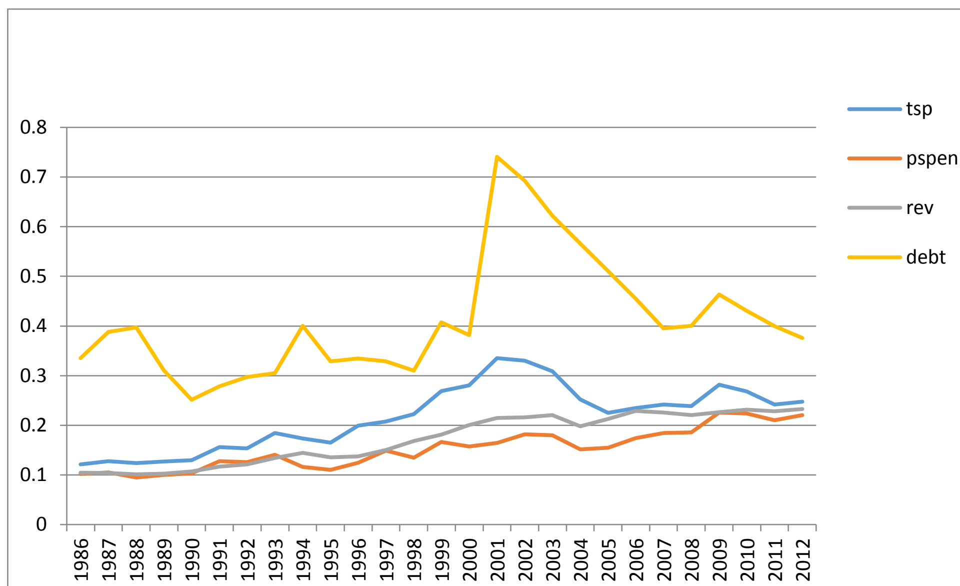
A limited number of papers examine the fiscal adjustments in developing or low-income countries. Gupta et al. (2002) find that fiscal consolidations are not harmful for the growth in 39 low-income countries during the 1990s and argue that the composition of expenditure is important. Purfield (2003) concludes that both the size and compositions of fiscal adjustments are important in 25 transition countries and argues that generally expenditure based fiscal adjustments are more successful than revenue based ones, but does not present much evidence for expansionary fiscal contractions hypothesis. Baldacci et al. (2004), examining the successful fiscal adjustments in 25 emerging market economies, conclude that back-loaded adjustments have a higher probability of success than front-loaded ones since the former allows government to implement better reforms. They also find that spending based adjustments are more successful at achieving fiscal sustainability, however revenue reforms are needed. Rocha and Picchetti (2003) find that the fiscal adjustment of Brazil in 1994 which mainly based on cuts in public investment while leaving government wages and transfers unchanged is not successful. Erdogan (2007), Ozatay (2008), Dincer and Ozdemir (2009) and Ilgun (2010) examine the fiscal adjustments in Turkey. Erdoğan (2007), employing the data over the period 1987-2006 and Structural Vector Autoregression and Error Correction Models, find that fiscal contractions are not expansionary in Turkey. Ozatay (2008), using data for 1990-2006 period, focuses more on the credibility and expectations channel and suggests that when balance sheet weakness is extreme, fiscal consolidation should address it. He finds that fiscal consolidation in 2003-2005 reduces the debt/GDP ratio significantly and notes the growth rate is remarkably high during that period. Dincer and Ozdemir (2009), using monthly data for 1994:1-2005:11 and ARFIMA method, examine the composition of budget and the persistence of adjustments. They find that Turkish fiscal policy does not have a high quality and point out that the cuts in government personnel and transfer expenditures are not persistent.

Ilgün (2010), using quarterly data for 1987-2009 period and ARDL approach, finds that government consumption expenditures have the Keynesian effects on private consumption.

4. A BRIEF OVERVIEW OF TURKISH FISCAL POLICY AND ECONOMIC CRISES

In this section we will give a brief overview of Turkish fiscal policy during the period examined. We use annual data from 1986 to 2012.[1] We use fiscal data for central government.[2] Total government spending, primary spending which means total spending excluding interest payments, revenue and debt stock series can be seen at Figure 1[3].

Figure 1: Government total spending, primary spending, revenue and debt (as a share of GDP)



It is clear that the government spending and revenue have substantially increased over time. The primary spending and revenue increases from about 10 percent in 1986 to above 20 percent in 2012. In general the revenue has been stable over just 20 percent since 2000. Especially, the revenue has stayed at about 22 percent since 2006. The primary spending increases significantly in 2009, from 18 percent in 2008 to 22 percent in 2009. It has not returned to below 20 percent since 2009. This shows that there is a permanent increase in the primary spending. This is an indication of permanent increase in the primary spending. Except for the period 2001-2005, the debt has remained below 50 percent. From 2006 to 2012 the ratio is about between 45 percent and 37 percent.

[1] Government spending and revenue data come from Turkish Ministry of Finance, debt from Undersecretariat of Turkish Treasury, GDP from Turkish Statistical Institute and Turkish Ministry of Development (TMD), subcategories of GDP, interest rate and exchange from TMD and Turkish Central Bank (TCB), confidence index from TCB, trade balance from TMD.

[2] Before 2006, consolidated government.

[3] We use fiscal variables as a share of GDP unless stated otherwise.

After 2001, thank to factors such as high growth and low interest rates, the debt declines significantly. There is a dramatic increase in the debt in 2001. There are also some remarkable increases in the ratio in 1994, 1999 and 2009. This is not surprising because 1994, 1999, 2001 and 2009 are years in which Turkish economy hit by financial crises, the last one being the well-known global crisis. To understand the fiscal adjustment and stimulus episodes better, it would be useful to give a summary of 1994, 1999 and 2001 crisis and measures taken against them.

In the aftermath of post-liberalization (Uygur: 2010: 1) financial crisis of 1994, the Turkish economy experiences a significant contraction of about 5.5 percent a severe crisis in 1994. On April 5th, 1994 a stabilization program is put into effect by the government. The program which is later backed by IMF, especially relied upon some austerity measures to reduce the government budget deficits. Celasun (1999:19) suggests that declining public spending, controlling public sector wages and increasing public sector prices contributed to the contraction. On the revenue side the weight is mainly given to one time taxes such as tax on the net assets of the firms, some additional wealth taxes and taxes on income. The program also included medium term structural adjustment measures such as the implementation of the privatization program and social security reforms (Celasun, 1999).

While trying to recover from the effects of the 1994 crisis, the Turkish economy hit worse by the Asian and particularly the Russian crisis in 1998 and 1999 and also an earthquake. These adverse effects increase the fragility of the already shaky economy. The resulting large increases in the cost of public borrowing and deteriorating macroeconomic conditions led to the announcement of a stabilization program. The program's focus is to reduce the inflation and is supported again by IMF through a new stand-by agreement at the end of 1999. The program in terms of interest rates and growth generate some positive effects in early 2000, but lose its credibility because of the failure in area of privatization and structural reforms (Dincer and Ozdemir, 2009:115). The cost of failure of the program is the currency and banking crisis in February 2001, the most severe financial crisis in history of Turkey.

Following the failure of the IMF-Supported program of 1999 and the resulting severe twin crisis in 2001 a new IMF backed program called "Transition to the Strong Economy Program" is put into practice. The new program which is accompanied by a large IMF loan starts with similar objectives (ie, ensuring the stability by way of reduced public deficits, lower inflation and sustainable growth) except that the crawling-peg system is replaced by a floating exchange rate system (Uygur 2010: 38). Uygur (2010:38) indicates that the program contains a framework with base money as a nominal anchor and summarizes the program's monetary policy framework as follows:"…*part of the IMF credits would be auctioned to meet FX demand, preconditions would be created for an 'implicit inflation targeting' policy and short-term interest rates were to become critical policy variables*". The debt sustainability was one of the key concerns or priorities of the program, due to a high jump in the debt/GDP ratio in the beginning of 2001. Besides a high primary surplus target, some upper limits were put on the public expenditures and floors on the total balance (Uygur, 2010: 46).

5. EXAMINATION OF FISCAL ADJUSTMENT AND STIMULI IN TURKEY

In this section, first, we give the definitions of fiscal adjustment and stimulus for the purposes of this paper and determine the relevant episodes. Then we will examine the fiscal adjustments and stimulus episodes in some detail.

5.1. THE DEFINITIONS AND DETERMINATIONS OF THE EPISODES

Although there is no consensus regarding to how a fiscal adjustment should be defined, there are two main approaches. One approach, employed by such as Alesina and Ardagna (1998, 2009), Baldacci (2004) and Purfield (2003) among others and can be called outcome based, focuses on the change in the budget balance. The other approach, used by IMF (2010) and can be called action based, examines the discretionary actions. We follow the outcome based approach. It is common to use primary budget balance rather than total balance in the literature. The rationale behind that is interest payments are not directly under government control, especially in the short run. Since cyclical conditions affect the budget balance, many studies try to disentangle the effects of discretionary policy from cyclical factors. But it is well known that any cyclical adjustment is far from being perfect. Therefore some studies, such as Purfield (2003) and Baldacci et al. (2004), use the primary budget balance. Purfield (2003) points out that the importance of automatic stabilizators in transition economies is not clear. We think that this is also valid for developing and emerging economies, like Turkey. So we use both the primary balance and cyclically adjusted primary balance to identify fiscal adjustment (stimulus) episodes.[4] More precisely we define fiscal adjustment (stimulus) episode as follows: The ratio of primary balance to GDP and the ratio of cyclically adjusted primary balance to potential GDP improve (deteriorate) by at least either i) 1 percentage point in a single year, or ii) 0,5 percentage point in each year and 1,5 percentage point cumulatively in two or three consecutive years. In other words, we consider a period as a fiscal adjustment (stimulus) if both the changes in primary balance and cyclically adjusted primary balance take place. When a single or two year fiscal adjustment (stimulus) episode is a part of a longer fiscal adjustment (stimulus) episode, we consider only the longer one. In this way, we find 3 single year, 1 two year and 1 three year fiscal adjustment episodes: 1994, 1998, 2000, 2010-2011 and 2003-2004-2005. There are also 2 single year and 1 three year fiscal stimulus episodes: 1991, 1999 and 2007-2008-2009. Since the main purpose or motivation of fiscal adjustment programs is to reduce the public debt stock or budget deficit, the success of these programs is naturally evaluated by looking at the changes in these variables.

[4] There is no readily available cyclically adjusted primary balance series for Turkey. Abdih et all (2010) suggest that it is common to assume that elasticities of government spending and revenue is zero and one, respectively, for developing and emerging countries to estimate cyclically adjusted primary balance series. We estimate it by following Fedelino et all (2009), Abdih et all (2010) and assuming those elasticities for Turkey.

Alesina and Ardagna (2012:6) consider a fiscal adjustment successful "*…if the debt/gdp ratio two years after the end of an adjustment is lower than the debt/gdp ratio in the last year of the adjustment."* We adopt the same definition[5]**.** A very important question is whether fiscal adjustments and stimuli are expansionary or not. A fiscal adjustment is defined as expansionary by Alesina and Ardagna (2012:6) "*…if real GDP growth during the adjustment period is higher than the average growth the country experienced in the two years before.*" Purfield (2003:8), however, describes a fiscal adjustment as expansionary "*…if the average real GDP growth rate during the adjustment episode and two subsequent years is at least one standard deviation above the average growth rate recorded for that country over the period 1992-2000.*" We consider a fiscal adjustment and stimulus expansionary if, on average, the real GDP growth rate during the fiscal adjustment and stimulus episode and two subsequent years is higher than the average growth rate in i) the two years before, and ii) the entire period examined.

5.2. THE SIZE AND COMPOSITIONS

As one strand of the literature shows the importance of the composition of fiscal adjustment (stimuli), we will examine whether the fiscal adjustments (stimuli) are based on spending declines (increases) or revenue increases (decreases). Based on the evidence in Appendix 1 following observations deserve more attention. First, government primary spending, when compared to preceding two years average, declines in 1994, 1998 and 2003-2005 episodes. In 2000 and 2010-2011 episodes, on the other hand, there are increases in the primary spending. The decline in total spending, which highlights the decrease in government interest payments, in the 2003-2005 episode is striking. Second, the revenue increases during 1994, 1998 and 2000. The increase in revenue during 1998 and 2000 draws particular attention. Another striking point is that revenue actually declines during successful and expansionary episode of 2003-2005. In the episode of 2010-2011, the revenue only slightly increases. The unsuccessful and unexpansionary episodes of 1998 and 2000 can be characterized by revenue increases while during successful but unexpansionary episode of 1994 both the spending decline and tax revenue increase take place. But the decline in the primary spending, when two-year period following the episode is also taken into account, is greater than the increase in the revenue. The main feature of the 2003-2005 episode is the decline in the (total) spending.

Lastly, the 2010-2011 episode, at a first look, does not show a clear pattern in favor of neither expenditure decline nor revenue increase. However a closer scrutiny shows that this episode actually is based on spending declines. Primary spending increases by about 4 percentage points in 2009, then it declines by about 1,6 percentage points cumulatively in 2010-2011 while the revenue does not change much in the same period. Since the composition of spending cuts can also matter, we also look at the changes in the main categories of spending.

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5 For the single year fiscal adjustment episodes, we take the year in which fiscal adjustment took place as the end of the adjustment.

When it comes to government wages, the episodes of 1994 and 2003-2005 are noteworthy. In both of these episodes the decline in government wage bill continues also after the fiscal adjustment period. In two of the remaining three periods government wages roughly preserve their level of preceding two years average. During episode of 1998, on the other hand, government wages increase by 0,4 percentage points. Alesina and Ardagna (2009) highlight the importance of changes in transfers in explaining the difference between expansionary and contractionary adjustments. In contractionary cases, transfers continue to grow as a percentage of GDP while in expansionary episodes, instead, the opposite is observed. Transfer spending decreases both in the period of 1998 and 2003-2005 while an increase is observed during the other three episodes. When we compare the non-interest transfer spending during the episodes with the same spending component in one year before adjustment episodes take place, it declines during the episodes of 1994, 1998, 2000 and 2010-2011. We should note that transfer spending declines substantially, by about 3 percentage point, from 2003 to 2004. As for fiscal stimulus episodes, all episodes are based mostly on spending increases. Actually there is no stimulus episode that is relied on tax cuts. There are substantial increases in primary spending in 1991, 1999 and 2007-2008-2009. Non-interest transfer spending and government wages increase significantly during all fiscal stimulus episodes.

5.3. FISCAL ADJUSTMENTS

In this section we will examine the adjustment episodes on the basis of two criteria: Whether they are successful and expansionary or not. When doing this, following Alesina and Ardagna (2009), we also look at the behavior of fiscal and macroeconomic variables around those episodes to investigate whether different characteristics of fiscal packages are associated with different macroeconomic outcomes.

5.3.1. ARE FISCAL ADJUSTMENT SUCCESSFUL AND EXPANSIONARY?

Based on our definitions we find that fiscal adjustment episodes of 2003-2005 and 2010-2011 are clearly successful and expansionary while the episodes of 1998 and 2000 are neither successful nor expansionary. The episode of 1994 is more complicated because it is successful but not expansionary. We think that the composition of fiscal adjustments matter. Given that revenue based two episodes are unsuccessful and not expansionary while spending based episodes are undoubtfully successful and two of them also are expansionary, our results can be interpreted as lending support to the finding that Type 1 adjustments tend to be more successful and expansionary than Type 2 ones.

Regarding to the composition of spending declines, we don't see any decisive difference between successful vs. unsuccessful episodes and expansionary vs. unexpansionary episodes. Despite the significant decline in non-interest transfer spending during the episode of 1998 compared to one year before, that episode is neither successful nor expansionary. Although the size of the episodes of 2003-2005 and 2010-2011 is not bigger than that of other episodes, these two episodes are both successful and expansionary. It seems that, in general, the composition of fiscal adjustment may be more important than the size of it.

Both of fiscal adjustments last more than one year are successful and expansionary. This may be interpreted as longer term adjustments have a higher probability of being successful and expansionary. This unsurprising result is consistent with the finding of Baldacci et all (2004:8), which is longer fiscal adjustments tend to be more successful. We should note that the growth rates are very high, more than 7 percent on average, during these episodes.

5.3.2. FISCAL ADJUSTMENTS ANDMACROECONOMIC INDICATORS

Having summarized the likely contribution of fiscal variables to the success and expansionary nature of the adjustments, some observations about the behavior of macro variables will be useful. Appendix 2, which is designed based on the format developed by Alesina and Ardagna (1998) and (2009), gives summary statistics regarding some relevant macro variables. Which critical variables are behind the successful and expansionary episodes and through which channels the effects of these variables are revealed? On this point in the literature, structural reforms left aside, expectations of economic agents, interest rates, wage moderation and the exchange rate devaluation are most highlighted items. The changes in these items are expected to be reflected in private investment, private consumption and export performance of the economy. Appendix 2 highlights the following points. During successful and expansionary episodes of 2003-2005 and 2010-2011 improvements in expectations as reflected by the confidence index are remarkable. The jump in the index in the first period is about 15 percentage points while more than 20 percentage point increase recorded during the second episode. As it is apparent from Appendix 2, a completely opposite picture emerged during the episodes of 1994 and 1998. At this point the increase in confidence index during unsuccessful and unexpansionary episode of 2000 needs a brief clarification. As it is noted in the preceding paragraphs, in the year 2000 a newly IMF program is started to be implemented. Initially it seemed that program is working well. But towards the end of the year picture reverses totally. Among others, this can be seen clearly from the monthly averages of the confidence index (not shown in the table) which took the value of 80 in the last moth of the year. When we look at components of GDP, we find that private investment plays an important role. During both of the expansionary episodes, the increase in private investment is remarkably high. In contrast, during episodes of 1994 and 1998 sizeable contractions are seen in private investment. Private consumption reveals similar but somehow much less explicit trend. Overall this evidence may be regarded as a sign of the effectiveness of the expectation channel.

There are substantial decreases in nominal rates during all but one episode. The reasons behind the failure of reduction in public debt and poor growth performance during the 1998 and 2000 episodes, despite the striking decline in interest rates on domestic borrowing must be sought in weaknesses of the Turkish banking sector[6].

[6] For detail on the weaknesses in the banking sector which continuously increased during second half of the 1990s see Özatay and Sak (2002) and Özatay (2008).

Another variable that is mostly cited in the literature in context of the expansionary fiscal adjustments is exchange rate. As stated before, the argument is that exchange rate depreciation through improvement in competitiveness may induce an export boom leading to moderation in contractionary effects of the fiscal adjustment. The percentage change in the nominal exchange rate during period of 2003-2005 is actually negative while during the other expansionary episode is only 4 percent which is below the inflation rate. This is an indication of real appreciation of Turkish Lira. It is really interesting to note that during and after the expansionary fiscal adjustment episode of 2003-2005, trade balance deteriorates. Although trade balance improves during the fiscal adjustment episode of 1994, that episode is not expansionary. Trade balance over GDP ratio improves (deteriorates) after (during) fiscal adjustment episode of 2000, while it does not change much during the fiscal adjustment episode of 1998, but deteriorates after that episode. Although one can reasonably expect that expansionary fiscal adjustments are likely associated with improvements in trade balance, our findings don't seem to be consistent with this expectation. Unemployment rate also increases during and after 2003-2005 episode while it declines during and after 2010-2011 episode. Also there is a remarkable decline (increase) in unemployment rate after 1994 (2000) episode.

5.3.3. POLITICAL CONSEQUENCES OF THE FISCAL ADJUSTMENTS

As for political consequences of fiscal adjustments in Turkey, general elections are held in 1987, 1991, 1995, 1999, 2002, 2007 and 2011 during the period examined. All of 3 single year fiscal adjustments in 1994, 1998 and 2000 are implemented by the coalition governments, while successful and expansionary fiscal adjustments that last more than one year in 2003-2005 and 2010-2011 are implemented by the same single party governments. The coalition parties are badly defeated in 1995 and 2002 elections, while the running party increases its vote in 2007 and 2011 elections and remains in office. In other words, the successful and expansionary fiscal adjustments in 2003-2005 and 2010-2011 do not cause any political punishment or cost for the single party governments while the coalition parties that implement the unsuccessful fiscal adjustment in 2000 pay a very high political cost. Interestingly fiscal adjustment in 1994, which is successful but not expansionary, causes some political costs for the coalition parties. Political consequences of fiscal adjustment in 1998 are more complicated. In the beginning of 1999, the coalition government is replaced with a single party minority government and that party increases its vote in 1999 election. The other party of the coalition government loses votes in the same elections.

We should note that especially in 1999 elections, there are some highly influential non-economic factors that may explain why the party formed the minority government increases its vote. We conclude that successful and expansionary fiscal adjustments don't seem to cause any political costs for the parties implement them. But regarding to fiscal adjustments which are not successful or expansionary, there would be some political costs. Our results also imply that single party governments may be better at implementing longer term, successful and expansionary fiscal adjustment programs than coalition governments.

5.4. THE FISCAL STIMULI

As noted before, 1991, 1999 and 2007-2009 are identified as fiscal stimulus episodes. It should be noted at the outset that all these episodes (in the case of last episode 2007) are general election years. Among these episodes only the first one is found to be expansionary. Since there is not an obvious criterion to define a successful episode as in the case of fiscal adjustments (Alesina and Ardagna, 1998: 508), the episodes are examined and compared on the basis of whether they are expansionary or not. More clearly, following Alesina and Ardagna (1998) and (2009) we will look at the behavior of some fiscal and macroeconomic indicators before, during and after the episodes. In this way we can try to detect differences in the effects of fiscal packages depending on their composition. Appendix 3 and Appendix 4 are arranged for this purpose. The first issue is whether there is any difference between the two kinds of episodes on the basis of the composition of the stimuli packages, ie spending increases vs. tax cuts. As mentioned before, all fiscal stimulus episodes are based on spending declines. Interestingly during the fiscal stimulus episodes of 1991 and 1999, the revenue increases. Since there is no episode relied on tax cuts, we can not test the proposition that fiscal stimuli based on tax cuts are more likely to increase growth than those based on spending increases. However, one may wonder whether the outcomes would have changed if revenue based fiscal stimulus had been implemented.

The second point is associated with how elements of the aggregate demand change during the episodes. In this framework especially the behavior of the private spending and consumption is intriguing. Looking at Appendix 4, the course of the private investment is noteworthy. During all episodes substantial decreases are recorded in the private investment. However, except the case of 1999, which had unique conditions as mentioned previously, it recovers immediately after the episode. Growth rates in one year after the fiscal stimulus episodes are well above the average rate during the entire period examined. The growth rate is not negative in 1991, while it is negative in 1999 and 2009. The confidence index declines during all stimulus episodes, but it improves significantly after the episodes of 1991 and 2007-2009. The trade balance improves during the all stimulus episodes, but especially during 1999 and 2007-2009. We think that further and more detailed research is needed to shed light on fiscal stimulus episodes in Turkey.

6. CONCLUSION

In this paper we examine the fiscal adjustment and stimulus episodes in Turkey over the period 1986-2012. We identify the episodes by considering both the changes in the primary balance and cyclically adjusted primary balance. We find that fiscal adjustment episodes take place in 1994, 1998, 2000, 2003-2005 and 2010-2011 while fiscal stimulus episodes experienced in 1991, 1999 and 2007-2009. Fiscal adjustment episodes in 1994, 2003-2005 and 2010-2011 are largely based on spending declines while the other two episodes mainly relied on revenue increases. The fiscal adjustment episodes of 1994, 2003-2005 and 2010-2011 are successful while remaining two episodes are unsuccessful. Also episodes of 2003-2005 and 2010-2011 are significantly expansionary while the other ones are not expansionary.

Our results seem to be consistent with the finding that spending based adjustments tend to be more successful and expansionary than revenue based adjustments. It seems that the composition of fiscal adjustment may be more important than the size of it. Also our results show that longer term adjustments have a higher probability of being successful and expansionary.

We evaluate some important macroeconomic indicators before, during and after fiscal adjustment and stimulus episodes. During successful and expansionary episodes of 2003-2005 and 2010-2011 improvements in expectations as reflected by the confidence index are noteworthy. During both of the expansionary episodes the increase in private investment is remarkably high. Our findings may be regarded as a sign of the effectiveness of the expectation channel. Interestingly the trade balance deteriorates in the expansionary episode of 2003-2005. We find that successful and expansionary fiscal adjustments do not seem to be associated with any political costs while unsuccessful or unexpansionary ones do. Also single party governments seem better at implementing longer term, successful and expansionary fiscal adjustment programs than coalition governments. This result is reasonable and in line with the some other findings in the literature.

As for fiscal stimulus episodes, the episode of 1991 is, at the margin, expansionary while the remaining two are not. During and after all the stimulus episodes, there are increases in both spending and revenue sides. However all fiscal stimulus episodes are relied on spending side mostly. The behavior of the private spending and consumption is intriguing. During all episodes, substantial decreases are recorded in the private investment. Finally we would like to point out that Turkish case clearly shows that expansionary fiscal adjustments are not a fiction but an obvious reality. However it should be kept in mind that there is no simple recipe or panacea that will easily make every fiscal adjustment expansionary. There are many factors, including the design, composition, size of the adjustment as well as political determination and structural reforms, behind expansionary fiscal adjustments.

REFERENCES

- Abdih, Y, Lopez-Murphy, P., Roitman A. and Sahay, R. (2010), The Cyclicality of Fiscal Policy in the Middle East and Central Asia: Is the Current Crisis Different ?, IMF Working Paper WP/10/68.

- Afonso, A., Nickel, C. and Rother, C.P. (2006), Fiscal Consolidations in the Central and Eastern European Countries, Review of World Economics, 142, pp.402-21.

- Alesina A. and Ardagna, S. (1998), Tales of Fiscal Adjustment, Economic Policy, Vol 13(27), pp. 487-545.

- Alesina A. and Ardagna, S. (2009), Large Changes in Fiscal Policy: Taxes versus Spending, NBER Working Paper no. 15438.
- Alesina A. and Ardagna, S. (2012), The Design of Fiscal Adjustments, NBER Working Paper no. 18243.

- Alesina A., and Perotti, R (1995), Fiscal Expansions and Adjustments in OECD Countries, NBER Working Paper no. 5214.

- Alesina, A and Perotti, R. (1996), Fiscal adjustments in OECD countries: Composition and macroeconomic effects, NBER Working Paper no. 5730.

- Alesina A., Perotti, R. and Tavares, J. (1998), The Political Economy of Fiscal Adjustments, Brookings Papers on Economic Activity, Spring 1998.

- Alesina A., Favero, C. and Giavazzi, F. (2012), The Output Effects of Fiscal Consolidations, NBER Working Paper no. 18336.

- Baldacci, E., Clements, B., Gupta, S., and Mulas-Granados, C. (2004), Front-Loaded or Back-Loaded Adjustments: What Works in Emerging Market Economies?, IMF Working Paper no. WP/04/157.

- Barrro, R. (1974), Are Government Bonds Net Wealth?, Journal of Political Economy, Vol. 82, No. 6, pp. 1095-1117.

- Bertola, G. and Drazen, A. (1993), Trigger Points and Budget Cuts: Explaining the Effects of Fiscal Austerity, American Economic Review, Vol. 83, No. 1, pp. 11-26.

- Blanchard, O. J. (1990), Comment on Giavazzi and Pagano, NBER Macroeconomics Annual 1990, Vol. 5 p. 111-116.

- Blanchard, Oliver J. and Perotti, R. (2002), Effects of Changes in Government Spending and Taxes on Output, The Quarterly Journal of Economics, November, pp.1329-1368.

- Broadbent, B. and Daly, K. (2010) Limiting the Fall-out From Fiscal Adjustment, Goldman Sachs, Global Economics Paper 195, April 2010.

- Celasun, O. (1999). "The 1994 Currency Crisis in Turkey." http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1998/04/01/000009265_3980624143318/additional/132532322_20041117180126.pdf (27.11.2013)

- Dincer, N. and Ozdemir, Z.A. (2009), The Quality of Fiscal Adjustment: An Empirical Analysis of Turkey, Journal of Economic Policy Reform, Vol. 12 No. 2, pp. 111-126.
- Erdoğan, L. (2007), "Genişletici Mali Daralma Hipotezi: Türkiye Uygulaması", Anadolu Üniversitesi Sosyal Bilimler Dergisi, Vol. 7, No. 2, pp.117-132.

- Fedelino, A., Ivanova, A. and Horton,M. (2009), Computing Cyclically Adjusted Balances and Automatic Stabilizers, Technical Notes and Manuals, Fiscal Affairs Department, IMF.

- Giavazzi, F. and Pagano, M. (1990), Can Severe Fiscal Contractions be Expantionary? Tales of Two Small European Countries, NBER Working Paper no. 3372.

- Giavazzi, F. and Pagano, M. (1995), Non-Keynesian Effects of Fiscal Policy Changes: International Evidence and the Swedish Experince, NBER Working Paper no. 5332.

- Gupta, S., Baldacci, E., Clements, B., and Mulas-Granados, C. (2002), Expenditure Composition, Fiscal Adjustment, and Growth in Low-Income Countries, IMF Working Paper no. 02/77.

- Guajardo, J., Leigh, D. and Pescatori, A. (2011), Expansionary Austerity: New International Evidence, IMF Working Paper no. 11/158.

- Hogan, V. (2004), Expansionary fiscal contractions? Evidence from panel data, The Scandinavian Journal of Economics, Vol. 106, No. 4, pp. 647-659.

- Ilgün, M.F (2010), Genişletici Mali Daralma Hipotezinin Temelleri ve Türkiye Ekonomisi Üzerine Bir Uygulama."/ "The Basis of Expansionary Fiscal Contraction Hypothesis and an Application on Turkish Economy, (In Turkish) Erciyes Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 234 Sayı: 35,pp.233-253.

- IMF (2010), Will it Hurt? Macroeconomic Effects of Fiscal Consolidation, World Economic Outlook, Chapter 3, October.

- Mountford, A. and Uhlig, H. (2008), What are the Effects of Fiscal policy Schocks? NBER Working Paper no. 14551.

- Özatay, F. (2008) "Expansionary Fiscal Consolidations: New Evidence from Turkey". Working Paper no 406, Economic Research Forum,

- Özatay, F. and Sak, G. (2002), Banking Sector Fragility and Turkey's 2000-01 Financial Crisis, Researh Department Discussion Paper, The Central Bank of the Republic of Turkey.

- Perotti, R. (2002), Estimating the effects of fiscal policy in OECD countries, European Central Bank Working Paper Series no. 168.

- Perotti, R. (2011), The Austerity Myth: Gain Without Pain, NBER Working Paper no. 17571.

- Purfield, C. (2003), Fiscal Adjustment in Transition Countries: Evidence From the 1990s, IMF Working Paper No. 03/36.

- Rocha, F and Picchetti, P. (2003), Fiscal adjustment in Brazil, Revista Brasileira de Economia, Vol. 57, No. 1, pp.239-252.

- Romer, C. and Romer, D. (2007), "The Macroeconomic Effects of Tax Change: Estimates Based on a New Measure of Fiscal Shocks, NBER Working Paper no. 13264.

- Sutherland, A. (1997), Fiscal Crises and Aggregate Demand: Can High Public Dept Reverse the Effects of Fiscal Policy, Journal of Public Economics, Vol. 65, pp. 147-62.

- Uygur, E. (2010), The Global Crisis and the Turkish Economy, TWN Global Economy Series, no. 21.

Appendix 1: Fiscal Indicators During Fiscal Adjustment Episodes (% of GDP)

	Debt	Total Bal.	Primary Bal.	Total Spen.	Primary Spen.	Govern. Wages	Non-Int. Transfers	Total Rev.
1) 1994								
Before: 1992-93 (a)	30,1	-4,1	-0,5	16,9	13,3	6,4	3,4	12,8
During: 1994 (b)	40,0	-2,9	2,8	17,3	11,6	5,3	3,5	14,4
After :1995-96 (c)	33,1	-4,6	1,9	18,2	11,7	4,9	4,2	13,6
Difference: b-a	9,9	1,2	3,3	0,4	-1,7	-1,1	0,1	1,6
c-a	3,0	-0,5	2,4	1,3	-1,6	-1,5	0,8	0,8
2) 1998								
Before: 1996-97 (a)	33,2	-6,0	0,7	20,3	13,7	5,1	5,3	14,4
During: 1998 (b)	31,0	-5,4	3,4	22,2	13,4	5,5	4,6	16,8
After :1999-2000 (c)	39,5	-8,3	2,9	27,4	16,2	6,3	6,2	19,1
Difference: b-a	-2,2	0,6	2,7	1,9	-0,3	0,4	-0,7	2,4
c-a	6,3	-2,3	2,2	7,1	2,5	1,2	0,9	4,7
3) 2000								
Before: 1998-99 (a)	35,9	-7,1	2,4	24,5	15,0	6,1	5,5	17,5
During: 2000 (b)	38,2	-7,9	4,3	28,0	15,8	6,0	6,1	20,1
After : 2001-2002 (c)	71,6	-11,8	4,2	33,3	17,3	6,5	6,8	21,5
Difference: b-a	3,7	-0,8	1,9	3,5	0,8	-0,1	0,6	2,6
c-a	35,7	-4,7	1,8	8,8	2,3	0,4	1,3	5,0
4) 2003-2005								
Before: 2001-02 (a)	71,6	-11,8	4,2	33,3	17,3	6,5	6,8	21,5
During: 2003-05 (b)	56,6	-5,2	4,8	26,2	16,2	5,6	6,1	21,0
After :2006-2007 (c)	42,5	-1,1	4,8	23,8	17,9	5,1	7,0	22,7
Difference: b-a	-15.0	6,6	0,6	-7.1	-0.9	-0,9	-0,7	-0,5
c-a	-29,1	10,7	0,6	-9,5	0,6	-1,4	0,2	1,2
5) 2010-2011								
Before: 2008-09 (a)	43,2	-3,7	1,8	26,0	20,5	5,5	8,5	22,3
During: 2010-01 (b)	41,5	-2,5	1,3	25,5	21,7	5,6	8,9	23,0
After :2012-13[7] (c)	37,6	-1,5	1,3	24,8	22,0	6,1	9,1	23,3
Difference: b-a	-1,7	1,2	-0,5	-0,5	1,2	0,1	0,4	0,7
c-a	-5,6	2,2	0,0	-1,2	1,5	0,6	0,6	1,0

[7] Due to the lack of data for 2013 only data for 2012 is used.

Appendix 2: Macroeconomic Performance During Fiscal Adjustment Episodes[8]

	Growth	Unemp.	Private Cons.	Private Invest.	Public Cons.	Public Inv.	Trade Bal.	Exc. Rate	Int. Rate	Con. Index
1) 1994										
Before: 1992-93 (a)	7,0	9,2	5,9	21,9	3,6	6,7	-4,9	62,3	87,6	100,2
During: 1994 (b)	-5,5	9,1	-5,4	-12,5	-5,5	-30,2	-2,4	170,4	164,4	84,1
After :1995-96 (c)	7,1	7,6	6,7	15,9	7,7	2,9	-5,0	65,6	128,5	104,2
Difference: b-a	-12,5	-0,1	-11,3	-34,4	-9,1	-36,9	2,5	108,1	76,8	-16,1
c-a	0,1	-2,4	0,8	-6,0	4,1	-3,8	-0,1	3,3	40,9	4,2
2) 1998										
Before: 1996-97 (a)	7,3	7,2	8,4	13,3	6,4	26,4	-5,1	82,1	131,2	103,5
During: 1998 (b)	3,1	7,4	0,6	-8,8	7,9	13,8	-5,2	71,7	122,5	89
After :1999-2000 (c)	1,7	7,6	3,0	-0,8	4,8	6,2	-6,1	55	73,8	94,1
Difference: b-a	-4,2	0,2	-7,8	-22,1	1,5	-12,6	-0,1	-10,4	-8,7	-14,5
c-a	-5,6	0,4	-5,4	-14,1	1,6	-20,2	-1,0	-27,1	-57,4	-9,4
3) 2000										
Before: 1998-99 (a)	-0,1	7,8	0,4	-13,9	5,9	4,4	-4,6	66,6	116,0	88,1
During: 2000 (b)	6,8	7,0	17,5	17,5	5,7	17,5	-8,3	48,5	38,0	101
After : 2001-2002 (c)	0,2	9,9	-0,9	-8,0	2,4	-6,0	-2,2	59,7	80,0	89,4
Difference: b-a	6,9	-0,8	17,1	31,4	-0,2	13,1	-3,7	-18,1	-78	12,9
c-a	0,3	2,1	-1,3	5,9	-3,5	-10,4	2,4	-6,9	42	1,3
4) 2003-2005										
Before: 2001-02 (a)	0,2	9,8	-0,9	-8,0	2,4	-6,0	-2,2	59,7	80,0	89,4
During: 2003-05 (b)	7,7	10,8	9,7	26,2	2,0	1,1	-5,7	-3,8	29,2	104,6
After :2006-2007 (c)	5,8	10,2	5,1	8,8	5,0	4,5	-7,5	-1,2	18,5	106,9
Difference: b-a	7,5	1,0	10,6	34,2	-0,4	7,1	-2,5	-63,5	-50,8	15.2
c-a	5,6	0,4	6,0	16,8	2,6	10,5	-5,3	-60,9	-61,5	17,5
5) 2010-2011										
Before: 2008-09 (a)	-2,1	12,5	-1,3	-15,8	4,8	6,1	-5,6	9,5	16,0	88,7
During: 2010-11 (b)	9,0	10,8	3,6	28,0	3,3	7,8		4,1	8,6	110,4
After :2012-2013[9] (c)	2,2	9,2	-0,6	-4,8	6,1	9,3		6,0	8,8	106,9
Difference: b-a	11,1	-1,7	4,9	43,8	-1,5	1,7		-5,4	-7,4	21,7
c-a	4,3	-3,2	0,7	11,0	1,3	3,2		-3,5	-7,2	18,2

[8] The figures on the components of GDP, trade balance and interest rate, exchange rate are % changes. Interest rate is the average compounded nominal rates on domestic borrowing. Values of confidence index denote annual averages.

[9] Except in the case of exchange rate and confidence index (for those two indicators data is available until the end of october 2013) only data for 2012 is used. For the trade balance consistent data is not available also for 2011 and 2012.

Appendix 3: Fiscal Indicators During Fiscal Stimulus Episodes (% of GDP)

	Debt	Total Balance	Primary Balance	Total Spen.	Primary Spen.	Government Wages	Non-Int. Transfers	Total Rev.
1) 1991								
Before: 1989-90 (a)	28,1	-2,3	0,3	12,8	10,2	4,6	2,4	10,5
During: 1991 (b)	27,9	-3,9	-1,1	15,6	12,8	5,0	2,1	11,7
After :1992-93 (c)	30,1	-4,1	-0,6	16,9	13,3	6,4	3,4	12,8
Difference: b-a	-0,2	-1,6	-1,4	2,8	2,6	0,4	-0,3	1,2
c-a	1,9	-1,8	-0,9	4,1	3,1	1,8	1,0	2,3
2) 1999								
Before: 1997-98 (a)	32,0	-5,6	1,7	21,5	14,2	5,4	5,3	15,9
During: 1999 (b)	40,8	-8,7	1,5	26,9	16,6	6,6	6,4	18,1
After :2000-2001 (c)	56,1	-10,0	4,7	30,8	16,1	6,2	6,2	20,8
Difference: b-a	7,2	-3,1	-0,2	5,4	2,4	1,2	1,1	2,2
c-a	13,9	-4,4	3,0	9,3	1,9	0,8	0,9	4,9
3) 2007-2009								
Before: 2005-2006 (a)	48,3	-0,9	5,6	23,0	16,5	4,9	6,0	22,1
During: 2007-2009 (b)	43,2	-3,0	2,6	25,4	19,8	5,4	8,2	22,4
After : 2010-2011 (c)	41,5	-1,3	1,3	25,5	21,7	5,6	8,9	23,0
Difference: b-a	-5,1	-2,1	-3,0	2,4	3,3	0,5	2,2	0,3
c-a	-6,8	-0,4	-4,3	2,5	5,2	0,7	2,9	0,9

Appendix 4: Macroeconomic Performance During Fiscal Stimulus Episodes[10]

	Growth	Unemp	Private Cons.	Private Invest.	Pub. Cons.	Public Invest	Trade Bal/GDP	Exc. Rate	Int. Rate	Con. Index
1) 1991										
Before: 1989-90 (a)	4,8	8,8	0,1	12,1	4,4	6,2	-3,8	36,1	56,9	93
During: 1991 (b)	0,9	8,7	2,7	1,9	8,0	-2,3	-3,6	59,9	80,5	87,4
After :1992-93 (c)	7,0	9,2	5,9	21,9	6,1	6,7	-4,9	62,3	87,6	100,2
Difference: b-a	-3,8	-0,1	2,6	-10.2	3,6	-8,5	0,2	23,8	23,6	-5,6
c-a	2,2	0,4	5,8	9,8	1,5	0,5	-1,1	26,2	30,7	7,2
2) 1999										
Before: 1997-98 (a)	5,3	7,4	4,5	2,1	6,0	21,0	-5,6	79,2	124,9	96,9
During: 1999 (b)	-3,4	8,2	0,1	-19,0	4,0	-5,1	-3,9	61,6	109,5	87,2
After :2000-2001 (c)	0,5	8,0	-0,4	-7,7	2,3	-1,3	-5,0	72,5	67,1	88,9
Difference: b-a	-8,7	0,8	-4,4	-21,1	-2,0	-26,1	2,7	-17,6	-15,4	-9,7
c-a	-4,8	0,6	-4,9	-9,8	-3,7	-22,3	0,6	-6,7	-57,8	-8,0
3) 2007-2009										
Before: 2005-2006 (a)	7,6	10,4	6,2	15,6	5,5	13,8	-7,3	0,5	17,6	102,6
During: 2007-2009 (b)	0,2	11,8	1,0	-9,6	5,4	6,1	-6,1	3,3	16,9	96,3
After : 2010-2011 (c)	9,0	10,9	7,2	28,0	3,3	7,8		4,1	8,6	110,4
Difference: b-a	-7,4	1,4	-5,2	-25,2	-0,1	-7,7	-1,2	2,8	-0,7	-6,3
c-a	1,4	0,5	1,0	12,4	-2,2	-6,0		3,6	-9,0	7,8

[10] The figures on the components of GDP, trade balance and interest rate, exchange rate are % changes. Interest rate is the average compounded nominal rates on domestic borrowing. Values of confidence index denote annual averages.

Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

DEFICIENCIES OF TURKISH SMEs WITH REGARD TO SUSTAINABILITY, CORPORATE GOVERNANCE AND ACCOUNTING POLICIES *

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Keywords: Sustainability, corporate governance, going concern, transparency, SMEs.

ABSTRACT

Today's ever-growing challenges in local and global economies pose threats for the sustainability of Small and Medium-sized Enterprises (SME). As multinational companies invade local markets, local businesses continually suffer. In addition to financial distress, internal dynamics such as fraud, transparency matters, and business ethics play principal roles for jeopardizing the sustainable life spans of SMEs as well. By the same token, violating going concern by employing manipulative accounting methods to adjust financial statements merely act as a palliative measure. The aim of this paper is to investigate the deficiencies of SMEs and propose remedies to cure these areas. Data is collected from 104 Turkish accounting professionals by means of survey method. Findings of the study uncover an imperative implication that if Turkish SMEs wish to have sustainable life spans, they need to allocate the most extent of emphasis on the variables that make up the *internal information systems* factor some of which are efficiently functioning reporting and accounting system, effective organizational structure in addition to effective politics and procedures. Results of this study will be fruitful for not only academics but also for the industry in terms of pointing out what specific areas need improvements in the name of sustaining the survival of SMEs.

1. INTRODUCTION

External factors pose threat for the sustainability of SMEs at all times. Enterprises have very limited control, if any, over these external factors. Rapid changes in technology, vulnerable economies with fluctuating interest rates and parities, all play important roles in the sustainability of SMEs. There are limited proactive measures to be taken for these external factors since some of these factors may even strike an economy overnight.
Imperative weight lies on the internal actions taken by the decision makers in the name of avoiding failure. Factors that can be attributed to the failure SMEs need to be clearly identified. When unwise decisions are made, consequences may be fatal for the entity.

* This is a revised version of a paper initially presented at the X. International Accounting Conference organized by AACF on 25-26 October in Istanbul.

Therefore it is of the essence to formulate what areas is deficient pertaining to SMEs so that failure can be prevented. The purpose of this study is to investigate and define the deficient areas of Turkish SMEs. In doing so, SMEs themselves have not been directly taken into consideration since feedback gathered from these entities is expected to be biased simply to the extent that an average business will never admit evading tax. However, accounting professionals whose foremost work is to undertake the bookkeeping and consulting of these entities are expected to provide the most objective and unbiased feedback for this research. The results of the research are intended to construct guidelines for SMEs for empowering sustainability, since the most significant deficient areas will be identified.

The paper provides a comprehensive literature review highlighting the definition of SMEs, their occupancy and weight in Turkey and Turkish economy, relationship between sustainability and SMEs, and last but not the least, underlining the significance of business ethics in terms of sustainability. Literature review is followed methodology where sample, research design, and measurement instruments are clearly presented. Results of the research are conducted by a reliability analysis and finally examined under discussion and conclusion.

2. LITERATURE REVIEW

2.1 Small and Medium-sized Enterprises Definition

Although there is not one generally accepted definition for SMEs, on fact is certain: They are crucial to the economies in which they exist. International Accounting Standards Board (IASB) defines an SME as an entity holding no public accountability. Because of the fact that do they not issue debt or equity securities, nor they hold assets as a fiduciary for a broad group of outsiders and that they are not entrusted with public resources, they do not have public accountability (www.fei.org, 2007). Official Journal of the European Union (2003) defines SMEs as business entities made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million Euros, and/or an annual balance sheet total not exceeding 43 million Euros".

Threatening nature of harsh competition in the market acts as a triggering force to push SMEs to always innovate to remain in the contest. The presence of SMEs have significant subsidy to the welfare of the economy, simply to the extent that they do create jobs. Some significant percentages of SMEs around the globe demonstrate how important they are to the well being of their economies: 96 percent in England, with a high percentage of 99.9 percent in France, 99.8 percent in Germany, 98.6 percent in India, 97 percent in Italy, 99.4 percent in Japan, 97.8 percent in South Korea, and 97.2 percent in the United States of America (Deloitte Touche Tohmatsu, 2007). Considering the fact that SMEs constitute 97.2 percent in the United States, it is fair to state that the American economy is reliant on SMEs.

In addition to financial enhancement within the economy due to endeavors of SMEs, jobs are fueled for women, minorities, and many other interest groups in the community (Ferrel et al., 2011). They are a chief source of entrepreneurial skills, innovation and employment. Micro, small and medium-sized enterprises play a central role in the European economy. Within the European Union of 25 countries, there are over 23 million SMEs, which provide approximately 75 million jobs and represent 99 percent of all business (Verheugen. 2005)

2.2 Turkish SMEs

SMEs constitute 98 percent of all enterprises, 76.7 percent of actual employment, 26.5 percent of investments, 38 percent of value added, and 10 percent of all exports in Turkey. Additionally they make up 99.32 percent of the total number of enterprises is in the manufacturing sector, which are well over 250,000 enterprises in total (Kaya, 2011).

By early 1980s, with heavy deregulation in many areas in Turkey, a new texture of marketplace was born where there were much more room for entrepreneurs when compared to pre-1980 era. This new entrepreneur-encouraged transformation has created great deal of opportunities for those entrepreneurs to establish their own businesses. With deregulation come liberal economy; and this new synthesis with freed policies provided bases for transforming the economic structure from a state-oriented economy to the free market (Uygur, 2009).

Even with the newly set free market and its contributions to encourage SMEs, it is well accepted that SMEs are disproportionately impacted by stringent regulation compared to large firms, and therefore some researchers recommend that legislation appropriately be written towards SMEs (Agan et al., 2013).

However, SMEs have limited resources, capability, competency, flexibility, skills, and knowledge. They lack technologies and capital in order to enter new markets, meet new strong competitive challenges, increase competitive forces, and have a leading edge over competitors. Thus, it is indispensable that SMEs need to innovate, look for potential strategies, develop new skills, acquire critical resources, gain market access, develop new technologies, attain important scale economies, and enhance firm reputation through delivering quality good and/services at competitive prices (Lohrke et al., 2006 cited in Ussahawanitchakit, 2008).

2.3 Sustainability and SMEs

"Change. Change. Change. We must learn to deal with it, thrive on it. That's today's relentless refrain. But it's incorrect. Astoundingly, we must move beyond change and embrace nothing else than literal abandonment of the conversations that brought us to this point. Eradicate 'change' from your vocabulary. Substitute with 'abandonment' or 'revolution' instead (Peters, 1994).

Within this context, to enhance the endurance of survival skills of SMEs, one proposed method from the literature is a sustainability report, which aims at clarifying myopic sight of SMEs, which well may hinder these financially inflexible entities to sustain their existences. This report briefly aims at improving the following areas of SMEs:

- Focusing on the customers where the sustainability report could be exploited as a *marketing and commercial tool*, even if the consequent benefits will be clearly quantified in the medium– long term,

- Setting up and improving relationship with public authorities and the community where the sustainability report could be a way to better inform and involve them, establishing an *extremely transparent dialogue*,

- Paying a great deal of attention on the relationship with employees, where the sustainability report is a good way to make them aware of their responsibilities and to involve them even more in the company's activities, thus *improving the quality of the workplace*,

- Last but not the least, since the suppliers' choice is linked exclusively to the *quality of raw materials*; the sustainability report could be considered only as a tool for spreading the culture of the corporate social responsibility issues. (Borga et al., 2009).

Numerical balance sheet values, which show performances of enterprises in today's world, are not sufficient indicators of real performances and values of enterprises alone. What is important is the sustainability of these performances and indicators of success. In order to provide sustainability in enterprises, it is necessary to succeed in the creation of a chain of values on all of the social stakeholders starting from the supply chain. And this becomes possible by the adoption of environmental and social elements within the framework of a principle of corporate governance and management structure and by minimization of the probable risks and costs that may be encountered within the process. For this reason, corporate enterprises that have adopted transparent, responsible, and accountable governance and management principles endeavor to attain to fundamental and environmental targets within an application of a sustainable environmental management structure as well as within the framework of a target of zero waste, 'carbon neutral' production and with an approach of life cycle for the products. At the same time, such enterprises aim at managing, as a part of their sustainability, such social values as establishment of workers' health and occupational safety, provision of social rights and equality of opportunities, presentation of possibilities of education and training, and freedom of getting organized. The approach which encourages the enterprises in the market to operate for a sustainable development also ensures that enterprises see their probable environmental and social effects as one of the basic items in their accounting system, therefore they define such matters as part of their fundamental work processes. For this reason, understanding corporate sustainability encourages enterprises to have a more innovatory nature by planning the probable risks and costs beforehand.

From late 20th century until today, business entities are forced to modify their objectives due to constant changes in many areas from technology to know how. Since enterprises are profit oriented entities, the understanding that accepts all kinds of activities to increase accounting profits are true and real has been superseded by an understanding which accepts such an organization of activities to increase economic profits and which promotes economic profits. Expectations with financial contents have been superseded by expectations with social contents. In reality, financial expectations increased the opportunities to compete in the new order for enterprises, which apply implementations that have social contents and protect social values with high social responsibility. (Kuşat, 2012) Even though sustainable development is accepted to be a concept, which contains both ethical and social and technological issues in the modern world, it is seldom evaluated to be a corporate issue. (Hoverstadt and Bowling, 2005).

Literature focusing on the relationships between enterprises and competition revolves around two fundamental questions:

- Why do some enterprises compete more successfully in comparison to other enterprises?

- What can enterprises do in order to make their competition advantages sustainable? (Teece et al., 1997)

In order to understand the success of enterprises in competition, emphasis is made on benefiting from introverted organizational advantage models, which propose internally focused behaviors instead of externally focused propositions. As a concept, sustainability contains the themes of economic development, social development, and protection of the environment. The fact that sustainability is habitually associated with economic development is actually directly related to the activities of the decision-making units. It is not sufficient for commercial entities to be enterprises that merely manufacture products and that create values; while carrying on with these ordinary activities of theirs, it is necessary that they should abolish and eliminate or at least minimize their negative external effects (Hahn and Scheermesser, 2006). Unless they successfully manage to identify and prepare themselves for awaiting risks, they may not be eligible to cope with challenges and sustain their operations.

According to the results of a research carried out by the United Nations Global Principles Agreement on the CEO's of 766 enterprises in the year 2010 which operate in various countries, the most effective and influential factors, which encourage enterprises in the field of corporate sustainability, are as follows;

1. The fact that the increasing brand value, reliability, and esteem increase the profitability of the enterprise,
2. The fact that increasing the motivation of the personnel also increases the profits of the enterprise,
3. The fact that employment of qualified personnel becomes easier with the increase in the profits of the enterprise,

4. The fact that as a result of the legitimacy in the eyes of the society a competitive advantage is obtained against the competitors,
5. The fact that the possibilities of obtaining financial support from internationally responsible investment companies become easier;
6. Finally the changing enterprise demands of the consumers whose level of consciousness has increased (Istanbul Stock Exchange, 2011).

It is possible to evaluate the internal elements of corporate sustainability under the subtitles of corporate citizenship, corporate management, corporate social responsibility (CSR), corporate learning, corporate information management and transfer, corporate esteem, corporate social capital, corporate value, and last but not the least corporate happiness. Enterprises are expected to share their financial successes that they generate on a quantitative basis with their employees, customers, and other social stakeholders such as their suppliers, public establishments and organizations, media, and related non-governmental organizations through sustainability and corporate social responsibility reports that they have prepare. These positive studies do not only increase the loyalty of the customers and employees to the enterprise but also they contribute to the brand value of the enterprise. In today's world, brand value of many global corporations has a worth much higher than their remaining assets including fixed assets as well.

It is clear that sustainability is vitally important for enterprises to the extent that corporate sustainability performances of the enterprises are used as investment criteria as well since many individual investors, portfolio managers, and various responsible investment funds make investments in sustainable enterprises. The most important reason for this is that the value of the shares of the enterprises whose managers can plan and manage the social and environmental risks by adopting an understanding of management which involves transparent and responsible management style increase very steadily in the long-run. For this reason, within the framework of such neutral and objective and specific criteria as 'Dow Jones Sustainability Index' the structures, which determine and grade the sustainability of enterprises shows us the fact that the importance of corporate sustainability is a fundamental standard for enterprises whose share are purchased and sold in stock exchanges. Financial crises and ecological changes are few of many indicators that short-term myopic strategies not in accordance with sustainability will not last for long. Especially in the Western European Countries and in the United States, there are many examples that show us the fact that those enterprises which have internalized sustainable applications are not adversely and negatively affected by the ongoing economic crisis. The enterprises in Turkey are also obliged to put the new applications into practice within the framework of sustainability. For this reason, for a sustainable development, the enterprises are obliged to develop business and work models which will help them compete in the low carbon production in the future in a creative and responsible manner.

All and all, SMEs are seeking for a relatively simple, effortlessly adaptable, flexible sustainable management systems, expressing sustainable development aspects through financial indicators. Sustainability management accounting and composite sustainable development index methodologies fill this gap, being very promising tools for sustainable decision making in SMEs (Laurinkeviciute and Stasiskien, 2011).

2.4. Significance of Business Ethics for Sustainability

Accounting information must be reliable, understandable, comparable, and last but not the least, be able to meet the requirements of users. These are the essential conditions of financial reporting of the current state of the accounting world (Akdoğan, 2010). However, the validity of this statement for the Turkish SMEs is debatable. Decision makers within the business are required to effectively understand, manage, utilize, and pass on down to all levels of the business, not only ethical values in general; but also business ethics to improve earnings quality, sustainability, and succeed in the present and future operations (Ussahawanitchakit, 2008). Ethical depletion within the decision making process create the basis for fraudulent conduct of business. Such behavior can very well turn into an internal epidemic for the business entity. Preventing such hazardous business conduct requires the top-level management to have faith in remedial abilities of corporate governance, business ethics, and transparency. Findings of Imoniana et al., (2011) suggest that, because a good number of the entrepreneurs are conservative and so reluctant in accepting consulting activities, showing that trust is low, rescuing the situation of the SMEs is a case that does not only need institutional decisions but governance reframing. On the same token, framing corporate governance is a challenging task and in the name of ultimate success, the essence of such system should be constructed upon fairness, transparency, accountability, and responsibility (Capital Market Boards of Turkey, 2005). SMEs are constantly surrounded by risk, which can be best described as the uncertainty of an outcome or an event (Lipczynski, 2008), derived both from internal and external forces. According to Aksoy and Bozkuş (2008), adoption of corporate governance and enterprise risk management is a necessity for SMEs in order to prevent financial burden. Additionally, within the context of sustainable growth and sustainability in general, SMEs in Turkey are entailed to be alert for the changing business world with intense caution to be able to survive in the competitive business environment. In the name of surviving and growing, SMEs are to devise the correct strategies to achieve specific and attainable and goals. Business ethics as one of the most crucial ingredient is seemingly not well comprehended by the broad-spectrum of the economy. However, in order to allocate the required emphasis in business ethics, initially the decision makers are expected to grasp the magnitude of its efficacy. Only then passing this crucial and valuable message down to all levels of the entity can be achieved. Concurrently, they should expand their other strategies to include advanced business wisdom in order to continuously maintain and increase the levels of business excellence, competitive advantage, and competitiveness. (Ussahawanitchakit, 2008). Sustainability, as a challenging concern, requires a great deal of effort from SMEs to perform. Much of research reveals that such aspiration depends on a number of elements.

SMEs, due to their vulnerable financial conditions, are boundlessly threatened by external factors ranging from interest rates to changing regulations.
On top of external factors, internal factors pose substantial threat to the wellbeing of SMEs as well. It has been noted that lack of corporate governance with weak weight allocation on business ethics, accountability, and reliable reporting establish the perfect ground for SMEs' insolvencies.

3. METHODOLGY

Data were collected from 104 accounting professionals in Istanbul. Convenience sampling method, which is a type of nonprobability sampling where people are sampled simply because they are "convenient" sources of data for researchers was used (Battaglia, 2008). Of the 104 questionnaires, eight were left out of the analysis because of missing data. This research is descriptive and cross-sectional. There are 21 items measuring sustainability and three demographic questions measuring job title, experience, and education level. Six point Likert scale is used ranging from "fully agree" (6) to "fully disagree" (1).

Descriptive statistics was employed. Results are tabulated in Table 1.

Table 1: Descriptive Statistics of the Sample

Variable	N	Percentage
Gender		
Male	90	93.75
Female	6	6.25
Title		
Intern	29	30
CPA	55	57
Sworn-In	12	13
Education Level		
High School	5	5
University	63	67
Post Graduate	25	26
Experience		
1-5	30	31
6-10	19	20
11-15	22	23
16-20	7	7
20+	18	19

Of the 96 respondents, 55 are Certified Public Accountants, 29 are interns, and 12 are Sworn-in Accountants. 23 percent of the respondents' work experience is between 11-15 years, 31 percent of the respondents' work experience is between 1-5 years, 20 percent of the respondents' work experience is between 5-10 years, and last but not the least 19 percent of the respondents' work experience is 20+ years.

Majority of the respondents have an undergraduate degree, 30 percent hold graduate degrees, and 5 percent are high school graduates. Factor analysis using principle components solution with varimax rotation was employed in order to find the factor structure of sustainability. The 21 questions measuring sustainability are subject to factor analysis to observe the factor structure of the scale. One item was left out of the analysis because of a factor loading less than .50. Factors with Eigenvalues 1.00 or more were taken into consideration in total variance explained. Kaise-Meyer-Olkin (KMO) value was found as .913 which is well above the accepted value. This result marked the homogenous structure of the variables and the result of Bartlett test, which resulted in .000 (chi-square: 1383.656, df: .190) showed that the variables were suitable for factor analysis. The remaining 20 questions loaded on three factors explaining 65.124 percent of the total variance. The factors were named as *transparency and accountability, internal information systems, and sustainability.* Results are shown in Table 2.

Table 2: Results of the Factor Analysis of Sustainability Scale

Factor 1: Transparency & Accountability	**%variance:32.25**	**Factor Loadings**
Self-interest of company 's benefit		.796
Family relations in management structure		.784
There is no conflict of interest between owners of capital		.762
Top management's fair treatment to the personnel		.736
Transparency management in SME's		.701
There is no fraud and corruption		.698
Financial decision and company's going concern		.683
Healthy tax consciousness		.659
Vision & mission		.629
Accountability in SME's		.622
Importance of code of ethics for SME's management		.500
Factor 2: Internal Information System	**% variance: 22.52**	.
Efficient reporting system		.742
Efficient accounting system		.737
Effective organizational structure		.715
Effective politics and procedures		.689
Sustainability in SME's		.665
Corporate sustainability depending on social and environmental		.575
Factor 3: Sustainability	**% variance: 10.36**	.
Sustainability in SMEs only concerns company shareholders		.762
Relationship between working conditions and corporate sustainability		.728
Risky decision making		.563
KMO: .913	**df:** 190	
Bartlett Significance Value: .000	**Chi-Square Value:** 1383.656	

Reliability Analysis

Reliability analysis was conducted for all factors of sustainability scale. Cronbach's Alpha is above .70 since all the subscales and the inter-correlations among test questions have fairly high internal consistency. Reliability coefficients quantify the consistency among the multiple measurements on a scale from 0 to 1 (Webb et al., 2006). The reliability coefficients, means and standard deviations for factors of sustainability are represented in Table 3.

Table 3: Means, Standard Deviations and Reliability Coefficients of Subscales of Sustainability

Scale	Mean	Standard Deviation	Cronbach's Alpha
Transparency and Accountability	2.61	.91157	.940
Internal Information Systems	3.11	.90745	.877
Sustainability	2.97	1.04545	.689

Within the scope of social sciences, any Cronbach's Alpha value scoring above .90 is considered to be excellent, values between .70 and .90 are considered to be good, and values between .60 and .70 as acceptable (Santos, 1999). Consequently, reliability of each subscale is considered to be adequate even though the Cronbach's Alpha of *sustainability* is just below .70.

4. CONCLUSION

Accounting professionals, whose primary work is to undertake bookkeeping and consulting functions for business entities are a valuable source for evaluating the current state Turkish SMEs. With their experienced observations and insights, our findings expose some valuable evidence about the general characteristics of Turkish SMEs.
When sustainability scale was subjected to factor analysis, three factors were found; *transparency and accountability, internal information systems,* and *sustainability*. This states the fact that the questions prompted to the accounting professionals in our research loaded on three factors explaining 65.124 percent of the total variance. Among the three factors, *internal information systems* as a factor has received the highest mean asserting that the accountants "agreed more" on the questions that make up this factor with an overall mean value of 3.11/6 on the Likert scale. Following the first factor, *sustainability* as a factor has received an overall mean value of 2.97/6 on the Likert scale asserting that the accountants agreed less on the questions that make up this factor. As for the *transparency and accountability* factor, a relatively lower overall mean of 2.61/6 was delivered.

Findings of this research uncover an important implication that, if Turkish SMEs wish to have sustainable life spans, they need to allocate the most extent of emphasis on the variables that make up the *internal information systems* factor some of which are efficiently functioning reporting and accounting system, effective organizational structure in addition to effective politics and procedures. In addition to being fruitful for academics, findings of this study will shed light on SMEs in terms of identifying which areas are perceived as the most deficient ones by the Turkish accounting professionals who have access to internal practices of countless SMEs operating in a wide range of industries.

ACKNOWLEDGEMENT

Authors would like to thank to the editor and the anonymous referee for their valuable comments. Authors would especially like to thank to Assist. Prof. Begüm Otken of Yeditepe University for her dear assistance especially with regard to the methodology of the study.

REFERENCES

- Agan, Y., Acar, M. F. and Borodin, A. (2013), Drivers of environmental processes and their impact on performance: a study of Turkish SMEs, Elsevier, Journal of Cleaner Production, 51 (2013) pp. 23-33.

- Akdoğan, N. (2010), KOBİ Finansal Raporlama Standardına Genel Bakış ve Tam Set IAS/IFRS'lerden Farklılığı, Muhasebe ve Denetime Bakış, Ocak 2010, pp. 1-26.

- Aksoy, T. and Bozkuş, S. (2008), The Major Effects of Basel II to Small and Medium-Sized Enterprises: An Empirical Work on Companies Quoted to KOSGEB, The World of Accounting Science, Vol. 10, Issues.2, pp.55-79.

- Bataglia, M. (2008), Encyclopedia of Survey Research Methods, **Publication date:** 2008, **DOI:** http://dx.doi.org/10.4135/9781412963947**, ISBN:** 9781412918084

- Borga, F., Citterio, A., Noci, G. and Pizzurno, E. (2009), Sustainability Report in Small Enterprises: Case Studies in Italian Furniture Companies, Business Strategy and the Environment Bus. Strat. Env. 19, pp.162–176 (2009).

- Capital Market Boards of Turkey (2005), Kurumsal Yönetim İlkeleri, pp.2.

- Deloitte Touche Tohmatsu (2007), Aile Sirketleri için Adım Adım Kurumsal Yönetim, Corporate Governance Association of Turkey, Kurumsal Yönetim Serisi, Türkiye Kurumsal Yönetim Derneği ve Deloitte Ortak Yayını

- Ferrel, O. C., Hirt, G. A. and Ferrel, L. (2011), Business: A Changing World, McGraw-Hill International Edition, pp. 151-159.

- Hahn T. and Scheermesse, M. (2006), Approaches to Corporate Sustainability Among German Companies", Corporate Social Responsibility and Environmental Management.

- Hoverstadt, P. and Bowking, D. (2005), Organizational Viability as a Factor in Sustainable Development of Technology, International Journal of Technology Management and Sustainable Development, V.4, N.2, pp.131-146.

- IMKB (2011), Sürdürülebilirlikle İlgili Özet Bilgiler, İMKB İstatistik Müdürlüğü, Mayıs 2011.

- Imoniana, J. O., Perera, L. C. J., Lima, F. G. and Antunes, M. T. P. (2011), The Dialectic of Control Culture in SMEs: A Case Study, International Journal of Business Strategy, Vol. 11, No. 2.

- Kaya, C. T. (2011), The Modeling & Operationalization of Basel II Accord for Turkish SMEs, Lambert Academic Publishing GmbH & C0. KG, Leipzig, Germany, ISBN-13: 9783845422794, pp. 29.

- Kuşat, N. (2012), Sürdürülebilir İşletmeler İçin Kurumsal Sürdürülebilirlik ve İçsel Unsurları, Afyon Kocatepe Üniversitesi, İİBF Dergisi, C.XIV, S II, pp. 228-229.

- Laurinkeviciute, A. and Stasiskien, Z. (2011), SMS for decision making of SMEs, Clean Technical Environment Policy (2011) 13: 797–807, DOI 10. 1007/s10098-011-0349-1.

- Lipczynski, J. (2008), Little Book of Ideas: Business, A&C Black Publishers Ltd., Elwin Street Limited, pp.52.

- Lohrke, F., Kreiser, P. M. and Weaver, K. M. (2006), The Influence of Current Firm Performance on Future SME Alliance Formation Intentions: A Six-Country Study, Journal of Business Research, 59, pp. 19-27.

- Official Journal of the European Union (2003), Extract of Article 2 of the Annex of Recommendation 2003/361/EC, L 124, pp. 36 of 20 May 2003.

- Peter, T. (1994), The Tom Peters Seminar: Crazy Times Call for Crazy Organizations, A Vintage Original, Excel/A California Partnership, March 1994.

- Santos, J. R. A. (1999), Cronbach's Alpha: A Tool for Assessing the Reliability of Scales, Journal of Extension, April 1999, Volume 37, Number 2, pp.2

- Teece, D. J., Pisano, G. and Shuen A. (1997), Dynamic Capabilities and Strategic Management, Strategic Management Journal (1986-1998), Vol 18.

- Ussahawanitchakit, P. (2008), Effects of Business Ethics Environmental Characteristics on Earnings Quality of SMEs in the South of Thailand, Journal of Academy of Business and Economics, Volume 8, Number 2, 2008.

- Uygur, S. (2009), The Islamic Work Ethic and the Emergence of Turkish SME Owner-Managers, Journal of Business Ethics (2009) 88, pp.211–225, Springer 2009, DOI 10.1007/s10551-009-0107.

- Verheugen, G. (2005), The New SME Definition: User Guide and Model Declaration, Enterprise and Industry Publications, European Commission.

- Webb, N. M., Shavelson, R. J. And Haertel, E. H.(2006), Reliability Coefficients and Generalizability Theory, Handbook of Statistics, Vol. 26, ISSN: 0169-7161, Elsevier.

- www.fei.org (2007), Ask FERF about Draft IFRS for SMEs, Financial Executive, June 2007.

Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

DIMENSIONS OF ONLINE CUSTOMER ENGAGEMENT

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Keywords: Customer Engagement, Online Customer, Engagement Dimensions

ABSTRACT

Customer engagement is about emotional connection between businesses and customers, focusing on interaction with customers and customers' value. The development of internet changes customers, extends options, changes the way consumers interact and communicate with companies. It is obvious that internet is a way to influence customers, building relationships with current and potential customers, provide after sales support. Engaging the customers is a primary driver of business success. The purpose of the paper is to define and measure online customer engagement by gathering data from customers who are using internet in shopping. By this purpose, an online customer engagement scale was developed and used, at the end of the factor analysis, it was found that customer engagement could be explained with trust, dedication and reputation dimensions.

1. INTRODUCTION

In an increasingly dynamic business environment, companies recognize the power and importance of internet to attract customers' attention. Internet is an effective communication tool for creating value for customers and companies. If the company wants to make sincere relationship with the customers, they have to keep customers continuously engaged. Online platforms allow businesses to engage a much larger number of customers without significant compromises (Sawhney, Verona and Prandelli, 2005). Organizations also need to be able to identify and measure attributes and factors that are important to the customers. These are offering quality products and services, it can be obtained through sample survey, opinion polls, or by soliciting individual customers' opinion on preferred product quality and service dimensions (Huq, et.al, 2010). Also, successful organization projects are based on meet the expectations of customers, understanding their situation, their needs and their wants (Largosen, 2005).

Companies are now realizing that engagement is also a more strategic way of looking at customer and stakeholder relationships (Kumar et al., 2010).

There has been a corporate and academic interest in the notion and practice of customer engagement. The term customer engagement has been finding increasing use largely in the digital context where website providers find it increasingly challenging to hold on to visitors to their sites, in an effort to sell or communicate with them (Tripathi, 2009). This paper presents a comprehensive definition of customer engagement and explains the dimensions of this concept. For this purpose, definitions of engagement and customer engagement will be given and then dimensions of customer engagement will be analyzed.

2. LITERATURE REVIEW

Engagement can be defined as long-term commitment, written or unwritten agreement between parties (Welbourne, 2007). It is characterized by high levels of energy and identification (Turgut, 2010). The concept of engagement has been explored in the organizational behavior literature (Lay and Bowden, 2009). Engagement is merely the opposite of burnout; Schaufeli et al (2002) defined engagement as a persistent and positive affective-motivational state of fulfillment in employees, characterized by vigor, dedication, and absorption. According to Schaufeli, et al., (a) vigor is high energy, resilience, a willingness to invest effort on the job, the ability to not be easily fatigued, and persistence when confronted with difficulties; (b) dedication is a strong involvement in work, enthusiasm, and sense of pride and inspiration; and (c) absorption is a pleasant state of being immersed in one's work, experiencing time passing quickly, and being unable to detach from the job (Wefald and Downey, 2009). Schaufeli et al. (2002) suggested two dimensions of work-related well-being: (a) activation, which ranges from low (exhaustion) to high (vigor), and (b) identification, which ranges from low (cynicism) to high (dedication). In addition to these two dimensions, burnout includes reduced personal accomplishment, and engagement includes absorption (Wefald and Downey, 2009; Gonzales, et.al, 2006; Shimazu et.al, 2008; Saks, 2006). Engagement has also used as a measure of the strengths of a company's customer relationships based on the extent to which customers have formed both emotional and rational bonds with a brand (Lay and Bowden, 2009). It is important to explain engagement concept with customer perspective defined as customer engagement in our study. Customer engagement is above and beyond involvement, satisfaction, trust, reputation and loyalty. These related concepts should be defined to understand customer engagement.

Involvement is continuously selling preferred goods and services and being always customer (Oliver, 1999). Involved customers are selling other goods and services easily, attractive to sell more goods and services, advice them to other customers (Barutçu, 2008). Satisfaction is evaluation about the differences between product performance and performance standards (Westbrook and Oliver, 1991). Customer satisfaction may be perceived as a summary psychological state or a subjective summary judgment based on the customer's experiences with a product as compared with expectations. The concept has been defined in various ways, as "an overall feeling, or attitude, a person has about a product after it has been purchased" or as a "summary, affective and variable intensity response (Helgesen, 2007). Trust is the individual's confidence in another person's intentions and motives, and in the sincerity of that person's word (Lewicki, Mcallister, 1998).

Trust is defined as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control the other party (Zhang, Tsui ve Song, 2008). From the customer perspective, trust is essential for building and maintaining long-term relationships. Corporate reputation is shareholders' reaction to organization actions that are strong or weak, good or bad. Reputations are the outcomes of repeated interactions and cumulative experiences (Castro et al, 2006; Dortok, 2006). Corporate reputation is an emotional capital that reflects the various shareholders' perceptions about organization's past and future actions and inimitable, intangible asset (Kotha, Radgopal and Rindova, 2001; Fombrun and Van Riel, 2004; Gable, 2008; Walsh et.al, 2009a; Firestein, 2006; Worcester, 2009; Schürmann, 2006). Customer-based reputation (CBR) is the customer's overall evaluation of a firm based on his or her reactions to the company's goods, services, communication activities, interactions with the firm and/or its representatives or constituencies (such as employees, management, or other customers) and/or known corporate activities (Walsh, et.al, 2009b). Loyalty is about relationship with consumers. Loyal customer stays in the company and sells more goods and services to show loyalty (Lawsonbody, Moez Limayem, 2004). Customer loyalty is "the strength of the relationship between an individual's relative attitude towards an entity (brand, service, store, or vendor) and repeat patronage (Donio, 2006).

Customer engagement behavior builds on a long-term research program examining organizational variables as experienced by employees and the relationship of those experiences to customer satisfaction (Schnedier et.al., 2009). Customer engagement also appears as customer retention and customer loyalty (Carter, 2010). Research suggests that engaged customers increase sales and productivity (Barth, 2007). If a company has a high proportion of engaged customers it is obvious that the business will be even more successful (Roberts and Alpert, 2010). The world's leading organizations know that engaging their customers is a primary driver of key business success. Gallup's cross-industry research shows that fully engaged customers buy more, stay with you longer, and are more profitable than average customers. It is also not surprising to know that these organizations have placed customer engagement at the foundation of their strategy for winning in the marketplace. They understand a simple fact: organizations that engage their customers outperform those that do not (Gallup Consulting, 2009).

3. METHODOLOGY AND DATA

Given the Internet's growing popularity, companies need to understand customer's expectations and needs. The purpose of this study is to develop the online customer engagement measurement and explain the dimensions. The sample of the study was drawn from the customers that shops online. A total number of 243 people completed the questionnaire. The majority of respondents are male 55.6 %) and between 20-24 ages (45.3%). Most of the customers buy entertainment tickets and books from online. 60% of customers are shopping at least once a month (63.8%). 227 of total participants have an intention to buy in the future. The questionnaire used for collecting data in this study consisted of two sections.

In the first section, questions about characteristics; age, gender, kinds of goods and services that they buy, frequency of consume and intention to buy in the future of the respondents were asked. In the second section, participants answered questions about the firm and internet site that they frequently shop. Online customer based engagement is measured by using Saks's (2006), Schaufeli, Bakker and Salavona's (2006) studies about ''engagement''. Related items are adapted for the customers which are using internet in their consumptions as ''The web site of this company excites me'', ''I always trust this web site''.

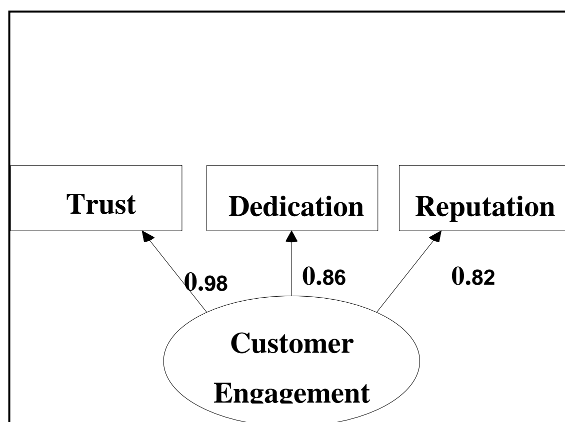
The scale consists of 16 items with five-point rating scale, ranging from *almost never* (1) to *almost ever* (5). Questionnaire was sent to respondents via online and manual. Response rate is %80 in online distribution, %63.3 in manual distribution. 32 customers state that they don't prefer to buy from the internet. The data was analyzed in SPSS. Descriptive statistics (i.e., frequency distributions, means and standard deviations) were used to develop a profile of the respondents and to summarize the variables. Alpha coefficients were also computed to assess the reliability of customer engagement. In first step, Bartlett's Test was used in order to test the compatibility of factor model and the relationships among variables in sample. The KMO is used to measure of sampling adequacy (Nakip, 2006; Ghauri, Gronhaug and Kristianslund, 1995). According to results of the factor analysis, KMO test value was found above, 50 and Bartlett's test value was significant. Principle component factor analysis was applied to all variables by varimax rotation. Customer engagement instrument consists of 16 items in the measurement. At the end of the factor analysis, 14 items remained and 3 factors appeared. These factors were named as *trust, dedication and reputation.*

Table 1: Factor Analysis

Factors	Items	Factor Loadings	Factor Variance	Cronbach Alpha
Factor 1: Trust	Trust to web site	0.769	30,392	0.786
	Warranty	0.752		
	Related with my purpose	0.671		
	Support after shopping	0.657		
	Positive virtual atmosphere	0.660		
	Attractiveness of web site	0.501		
Factor 2: Dedication	Involvement	0.734	11,989	0.788
	Excitement	0.710		
	Captivated	0.700		
	Long term continuity	0.668		
	Flexibility	0.649		
Factor 3: Reputation	Others appreciation to the web site	0.849	8,274	0.821
	Web site image	0.817		
	Customized opportunities	0.638		
Kaiser-Meyer-Olkin	0.824			
Bartlett's Test of Sphericity	Approx. Chi-Square df Sig.	1,192, 622 120 0.000		

Three factors explained 50,655% of variance. Cronbach alpha values were 0.786; 0.788; 0.821. Factor loadings, variances, cronbach alpha values, Bartlett test result and KMO value are shown in Table 1. According to the results of the descriptive statistics of customer engagement factors, means for the factors were found as 4.35; 3.00; 3.85; 2.13. Mean score of trust dimension was higher than other factors of customer engagement. This findings show that if customer trusts to their company, they will be highly engaged to buy the products and services and prefer to use online platform. Figure 1 shows the factor model of engagement. When we analyze the correlations results of factors as trust, dedication and reputation, the highest correlation between customer engagement is seem trust and customer engagement relations (r=0.98). The relationship between dedication dimension and customer engagement as 0.86; reputation dimension and customer engagement as 0.82.

Figure 1: Factors of Customer Engagement



4. CONCLUSION

Companies try to challenge to make customer engagement more. One of the important ways to make customer engaged is using company's all online platforms to attract customers' attention. Customer engagement is based on the interaction with and participation of customers. This study examines the evaluation and dimensions of online customer engagement. Online customer engagement is measured by using engagement scales, the researchers are also analyzed the involvement, trust, image and reputation measurements and expected that these definitions would be involved in customer engagement. 16 item-scales were used to measure customer engagement. At the end of the principal component factor analysis, 14 items remained and 3 factors appeared. These factors were named as *trust, dedication and reputation.* Trust dimension is about trust to web site, warranty, related with customers' purpose, support after shopping, positive virtual atmosphere, and attractiveness of web site. Dedication dimension is about involvement, excitement, captivated, long term continuity, flexibility.

Reputation dimension is about others appreciation to the web-site, web-site image, customized opportunities. Factor analysis findings support the idea that customer engagement involves involvement, commitment, trust, reputation and loyalty as it explained in the literature. Mean value of trust dimension was higher than dedication and reputation of customer engagement. These findings show that customers' trust to organization, products and services and especially to web-site create positive situations.

REFERENCES

- Barth, J. (2007), "Customer Engagement and the Operational Efficiency of Wine Retail Stores", International Journal of Wine Business Research, Vol.19, No,3, pp. 207-215.

- Barutçu, S. (2008), ‘‘Perakendecilik Sektöründe Teknolojik Değişim: E-Perakendecilik, E-Mağaza Bağlılığı ve E-Mağaza Bağlılığını Etkileyen Faktörler’’, Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, Vol.3, No.1, pp. 319-334.

- Carter, T. (2010), ‘‘Customer Engagement and Behavioral Conditions’’, Journal of Strategic Marketing, Vol.16, No.1, pp. 21-26.

- Castro, G. et.al. (2006), ‘‘Business and Social Reputation: Exploring the Concept and Main Dimensions of Corporate Reputation’’, Journal of Business Ethics, Vol.63, pp. 361-370.

- Donio, J. Massari, P and Passiante, G. (2006), ‘‘Customer Satisfaction and Loyalty in A Digital Environment: An Empirical Test’’, Journal of Consumer Marketing, Vol.23, No.7, pp.445-457.

- Dortok, A. (2006), ‘‘A Managerial Look at the Interaction Between Internal Communication and Corporate Reputation’’, Corporate Reputation Review, Vol.8, No.44, pp. 322-338.

- Firestein, P. (2006), ‘‘Building and Protecting Corporate Reputation’’, Strategy &Leadership, Vol.34, No.4,pp. 25-31.

- Fombrun, C. and Van Riel, C. (2004), ‘‘Fame&Fortune, How Succesfull Companies Build Winning Reputations’’, USA.

- Gable, T. (2008), ‘‘Image as a Part of Corporate Strategy’’ (Ed.Peter Anthonissen, Crisis Communication Pratical PR Strategies for Reputation Management and Company Survival), Kogan Page, USA.

- Gallup Consulting. (2009), ''Customer Engagement-What's your Engagement Ratio?'', http://www.gallup.com.

- Helgesen, O. (2007), ''Drivers of Customer Satisfaction in Business to Business Relationships'', British Food Journal, Vol.109, No.10, pp.819-837.

- Hug, Z., Aghadeh, S., Najjar, L.and Hafeznezam, S. (2010), ''Employee and Customer Involvement: The Driving Force for Six-Sigma Implementation'', Journal of Applied Business and Economics, Vol.11, No.1,pp.105-122.

- Kotha, S., Rajgopal, S. and Rindova,V. (2001), ''Reputation Building and Performance: An Empirical Analysis of the Top-50 Pure Internet Firms'', European Management Journal, Vol.19, No.6, pp.571-586.

- Kumar, V. Aksoy, L., Donkers B. and Venkatesen R. (2010), ''Undervalued or Overvalued Customers: Capturing Total Customer Engagement Value'', Journal of Service Research, Vol.13, No.3, pp.297-310.

- Lawson-Body A.and Limayem, M. (2004), ''The Impact of Customer Relationship Management on Customer Loyalty: The Moderating Role of Web Site Characteristics'', Journal of Computer-Mediated Communication, Vol.9, No.4, http://www.ascusc.org/jcmc/vol9/issue4/lawsonbody.html

- Lagrosen, S. (2005), ''Customer Involvement in New Product Development'', European Journal of Innovation Management, Vol. 8, No.4, pp.424-436.

- Lay, J. and Bowden, H. (2009), ''The Process of Customer Engagement: A Conceptual Framework'', Journal of Marketing Theory and Practice, Vol.17, No.1, pp. 63-74.

- Lewiski, R.J., Mccalister, D.J. and Biester, R.J. (1998), ''Trust and Distrust: New Relations and Realities'', Academy of Management Review, Vol.23, No.3,pp. 438-458.

- Nakip, M. (2006). ''Pazarlama Araştırmaları Teknikler ve (SPSS Destekli) Uygulamalar'', 2. Basım, Ankara: Seçkin Yayınları.

- Roberts, C. and Alpert, F. (2010), ''Total Customer Engagement: Designing and Aligning Key Strategic Elements to Achieve Growth'', Journal of Products and Brand Management, Vol.19, No.3,pp. 198-209.

- Saks, A. M. (2006), ''Antecedents and Consequences of Employee Engagement'', Journal of Managerial Psychology, Vol.21, No.7,pp. 600-619.

- Sawhney, M., Verona, G. and Prandelli E. (2005), ‘‘Collaborating to Create: The Internet as a Platform for Customer Engagement in Product Innovation’’, Journal of Interactive Marketing, Vol.19, No.4, pp.1-14.

- Schaufeli, W. B. et.al. (2002), ‘‘The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach’’, Journal of Happiness Studies, Vol.3, pp.71-92.

- Schimazu, A. et al (2008), ‘‘Work Engagement in Japan: Validation of the Japanese Version Of The Utrecht Work Engagement Scale’’, Applied Psychology: An International Review, Vol.57, No.3, pp.510–523.

- Schaufeli W. B. et.al (2006), ‘‘The Measurement of Work Engagement With a Short Questionnaire’’. Educational and Psychological Measurement, Vol.66, No.4, pp. 701-716.

- Schürmann, S. (2006), ‘‘Reputation: Some Thoughts From an Investor’s Point of View,’’ The Geneva Papers on Risk&Insurance, Vol.31,No.3, pp. 454–469.

- Schneider, B., Macey, W., Barbera, K. and Martin, N. (2009), ‘‘Driving Customer Satisfaction and Financial Success Through Employee Engagement’’, People and Strategy, Vol.32, No.2, pp.23-27.

- Tripathi, M. N. (2009), ‘‘Customer Engagement-Key to Successfull Branding’’ XIMB Journal of Management, Vol.5, No.1, pp. 131-140.

- Turgut, T. (2010), ‘‘Çalışmaya Tutkunluk’’, (Ed: Güler İslamoğlu), Ankara, Nobel Yayıncılık.

- Walsh, G. et.al. (2009a), ‘‘Examining the Antecedents and Consequences of Corporate Reputation: A Customer Perspective’’, British Journal of Management, Vol.20, pp.187–203.

- Walsh, G. et.al. (2009b), ‘‘The Customer-based Corporate Reputation Scale: Replication and Short form’’, Journal of Business Research, Vol.62, pp. 924-930.

- Wefald, A. and Downey, R. G. (2009), ‘‘Construct Dimensionality of Engagement and its Relation with Satisfaction’’, The Journal of Psychology, Vol.143, No.1,pp. 91-111.

- Welbourne, T. M. (2007), ‘‘Employee Engagement: Beyond The Fad And into The Executive Suite’’, Executive Forum, pp.45-51.

- Westbrook R.A. and Oliver, R.L. (1991), ''The Dimensionality of Consumption Emotion Patterns and Consumer Satisfaction'', Journal of Consumer Research, Vol.18, pp. 84-91.

- Worcester, S. R. (2009), ''Reflections on Corporate Reputations'', Management Decision, Vol.47, No.4,pp. 573-589.

- Zhang Y.A. et.al. (2008), ''How do I trust thee? The Employee-Organization Relationship, Supervisory Support, and Middle Manager Trust in the Organization''. Human Resource Management, Vol.47, No.1, pp.111-132.

Journal of Business, Economics & Finance ISSN: 2146 - 7943

Journal of Business, Economics and Finance
Year: 2014 Volume: 3 Issue: 1

ASSESSMENT OF COMMUTER PREFERENCES OF 14-SEATER PUBLIC SERVICE VEHICLES VERSUS ALTERNATIVE MODES OF PUBLIC SERVICE TRANSPORT IN NAIROBI CITY

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Keywords: Commuter preference[1], Low-cadre employees[2], Matatu[3], Mode of transport[4], PSVs[5].

ABSTRACT
In the year 2010, the Kenya government announced that 14-seater vans, commonly referred to as *"matatus"*, were to be phased out so as to reduce traffic congestion on the roads and also to ensure efficient commuter movement. Travelers on Kenyan roads have not experienced public transport system without 14-seater PSVs. Little is known about the perception of commuters concerning the relative efficiency of 14-seater vehicles in the city of Nairobi over the alternative PSV modes. It is therefore needful to establish whether or not the phasing out of 14-seater PSVs would lead to the realization of the intended objective of decongesting motorized traffic in the city's roads. The population was low-cadre employees at the headquarters of government ministries in Nairobi and random sampling method was used to select the ministries. Departments in the ministries were also identified through random sampling. Desired data was collected through the administration of a questionnaire. The data was analyzed using χ^2-test, linear regression model with respect to time and fare charged and analysis of variance. The study established that: travel time from house to workplace; the existence of alternative routes, and; fare charged, influenced choice of 14-seater PSV over the other alternative PSV modes. It is recommended that a comparative policy analysis should be undertaken to come up with a hybrid PSV policy that can serve the Kenyan commuter. Also, the government should not phase out 14-seater PSVs by force but increase taxes and levies on 14-seater PSVs which would by extension make fare high and hence make commuters shy away from the 14-seater PSVs.

[1] This refers to the mode of public passenger travel that is liked by a high number of commuters.
[2] Employees of the Government of Kenya earning salaries that are less than thirty thousand shillings per month.
[3] Refers to a means of public passenger transport vehicle which ferries passengers who randomly board it at the bus stops on the route it operates. The passengers disembark at their various destinations after paying a fee to the conductor. Such vehicles are of different passenger capacities ranging from 7 – 26-seater PSV.
[4] This refers to the capacity of vehicle used by commuters. They are in six categories namely; one passenger motorized two-wheelers, 2-3 motorized three-wheelers, 4-7-seater taxis, 8-14 seaters,14-seater, 15-32-seaters and 33-seater and above.
[5] This refers to public passenger vehicles which are licensed to carry pay-to-board passengers on Kenya's roads. They carry a minimum of one passenger.

1. INTRODUCTION

Nairobi is the capital of Kenya and the city's central business district has many modern buildings. It serves as the commercial hub as well as the country's administrative headquarters (World Book, Inc., 2001). The transport sector is served by road, rail and air. Many of Nairobi's people live in large, low-cost apartment complexes called estates. Other residents occupy single-family homes (Ibid). Motorized public service transport in Kenya dates back to the day when the first motor vehicle was used to ferry passengers for a fee from one point to another. At first, the business of transporting people commercially was a preserve of buses owned either by individuals or by passenger transport companies. *Matatu* is "a crowded taxi" (World Book, Inc., 2001).

Use of "crowded taxis" in Kenya started in the 1950s (Graeff, 2009). Those who used the "crowded taxis" at that time say that the owners of station wagon type of the Ford model cars individually started ferrying passengers from Nairobi's City centre to Lungalunga residential estate also in Nairobi at a fee of three ten cents coins. Due to the thirty cents fare charged, Kikuyu speaking people coined the phrase *"mang otore matatu"* meaning "thirty cents", was used in reference to the vehicles offering public passenger service to an extent that land public passenger transport vehicles were named *matatus* (Chitere and Kibua, 2004). From then on, other models of vehicles joined the business with Nissan becoming the ultimate choice for the job. In some cases the Toyota models were in use but the general populace kept and still keeps referring to them as Nissan *matatu* (Matatu Welfare Associatioin, 2010). A majority of Kenyans use public passenger service vehicles to commute to and from their respective workplaces and for intra-city or inter-town travel. An ever increasing population used the service so much so that there was an increase in the number of the 14-seater PSVs. Indeed Matatu Welfare Associatioin (2010) provides an estimate of over 80,000 PSV vehicles in Kenya and 85% of these are 14-seater PSVs operating in the urban and rural areas. The Matatu Welfare Association further estimates that there are 15,000 matatus on about 50 routes in Nairobi, and about 80 per cent of them – 12,000 – are the 14-seaters (Kenya Confidential, 2010).

14-seater PSVs operated illegally in Kenya until 1973 when then President Jomo Kenyatta issued a decree officially recognizing matatus as a legal mode of public transport. The decree allowed matatus to operate without obtaining any form of licensing (Mutongi, 2006). The public passenger transport service grew by leaps to such an extent that regulations governing operations in the industry were not followed and even seemed non-existent. The industry was so chaotic that when the National Rainbow Coalition government took the reigns of power from Kenya African National Union in January 2003 it appointed J. N. Michuki the Minister in charge of the Transport docket. The Minister brought to prominence the rules that ought to have governed the sector but had not been enforced by the previous holders of the office. Legal Notice 161, which is commonly referred to as the Michuki Rules, after then transport Minister Michuki, was adopted in 2004 (Graeff, 2009). He went further to introduce others which were meant to ensure that the sector operated in tandem with the current needs of passengers.

They included the requirements that all PSVs must be fitted with a first aid kit, a speed governor and safety belts for each passenger, drivers and their assistants wore uniforms that clearly distinguished their roles and each PSV had to have a yellow line drawn on its sides. Since then, subsequent Ministers of Transport through Legal notice; 165 of 2005, 118 of 2007 and 173 of 2009 have tried to introduce changes that could significantly alter the management practices in the sector (www.kenyalaw.org, 2011). Some of the floated proposals for inclusion in the industry's activities included: the need for each PSV to have a waste bin, the requirement that individual PSV owners should register with SACCOs, or join a company, and; that 14-seater PSVs were to be phased out while retaining those with higher passenger capacity to continue with the business (Ibid). The implementation of the later policy proposal was scheduled to kick off in Nairobi in January, 2011 (www.matatu.co.ke., 2010). The policy was to be rolled out to other parts of the country at a later date. The reasons given by 14-seater PSV operators for rejecting the proposed policy change are diametrically opposite to the scenario envisaged by the policy makers at the Ministry of Transport. The Ministry's idea of policy change to the proposed phasing out of 14-seater PSVs was driven by the need to decongest vehicular traffic in the city of Nairobi hence reduced motor vehicle accidents (G.o.K, 2010). It was also in the opinion of the policy makers in government that the use of vehicles with higher passenger capacity in transporting people would greatly increase the rate at which commuters would move in and out of the city.

The rationale behind the plan to phase out the 14-seater PSVs as offered by the Ministry of Transport technocrats was that the targeted PSVs contributed to the problem of chronic traffic jam experienced by motorists in Nairobi. They also argued that the PSVs with higher capacities would move a higher number of commuters at a time compared to the 14-seaters hence an improved efficiency in both vehicular and passenger traffic. Furthermore, road safety would improve while the cost of transportation is expected to reduce (G.o.K, 2010). The arguments floated by the government and implementers in the parent Ministry on the phasing out of the 14-seater PSVs were propositions that were made without the backing of empirically tested data that capture the perceptions of commuters. Graeff (2009) stated that it was and still is problematic that there is no consistent data available regarding PSVs. Indeed, it is this state of affairs, particularly, the missing views of consumers of the service that need to be investigated.

The overriding concern of every stakeholder in the transport industry is the need to have an efficient public transport system. Indeed, such a system should move a high number of commuters, decongest traffic, take less time for a commuter to travel from departure point to destination and enable people to travel at an affordable price. Commuters' perception of a mode of transport dictates their demand for it and thus their preference. In the event that 14-seater PSVs are phased out, commuters may have a preference for other modes of transport other than the bus as suggested by policy makers in government. These other modes include motorized two-wheelers, three-wheelers (tuk-tuk), four-seater taxi just to name a few of the options available. This was likely to make the management of vehicular and human traffic more complex hence new problems in the industry.

It was not known whether the perception of commuters about the efficiency of 14-seater vehicles in the city of Nairobi is higher than for the alternative PSV modes and hence the possibility of the policy not being effective in increasing efficiency in the PSV transport industry. What was the likelihood that passengers perceived 14-seater PSVs as a better mode of transport due to its capacity and consequently time taken or convenience when travelling? Similarly, in the absence of 14-seater PSVs, what was the likelihood that passengers would opt for vehicles whose capacity is less than 14? Phasing out 14-seater PSVs might therefore not solve the problem of traffic congestion. This study sought to investigate whether the implementation of the policy would lead to improved efficiency of vehicular and passenger traffic. The general objective of the study was to establish factors that determine the commuter preference of 14-seater PSVs over the other alternative PSV modes in Nairobi city in terms of travel time, fare charged, distance walked, number of alternative routes and time taken to have the vehicle fully boarded at the initial boarding point. The significance of this study is due to the fact that, experimentation of new ideas in the actual management of public affairs can be a sure recipe for disorder in the society. Studies have been done on urban traffic management but were not adequately addressing the commuters' preferences. There was a likelihood that in the absence of 14-seater PSVs commuters may prefer using two-wheelers or tricycles thereby causing more traffic congestion. This study was intended to scientifically establish whether the presence of the 14-seater PSVs on Nairobi city roads has an influence on commuter traffic. The findings of the study would provide insights on the efficiency or lack thereof in the management of vehicular and human traffic in the city. The data that was used in the study was collected from low-cadre government employees who commute using PSVs and work at the headquarters of ministries in the city of Nairobi between May and June, 2012. At the time of data collection, the government had stopped licensing new 14-seater PSVs. The effect of the action might have affected the results. To address the limitation above, the collection of data was conducted before 14-seater PSVs were completely phased out from Nairobi CBD.

2. LITERATURE REVIEW

Public Passenger Transport in Global North and Global South

Őrn (2005) stated that the institutional structure of urban public transport systems in the Global North and Global South typically differ along two axes:-market structure and system organization. This line of argument was picked up by other scholars. Alexander et al (2007) in their paper titled Rethinking Privatization: The Case of Urban Transportation in Nairobi, Kenya, stated that systems in the Global North were characterized by monopolistic operations, publicly regulated fare structures and clearly delineated, fixed and coordinated route systems regardless of whether they were based on bus service, light rail or metro service. In the Global South on the other hand, there tend to be a wide range of variations on systems that border between para-transit and semi-fixed route operation. These include minibuses, three-wheeled vehicles, and motorized and non-motorized rickshaws.

They further argue that the market structure is typically characterized by low barriers to market entry when no effective legal or extra-legal impediments are set in place for potential service suppliers and hence results in a highly competitive system in which individual owner-drivers compete with one another along a mix of uncoordinated and informally designated routes. Although owner-drivers were the norm, small fleets of vehicles in which a single owner supplied vehicles to several drivers in something akin to fleet operation was also common. According to Belwal and Belwal (2010) many countries in the Middle East have turned their attention towards developing and improving their public transport systems, as problems such as traffic congestions in cities, low mobility, high individual costs of transport, and a rural-urban divide in services have arisen. The objectives of the study were; to assess the needs and perceptions of people towards the establishment of an effective public transportation system in Oman and to study resident characteristics such as usage behavior, experience, sharing habits, and other behavioral aspects about public transportation in Oman. Their study titled Public Transportation Services in Oman: A Study of Public Perceptions found that public transport services in Oman are minimal and do not match demand, and there is an excessive reliance on private cars which are costly to maintain. They observed that public transport services have not met its purpose despite its existence for a significant period in Oman. People prefer to travel by their own cars and are sufficiently convinced of the merit of this mode of travel even if the price of oil doubles in Oman. They continued to argue that in order to offer any solution; the needs and expectations of the people have foremost to be taken into account (Ibid).

In Ikorodu, Lagos, Nigeria, Agunloye (2011) did an analysis of the travels of public transport passengers (road). His variables were: time spent per daily trip, trip distance of respondents; purpose of the respondents' trip; waiting time of passengers; travel times per week; unexpected breakdown of vehicles; fuelling difficulties in a month; occurrence of minor accidents in a month; long journey time and frequent stops. He concluded in his study that there was need for a special planning by the transport planners for the travel distance and passengers' waiting time, as they were revealed to be the major contributors to passengers' travel demands. The paper gave a policy suggestion that additional cabs were required in order to eliminate passengers' unnecessary wait time in the study area. He further stated that there was need for government policy statement on public transportation that addresses passengers' travel demands that encompass passengers' travel-friendly rules for an efficient system. Friman and Fellesson (2009) in their study titled Service Supply and Customer Satisfaction in Public Transportation: The Quality Paradox opined that understanding—rather than taking for granted—the links between satisfaction and an objective service supply is a key management challenge that requires a genuine understanding of how the transport system functions, from the point of view of both the customer and production. Such a dual understanding will provide an indispensible foundation for developing the public transport systems of tomorrow. Once the subjective and partly independent nature of the satisfaction measures is acknowledged, their potential value to managers and policymakers can be realized. They further noted that satisfaction is pivotal for understanding public transport from the customer's perspective.

A high level of satisfaction does not necessarily indicate an objectively “better” system and vice versa. The study sought to analyze the relationship between the objective performance measures of public transport services and the satisfaction perceived by travelers. Sclar (2008), in the work he did in Nairobi titled Engaging Complexity: A Prologue to Creating Effective Urban Transport and Land Use Planning for Metropolitan Nairobi argued that planning means the conscious attempt, by state actors, to rationally control the size, shape and growth rate of city-regions via the exercise of state power over infrastructure placement, public transport service supply and land use control. This formulation of the role of the state in the planning process was derived directly from the planning experience that evolved over the course of the 19th and 20th centuries in the industrializing cities of the HICs of Europe and North America. Basing his research on land use and transportation situation, Sclar (2008) further argued that attempts to transplant this planning methodology with its implicit assumptions about the role and competency of the state (often proved wrong even in the HICs themselves) to the rapidly urbanizing city-regions of former colonies in sub-Saharan Africa and South East Asia in the early 21st century were proving to be illusive and frustrating. Going by the afore-stated, it is imperative to devise approaches to urban transport planning rooted in the experience of the LMICs as they are, and not of the HICs as they were or hope to be.

It was however noted that there were other authors whose views on public passenger transport were divergent from those mentioned above. One such author is Vuchic (1999) who in his paper Urban Public Transportation Systems argued that in developing countries, transit had an even more important role than in industrialized countries because its economic efficiency was vital for large volumes of non-car owners, while its capacity was needed to serve the high-density, rapidly growing cities. The subject of discussion was the same but the discussants differed considerably on the way forward concerning the appropriate system of public passenger transport in LMICs. Kenya is classified under the LMICs. It is necessary to mention here that in the United States of America, it has been noted that longer and heavier trucks tend to disrupt traffic flow on roadways more than conventional vehicles. However, more trucks of any size or weight would also disrupt traffic. Disruption occurs in the through traffic lanes, at roadway intersections (FHWA-Office of Policy, 1999). It is worth noting that some countries have tried to develop their own solutions to the public transport problems that they experience. A case in point is Malaysia. In a presentation titled GTP Roadmap: Improving Urban Public Transport (2009), Dato Sri Ong Tee Keat, Minister of Transport in the government of Malaysia says “Our historical approach to urban transport has been to try to build our way out of congestion, relying on more roads and more cars as a solution to increasing demand for travel. Mature cities cannot escape the problem of congestion by simply building more roads. We need to shift from emphasizing the efficient and cost-effective movement of vehicles to the movement of people.” The suggestion put forward by the policy makers in Malaysia makes sense except that it is short on giving direction on specific course(s) of action that needs to be taken in order to attain desired level of efficiency and effectiveness in the management of passenger and vehicular movement.

Public passenger transport in Kenya is currently of the mixed traffic type. It is noted in the reviewed literature that the opinion held by FHWA-Office of Policy, 1999 concurred with what Vuchic (1999) stated concerning mixed traffic. In mixed traffic, the speed and reliability of bus service depend on traffic conditions. Their average speed is lower than average speed of cars because they stop to pick up and drop off passengers. Buses are therefore not very competitive with car travel in the same corridor with respect to speed and reliability (Vuchic, 1999).

Theoretical Studies

In their paper titled User satisfaction with paratransit in competition with motorization in Indonesia: anticipation of future implications where they sought to establish important factors and attributes explaining user perceptions and priorities regarding the service, Joewono and Kubota (2007) stated 12-14-seater PSVs is an efficient road user in Bandung, Indonesia, contributing only 18% of traffic flow while being able to transport more than 50% of passenger trips. However, they create congestion, as the units stop for access and egress anywhere, wait for passengers, and make circular movements in dense areas. Performance is one important aspect influencing the future of public transport modes. In that connection, useful analysis needs to be done so as to determine whether urban transit operators are working in technically efficient ways (Ibid). In addition to concerns for the profitability and sustainability of transport services, national authorities should also consider such outcomes as mobility, accessibility, and environmental impact, as well as how the urban population perceives the outcomes of public policies and measures (Ibid). Information gathered from the public is important in evaluating public transport, as the exclusion of customers from improvement efforts to date has created difficulties (Ibid). The measurement of public perceptions of urban transport performance and policy can reveal problems and priorities the public perceives broadly, and is necessary for assessing the quality of policies and what urban populations actually perceive the problems, priorities, and issues to be (Ibid).

Travel time is a major factor in a traveler's decision on which mode of transportation to take. Components of travel time consist of more than average speed of travel. For road travel, frequency of departure, wait times, security, travel to the station and potential for delay also are included in total travel time (Oster et al, 2011). A salient feature in the transportation sector is that passenger transportation becomes more and more focused on road transportation as opposed to air, sea or rail (Panayotis et al, 2003). Fitzpatrick Associates (2004) did a study in Ireland titled Transportation and the Effects on the Consumer: Consumer Efficiency and Effectiveness**.** The areas of interest in the study were**:** choice of service; frequency of service; pricing; information, advice and support; safeguard and redress; and other relevant consumer issues. It was noted that when considering passenger transport (infrastructure and services) from a consumer perspective, it is important to recognize that it has a distinct nature and context that makes it different from most other infrastructure or services used by the consumer in Ireland. There are a number of important points to note in this respect. First, transport as an "Enabler":

Passenger transport is not only a service that the consumer buys or uses, but also an enabler that allows the consumer to access other goods and services. For example, most consumers who wish to buy goods at major retail centres need transport, whether by private car or by some other form, in order to get them to where they want to shop. Not only does transport give access to goods and services, however, but it also allows people to do many other things that are essential to day-to-day life – getting to/from work, getting to/from hospitals or medical facilities, attending recreational and leisure events and activities etc. Transport is therefore something that affects virtually everybody in society and which has an important bearing on every person's quality of life. Secondly, Transport Serves Different Needs: Transport is probably unusual compared to most consumer goods and services in that there are many different types of transport service with many different types of uses. Levels of usage for passenger transport, for example, vary depending on the mode involved and the purpose for which the consumer uses each. Thirdly, Transport Coverage Varies: The scope of transport infrastructure and services in Ireland varies, but especially depending on the type of transport involved. For example, Ireland's relatively low population density and its spatially dispersed population (in both urban and rural areas) has major implications for public transport service provision in Ireland – this means, for example, that not all parts of the country can support high frequency bus and rail services and that the private car is the dominant form of transport in most areas. It also means that there are actual and potential bus and rail connections that may be noncommercial but socially desirable (Fitzpatrick Associates, 2004).

The State both as a regulator and a provider of infrastructure and services significantly influences the nature of the passenger transport sector (Ibid). While there is no comprehensive data available on patronage for either private bus services or taxi/hackney services in Ireland, increases in fleet size would suggest that their use has expanded. The number of small public service vehicles in operation (including taxis and hackneys) has grown by 52% between 1999 and 2003, while the number of large public service vehicles in operation has grown by 13% in the same period (Ibid). In consumer-oriented criteria, the overall rating of different types of transport/service is viewed according to, in order of priority, choice of provider; choice of routes; service frequency; price competition; pricing options; availability of information and advice; access to safeguards and redress (Fitzpatrick Associates, 2004).

The Theory of Consumer Choice and Consumer Choice Model

Evidence on mode choice for the journey to and from work among a cross-section of workers in the formal sector of Accra (Ghana) suggests that travel-to-work behaviour of employees in the sector is influenced mainly by perceived service quality of the commercial commuter vehicles as well as employees' personal circumstances rather than by conventional transport characteristics such as access, waiting or in-vehicle times (Abane, 2002). Gender roles, age differences, disposable incomes relative to travel costs as well as the reliability of schedules by the individual modes are the most important factors workers take into consideration in choosing their modes (Ibid).

Individuals attach value to savings in travel time hence behavioural models of travelers' modal choice have been built on the theory of consumer choice (Hensher, 1976). Given a sample of travelers who are assumed each to have alternative methods of transport to choose from, one of which is his actual method for the journey and the others are alternatives which he may or may not have used on any previous occasion, the theory reveals that the acceptance of one means of transport and the rejection of the others is an indication of preference (Ibid). The choice of mode is related to a few of the characteristics of the available modes of transport. The characteristics include perceived efficiency of the mode as viewed by the traveler (Ibid).

A point of potential substitution in choice begins when an individual considers the relative advantages of alternative modal options. If one had his usually chosen mode and he is faced with alternative modes of transport, the individual will enter his decision space and commences a search and learning procedure in order to decide whether to maintain his habitual mode or select an alternative mode. The decisions are based on the underlying attitudes of individuals towards modal characteristics such as price, time, comfort, etc. In so doing, an individual gains knowledge on the level of the combination of relevant characteristics that places him/her in a position where he/she can trade –off alternative combinations of quantities of the given set of characteristics and hence modal options (Ibid).

Hensher (1976) studied the value of commuter travel time savings in the Transport Studies Unit, University of Oxford and Commuter Bureau of Roads in Australia. He found that if the potential transfer price is expressed in terms of a money outlay rather than time outlay, a model consistent to this situation would be:-

$C = a_0 + a_1x_1 + a_2x_2 + \ldots + a_nx_n$ where $C =$ the net monetary benefit of mode of choice, equal to $Cu - Ca + TPc$;$Cu \rightarrow$ usual cost, $Ca \rightarrow$ alternative cost while TPc is the transfer price; $x_1 =$ the reported time difference between the usual and the alternative modesand $x_2, \ldots, x_n =$ all other variables which are measurable as significant contributions to the perceived net benefit of the chosen mode.

3. METHODOLOGY AND DATA

In a bid to bring about insights and a better understanding of the contribution of 14-seater PSVs to PSV commuters in government institutions within Nairobi's central business district, a survey research design under descriptive design was used. Questionnaires were given to some employees of the sampled ministries. A survey was used since the answers given by respondents to questions asked about a situation describe the respondents' perception of the situation. Reality is what the respondents generally perceive it to be.

The study was carried out in Nairobi City, Kenya, since it was the town earmarked for initial implementation of the phase out of 14-seater PSVs. Nairobi was also considered due the high number of motor vehicles providing passenger transport service in the city. *Data on every road in Nairobi needed not be taken since the information on travel experience on any road in the city could be obtained by interviewing the commuters who use the said roads. The key concern of the study was the efficiency of road passenger travel from a passenger's perspective. The study made use of incisive questions targeting efficiency to an extent that there was no need to literally take measurements at intersections or bus stops.*

Roads in the City Council of Nairobi allow mixed passenger transport to operate and the road infrastructure has busy intersections and bus stops - an attribute which lacks in most other major towns in Kenya. Vehicular and passenger traffic in the city of Nairobi operate twenty-four hours a day. There are times when both types of traffic are heavy. Such times commonly referred to as peak time occur in the morning hours of 6.30a.m to 9.00a.m and in the afternoon between 3.30p.m and 7.00 p.m. Conversely, off-peak time referred to the duration when the roads are with light traffic. This situation obtains between 9.30a.m and 3.00p.m during day time and as from 7.00p.m in the evening till 6.30a.m of the following day. All the roads used by commuters in Nairobi city made up the desired location. Target population comprised government low-cadre employees working at the ministries' headquarters in Nairobi. This ensured homogeneity of the respondents. The PSVs formed the unit of observation whereas government low-cadre employees (commuters) were the unit of enumeration. Employees in government offices within the central business district of Nairobi including Upper Hill/Community area and who used public passenger transport to commute were targeted as respondents to a questionnaire that was used in this study.

In social science research, where there is no estimate available of the proportion of the target population assumed to have the same characteristics of interest, the following formula can be used to determine the sample size (Mugenda and Mugenda, 1999).

$$n = \frac{z^2\, pq}{d^2}$$

Where

$\mathrm{n} =$ the desired sample size

$\mathrm{Z} =$ the standard normal deviate at the required confidence level

$\mathrm{p} =$ the proportion in the target population estimated to have characteristics being measured

$\mathrm{q} = 1 - \mathrm{p}$

$\mathrm{d} =$ the level of statisticalsignificance test

If there is no estimate available of the proportion of the target population assumed to have the characteristics of interest, 50% should be used (Ibid).

Going by the afore-stated, the study used $\mathrm{p} = 0.50$. In that case the Z-statistic was 1.96. The desired level of accuracy in this study was 0.05. The formula shown above, for determining sample size was therefore used to obtain the sample size that was accessed.

That is: $n = \frac{z^2 pq}{d^2}$

$$n = \frac{(1.96)^2(0.50)(0.50)}{0.05^2}$$

$$n = 384$$

It is from the calculation above that the study targeted a sample of 384 respondents.

Multi-stage random sampling was used to pick out respondents from the sampling frame of the study. Sampling frame constituted the headquarters of government ministries located within Nairobi's central business district. The Kenya government had 42 ministries (www.communications.go.ke, 2008). A third of the ministries provided sufficient number of respondents in the study. The ministries were listed alphabetically. Random sampling was used to select the first ministry to be visited. Systematic sampling where two ministries were skipped was then used to identify subsequent ministries until 14 of them were selected. Thirty respondents per ministry were selected randomly. This way, the sample size of 384 respondents was attained.

Once the government ministries had been identified, random sampling was again used to identify departments where respondents worked in. The respondents from each department were selected randomly. Questionnaires were given to low-cadre employees working at the headquarters of government ministries located within Nairobi's central business district. This was informed by the fact that the identified persons used roads which experienced mixed traffic in Nairobi city while at the same time the roads were the backbone of public passenger transport for vehicles operating within the city. Furthermore government offices had a large number of employees who commuted by public transport for lack of staff buses or self- driven private cars. They also spent their weekdays commuting to and from the workplace. Specifically targeted were lower cadre employees who (i) are not entitled to an official car and (ii) earn salaries which do not permit them to own and maintain own car.

4. RESULTS AND DISCUSSIONS

The study established that the majority of the respondents 74.2% were male compared to 24.8% who were female. this finding showed a serious skew of the male gender that was overwhelmingly more in number than the female. There is a need to implement the spirit and letter of the newly enacted constitution which advocates for gender balance in the civil service. 51.0% of the respondents were within 18-30 years age bracket, 38.0% were 31-40 years age bracket, 15.1% were within 36-50 years and 4.1% were over 50 years of age. This finding showed that the civil service had energetic workforce which will take a long period of time before their retirement age. This is a good age balance at work place practice which can enhance service delivery in the civil service.

A majority of the respondents, 30.4%, use Ngong Road, 21.7% use Muthurwa area and the surrounding roads, 20.0% use Thika Road, 11.3% use Waiyaki Way, 8.4% use Mombasa Road and 8.1% use Valley Road. This finding directly corresponded to the population distribution in Nairobi City. The majority of the population stays in Eastlands, Kibera and Kawangware. Residents of the later two places pass through Ngong Road when travelling to and from the city.

Time and the choice of 14-seater PSVs over the other alternative PSV modes

The study established that the shortest distance covered by the respondents from house to pick-up point was 100 metres whereas the longest was 1000 metres. It was found out that the respondents covered the shortest distance 390 metres from their houses to the stage where they picked 22-32-seater PSV, for 14-seater and 33 and above seater, they covered 422 and 421 metres respectively. This finding showed that although the 22-32-seater PSV were most accessible to the commuters compared to 14 and 33 and above seaters in terms of distance covered, there was no significant difference in the distance covered by the commuters to the pick-up place.

The shortest time taken by the respondents from house to pick-up point was 5 minutes whereas the longest was 45 minutes. The respondents took the shortest time of 10.96 minutes from their houses to the stage where they picked 22-32-seater PSV whereas for 14-seater and 33 and above seater, they took 11.5 and 11.65 minutes respectively. This finding showed that the 22-32-seater PSV were most accessible to the commuters compared to 14 and 33 and above seaters in terms of time it took them from their houses to the pick-up points.

The hypothesis of the study was stated as time taken to fully board a PSV at initial pick-up point has no influence on the choice of 14-seater PSV over the other alternative PSV modes. Because the nature of data on the time variable was quantitative, the study used linear regression analysis to test this hypothesis. The study at its design used the regression below with its detail variable explanation.

The regression models are;

$$y_i = \beta_1 F + \beta_2 Tv + \beta_3 (Tw1 + Tw2) + \beta_4 Cn + \beta_5 Alt + \beta_6 TF + e\ , \ i = 1,2,3,4,5,6$$

Where

$y =$ Frequency of use of mode per month

$i = 1 - passenger\ two - wheeler, 2 - 3\ passenger\ three - wheeler, 4 - 7\ seater\ taxi, 14 - seater, 22 - 32\ seater, 33\ seats\ and\ above.$

The vehicle capacities provided modes of transport from which passengers would prefer to board.

$F =$ Fare charged, $D =$ Distance travelled for fare charged,
$F_A =$ Fare charged by alternative mode

$T_v =$ Time taken travelling in the PSV boarded

T_{w1} = Time taken to walk from house to PSV boarding place,
T_{w2} = Time taken to walk from the last stage to workplace,
C_n = the number of vehicles boarded from house to workplace,
Alt = the number of alternative routes used by the PSV in the past,
T_F = Time taken to fully board a PSV at the boarding place, $S_i = \frac{\mathrm{DIST_i}}{\mathrm{T_i}}$

e is the error term

$DIST_i$ = Distance from home to workplace in kilometers,
T_i = Total time taken from home to workplace by given mode (Tv + Tw1 + Tw2 + TF) and y_i and D_i represent preference of mode.

Table 1: Analysis of Variance of choice of 14-Seater

Model	Sum of square	Degree of freedom	Mean Square	F-Value
Regression	1622.9	7	231.9	11.33
Residual	6896.4	337	20.5	
Total	8519.3	344		

Source: Field data (2012)
Table 4.18 is the ANOVA results of the regression of 14-seater choice against the chosen explanatory variables that is given in table 4.19.

Table 2: Regression Results for choice of 14-seater

Model	Standardized Coefficient	t	Sig(p-value)
F	-0.412**	-8.29	0.031
Tv	0.077	0.945	0.341
Tw1	0.095	1.866	0.633
Tw2	-0.01	-0.205	0.842
Cn	-0.036	-0.400	0.691
Alt	-0.079	-1.176	0.242
TF	-0.011	-0.192	0.841

Source: Field data (2012) – Dependent variable is frequency of use of 14-seater
** Significant at 5% level

In the model, choice mode was the dependent variable whereas the independent variables as per the model were; Fare charged, Fare charged by alternative mode, Time taken travelling in the PSV boarded, Time taken to walk from house to PSV boarding place, Time taken to walk from the last stage to workplace, the number of vehicles boarded from house to workplace, the number of alternative routes used by the PSV in the past and Time taken to fully board a PSV at the boarding place.

The study obtained a coefficient of -0.412 of fare charged by the mode of transport used was statistically significant at 5%. Hence fare charged by the 14-seater explained the choice of the 14-seater. This finding implied that there is an inverse relationship between fare charged and choice of the 14-seater in that an increase in fare charged will result in less likelihood of the mode being chosen and vice versa. The other factors were not statistically significant in explaining the choice of the mode.

The hypothesis that travel time from house to workplace has no influence on choice of 14-seater PSV over the other alternative PSV modes was accepted since there was a strong correlation between times taken from house to pick-up point of 14-seater PSV. The same finding obtained for the 22-32-seater and 33 and above seater PSVs. This showed that the preference for a 14-seater is not related to the time they take from their houses to the PSV pick-up points. Instead, it is fare charged which determined its choice over the other modes.

It was realized that there was evidence to reject the hypothesis that the existence of alternative routes has no influence on commuter choice of 14-seater PSV over the other alternative PSV modes. This finding confirmed that all the modes made use of alternative routes and that the ability to use the said alternative routes influenced the commuters' choice of the PSV vehicle they would wish to use. This finding favored the 14-seater and 22-32-seaters and not the 33 and above seaters.

5. CONCLUSION

PSV is very important in the economic development in Kenya as a means of transporting citizens to different work places where they are involved actively in economic development and wealth creation. The conclusion on the factors influencing choice of 14-seater public service vehicles and alternative modes of public service transport in Nairobi city is as summarized; travel time from house to workplace had influence on choice of 14-seater PSV over the other alternative PSV modes. There was a higher correlation between 14-seater and 22-32 seater meaning that the commuters would rather choose 22-32 seater over 33 seaters and above; the existence of alternative routes had influence on commuter choice of 14-seater PSV over the other alternative PSV modes; fare charged had effect on commuter choice of 14-seater PSV over the other alternative PSV modes; the fare charges during the off-peak hours influenced the commuters' choice of the PSV vehicle they would wish to use; and lastly, the time taken to walk by a commuter had no influence on choice of 14-seater PSV over the other alternative PSV modes.

The regression results established that fare charged influenced commuters' choice of 14-seater PSVs. The choice of 22-32-seater PSVs was mainly influenced by fare charged, time taken to walk from drop-off point to the workplace, the existence of alternative routes and the time it takes for it to fully board passengers at the initial boarding place.

The 33 and above seater was considered based on fare charged, travel time in the PSV, time taken to walk from the house to the PSV pick-up point, usage of more than one vehicle to get to the workplace, the existence of alternative routes and lastly, time taken for it to be fully boarded at the initial boarding place.

From the findings and conclusion of this study, it is recommended that a comparative policy analysis should be undertaken to come up with a hybrid PSV policy that can serve the Kenyan commuter. The process of coming up with alternative type of PSV should be based on more consultation and sector wide considerations. It is clear from the analysis that in the absence of the 14-seater PSVs on the roads most commuters would opt for 22-32-seater PSVs. Holistic factors should therefore be considered by the government and all stakeholders when coming up with alternative type of PSV because there could be other underlying factors that were not captured in this study and yet they are important in determining a commuter's choice of a PSV to use.

The government should not phase out 14-seater PSVs by force but increase taxes and levies on anybody who may want to buy a 14-seater which would by extension make fare high and hence make commuters shy away from the 14-seater. Indeed, such a move would result in commuters considering other modes of transport suitable to them without feeling coerced.

REFERENCES

- Abane A. (2002); Mode choice for the journey to work among formal sector employees in Accra, Ghana, Journal of Transport Geography Volume 1, Issue 4, pp. 219-229.

- Agunloye, O. O. (2011); *Analysis of the travels of public transport passengers (road) in Ikorodu, Lagos, Nigeria*, Journal of Geography and Regional Planning *Vol. 4(7),* pp. 443-448. Retrieved February 20, 2012, from http://www.academicjournals.org/JGRP.

- Alexander, C.; E. Sclar and J. Touber (2007); *Rethinking Privatization: The Case of Urban Transportation in Nairobi, Kenya. The Center for Sustainable Urban Development.*The Earth Institute, Columbia University,New York. Retrieved on March 1, 2011, from http://csud.ei.columbia.edu/sitefiles/file/RethinkingPrivatization_WorkingPaper_ACSP_Conference.pdf

- Belwal, R. & S. Belwal (2010); *Public Transportation Services in Oman: A Study of Public Perceptions,* Journal of Public Transportation, *Vol. 13, No. 4,* 2010.

Retrieved on February 20, 2012, from http://www.nctr.usf.edu/jpt/pdf/JPT13-4Belwal.pdf

- Chitere, O. P. & T. N. Kibua (2004); *Efforts to improve Road Safety in Kenya: Achievements and Limitations of Reforms in the Matatu Industry*; Institute of Policy Analysis and Research, Nairobi, Kenya. Retrieved on February 20, 2012, from ttp://www4.worldbank.org/afr/ssatp/Resources/CountryDocuments/Road-Safety-Kenya-IPAR.pdf

- Dato, S. O. & T. K. (2010); GTP Roadmap, Government of Malaysia, Malaysia. Retrieved on March 1, 2011, from http://klnportal.kln.gov.my/klnvideo/2010/transformasi/video/documents/GTP%20Roadmap/GTP%20Roadmap_Chapter11.pdf

- FHWA-Office of Policy (1999) *Comprehensive Truck, Size and Weight Study*; Government of the United States of America, United States of America. Retrieved on March 3, 2011 from http://www.fhwa.dot.gov/reports/tswstudy/Vol3-Chapter9.pdf

- Fitzpatrick Associates (2004); *Transportation and the Effects on the Consumers*. Retrieved on September 6, 2011, from http://www.nca.ie/eng/Research_Zone/Reports/transport_and_consumers.pdf

- Friman, M. & M. Fellesson (2009); *Service Supply and Customer Satisfaction in Public Transportation: The Quality Paradox*; Journal of Public Transportation, *Vol. 12, No. 4,* 2009; Karlstad University, Sweden. Retrieved on February 20, 2012, from http://www.nctr.usf.edu/jpt/pdf/JPT12-4.pdf

- G.o.K.(2010); *New Road Transport Management Strategy*. Ministry of Transport, Nairobi, Kenya.

- Graeff, J. (2009); *The Organization and future of the Matatu Industry in Nairobi, Kenya*; Center for Sustainable Urban Development – Earth Institute Columbia University, New York

- Hensher, A. D. (1976); *The value of commuter travel time savings,* Journal of Transport Economics and Policy, May 1976. Retrieved on April 11, 2011, from http://www.bath.ac.uk/e-journals/jtep/pdf/Vol. X, No. 2 pp. 167-176.pdf

- Joewono, T. B. & H. Kubota (2007); *User satisfaction with paratransit in competition with motorization in indonesia: anticipation of future implications,* March 2007, *Vol. 34,* No. 3, pp 337-354.Retrieved on August 30, 2011, from http://www.springerlink.com/content/v52w53401755xj22/fulltext.pdf.

- Kenya Confidential (2010); *Transport World Journal*, *Vol. 1 no. 2*, Oscar Publicity, Nairobi. Retrieved on March 17, 2012, from http://www.kenyac onfidential.com/wpcontent/themes/transport%202/files/transport%20world%20 journal%20issue%20no%201.pdf.

- Mugenda, O.M & A.G. Mugenda (1999); *Research Methods: Quantitative and Qualitative Approaches*, African Centre for Technology Services Press, Nairobi, Kenya.

- Mutongi, K. (2006); *Thugs or Entrepreneurs? Perceptions of Matatu Operations in Nairobi 1970 to the Present*, Nairobi, Kenya 76 (4) pp. 549 -568.

- Oster, C. V., JR.; J. C. Randolph & Graduate Student Authors (2011); *The Future of Intercity Passenger Transportation,* School of Public and Environmental Affairs, V600 Capstone Course, May 2011, Indiana University. Retrieved on September 6, 2011 from http://www.indiana.edu/~cree/pdf/Future%20of%20Intercity%20Passenger%20Transport%20Report.pdf.

- Örn, H.(2005); Chapter 5. Urban public transport in an international perspective. In Jönson, G., and E. Tengström (eds.) Urban transport development: A complex issue , pp. 45-64. Berlin: Springer.

- Panayotis, C.; H. Ignacio & S. Antonio (2003); *Dynamics of the Introduction of New Passenger Car technologies: The IPTS Transport technologies Model*, European Commission Joint Research Centre. Retrieved on September 6, 2011, from http://ftp.jrc.es/EURdoc/eur20762en.pdf.

- Sclar, E. (2008**);** *Engaging Complexity: A Prologue to Creating Effective Urban Transport and Land Use Planning for Metropolitan Nairobi*. Center for Sustainable Urban Development – Earth Institute, Columbia University, New York. Retrieved on March 1, 2011, at http://www.vref.se/download/18.1166db0f120540fe049800011002/Sclar+-+Engaging+complexity.pdf

- Vuchic, V. R. (1999), Transportation for Livable Cities. New Brunswick, NJ: CUPR; Rutgers University. Retrieved on March 1, 2011, from http://www.eng.wayne.edu/user_files/155/urban_pub_tr_sys_Vuchic.pdf
- World Book, Inc. (2001), *World Book Encyclopedia, Vol. 11, p. 302*; *Vol. 14, p. 5*, Scott Fetzer Company, Chicago, United States of America.

- www.kenyalaw.org. Retrieved on June 3, 2011.

- www.matatu.co.ke. *Memorandum of Complaint on the 14-Seaters PSV Phase out and Restriction from operating in the CBD (Nairobi) effective from January 2011*, Matatu Welfare Association, Nairobi, Kenya. Retrieved on June 13, 2011