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Journal of Research in Business is an international peer-reviewed and open-access academic journal which is issued by the Faculty of Business and Administration, Marmara University. The journal is published semiannually (June and December) in both online and print version. The aim of the journal is to provide a platform for the researchers, academicians, professionals, practitioners and students to impart and share knowledge in the form of high quality empirical and theoretical research papers, case studies and literature reviews. Papers in English, German and Turkish are accepted. The journal is indexed by ULRICH Global Serials Directory.

Journal of Research in Business ist ein internationales, von Experten begutachtetes und frei zugängliches akademisches Journal, das von der Universität Marmara - Fakultät für Betriebswissenschaften herausgegeben wird und erscheint zwei mal pro Jahr (Juni und Dezember) in Online- und Print-Versionen. Ziel des Journals ist es, den Forschern, Akademikern, Fachleuten, Praktikern und Studenten eine Plattform zu bieten, um das Wissen in Form von hochwertigen empirischen und theoretischen Forschungsarbeiten, Fallstudien und Literaturkritiken zu vermitteln und zu teilen. Beiträge in Englisch, Deutsch und Türkisch werden akzeptiert. Das Journal wird in „ULRICH Global Serials Dictionary" indexiert.

Sunuş

Değerli Okuyucu,

Marmara Üniversitesi İşletme Fakültesi tarafından yayınlanmakta olan Journal of Research in Business (JRB) adlı dergimizin yeni sayısını sunmaktan mutluluk duyuyoruz. 2018 Haziran sayısı itibari ile Marmara Business Review'un misyonunu devralarak uluslararası hakemli bir dergi olarak yayın hayatına devam eden JRB nitelikli akademik çalışmaları okurlarımıza ulaştırmak olan temel amacımızdan ödün vermemekte ve editör kurulunun onayını alıp değerlendirme süreçlerini başarıyla tamamlayan çalışmaları yayınlamaktadır. JRB'de yayınlanan makaleler erişime açıktır. JRB, altı ayda bir yayınlanan bir dergi olup, bu yılın ilk sayısında EMFAIC 2018 konferansında sunulmuş ve değerlendirme sürecini başarı ile tamamlamış yedi makale yayınlanmaktadır.

Saygılarımla,

Editör

Preface

Dear Readers,

We have the pleasure of presenting to you the new issue of our journal “Journal of Research in Business (JRB)”, published by the Faculty of Business Administration at Marmara University. JRB that has taken over the mission of Marmara Business Review and published as an international academic journal by June 2018 will continue its mission to bring qualified academic research into the business literature, and publish only the manuscripts which is verified by editorial boards and have passed review procedure succesfully. The articles published in JRB are freely available to read online. JRB as a semiannual journal publishes in the first issue of this year, seven papers presented at the EMFAIC 2018 conference and successfully completed the evaluation process.

Best Regards,

Editor

Vorwort

Sehr geehrte Leserin und sehr geehrter Leser,

Wir freuen uns, Ihnen die aktuellste Ausgabe unserer Zeitschrift „Journal of Research in Business (JRB)“ vorstellen zu dürfen. Seit Juni 2018 hat die JRB die bewährte Mission von „Marmara Business Review“ abgelöst und erscheint nun als International begutachtete Zeitschrift und veröffentlicht nur die Artikel, die sich vor dem Kommitee der Editoren als qualitative akademische Arbeit bewährt haben.

Der Zugriff auf die von JRB veröffentlichten Volltexte ist für die JRB-Leser jederzeit möglich. Als halbjährlich erscheinende Zeitschrift hat die JRB dieses Jahr in ihrer erste Ausgabe sieben wertvolle Artikel, die auf der EMFAIC-Konferenz 2018 vorgestellt wurden und den Begutachtungsprozess erfolgreich abgeschlossen haben, veröffentlicht.

Mit besten Grüßen,

Editor

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

BIDDING BEHAVIOR IN A NATURAL EXPERIMENT: TV GAME SHOW "I DON'T KNOW, MY SPOUSE KNOWS"

DOĞAL DENEY ORTAMINDA PEY SÜRME DAVRANIŞI: "BEN BİLMEM EŞİM BİLİR" ADLI TV YARIŞMASI

Jale ORAN*
E. Serra YURTKORU**

Abstract

Behavioral finance deals with the financial decision-making that violates the classical finance and economic theories, and underlying reasons for such anomalous behavior by economic actors. There are several environments in which financial decisions are made. Financial markets are the most popular one; but auction markets are somehow neglected by behavioral finance researchers. We examine bidding behavior in a TV game show, broadcasted first in Germany with the name "Mein Mann Kann", and later adopted by a TV channel in Turkey as "I Don't Know, My Spouse Knows". It mimics an actual sequential open-outcry auction as a natural experiment. To our knowledge, this study will be the first one made regarding this show. Results indicate no age, marital status difference in risk aversion, but significant difference between winners' and losers' bids where losers' bids were higher, which is possible indication of loss aversion. Women and men are taking risks equally, contrary to the majority of research findings. The results expected to contribute to the behavioral finance and auction literature and may illuminate further research in both fields.

Keywords: Behavioral finance, auctions, bidder behavior, risk aversion, loss aversion

JEL Classification: C93, G4, D9, D81

Öz

Davranışçı finans klasik finans ve ekonomi teorilerinin aksine bulgular ve ekonomik aktörlerin bu normal dışı davranışlarını açıklamayla ilgilidir. Finansal kararların verildiği çeşitli ortamlar vardır. Finans

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piyasaları en popüler alandır. Ancak müzayede piyasaları davranışçı finans araştırmacıları tarafından ihmal edilmiştir. Daha önce Almanya'da "Mein Mann Kann" adıyla, daha sonra bir Türk TV kanalı tarafından adapte edilip "Ben Bilmem Eşim Bilir" adıyla yayınlanan yarışma programındaki pey sürme davranışı incelenmiştir. Doğal bir deney olarak aşamalı, açık katılımlı bir müzayedeyi taklit eden bu yarışma için bilindiği kadarıyla yapılan ilk araştırmadır. Riskten kaçma ile ilgili cinsiyet, yaş, medeni durum açısından bir fark gözlenmemiştir. Ancak kazanan ve kaybedenler arasında verdikleri teklif açısından istatistiki olarak önemli fark vardır ve kayıptan kaçmanın bir işareti olarak kabul edilmiştir. Önceki araştırmaların çoğunun aksine kadın ve erkeklerin eşit risk aldıkları görülmüştür. Sonuçların hem davranışçı finans hem de müzayede literatürüne katkıda bulunması ve bundan sonraki araştırmalara ışık tutması beklenmektedir.
Anahtar Kelimeler: Davranışçı finans, müzayedeler, pey sürme davranışı, riskten kaçma, kayıptan kaçma
JEL Classification: C93, G4, D9, D81

1. Introduction

Behavioral finance deals with the financial decision-making that violates the classical finance and economic theories, and underlying reasons for such anomalous behavior by economic actors. Human behavior, psychology, and even physiology have been investigated to find out the roots of such irrational behavior.

There are several environments in which financial decisions are made. Financial markets are among the most popular ones; but auction markets are somehow neglected by behavioral finance researchers. Especially bidder behavior requires more attention, regarding the economic activity centered on auction methodology.

The importance attributed to auctions has three main reasons: The magnitude of transactions based on auctions, the benefits to the national economy through better pricing of government borrowing instruments and effective price mechanisms provided to financial markets (Sözer-Oran, 2010). Gode and Sunder (1993) and Tseng, Lin, Lin, Wang and Li (2010) found out in their separate experimental studies that auction mechanism contribute to the allocational efficiency of stock markets even when the virtual subjects were zero-intelligence ones, and making arbitrary transactions.

Behavioral finance research is usually non-parametric, survey or experiment based. There is vast amount of experimental research in behavioral finance and in other fields where analyzing individual or mass behavior is indispensable. Attitude towards risk is frequently investigated, because it will in the end be the basis for many financial/economic decisions. Bidding in an auction or in a TV game show with a considerable prize can be assumed as comparable and the latter could be assumed as laboratory of the former. The advantage of such a game setting would be that subjects are acting naturally since the game data collected ex-post.

The context of the show can best be described as decision making under uncertainty, while the bids of the rivals, the ability of both rival player and spouse cannot be known prior to the round. There are classical and behavioral views explaining the decision dynamics of individuals, where behavioral approaches are gaining popularity mostly are evidence-based. Classical theories are normative while behavioral theories are rather descriptive and take their support from research findings.

2. Uncertainty, Risk, Risk Aversion

Uncertainty is the real life case where the probable outcomes and their likelihood are not known. Risk is sometimes the situation where the outcomes and their probability are known, that is there is a probability distribution. However, risk and uncertainty in this study is used interchangeably to mean real life situation with unknown outcomes and probabilities.

Measuring risk was first mentioned by Bernoulli (1954), by saying that valid measurement of risk would be possible by incorporating utility function, which is in essence concave, to imply diminishing marginal utility and risk aversion. Risk aversion is someone`s dislike towards risk, if risk is to be taken, there must be a compensation offered.

Since then, two landmark theories emerged. First expected utility theory offered by Von Neumann and Morgenstern (1944), criticized by Kahneman and Tversky (1979), for its treatment of risk aversion. They argued that risk attitudes of individuals are different when they face gains or losses. In the domain of gains, they are risk averse, while in the case of losses they are risk seeking, which is in line with the behavior that underlies prospect theory by Kahneman and Tversky (1979, 1992).

In 1960s Pratt-Arrow measure of absolute and relative risk aversion were the important developments for understanding risk taking behavior (Pratt, 1964). Eisenhauer (2006) criticizes Pratt-Arrow risk measure because it requires wealth levels to be known and size of the stakes. If stakes are infinitesimal, theory is working. However, it may not accurately capture the sizeable stakes, which would be the cases in real life.

When risks are small, behavior is approximately risk-neutral; individuals manifest aversion only towards larger risks (Eisenhouer, 2006; Holt & Laury, 2002). Significant risk aversion is observed in Binswanger's (1980) research even though the monetary incentives were not high enough compared to their monthly income. Actual high level monetary prizes cause increased risk-averse behavior relative to the prize (Kachelmeier & Shehata, 1992).

In a game show or an actual auction, an evaluation period given to subjects between the rounds to look at their losses/gains in an aggregated way, so possibility of losses is not deterring them (Gneezy & Potters, 1997). This could be a factor regarding relatively low or no risk aversion.

Some studies demonstrated lower or no risk aversion at lab while a similar scenario in real life would produce rather moderate or high risk aversion (Rabin, 2000). Post et al., (2008) argued that standard expected utility theory cannot explain the preferences of individuals at all times, because they are assumed to make the same preferences for a given choice set. They further state that since expected utility theory is unable to explain the different decisions of winners and losers in the same context; a utility function with convex parts and depending on prior outcomes could be an explanation. Also reference and path dependence are not factors considered in expected utility theory, rather the case seems to be appropriate for prospect theory. Gertner (1993) in TV game show Card Sharks found out those prior winnings had negligible effect on contestants' willingness to take risks in later rounds, which contradicts with above argument. Auction literature often assumes constant risk aversion for computational convenience (Holt & Laury, 2002; Schneider, Day, & Garfinkel, 2015).

2.1. Risk Aversion and Gender

There are gender differences regarding risk attitude in the majority of the studies under investigation. Eckel and Grossman (2002), Johnson and Powell (1994), Agnew et al., (2008), Ertaç & Gurdal (2010), Hibbert (2008) found out in their experiments that women are more risk averse than men. However some studies have different findings than majority of the work that is presented below.

Women do not prefer competition, and less likely to enter into competition. Fear might be the reason being deterred from competition (Croson & Gneezy, 2009). When both genders are in a competitive environment, men are slightly performing better. When they are paid, men's performance increased significantly, while women's performance is not affected (Gneezy, Niederle, & Rustichini, 2003; Gneezy & Rustichini, 2004). Cultural differences might have an effect on women's competition. In Africa Maasai women were reluctant to enter into competition compared to man. However, Khasi women were more eager for competition (Gneezy, Leonard, & List, 2009).

Women consider being in a TV show as personally risky, bad performance in public would bring shame and not to prefer to disclose their names in public (Larkin & Pines, 2003).

A survey based on PAD (Pleasure Arousal Dominance) demonstrated that trait dominance significantly predicted increased risk taking, while no gender difference is observed (Demaree et al., 2009). Vlaev et al., (2010) found out that risk attitudes depend on the context, not on gender difference.

Attitude towards risk differs depending on the social role and education of women. Women in managerial positions tend to take equal risks compared to men, and have the decision of equal quality. Non managerial positions however have a different picture; women are less prone to risk than men (Johnson & Powell, 1994). Women entrepreneurs are taking risks equally compared to men (Birley, 1989; Master & Meier, 1988).

According to Scheel and Nagelschneider (2015), women and men are not different in terms of risk taking, but contestants that dare to show up on TV are probably more confident, extravert and risk loving (or at least risk neutral) individuals in the general population.

Köbberling and Wakker (2005) argue that risk aversion is actually caused by loss aversion to a considerable degree. They propose that attitude towards risk has three parts: basic utility, probability weighting and loss aversion.

According to Schubert et al., (1999), there is no difference with respect to genders, it rather depends on the context. Abstract gambles may give rise to gender specific risk taking attitudes, where men seek risk in case of gains while women seek risk in case of losses.

Harris, Jenkins and Glaser (2006) bring another perspective to gender differences. As far as their role in human evolution is concerned, men try to disperse their offspring as much as possible and take risks, while women tend to protect their offspring, because of scarcity and more investment they make. This would be reflected in other contexts.

Harbaugh, Krause and Vesterlund (2002) demonstrated that there is no gender difference in their lottery choice, however, for high probability gains, and small probability losses they are risk seeking while for low probability gains and high probability losses they are risk averse, which support prospect theory.

Holt and Laury (2002) found out that in their lottery choice experiment that women are slightly more risk averse in low payoff lotteries while there is no gender difference in high payoff lotteries where both genders are equally risk averse.

Wieland et al., (2014) argue that women are not risk averse, but gambling averse. If the context of the task is changed from gamble to other, risk aversion declines for women.

2.2. Loss Aversion

Suggested by Prospect Theory`s fathers Kahneman and Tversky (1979), individual utility function is concave over gains and convex over losses, that is a gain contributes less to the utility than equal dollar loss subtracts from utility. Individuals try to protect or guarantee sure gains, and take risks if there is probable loss, which may lead to suboptimal financial decisions.

Loss aversion is one of the controversial issues in behavioral finance; there are several arguments, sometimes contradictory. Risk aversion of women might be the outcome of protective role in the family, especially towards children, starting from the early ages.

According to Eckel and Grossman (2002), women are risk averse, but no indication that they are also loss averse. Novemsky and Kahneman (2005) argue that, loss aversion provides complete explanation about risk aversion in cases there is equal probability to win and lose. However, when buying something, price is not considered as a loss.

The divergence between willingness-to-accept (WTA) and willingness-to-pay (WTP) for the same good is an indication of loss aversion, called as endowment effect (Kahneman, Knetch & Thaler, 1990). When judging an outcome, people consider similar cases for comparison; compare losses with other losses, which lead to separation of losses and gains. Such separation would make scaling losses and gains with different magnitude, and losses loom larger than gains (McGraw et al., 2010).

Individuals perceive the choices and options as gains or losses compared to a reference point, which in essence is the current wealth or situation of the individual (Tversky & Kahneman, 1991). People whose aspirations exceed their income are less risk and loss-averse. More competitive and status-seeking people are less risk and loss-averse (Koedijk, Pownall & Statman, 2012). Loss averse contestants compete less aggressively in an experimental contest (Cornes & Hartley, 2012).

Emotions about outcomes are stronger among women, (Eriksson & Simpson 2010) feel more discomfort with the likely losses. The format of the survey also affects loss aversion. In a coin-toss experiment, subjects were more loss-averse when they are filling the results on loss side that gain side (Harink et al., 2012).

3. Experimental Studies

Experiments are useful in finance because they allow researchers to isolate and manipulate one variable at a time, thereby illustrating its causal effects without using complex econometric techniques to filter out effects of other variables (Bloomfield & Anderson, 2010). They are also replicable, you can repeat several times to test learning (Croson & Gneezy, 2009).

Non experimental research has the shortcoming of joint hypothesis problem. In the case of investment experiment, investors may not take into account quantitative data and analysis, however, other events that influence their behavior would not be known for sure, therefore it is hard to infer precise probabilities (Post et al., 2008).

In experimental design, two important criteria must be balanced. First, correct statistical inference together with internal validity and informativeness, second, generalizability (external validity) (Czibor et al., 2019). There is an ongoing debate about how the experiments must be designed so that they are fruitful for scientific inference, and really resembling the real life. Al-Ubaydli and List (2012) concluded that more field experiments must be conducted so that a bridge between lab and natural experiments can be maintained and thus derive stronger results about real phenomena.

Experimental studies range from closely controlled variables and subjects in lab settings to natural (field) experiments, where the real life is imitated, or a real life case can be observed. There are different characteristics of experiments, each of which with different advantages and disadvantages. The generally accepted taxonomy classifies them into 4 groups (Harrison & List 2004):

1. Conventional lab experiment – with standard subject pool, framed and predetermined rules.
2. Artefactual field experiment – only the subject pool is not standard.
3. Framed field experiment – in the field context but a task, commodity or information set that is used by the subjects
4. Natural field experiment is the same as framed field experiment, but subjects are doing the tasks without knowing that they are in an experiment.

The research covered in this paper is a natural field experiment.

3.1. Natural (Field) Experiments

Natural experiments are the real world cases and environments in which people behave as if they are in an established experiment or lab and do things that are asked from them. The main attraction of natural experiments is that they reflect the choices of individuals in a natural setting, facing natural consequences that are typically substantial (Harrison & List, 2004). The characteristics of natural experiments provide us chance of randomization and realism (Czibor, Jimenez-Gomez, & List, 2019).

TV game shows with prizes offered can be considered as natural experiments.

3.2. Some Experimental Studies and Bidder Behavior

A study by Shogren et al. (1999) compared the preferences of people in hypothetical survey about retail experience, at a lab and finally in a retail store. Differences of choices in three settings were significant, although there are advantages and disadvantages of each.

Lusk and Fox (2003) directly tested whether auction bids elicited in a laboratory setting were equal to those elicited in a retail setting. After controlling for zero bidders, they found that bids were significantly higher in the store setting than in the lab; about 30% higher after controlling for other exogenous factors.

Augenblick (2011) worked with penny auction data and found out that bidders are having naïve sunk cost fallacy that is they cannot sacrifice whatever they have invested earlier and continue even if it is not profitable. Bidders however, learn to make higher profits, but in a slower fashion. Berk et al., (1996) come to conclusion that participants are not fully rational.

Blavatskyy and Pogrebna (2006) analyzed actual data from DOND's Italian version, Affari Tuoi, and found out that 46% of the contestants accept the exchange offer which violates prospect theory's prediction of always rejecting the offer due to loss aversion. Anderson et al., (2006) also worked on UK's actual DOND data and found out that expected utility theory's predictions were not proven. Increasing risk aversion, not incorporating personal wealth into their decision and some probability weighting by contestants were observed.

Ariely and Simonson (2003) investigated bidder behavior in online auctions with multiple sequential decisions. Some anchoring to initial price is detected. If there was adequate bidders attracted to the auction, then there would be a bidding war, which can be described as herding.

Above mentioned studies elicit that findings under different settings may vary significantly, thus a natural environment may generate more representative results, although they have the control problems inherent.

3.3. TV Game Shows

TV game shows are very popular for investigating individual behavior and decision making in certain contexts. They are usually the natural (field) experiments, where the data are collected ex-post. Some studies involve the imitation of an actual game show in lab/class environment (Botti et al., 2009).

Majority of the previous studies on game shows investigated loss aversion, risk aversion and gender differences, which are also covered by this study. Additionally they also try to investigate the rationality (Berk et al., 1996), learning (Augenblick, 2011), and other decision phenomena.

Some previous research on game shows:

- “Lingo” (Beetsma & Schotman, 2001)
- “Deal or No Deal-DOND” (Post et al., 2008; Blavatskyy & Pogrebna, 2008; De Roos & Sarafidis, 2006; Mulino et al., 2006; Brook et al., 2009)
- “Price is Right” (Bennett & Hickman, 1993; Berk et al., 1996; Healy & Noussir, 2004)
- “Who Wants to Be a Millionaire?” (Daghofer, 2007; Johnson & Gleason, 2009)
- “Affari Tuoi” Italian version of DOND (Botti et al., 2009)
- “The Weakest Link” (Levitt, 2004; Antonovics et al., 2005)
- “Card Sharks” (Gertner, 1993)
- “Jeopardy” (Metrick, 1995)
- “Will (s)he Share or Not” (Belot, Bhaskar, & vandeVan, 2010)
- “Friend or Foe”(List, 2006)
- Million pound drop (Sheel & Nagelschneider, 2015)

3.4. Aim

The aim of this study is to analyze the bidding behavior in a game show with various aspects of bidding behavior, such as gender differences, risk aversion, and loss aversion.

The advantage is that the setting of the game show is almost exactly the same as a real open outcry ascending /descending auction. However, there is nothing for which is a price is paid, but bidding is on spouse’s ability to achieve a game. The budget or cost constraint in a real auction is represented in the game show by the ability of the spouse. In this paper, we examined bidding behavior in a TV game show “I Don’t Know, My Spouse Knows.” To our knowledge, any game show based on this original format is not broadcasted in any other country, and no research is made regarding the show yet. Hence, we collected data for and analyze the Turkish version only.

The game setting is actually mimicking an auction environment. Open competition of ascending or descending sequential bids by participants is exactly the same as in an auction. They try to give their best bids, and also try to guess their spouses’ ability to achieve. In real life auctions, participants have budget and cost constraints, which could be parallel to ability to achieve. They raise the bids to the level that they believe their spouse could succeed.

4. Method

4.1. The Game

The aim of this study is to analyze the bidding behavior in the game show, " I don’t know, my spouse knows.” This game show is broadcasted first in Germany with the name “Mein Mann Kann (My Husband Can)”, and later adopted by a Turkish TV channel as “Ben Bilmem Eşim Bilir (I Don’t Know, My Spouse Knows)”. The show is broadcasted between July 2012 – May 2014 with host İlker Ayrık, later the host and the format was changed. Now the show is on air in another TV channel with another show name and with the host İlker Ayrık, however the number of games with bidding is less in this program.

To collect the data from a standard game show we selected our sample from the first broadcasted version with host İlker Ayrık.

In the game show four couples compete for a prize of brand new car. Men/women bid on what his/her spouse can achieve in specific games, which are not known until the bidding starts. There is a wide variety of games, and in each game, bidding is either ascending or descending, about in how many seconds or at a fixed time his/her spouse can eat, do, and score in the game. The couple, who has the highest achieved bid wins, and gets 1000 – 5000 points. After few rounds, couples with lowest or no points are eliminated one by one until two couples remain. They play the final game, which requires no bidding to get the prize.

4.2. Data Collection and Sample

A total of 212 programs are broadcasted between July 2012 – May 2014. Videos of the shows broadcasted are downloaded from the Internet. A group of assistant students from MU Business Administration Department are trained to watch the videos and fill data collection sheets. A sample of 160 programs is watched (75 %). Data are then inputted to Microsoft excel. After cleansing, data are transported to statistical package for analyses. Each program has approximately 4 rounds therefore in total 578 games are evaluated. Four couples compete for the prize in each program consequently 578 * 4 couples=12312 bids are examined.

Demographical information about the couples are given in Table 1. As can be seen from the Table 58.10 % of the bidder's gender is female and 41.90 % is male. Majority of the players are married (75.10 %) and again majority of the players are young (85.50 %).

Table 1: Bidder's Demographic Information

Bidder's Gender	Bidder's Marital Status	Bidder's Age
Female 58.10 %	Married 75.10 %	Young 85.50 %
Male 41.90 %	Engaged 10.50 %	Old 14.50 %
	Partners 14.40 %	

4.3. Findings

Prior to analyzing data we examined the distribution of the bidding types. As explained before bidding is either ascending or descending depending on the game played. But when we studied we realized most of the games played were ascending in nature (See Table 2).

Table 2: Distribution of Bidding Types

Bidding Type
Ascending 83.20 %
Descending 16.80 %

Initial findings indicate 53.2 % of the ascending bids 71.9 % of the descending bids are accomplished (See Table 3).

Table 3: Initial Findings

	Bid Accomplished	Bid Unaccomplished	Total
Ascending Bid	1024 (53.2 %)	900 (46.8 %)	1924
Descending Bid	279 (71.9 %)	109 (28.1 %)	388
Total	1303	1009	2312

Since one of the purposes of this study is to explore risk taking behavior associated with bidding behavior, we calculated the risk for bids. Risk is defined as the difference between accomplished score and bid divided by bid. In ascending bid games, men/women bid on what his/her spouse can achieve in specific games and they try to increase the number of times their spouse can do/complete the concerned game; e.g. number of balls one throws to a basket jumping up and down, how many hot chili peppers one can eat. Hence the formula (1) is used to measure risk for ascending games.

Risk for Ascending Bids is: Risk = (Accomplishment – Bid) / Bid < 0 (1)

In descending bid games, men/women bid on the shortest time his/her spouse can achieve in specific games and they try to decrease time their spouse can do/complete the concerned game; e.g. complete a track running with high heeled shoes, drills three holes on a wooden surface with blind eyes with the spouse' guidance. Hence the formula (2) is used to measure risk for descending games.

Risk for Descending Bids is: Risk = (Accomplishment – Bid) / Bid > 0 (2)

Seeing that the ascending bids are accomplished more compared to descending bids, we wanted to test if risk-taking associated with descending bids are more than ascending bid.

Table 4: Independent Samples t-test Result of Risk by Game Type

		N	M	SD	t	df	p
Risk	Ascending	1149	.39	.43	-1.43	661.30	.15
	Descending	331	.43	.37			

*p< .05, **p< .01, ***<.001

As can be seen from Table 5 the independent samples t-test result indicated there was no difference in risk-taking behavior with respect to game type.

To find out the difference between risk taking behavior of females and males an independent samples t-test is conducted. The result revealed that there was no difference in risk taking behavior with respect to gender (See Table 5).

Table 5: Independent Samples t-test Result of Risk by Gender Difference

		N	M	SD	t	df	p
Risk	Females' Bid	884	.40	.34	-.34	1478	.73
	Males' Bid	596	.41	.51			

*p< .05, **p< .01, ***<.001

During the game show the ages of the participants are not asked and most of the couples are young, still some participants are old relatively. Games mainly require physical stamina therefore we also tested if the risk taking behavior of young and old are different or not. As can be seen from Table 6 the independent samples t-test result indicated there was no difference in risk-taking behavior with respect to age.

Table 6: Independent Samples t-test Result of Risk by Age

		N	M	SD	t	df	p
Risk	Young' Bid	1218	.39	.36	-1.58	1422	.11
	Old' Bid	206	.44	.68			

*p< .05, **p< .01, ***<.001

Participants of the game show can be married couples, engaged couples or partners, as the last demographic variable marital status is taken and the differences in risk taking behavior with respect to marital status is tested by one way ANOVA test. Like the other demographical variable here again we found no difference (See Table 7).

Table 7: ANOVA Result of Risk by Marital Status

		N	M	SD	SS	df	F	p
	Married	1093	.40	.44	.21	2		
Risk	Engaged	147	.44	.43	258.23	1449	.58	.56
	Partners	212	.40	.33	258.4	1451		

*p< .05, **p< .01, ***<.001

During game show bidding the highest score (or lowest in descending) does not secure the accomplishment. One can win if he/she accomplishes the score bid by his/her spouse and the bid is the highest (or lowest in descending) of the accomplished bids. Therefore to find out if there is a difference in the risk taking behavior of winners and losers (to find out if the ones who bid with higher risk wins or loses) we conducted independent sample t-test. The results revealed that there is significant difference (t=-9.61; df=424.37; p=.00; M_{winner}=.23; M_{loser}=.43). The winners have bid with lower risk then losers which indicate that there might be loss aversion (See Table 8).

Table 8: Independent Samples t-test Result of Risk by Winner or Loser

		N	M	SD	t	df	p
Risk	Winner' Bid	200	.23	.24	-9.61	424.37	.00***
	Loser' Bid	1280	.43	.43			

*p< .05, **p< .01, ***<.001

To test if there is difference in the amount of risk taken with respect to the number of rounds game played ANOVA tests are conducted separately for females and males. Usually females bid first rounds than males bid for the last games. Therefore we have compared first 3 rounds for females and last 3 rounds for males.

Table 9: ANOVA Result of Risk by Rounds for Females

		N	M	SD	SS	df	F	p
	Round 1	374	.34	.35	1.836	2		
Risk	Round 2	212	.44	.32	102.79	881	7.87	.00***
	Round 3	298	.43	.34	104.63	883		

*p< .05, **p< .01, ***<.001

Table 10: ANOVA Result of Risk by Rounds for Males

		N	M	SD	SS	df	F	p
	Round 2	252	.40	.61	.03	2		
Risk	Round 3	140	.41	.53	155.78	593	.05	.95
	Round 4	204	.41	.33	155.81	595		

*p< .05, **p< .01, ***<.001

To find out if there is a difference in the risk taking behavior between rounds (as more rounds played the probability of being eliminated increases for the ones who have not accomplished their bids) we conducted one-way ANOVA test (See Table 9 and 10). The results revealed that there is significant difference for female players (F=7.87; p=.00; M_{round1} =.34; M_{round2} =.44; M_{round3} =.43). The risk taken in the first round is less than 2nd and 3rd round. There is no difference between 2nd and 3rd. This may be due the fact females bid the first rounds. So they may bid without taking risk believing there is more games to play if they lose the first round. Yet as more rounds played the chance of being eliminated increases. However there is no significant difference for male players. When we look at the means we see males bids are same over rounds and around .40 which is a higher value compared to females first round bids risk value (.34). Most likely that there is loss aversion, meaning couples take more risks when they are in vulnerable position. They have either no or relatively low points in later rounds, than they tend to take more risks, in order to make up for the lost points in earlier rounds.

5. Conclusion

Present study investigated risk taking behavior by gender, type of bids (ascending/descending, winners/losers), age group and marital status and rounds game played.

Finds reveal that on the overall, the amount of risk taken does not show significant difference with respect to gender. However, when we analyze further, the rounds played we found out that females take fewer risks in earlier rounds, whereas we could not find a similar result for males. Loss aversion can be thought for women.

Findings of previous research regarding gender differences are rather mixed. Lingo by Beetsma and Shotman (2001), Affori Tuoi by Botti et al. (2009), DOND by Blavatskyy & Pogrebna (2008), Balthussen et al. (2008), Larkin and Pines (2003), Friend and Foe by List (2006), Million Pound Drop by Sheel and Nagelschneider (2015) found no gender difference regarding risk taking; while DOND by Mulino et al. (2006), Brooks et al. (2009) Who Wants to be Millionaire by Johnson and Gleason (2009), Daghofer (2007) found gender differences in risk taking.

In other experimental studies, Johnson and Powell (1994), Agnew et al. (2008), Eckel and Grossman (2002), Charness and Gneezy (2012), Ertaç and Gürdal (2012), regarding risk taking and Gneezy et al. (2003) regarding performance in games, Hardies et al. (2013) regarding gender risk taking and overconfidence found gender differences. Harbaugh, Krause and Vesterlund (2002), Schubert et al. (1999), Harris et al. (2006) and Demaree (2009) found no gender difference in their experiments.

According to Larkin and Pine (2003), women are more concerned about how they appear in public and consider participating in the game shows as personally risky. Women who are courageous enough to be in a game show may be quite different than their peers staying home. So it would be natural to expect women contestants are equal risk-takers as men.

Findings also demonstrated that losers take more risk compared to winners, which would be an indication of loss aversion; nevertheless, further clarification is needed. Post et al. (2008) also found out that losers have increased risk aversion. According to them, intention would be to make up for the losses (break-even effect), and low risk aversion for winners is because of incomplete adaptation to prior gains (house-money effect).

Other than these, types of games played, age, marital status, did not have significant effect on risk taking behavior.

We plan to investigate further learning, whether there is predatory and jump bidding, and the risk taking behavior regarding different games.

References

Agnew, J.R., Anderson, L.R., Gerlach, J.R., & Szykman, L.R. (2008). Who chooses annuities? An experimental investigation of the role of gender, framing and defaults. *The American Economic Review, Papers and Proceedings, 98*(2), 418-422.

Al-Ubaydli, O., & List, J.A. (2012). On the generalizability of experimental results in economics, *National Bureau of Economic Research Paper Series* No:17957, 24 pages.

Andersen, S., Harrison, G.W., Lau, M.I., & Rutström, E.E. (2006). Dynamic choice behavior in a natural experiment, *Copenhagen Business School Working Paper*., 54pages.

Antonovics, K., Arcidiancono P., Walsch R. (2005). Games and discrimination: Lessons from The Weakest Link. *Journal of Human Resources, 40*(4), 918-947.

Ariely, D., & Simonson, I. (2003). Buying, bidding, playing, or competing? Value assessment and decision dynamics in online auctions. *Journal of Consumer Psychology, 13*(1-2), 113-123.

Augenblick, N. (2011). *Consumer and producer behavior in the market for penny auctions: A theoretical and empirical analysis*. Unpublished dissertation, University of Berkeley.

Beetsma, R.M.W.J., Schotman, P.C. (2001). Measuring risk attitudes in a natural experiment: Data from the television game show Lingo". *The Economic Journal, 111*(October), 821-848.

Bennett R.W., Hickman K.A (1993). Rationality and "The Price is Right". *Journal of Economic Behavior and Organization, 21*(1), 99-105.

Berk J.B., Hughson E., Vandezande K. (1996). The Price is Right. But are the bids? An investigation of rational decision theory. A*merican Economic Review, 86*(4), 954-970.

Bernoulli, D. (1954). Exposition of a new theory on the measurement of risk (Translated from Latin into English by Dr. Louise Sommers 1738). *Econometrica, 22*(1), 23-36.

Binswanger, H.P. (1980). Attitudes toward risk: Experimental measurement in rural India. *American Journal of Agricultural Economics, 62*(3), 395-407.

Birley, S. (1989). Female entrepreneurs: Are they really any different?. *Journal of Small Business Management, 27*(1), 32-37.

Blavatskyy P., & Pogrebna G. (2008). Risk aversion when gains are likely and unlikely: Evidence from a natural experiment with large stakes. Retrieved from http://www.zora.uzh.ch.

Bloomfield, R., & Anderson, A. (2010). Experimental finance. *Cornell University Johnson School Research Paper Series* #23-2010, 22 pages.

Botti, F., Conte A., DiCagno D., D'Ippoliti C. (2009). Lab and framed lab versus natural experiments: Evidence from risky choice experiment. R*esearch in Economics, 63*, 282-295.

Brooks, R., Faff R., Mulino, D., & Scheelings, R. (2009). Deal or no deal that is the question: The impact of increasing stakes and framing effects on decision-making under risk. *International Review of Finance, 9*(1), 27-50.

Cornes, R., & Hartley, R. (2012). Loss aversion in contests. *The University of Manchester Discussion Paper Series*, EDP-1204, 28 pages.

Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic Literature, 47*(2), 448-474.

Daghofer F. (2007). Financial risk-taking in "Who Wants to Be a Millionaire": A comparison between Austria, Germany and Slovenia. Inter*national Journal of Psychology, 42*(5), 317-330.

De Roos N., & Sarafidis Y. (2006). Decision making under risk in Deal or No Deal. Retrieved from http://ssrn.com/abstract=881129.

Demaree, H.A., DeDonno, M.A., Burns, K.J., Feldman, P., & Everhart, D.E. (2009). Trait dominance predicts risk-taking. *Personality and Individual Differences, 47*(5), 419-422.

Eckel, C.C., & Grossman, P.J. (2002). Sex differences and statistical stereotyping in attitudes toward financial risk. *Evolution and Human Behavior, 23*(4), 281-295.

Eisenhauer, J.G. (2006). Risk aversion and prudence in the large. *Research in Economics, 60*, 179-187.

Eriksson, K., & Simpson B. (2010). Emotional reactions to losing explain gender differences in entering a risky lottery. *Judgment and Decision Making, 5*(3), 159-163.

Ertaç, S., & Gürdal, M.Y. (2010). Deciding to decide: Gender, leadership and risk-taking in groups. *Tusiad-Koç University Economic Research Forum Working Paper Series*, WP1028.

Gertner, R. (1993). Game shows and economic behavior: Risk-taking on "Card Sharks". *Quarterly Journal of Economics, 108*, 507-521.

Gneezy, U., & Potters, J. (1997). An experiment on risk taking and the evaluation periods. *The Quarterly Journal of Economics, 112*(2), 631-645.

Gneezy, U., Niederle, M., & Rustichini, A. (2003). Performance in competitive environments. *The Quarterly Journal of Economics, 118*(3), 1049-1074.

Gode, D.K., & Sunder, S. (1993). Allocative efficiency of markets with zero-intelligence traders: Market as a substitute for individual rationality. *Journal of Political Economy, 101*(1), 119-137.

Harbaugh, W.T., Krause, K., & Vesterlund, L. (2002). Risk attitudes of children and adults: Choices over small and large probability gains and losses. *Experimental Economics, 5*(1), 53-84.

Harink, F., Beest, I.V., Dijk, E.V., & Van Zeeland, M. (2012). Measurement – induced focusing and the magnitude of loss aversion: The difference between comparing gains to losses and losses to gains. *Judgment and Decision Making, 7*(4), 462-471.

Harris, C.R., Jenkins, M., & Glaser, D. (2006). Gender differences in risk assessment: Why do women take fewer risks than men?, *Judgement and Decision Making Journal, 1*(1), 48-63.

Healy, P., & Noussir, C. (2004). Bidding behavior in the price is right game: An experimental study. *Journal of Economic Behavior and Organization, 54*(2), 231-247.

Hibbert, A.M. (2008). *Essays on risk aversion, diversification and participation*, Unpublished dissertation, Florida International University.

Holt, C.A., & Laury, S.K. (2002). Risk aversion and incentive effects. *The American Economic Review, 92*(5), 1644-1655.

Johnson D.K.N., & Gleason T.R. (2009). Who really wants to be a millionaire? Gender differences in a game show contestant behavior under risk. *Social Science Quarterly, 90*(2), 243-262.

Johnson, J.E.V., & Powell, P.L. (1994). Decision making, risk and gender: Are managers different?. *British Journal of Management, 5*(2), 123-138.

Kachelmeier, S.J., & Shehata, M. (1992). Examining risk preferences under high monetary incentives: Experimental evidence from the People's Republic of China. *The American Economic Review, 82*(5), 1120-1141.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263-291.

Kahneman, D., Knetch, J.L., & Thaler, R.H. (1990). Experimental tests of the endowment effect and the coase theorem. *Journal of Political Economy, 98*(6), 1325-1348.

Köbberling, V., & Wakker, P.P. (2005). An index of loss aversion. *Journal of Economic Theory, 122*(1), 119-131.

Koedijk, K., Pownall, R.A., & Statman, M. (2012). Aspirations, well-being, risk-aversion and loss-aversion, retrieved from http://ssrn.com/abstract=2021007.

Larkin, J.E., & Pines, H.A. (2003). Gender and risk in public performance. *Sex Roles, 49*(5-6), 197-210.

Levitt S.D. (2004). Testing theories of discrimination: Evidence from Weakest Link. J*ournal of Law and Economics, 47*(2), 431-452.

Master, R., & Meier, R. (1988). Sex differences and risk taking propensity of entrepreneurs. *Journal of Small Business Management, 26*(1), 31-35.

McGraw, A.P., Larsen, J.T., Kahneman, D., & Schkade, D. (2010). Comparing gains and losses. *Psychological Science, 21*(10), 1438-1445.

Metrick A. (1995). A natural experiment in Jeopardy!. Am*erican Economic Review, 85*(1), 240-253.

Mulino D., Scheelings R., Brooks R.D., & Faff R.W. (2006). An empirical investigation of risk aversion and framing effects in the Australian version of Deal or No Deal. Retrieved from http://ssrn.com/abstract=926040.

Novemsky, N., & Kahneman, D. (2005). The boundries of loss aversion. *Journal of Marketing Research, 42*(2), 119-128.

Post T., Van den Assem M., Baltussen G., & Thaler R. (2008). Deal or No Deal? Decision making under risk in a large payoff game show. *American Economic Review, 98*(1), 38-71. DOI: 10.1257/aer.98.1.38

Pratt, J.W. (1964). Risk aversion in the small and in the large. *Econometrica, 32*(1-2), 122-136.

Rabin, M. (2000). Risk aversion and expected-utility: A calibration theorem. *Econometrica, 68*(5), 1281-1292.

Scheel, F., & Nagelschneider, J. (2015). Gender differences in decision making under risk. Evidence from TV game show. *Die Betriebswirtschaft*, 25-43.

Schneider, M., Day, R., & Garfinkel, R. (2015) Risk aversion and loss aversion in core-selecting auctions. *Decision Support Systems, 79*(Nov.), 161-170. DOI: 10.1016/j.dss.2015.09.007.

Schubert, R., Brown, M., Gysler, M., & Brachinger, H.W. (1999). Financial decision-making: Are women really more risk-averse?. *AEA Papers and Proceedings, 89*(2), 381-385.

Sözer-Oran, J. (2010). *Teoride ve Pratikte Müzayede (Auction in Theory and Practise),* Marmara University, Nihat Sayar Foundation Publications, İstanbul.

Tseng, J.J., Lin, C.H., Lin, C.T., Wang, S.C., & Li, S.P. (2010) Statistical properties of agent-based models in markets with continuous double-auction mechanism. *Physica A, 389*(8), 1699-1707.

Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The Quarterly Journal of Economics, 106*(4), 1039-1061.

Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty, 5*(4), 297-323.

Von Neumann, J., & Morgenstern, O. (1944) *Theory of Games and Economic Behavior*, Princeton, N.J., Princeton University Press.

Wieland, A., Sundali, J., Kemmelmeier, M., & Sarin, R. (2014). Gender differences in the endowment effect: Women pay less, but won't accept less. *Judgment and Decision Making, 9*(6), 558-571.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

MENTAL ACCOUNTING AND RISK PERCEPTION IN THE CONTEXT OF BEHAVIORAL FINANCE: AN EMPIRICAL STUDY IN MARMARA UNIVERSITY, TURKEY

DAVRANIŞSAL FİNANS KAPSAMINDA ZİHİNSEL MUHASEBE VE RİSK ALGISI: MARMARA ÜNİVERSİTESİ'NDE AMPİRİK BİR ÇALIŞMA

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Abstract

With the prevalence of behavioral approaches to the consumption – and investment-based decisions of individuals, the mental coding of gains and losses employing the value function of prospect theory has been studied intensively by Thaler (2008), focusing on the process of mental accounting, the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities. This study analyzes the behaviors of academicians in context of mental accounting and risk-based components. The sampling frame comprises academicians from the Faculty of Business Administration at Marmara University, Istanbul, and the findings show that mental accounting does, indeed, an impact on risk perception. However, the risk perceptions of academicians in terms of financial instruments differ with respect to demographic variables.

Keywords: Mental accounting, risk perception, cost and benefit, sunk cost, topical account

JEL Classification: G11, G41

Öz

Günümüzde, davranışsal tutum bireylerin tüketim ve yatırım kararlarına hâkim olmaya başladığından, Thaler (2008), Beklenti Teorisi'ndeki değer fonksiyonunu kullanarak kazanç ve kayıpların zihinsel kodlaması üzerinde yoğun olarak araştırmalar yapmıştır. Zihinsel muhasebe olarak isimlendirilen bu süreç, bireylerin ve hane halkının finansal aktivitelerini organize etmek, değerlendirmek ve takip etmek için kullandığı bir dizi bilişsel operasyondan oluşmaktadır. Bu çalışmanın amacı, zihinsel muhasebe ve

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risk bazlı bileşenler kapsamında akademisyenlerin davranışlarını analiz etmektir. Çalışmanın örneklemini Marmara Üniversitesi İşletme Fakültesi akademisyenleri oluşturmaktadır. Çalışmanın bulguları, zihinsel muhasebenin risk algısı üzerinde etkisi olduğunu ortaya çıkartmıştır. Ayrıca, akademisyenlerin, finansal araçlar üzerindeki risk algılarının demografik değişkenler arasında farklılık gösterdiği de görülmüştür.
Anahtar Kelimeler: Zihinsel Muhasebe, Risk Algısı, Fayda ve Maliyet, Batık Maliyet, Topikal (Lokal) Hesap
JEL Classification: G11, G41

1. Introduction

For many years, "Expected Utility Theory" (Bernoulli, 1738) prevailed in the finance literature on the analysis of decision-making under risk. Over time it became clear, however, that individuals make choices which are inconsistent with the utility theory. Certain outcomes were much more preferred than the probabilities suggested they should be. These behavior pattern were revealed as risk-averse and risk-taking, in terms of certain gain and certain loss, respectively. Thus, Prospect Theory (Kahneman & Tversky, 1979), was developed as an alternative, arguing that individuals value gains and losses rather than expected value of final assets. Hence, the focus on probabilities descended, and decisions took the stage.

Meanwhile, a concern with irrational behaviors in the consumption – and investment-based decisions of individuals started to prevail. Thaler (2008), one of the pioneers of behavioral finance, focused particularly on mental coding of gains and losses. That process of mental accounting was characterized as the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities (Thaler, 1999).

The differences between classical and behavioral approaches prompt researchers to explore the developments in mental accounting and risk perceptions in order to cope with deviations from rational investor and consumer approach. It is in that context that the present study analyzes the behaviors of academicians, as the most educated group in society, regarding their mental accounting and risk-based components. Following a comprehensive literature review, the methodology is presented and the findings evaluated.

2. Literature Review

There are some striking differences between the traditional accounting system and mental accounting. Institutions mostly use accounting to track, separate and categorize money flow among funds and assets, while mental accounting is associated with brain. Nofsinger (2001) explicates the functioning of the brain as similar to a file cabinet. Each decision, action, and outcome is placed in separate file folders containing the costs and benefits associated with a particular decision.

According to Heath and Soll (1996), consumers allocate their total resources to separate mental accounts and then track expenses against their budget. In line with the occurrence of expenses, they consume the money in their accounts, making future consumption difficult. The formation of categories is the most critical phase in mental accounting. (Henderson & Peterson, 1992).

Following Thaler (1999), the mental accounting process is taken to comprise three stages. The initial stage involves the perception and experience of outcomes in line with cost-benefit analyses, the second stage deals with the labelling of both sources and fund usages and the last stage is the household budgeting.

Present value and future predictions fall within the scope of traditional accounting and finance systems, however; individuals continuously consider past and historic costs during their decision – making process, and such behavior is reflected on their future decisions. This is explained as the sunk cost effect in the context of mental accounting (Thaler, 1980). As observed by Nofsinger (2001), another contradictory area in mental accounting is that of economic impact. Here, time – value advantages are mostly left behind in considering payment-income processes. A further development was the framing of multiattribute choices as psychological accounts. The accounts can be minimal, topical or comprehensive. Thaler (1999), in his study, argued that people frame simple choices in terms of topical accounts.

Levav and McGraw (2009) promoted the concept of emotional accounting. These researches, working within the context of mental accounting, suggested that the cognitive process of consumption is linked with feelings or money's "affective tag". In the case of gaining money under negative conditions, people have the tendency to move into strategic consumption. They avoid hedonistic expenditures and instead spend their money on utilitarian or virtuous expenditures so that their negative feelings about the windfall will be laundered.

On the other hand, Loureiro and Haws (2015) emphasized how people in a positive state, when cognitive resources are unconstrained, do not tend to exploit ambiguity in mental accounts and justify spending.

Another sharp move away from the realm of traditional approach was that of the portfolio risk perception of gains and losses. Unlike Markowitz's (1952) Modern Portfolio Theory, mental accounting has difficulties in accepting correlation as one of the major components of risk measurement and perceives each investment as a separate mental account. Shefrin and Statman (2000) pointed out that mean-variance-based efficient frontier and expected wealth, desire, and aspiration-based behavioral portfolios do not coincide with each other.

The level of risk in investing has been much researched. Süer (2007), conducted a study in small – and medium-size enterprises in the textile sector in Istanbul, in which most of her findings validated the expected results of mental accounting.

Akçi (2017) dealt with price perception (effect of loss, discount effect, and reference price effect) in terms of mental accounting and consumer choices. It was seen that consumers referred to mental accounting while making decisions and they shaped their decisions accordingly. Furthermore, there were significant differences between the consumers' demographic characteristics (gender, education, marital status, age, monthly income and profession) and the mental accounting results. Sefil and Çilingiroğlu (2015) also detected mental accounting as a cognitive error. Duman Kurt and Tanyeri (2013) analyzed some behavioral finance approaches, including mental accounting and sunk cost, and gained results that varied as a function of product involvement levels.

The combination of risk perception in terms of gains and losses and mental accounting, as a leading and guiding key concept of behavioral finance (Uzar & Akkaya, 2013), highlight the logic of how investor decisions are affected by irrational motives of individuals. While assessing investors' risk tolerance, Linciano and Soccorso (2012) noted that loss aversion and mental accounting collaborate with investment goals to reach optimal investment strategies by considering wealth, respecting account segregation. Furthermore, a study, conducted by Anolam, Okoroa and Ajaero (2015), revealed that cost-benefit analysis is essential during the mental accounting process in order to sufficiently match risks and returns.

3. Research Methodology, Analyses and Results

3.1. Sampling and Data Collection

The target population of this study was academicians in Turkey. Due to time and financial constraints, the sampling frame of the study was limited to academicians from the Faculty of Business Administration at Marmara University, Istanbul. A survey was conducted among 114 academicians (out of 158) from the Business Administration (BA) – comprising Turkish language-medium BA, English BA, and German BA – and Business Informatics (BI) departments of the faculty. A judgmental sampling process was used to collect data, which was gained from questionnaires conducted by face-to-face interview during May 21 – 30, 2018.

3.2. Questionnaire Design and Measurement

The questionnaire employed for data collection was organized into three main sections: mental accounting, risk perception and demographics. The mental accounting questions were designed to analyze cost-benefit, sunk cost, economic impact, and topical account factors (ordinal scale, 5 – point Likert). Risk perception was analyzed through decision-making towards gains and losses (ordinal scale, 5-point Likert) and risk classification (ordered scale). Demographics were added in the last section. The questions were adopted from the studies of Prelec and Loewenstein (1998), Thaler (1980), Hirst, Joyce and Schadewald (1994), and Kahneman and Tversky (1986).

3.3. Data Analyses and Results

In the initial stage, reliability alpha values were computed to confirm the internal consistency of items in each domain. Then, a confirmatory factor analysis (CFA) was conducted to examine the quality of the items in the proposed measurement model (Hair, Black, Babin, & Anderson, 2014). Following the factor analysis, a regression model was built to test the impact of mental accounting components on risk perception. In the final stage, a chi-square analysis was made to test the relationship between risky asset classifications and demographics.

3.3.1. Demographics

A demographic profile of respondents was made for gender, department, major, and experience (Table 1). The majority of academicians were female and working in the Turkish language BA department, whereas the Accounting & Finance and Marketing departments contribute almost the half of total majors with 48%. 62% of academic staff have experiences over 15 years.

Table 1: Demographics

	%
Gender	
Female	63.2
Male	36.8
Department	
BA (in Turkish)	54.9
BA (in English)	23.7
BA (in German)	14.5
Business Informatics (in German)	6.8
Major	
Accounting & Finance	27.1
Marketing	21
Numerical Methods	11.4
Production Management	3.5
Management & Org.	16.6
Human Resources	4.3
Business Law	0.017
Commercial Law	0.026
MIS	1.1
OB	5.2
Data Distribution	3.5
Experience (Years)	
1-5	15.7
6-10	8.7
11-15	13.1
16-20	25.4
20+	36.8

Source: Own-Assessment based on collected data

Note: The abbreviations are: Org.: Organization, MIS: Management Information Systems, OB: Organizational Behavior

3.3.2. Measure Reliability and Validity

In order to identify attitudinal components an exploratory factor analysis (EFA) with Principle Component Factoring and varimax rotations was conducted. Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were performed to assess the appropriateness of data for conducting factor analysis.

Table 2: Exploratory Factor Analysis (Mental Accounting and Risk Perception)

Factor and Statements	Factor loads
Topical Account (α = .876)	
Scenario: Imagine that you are about to purchase a jacket for $125 ($15) and a calculator for $15 ($125). The calculator salesman informs you that the calculator you wish to buy is on sale for $10 ($120) at the other branch of the store, located 20 minutes' drive away. Would you make the trip to the other store?	
I travel to save $5 in calculator	0.896
I don't travel and buy the calculator from the current price	-0.921
I travel to save $5 in jacket	0.903
I don't travel and buy the jacket from the current price	-0.900
Sunk Cost (α = .832)	
Scenario: A family pays $40 for tickets to a basketball game to be played 60 miles from their home. On the day of the game there is a snowstorm. They decide to go anyway, but note in passing that had the tickets been given to them, they would have stayed home.	
They have already paid $40	0.845
Tickets have been given to them (no payment)	0.549
Buying the ticket for $40 at an earlier time (1 year ago)	0.585
Buying the ticket for $40 yesterday	0.799
C&B of Durable Goods (α = .804)	
Scenario: Imagine that, six months from now, you are planning to purchase a clothes washer and dryer for your new residence. The two machines together will cost $1200. You have two options for financing the washer/dryer:	
Six monthly payments of $200 each during the six months before the washer and dryer arrive	-0.945
Six monthly payments of $200 each during the six months beginning after the washer and dryer arrive	0.933
C&B of Services (α = .712)	
Scenario: Imagine that you are planning a one-week vacation to the Caribbean, six months from now. The vacation will cost $1200. You have two options for financing the vacation:	
Six monthly payments of $200 each during the six months before the vacation	-0.899
Six monthly payments of $200 each during the six months beginning after you return	0.911
C&B of Labor (α = .728)	
Scenario: How would you liked to be paid for working a few hours on the weekends during the next six months?	

Prepayment – 0.958	
After doing the work 0.954	
Economic Impact (α = .798)	
Scenario: You were asked to select a loan to finance the $7000 cost of a home-remodeling project. The project involved redecorating and would last four years, when you would have to redecorate again. (Both loans could be prepaid without penalty) You had two loans to choose from:	
A 3-year loan with 12% interest	0.802
A 15-year loan with 11% interest	-0.798
KMO Value (Adequacy): 0.753 **Bartlett Test of Sphericity: 0.000Factor %** **Factor (Cumulative Explanation): 80.48%**	

Factor and Statements	**Factor loads**	
Risk Perception – Gain (α = .0715.)		
Choose between:		
A sure gain of $240		-0.919
A 25% change to gaining $1000 and 75% chance of gaining nothing		0.932
Risk Perception – Loss (α = .728.)		
Choose between:		
A sure loss of $750		0.953
75% chance of losing $1000 and a 25% chance of losing nothing		-0.933
KMO Value (Adequacy): 0.755 **Bartlett Test of Sphericity: 0.000Factor %** **Factor (Cumulative Explanation): 88.28%**		

As Table 2 shows, all the correlated components of both mental accounting and risk perception were transformed into principal components. The explanatory powers were relatively strong, with 80.48% and 88.28% for mental accounting and risk perception, respectively and the components were statistically significant.

3.3.3. Regression Model Results

Following control of the scale items for reliability and validity, a regression model was formulated to test the suggested hypotheses. Since there are numerous factors representing mental accounting and risk perception, the hypotheses of the study were listed in aggregated form, as follows;

Hypotheses: "Mental Accounting factors (cost & benefit, sunk cost, economic impact, topical account) have an impact on risk perception (losses and gains)"

During the regression analysis, each variable was tested individually on mental accounting and risk perception components.

Table 3: The Impact of Mental Accounting Components on Risk Perception in terms of Gains

Factor	Beta (β)	Significance	F (ANOVA) 1.215	Significance (0 Value)	Hypotheses
F1-Topical Account	0.035	0.719		0.719	H3
F2-Sunk Cost	-0.013	0.893		0.893	H4
F3-**Cost & Benefit**					H1
Durables	-0.171	0.081		**0.081****	
Services	0.041	0.673		0.673	
Labor	-0.056	0.566		0.566	
F4-**Economic Impact**	0.182	0.064		**0.064****	H2

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

The statistically accepted hypotheses are stated as follows:

H_1: The cost & benefit factor (C&B) factor (durables as a component) has an impact on risk perception in case of gains

H_2: The economic impact factor has an impact on risk perception in case of gains

Table 4: The Impact of Mental Accounting Components on Risk Perception in terms of Losses

Factor	Beta (β)	Significance	F (ANOVA) 3.225	Significance (0 Value)	Hypotheses
F1-Topical Account	0.135	0.144		0.144	H3
F2-Sunk Cost	-0.070	0.448		0.448	H4
F3-**Cost and Benefit**					H1
Durables	0.212	0.023		**0.023****	
Services	0.152	0.102		**0.102***	
Labor	0.264	0.005		**0.005*****	
F4-Economic Impact	0.051	0.582		0.582	H2

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

The statistically accepted hypothesis is stated as follows:

H_1: The C&B factor (durables, services and labor) has an impact on risk perception in case of losses

According to the results of the regression model, the C&B factor applied to durable goods has an impact on risk perception in the case of gains. The economic impact factor has an impact on risk perception in the case of gains, as well.

The C&B factor overall (applied to all components, i.e., durables, services, and labor) has an impact on risk perception in the case of losses. Labor's effect, as a component, is very strong compared that of the other components of C&B.

3.3.4. Chi-Square Test Results

Following the regression model, chi-square test is run to analyze the risk perception differences among demographics. The aggregated form of the hypotheses is given as;

Hypotheses: "The risk perception of capital market instruments (commodities, corporate bonds with high rankings, emerging market shares, European and East-Asian shares, high-yielding bonds, main market shares, emerging companies' shares, T-bonds) differ with respect to demographics (gender, department, professional experience, major)"

The hypotheses were tested individually. Those that were statistically accepted are given below:

H_1: The risk perceptions of corporate bonds (with high ratings) vary across departments

Table 5a: Cross Tab of Corporate Bonds (with high ratings) and Department (as quantities)

Risk Levels (1:min – 8:max)	BA (Turkish)	BA (English)	BA (German)	Business Inf.	Total
1	13	0	2	0	15
2	20	5	8	0	33
3	15	9	0	3	27
4	4	4	6	3	17
5	4	3	0	0	7
6	3	1	0	0	4
7	2	1	0	1	4
8	2	1	0	0	3
Total	**63**	**24**	**16**	**7**	**110**
Table 5b: Cross Tab of Corporate Bonds (with high ratings) and Department					

	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	38.348	21	**0.012*****
Likelihood Ratio	48.567	21	0.001
Linear by linear Ass.	1.438	1	0.230
No of valid cases	110		

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

As seen from the tables above, overall, 83.7% of academicians from the various departments surveyed perceived corporate bonds as less risky instruments, mostly ranging between levels 1 to 4. Within these levels, however, there are clear differences among them. No-one from the English BA or Business Informatics Departments chose the minimum risk level (1), whereas, 20% of the academicians in Turkish BA perceived corporate bonds as the least risky capital market instrument, and no-one in the German BA department perceived the instrument as at all risky, instead ranging between levels 5-8.

These results indicate a strong significant difference among departments in terms of their risk perceptions of corporate bonds (with high ratings). The second factor found to be significant concerned the academicians' majors:

H_2: The risk perceptions of emerging market shares vary across majors

Table 6a: Cross Tab of Emerging Market Shares and Major (as quantities)

RL	A&F	NM	PM	MO	HR	BL	CL	OB	MAR	MIS	DD	Total
1	0	0	0	1	0	0	0	0	0	0	0	1
2	0	1	0	0	0	0	0	0	1	0	0	2
3	0	0	0	0	1	0	2	0	2	0	0	5
4	3	0	1	1	0	0	0	2	0	1	0	8
5	4	0	2	3	1	1	0	1	2	1	0	15
6	3	1	0	3	0	0	0	0	5	0	1	13
7	10	6	1	4	1	1	0	0	2	1	1	27
8	13	3	0	8	1	0	1	2	10	1	0	39
Total	33	11	4	20	4	2	3	5	22	4	2	110

Note: RL: Risk Levels, A&F: Accounting & Finance, NM: Numerical Methods, PM: Production Management, MO: Management and Organization, HR: Human Resources, BL: Business Law, CL: Commercial Law, OB: Organizational Behavior, MAR: Marketing, MIS: Management Information Systems, DD: Data Distribution.

Table 6b: Cross Tab of Emerging Market Shares and Major

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	85.298	70	**0.103***
Likelihood Ratio	73.202	70	0.373
Linear by linear Ass.	1.563	1	0.211
No of valid cases	110		

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

The results show that emerging-market share risk perception differed slightly among the 11 majors in the faculty. Almost 35% of the total regarded emerging market shares as the riskiest capital market instrument. Emerging market shares seem appear to have been the most risk-connected instrument among the academicians.

H_3: The risk perceptions of high-yielding bonds vary across majors

Table 7a: Cross Tab of High-Yielding Bonds and Major (as quantities)

RL	A&F	NM	PM	MO	HR	BL	CL	OB	MAR	MIS	DD	Total
1	0	0	0	3	1	1	0	0	5	0	1	11
2	4	0	1	6	1	1	0	0	0	0	0	13
3	7	3	0	5	2	0	0	1	5	0	0	23
4	8	3	1	2	0	0	2	2	2	0	0	20
5	4	2	0	1	0	0	0	1	3	2	1	14
6	3	2	0	1	0	0	0	0	1	2	0	9
7	4	1	0	0	0	0	1	0	2	0	0	8
8	3	0	2	2	0	0	0	1	4	0	0	12
Total	**33**	**11**	**4**	**20**	**4**	**2**	**3**	**5**	**22**	**4**	**2**	**110**

Note: Acronyms as per Table 6a.

Table 7b: Cross Tab of High-Yielding Bonds and Major

	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	86.740	70	**0.085***
Likelihood Ratio	85.658	70	0.098
Linear by linear Ass.	0.006	1	0.937
No of valid cases	110		

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

High-yielding bonds were found to carry risk perceptions that varied significantly across the majors. While the HR major academicians all considered high-yielding bonds as relatively less risky assets, the MIS major evaluated the same instrument as relatively risky. Other departments exhibited more mixed rankings.

H_4: The risk perceptions of European and East Asian Region shares vary across departments

Table 8a: Cross Tab of European and Asian Region shares and Department (as quantities)

Risk Levels	BA (Turkish)	BA (English)	BA (German)	Business Inf.	Total
1	3	1	2	1	7
2	6	3	1	2	12
3	5	3	5	1	14
4	13	1	1	0	15
5	13	6	1	1	21
6	4	8	4	1	17
7	14	1	0	0	15
8	5	1	2	1	9
Total	**63**	**24**	**16**	**7**	**110**

Table 8b: Cross Tab of European and East Asian Region shares and Department

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	31.925	21	**0.060***
Likelihood Ratio	35.841	21	0.023
Linear by linear Ass.	2.616	1	0.106
No of valid cases	110		

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

There was a statistically significant differentiation between the risk classifications of the academicians in terms of European and East Asian shares and departments at the faculty. Almost 44% of the academicians saw European and East Asian shares as relatively lower risk-bearing instruments, ranging between levels 1-4, but this portion rose as high as 57% for BI and fell to 33% in BA English.

H_5: The risk perceptions of European and East Asian Region shares vary according to experience

Table 9a: Cross Tab of European and East Asian region shares and Experience

Risk Levels	1-5 years	6-10 years	11-15 years	16-20 years	20+	Total
1	2	1	1	0	3	7
2	1	2	1	5	3	12
3	7	1	1	1	4	14
4	4	1	3	3	4	15
5	1	3	1	6	10	21
6	0	2	2	9	4	17
7	1	0	4	3	7	15
8	1	0	1	0	7	9
Total	**17**	**10**	**14**	**27**	**42**	**110**

Table 9b: Cross Tab of European and East Asian Region shares and Experience

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.167	28	**0.042****
Likelihood Ratio	45.623	28	0.019
Linear by linear Ass.	6.357	1	0.012
No of valid cases	110		

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

The academicians' views of European and East Asian share risk varied significantly. Similarly to the departmental results, 44% of total academicians perceived European and East Asian region shares as relatively lower risk-bearing instruments, ranging between the 1-4 levels. The majority of academicians generally had between 16-20 and 20+ years of experience, and both groups' risk perceptions indicated that such shares were relatively risky instruments, ranging between the 5-8 levels. A low-risk perspective was held mainly among those academicians with 1-5 years of experience.

H_6: The risk perceptions of main market shares vary across departments

Table 10a: Cross Tab of Main Market shares and Department (as quantities)

Risk Levels	BA (Turkish)	BA (English)	BA (German)	Business Inf.	Total
1	4	0	2	0	6
2	8	0	0	2	10
3	7	3	1	2	13
4	14	5	2	2	23
5	9	6	3	1	19
6	11	2	0	0	13
7	3	6	6	0	15
8	7	2	2	0	11
Total	**63**	**24**	**16**	**7**	**110**

Table 10b: Cross Tab of Main Market shares and Department

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34.835	21	**0.029****
Likelihood Ratio	40.420	21	0.007
Linear by linear Ass.	0.002	1	0.966
No of valid cases	110		

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

There was a relatively strong significant differentiation of main market share risk perception among departments at the faculty. Even though the aggregated profile exhibited a close distribution with 53% risky (5-8 levels) and 47% riskless (1-4 levels) classification, the preferences varied across departments. Totals of 66 and 69% of the academicians of the German and English BA departments, respectively, perceived main market shares as risky, whereas this number was at just 48% in the Turkish BA department. On the other hand, all the BI department academicians approached main market shares as relative riskless instruments, except for one, who put this at level 5.

H_7: The risk perceptions of main market shares differ according to experience

Table 11a: Cross Tab of Main Market shares and Experience

Risk Levels	1-5 years	6-10 years	11-15 years	16-20 years	20+	Total
1	0	0	3	1	2	6
2	0	1	2	3	4	10
3	5	1	0	5	2	13
4	1	2	2	9	9	23
5	5	2	1	3	8	19
6	2	2	0	1	8	13
7	2	2	2	4	5	15
8	2	0	4	1	4	11
Total	**17**	**10**	**14**	**27**	**42**	**110**

Table 11b: Cross Tab of Main Market shares and Experience

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.318	28	**0.093***
Likelihood Ratio	43.167	28	0.034
Linear by linear Ass.	0.071	1	0.790
No of valid cases	110		

Note: *, **, and *** represent statistical significance at the 10%, 5%, and 1% levels, respectively.

The difference in perception according to experience is striking. Only 33% of the academicians with 16-20 years of experience regarded main market shares as risky, a figure that stood at 50 % for those with 11-15 years' experience and around 60% for the remainder.

4. The Evaluation of Total Findings

As Nofsinger (2001) states, mental budget associates costs with pain and benefits with joy. The initial finding of this study confirms the principle of mental budgeting's matching of emotional pain to emotional joy. The results indicate that the C&B factor, in terms of durable goods as a component, has a significant impact on risk perception in case of gain. Since benefit is extended over time and payment periods differ (pay-as-you-go system and pre – or post-payment), the costs of these goods are offset by the long – lasting benefit over the years.

The second outcome is that the economic impact factor has an effect on risk perception in case of gain. This result is contradictory with the time-value approach of money. It seems that the academicians, as a very common irrational choice, tend to accelerate payments (emotional pain) by choosing the loan alternative with higher interest rate and shorter duration. Considering that the long-term-based loan with lower interest rate can be converted into shorter duration one, rationally, it is evident that the monthly payments would be lower and the present value of their wealth would be higher were this alternative to be selected. The choice made points to a willingness to match cost and benefit in a shorter time period by reckoning without present value maximization. Additionally, it should be underlined that a consideration of risk perception under gain reveals that the expenditures of individuals are much more flexible under stable conditions.

As a further result, the C&B factor, in terms of durable goods, services and labor, has an impact on risk perception in case of losses. This result can be attributed to the value function in prospect theory. The risk-seeking behavior of individuals come to the forefront in case of loss. Labor has a significant impact compared to the others, since it's associated with living expenses. Here, the academicians showed a preference for matching the length of time and long-term benefit. Post-payment preference combined with risk perception of loss indicates that working weekends (as long-term cost) prevails over the risk of nonpayment and, therefore, such a risk is undertaken.

In the second stage of the study a chi-square analysis was conducted to concretize the differentiations among demographics and risk perceptions of the academicians. Accordingly, the first finding is the strong differentiation of corporate bond (with high ratings) risk perceptions among the departments of the faculty. The preference for this financial instrument requires a certain level of knowledge, since rating and corporate features are defined. Hence, it is not simply a bond. Here, the majority of the academicians perceived the mentioned instrument to be relatively riskless (ranging between the 1–4 levels). However, the departmental classifications differ distinctly. While proper numbers of the academicians from the English BA and Turkish BA departments (25 and 17%, respectively) perceived high-ranked corporate bonds as relatively risky assets, the German BA department staff saw these as relatively riskless. Besides, there was just a single academician from the BI department holding a risky view of them. It is not possible to determine whether the respondents focused on specific features, such as "corporate" and "high ranking" or whether they overweighed the word "bond" when indicating their preferences. As a result, the majority view of relatively little risk perception could be attributed to "availability" heuristic by word "bond's" springing to the fore.

Another outcome of the study is that the high-yielding bond risk perceptions of academicians varied across majors. Similar to the corporate bond (with high ratings) risk perceptions, it may be argued, the correspondents overweighed the word "bond" rather than "high-yielding" feature. The financial knowledge here requires a joint evaluation of these features, since "high-yielding" could be associated with an instrument's speculative character. While checking major-based preferences, the HR and BL majors, as a whole, perceived the instrument as relatively riskless. In MO the relatively riskless ratio stands at 80%. On the other hand, significant groups in NM, MAR and A&F majors approached high-yielding bonds as relatively risky. In the MIS major, the perception was totally risky. A sharp distinction is evident between the relatively qualitative – and quantitative-focused and consumer-based majors.

As capital-market-based financial instruments, shares seemed to be well-known among the academicians since, notwithstanding their risky structure, most accurate rankings among demographics are encountered for these. The initial finding related with shares is that emerging market share risk perceptions varied across majors. The academicians of the DD major completely accepted emerging market shares as a risky instrument. The risk-preferences (ranging between the 5-8 levels) in the A&F, NM, MO and MAR majors stood at 91%, 91%, 90% and 86%, respectively, while CL and OB majors indicated riskless preferences of 67% and 40%, respectively.

There is an interesting share-related detection in the study. As a further outcome, it is found that European and East Asian region share risk perceptions varied across departments. Unlike the emerging market share preferences, it is apparent that the correspondents overweighed financial knowledge and focused on the feature of "European and East Asian region". Here, only 56% of the correspondents regarded the instrument as relative risky, compared to 85% for emerging market shares. The same tendency is encountered at department-based rankings, as well. This behavior deserves to be considered in detail, since it concerns rationality. The differences among the departments is seen here in ranking levels, with the analysis indicating that the academicians' experiences vary in their risk perceptions of "European and East Asian region" shares. While less experienced correspondents perceived the instrument relative riskless, the more experienced (16 and over years) displayed a relative risky approach. Differences related to life experience and material (e.g., family) responsibilities could be among the reasons.

As final outcomes of the study, main market share risk perceptions varied across both departments and experiences. Main market shares are those of companies with the necessary market capitalization and trading volume. They are mostly banks, insurance companies, and conglomerates, known as "blue-chips". There was a strong department-based variety in main market share risk perception. The BI department approached main market shares as relatively riskless instruments, with 86% of the academicians taking this view, number that stood at 52% for the Turkish BA department. On the other hand, the English and German BA departments perceived the same instrument as relatively risky, with 67% and 69%, respectively. Regarding experience, the most experienced (20+ years) perceived main market shares as risky instruments, similar to their perceptions of European and East Asian region shares. It seems that they were focusing on the word "share" rather than its features. Surprisingly, 65% of the least experienced (1-5 years) approached these as risky, too. The main distinction here is encountered between the least experienced and those with 16-20 year experiences. At this point, it could be interesting to undertake further analysis to investigate the financial acquaintances of academicians within and among these demographic variables.

5. Conclusion

This study has comprised the initial stage of a comprehensive research program. Going forward, the results of the exploratory factor analysis will be analyzed more deeply by considering the two-option-based questions of the scales in the context of the C&B, sunk cost, topical account and economic impact factors. The sampling frame will also be enlarged with other faculties and universities and comparisons will be presented. In the last stage, the analyses of different professions will be conducted and their comparisons with the academicians will be given. Since irrationality is an incontrovertible reality in the world, this research is expected to pave the way for new approaches and fill the related gap in the academic literature.

References

Akçi, Y. (2017). Fiyat Algısında Zihinsel Muhasebe ve Tüketici Tercihi. *International Journal of Academic Value Studies,* 3(9), 285-297.

Anolam, O.M., Okoroafor S.N., Ajaero O.O. (2015). Effect of Mental Accounting on Corporate Profitability. *West African Journal of Industrial & Academic Research,* 14 (1), 100–114.

Bernoulli, D. (1738). *Specimen theoriae novae de mensura sortis*. Commentarii Academiae Scientiarum Imperialis Petropolitanae, 5, 175-192. Translated by Dr. Louis Sommer (1954). Exposition of a New Theory on the Measurement of Risk. *Econometrica*, 22(1), 23-36.

Duman Kurt, S., & Tanyeri, M. (2013). Davranışsal Ekonomi Yaklaşımlarının Ürün İlgilenim Seviyesine Göre İncelenmesi. *Pazarlama ve Pazarlama Araştırmaları Dergisi*, 12, 21-46.

Hair J. F., Black W., C., Babin B., J., Anderson R., E. (2014). *Multivariate Data Analysis*. Pearson New International Edition, USA.

Heath, C., & Soll, J., B. (1996). Mental Budgeting and Consumer Decisions. *Journal of Consumer Research*, 23(1), 40-52.

Henderson, P. W., & Peterson, R. A. (1992). Mental Accounting and Categorization. *Organizational Behavior and Human Decision Processes,* 51(1), 92-117. doi:10.1016/0749-5978(92)90006-S

Hirst, E., Joyce, E., & Schadewald, M. (1994). Mental Accounting and Outcome Contiguity in Consumer-Borrowing Decisions. *Organizational Behavior and Human Decision Processes* 58(1), 136-172.

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, 47(2), 263-291.

Kahneman, D., & Tversky, A., (1986). Rational Choice and the Framing of Decisions. *Journal of Business*, 59(4), 251-278.

Levav, J., & McGraw, A., P. (2009). Emotional Accounting: How Feelings About Money Influence Consumer Choice. *Journal of Marketing Research*, 46(1), 66-80. doi:10.1509/jmkr.46.1.66

Linciano, N., Soccorso, P. (2012). Assessing investors' risk tolerance through a questionnaire. Discussion Paper, Rome, CONSOB.

Loureiro, Y., K., & Haws, K.L., (2015). Positive Affect and Malleable Mental Accounting: An Investigation of the Role of Positive Affect in Flexible Expense Categorization and Spending. *Psychology & Marketing* 32(6), 670-677. doi:10.1002/mar.20808

Markowitz, H. (1952). Portfolio Selection. *The Journal of Finance*, 7(1), 77-91.

Nofsinger, J. R. (2001). *Investment Madness*, Financial Times Prentice Hall Edition, An Imprint of Pearson Education, NJ.

Prelec, D., & Loewenstein, G. (1998). The Red and The Black: Mental Accounting of Savings and Debt. *Marketing Science* 17(1), 4-28.

Sefil, S., & Çilingiroğlu, H., K. (2011). Davranışsal Finansın Temelleri: Karar Vermenin Bilişsel ve Duygusal Eğilimleri. *Istanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi,* 10(19), 247-268.

Shefrin, H., & Statman, M. (2000). Behavioral Portfolio Theory. *Journal of Financial and Quantitative Analysis*, 35(2), 127-151.

Süer, Ö. (2007). Yatırım Kararlarında Alınan Risk Düzeyinin Belirlenmesine İlişkin Amprik Bir Çalışma. *Öneri,* 7(28), 97-105.

Thaler, R. (1980). Toward a Positive Theory of Consumer Choice. *Journal of Economic Behavior and Organization*, 1, 39-60.

Thaler, R. (1999). Mental Accounting Matters. *Journal of Behavioral Decision Making*, 12, 183-206.

Thaler, R. (2008). Mental Accounting and Consumer Choice. *Marketing Science*, 27(1), 15-25.

Uzar, C., & Akkaya, G. C. (2013). The Mental and Behavioral Mistakes Investors Make. *International Journal of Business and Management Studies*, 5 (1), 120-128. Retrieved from http://dergipark.gov.tr/ijbms/issue/26076/274824

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

DETERMINANTS OF EFFECTIVE TAX RATES IN TURKEY

TÜRKİYE'DE EFEKTİF VERGİ ORANLARININ BELİRLEYİCİLERİ

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Abstract

This study aims to analyze the determinants of effective tax rates by Turkish public listed companies. It is motivated by the lack of studies on firms' tax reporting behaviors in Turkey. It focuses on Turkish public listed companies (excluding banking and insurance sectors) between 2007-2016 and data were extracted from the financial statements of firms in respect of the variables. The study establishes the relationship between ETRs and firm specific characteristics of size, leverage, asset mix and profitability. The application of panel data estimation procedures finds that the tax burden is determined by the characteristics of firm size, leverage and capital intensity of each company. The contribution of this paper is two-fold. Firstly, it is the first study in the context of Turkish public listed companies and their ETRs, secondly it gives information to corporate managers, investors and academics about tax burden of Turkish public listed companies.
Keywords: Effective tax rate, tax burden, Turkey
JEL Classification: H25, M40, M41

Öz

Bu çalışmada, halka açık Türk şirketlerinde efektif vergi oranlarının belirleyicilerinin analiz edilmesi amaçlanmıştır. Çalışma, Türkiye'deki şirketlerin vergi raporlama davranışlarının daha önce çalışılmamış olmasına dayanılarak ortaya konmuştur. Çalışmada 2007-2016 aralığında Türkiye'de borsaya kote olan finansal olmayan şirketlere odaklanılmış ve değişkenler dikkate alınarak ilgili veriler söz konusu şirketlerin finansal raporlarından elde edilmiştir. Bu çalışmada efektif vergi oranları ve şirketlere özgü nitelikler olan şirket büyüklüğü, kaldıraç, varlık yapısı ve karlılık arasındaki ilişki ortaya konmuştur. Panel veri analizinin uygulanması ise vergi yükünün şirket büyüklüğü, kaldıraç ve sermaye yoğunluğu ile ilişkili olduğu tespit edilmiştir. Bu çalışmanın iki açıdan katkısı mevcuttur. İlk olarak halka açık Türk şirketleri ve efektif vergi oranları kapsamındaki ilk çalışmadır ve ikincil olarak çalışma halka açık Türk şirketlerinin vergi yüküne ilişkin kurumsal yöneticilere, yatırımcılara ve akademisyenlere bilgi sunmaktadır.
Anahtar Kelimeler: Efektif vergi oranı, vergi yükü, Türkiye
JEL Classification: H25, M40, M41

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1. Introduction

Tax system of a country is used as a mechanism to raise country revenue, to encourage economic growth, to stabilize the economy and to redistribute the wealth. It is not only a fundamental tool to fiscal system, it has also impact on companies' decisions, such as financing and investment decisions, dividend policy or accounting choices. Therefore it has been the subject of many previous studies from various perspectives. The rate of corporate income tax is called statutory tax rate, which does not provide an entire measure of the actual tax burden of companies. Statutory tax rate leaves aside the other features of tax system such as deferral taxes, tax base or exemptions. To provide a full picture of effective corporate taxation, effective tax rates of companies should be taken into consideration.

Companies should be aware of their effective tax rates (ETRs), because taking into consideration of ETRs gives companies the possibility of summarizing in one statistic the cumulative effect of various tax incentives (Gupta&Newberry, 1997). Since ETRs can reflect a firms' actual tax burden, there has been several studies, which have been carried out on measurement of ETR and its firm specific characteristics. Given the focus of the determinants of ETRs, previous studies do not show a clear relation between ETRs and firm specific characteristics and also these studies have been conducted generally in developed countries.

The motivation of this study is to provide evidence on the explanatory factors of ETRs caused by corporate income taxation for public listed companies in Turkey. This subject is relevant, because no prior studies have been conducted in Turkey. In Turkey, corporations are taxed at a rate of 20% and this statutory tax rate applies to all types of corporations. In general, ETR is of great interest to public and policy makers alike, however it is also relevant for corporate managers and investors, because it can also be used as a tool to identify the characteristics of firms with higher and lower tax burdens. This study provides evidence on the firm specific determinants of ETRs for Turkish listed companies. It contributes to previous literature in several ways. First, the major contribution is dealing with effective taxation in Turkey based on firm-level data for the period 2007-2016 and secondly, this study yielded contradictory results regarding the variables explaining ETRs. This study also attempts to contribute to the literature through examining the determinants of ETR in an emerging market.

The remainder of the study is organized as follows. In Section 2 an overview of the previous literature related to the study is presented and hypothesis are developed. Section 3 dedicated to the research design. Regression results are showed and discussed in Section 5, then in final section the most relevant conclusions are presented.

2. Literature Review and Hypothesis

There are many studies that explore what determines a firm's effective tax rates and most of the existing studies have been carried out for US companies, EU companies and Australian companies, whereas few studies have analyzed companies in emerging markets. Previous studies report differing results for the determinants of effective tax rates and regarding the results, it should be noted that ETRs' determinants are mainly firm specific characteristics such as firm size, leverage, asset mix and profitability. The empirical results are inconclusive because they differ from country to country, region to region and even within a single country.

Firm Size: One of the main factors advanced in the literature to explain tax burden of a company is firm size. This is justified by two contradictory arguments. On one hand the relationship between ETRs and firm size will be positive under the political cost hypothesis, where the higher visibility of larger and more successful firms causes them to be victims of greater regulatory actions and wealth transfers (Watts&Zimmerman, 1986). Zimmerman (1983) suggest that firms with larger size may have fewer preferences available than firms with smaller size. Omar et. al. (1993) supports this notion regarding the association between firm size and ETRs are not affected by the choice of effective tax rate measure. Authors such as Plesko (2003) and Noor et.al. (2010) demonstrate also a positive relationship between firm size and ETRs. Conversely, Porcano (1986) observed an inversed relationship between firm size and ETRs which is called political power hypothesis. The political power hypothesis predicts an inverse association, because large companies have more resources for political lobbying and tax planning (Porcano 1986). In line with the political power hypothesis, Kim&Limpaphayom (1998), Derashid&Zhang (2003), Harris&Feeny (2003), Janssen (2005), Richardson&Lanis (2007), Chen et.al. (2010) and Fernández-Rodríguez&Martínez-Arias (2014) observe also a negative relationship between firm size and ETRs. However, Stickney&McGee (1982), Shevlin&Porter (1992), Gupta&Newberry (1997), Feeny et.al. (2006) and Liu&Cao (2007) observed an inconclusive relationship between firm size and ETRs.

All of these studies used different empirical approaches, including ETR measurement, time periods or sample selection, therefore according to theoretical perspective, any type of association can be expected between firm size and ETRs. First hypothesis to be tested is as follows:

H1: There is a relationship between firm size and ETRs.

Leverage: In previous studies, tax incentives have been modelled as a function of a firm's financing decisions. According to Gupta&Newberry (1997), firm's financing decision could affect ETRs, because tax status allow different tax treatment to the capital structure decisions of firms. Since the interest expenses are tax deductible, a firm's capital structure can have impact on ETRs. Studies by Stickney&McGee (1982), Derashid&Zhang (2003), Liu&Cao (2007), Richardson&Lanis (2007) and Noor et.al. (2010) find that highly leveraged firms are subject to a smaller tax burden than those that are less leveraged firms. On the contrary, Harris&Feeny (2003), Janssen (2005) and Chen et al. (2010) observe a positive relationship between leverage and ETRs, they report that highly leveraged firms might lead to finance themselves by debt to reduce the ETRs. Alternatively, it may be possible to find a nonlinear relationship between leverage and ETRs. In line with this argument Fernández-Rodríguez&Martínez-Arias (2011) and Delgado et.al. (2012) find that the it is positive up to a certain level of debt, causing a variation in the association between leverage and ETRs. Consistent with the previous literature, it can be pointed to a relationship between leverage and ETRs.

H2: There is a relationship between leverage and ETRs.

Asset Mix: The asset mix of a firm may have impact on its ETR, in particular through the fixed assets allowing firms to subtract the depreciation expenses in all tax regimes. Therefore, firms the greater proportion of fixed assets should have lower ETRs. In accordance with this argument Stickney&McGee (1982), Gupta&Newberry (1997), Derashid&Zhang (2003), Janssen (2005), Richardon&Lanis (2007), Noor et.al. (2010) and Chen et.al. (2010) all find a direct relationship between capital intensity and ETRs. Other studies on the other hand (Harris&Feeny 2003; Liu&Cao 2007) do not find a significant association between capital intensity and tax burden of a company. Finally, Fernández-Rodríguez&Martínez-Arias (2011) and Delgado et. al. (2012) show that a nonlinear relationship between capital intensity and ETRs exists.

From the perspectives of asset mix, the use of stocks for carrying out the firm's activity may have impact on a firm's tax burden. Regarding this perspective, investment in inventories is considered as a possible way of using funds to buy fixed assets, limiting the chance of reducing ETRs (Fernández-Rodríguez&Martínez-Arias 2012). The relation between inventory intensity and ETRs has been empirically tested in previous studies (Gupta&Newberry 1997; Richardson&Lanis 2007; Fernández-Rodríguez&Martínez-Arias 2011; Fernández-Rodríguez&Martínez-Arias 2014). Fernández-Rodríguez&Martínez-Arias (2014) found a relationship between inventory intensity and ETRs, controversially Derashid&Zang (2003) do not find a significant relationship between inventory intensity and ETRs. In view of these points, the hypotheses are as follows;

H3: There is a relationship between capital intensity and ETRs.

H4: There is a relationship between inventory intensity and ETRs.

Profitability: Various empirical studies have shown that profitability is also a determinant of a firm's tax burden (Stickney&McGee 1982; Gupta&Newberry 1997; Liu&Cao 2007; Richardson&Lanis 2007; Fernández-Rodríguez&Martínez-Arias 2011). As is usual in those studies, more profitable companies are more likely to have higher level of ETRs. However, Derashid&Zhang (2003) and Noor et.al. (2008), whose studies focused on Malaysian companies, find an inverse relationship between profitability and ETRs. They concluded that this relationship is a consequence of the tax incentives provided by the government. Following the previous studies, the hypothesis is as follows;

H5: There is a relationship between profitability and ETRs.

3. Research Design

3.1. Sample and Data

For this study, the data was obtained from Public Disclosure Platform, which is the leading financial information provider in Turkey. The data corresponds to public listed companies in Turkey (excluding banking and insurance sectors) during the period 2007 – 2016, comprising a total of 2640 firm-year observations.

As is usual in this type of study, the data filtering is necessary as ETRs do not have economic meaning whenever its denominator, which is the income, is zero or negative (Wilkie&Limberg 1993). To facilitate the study, also companies having negative tax expense which produced negative ETRs are recorded as 0 and companies with an ETR above 100% are recorded as 1.

3.2. Dependent and Independent Variables

In examining the determinants of ETRs of public listed companies in Turkey, the dependent variable is represented by effective tax rate (ETR). In previous studies there has been various methods for measuring ETRs, of which commonly used are those based on financial data. Different ETR measures results from different definitions of numerator and denominator, where the numerator is the measure of a firm's tax liability and the denominator is the measure of its income (Plesko 2003). In the denominator, Stickney&McGee (1982) uses pre-tax income adjusted for the effect of timing differences and according to their approach the numerator should include the all taxes actually payable for the year to all governmental units in order to obtain a more consequential signal of the tax burden (Gupta&Newberry 1997). According to Zimmerman (1983) operating cash flow is the best measure to use in the denomination, since it eliminates the effects of different accounting treatments to income. He defines his numerator as income taxes, which are computed as total income tax expense, less the change in deferred taxes and deferred investment tax credits. Porcano (1986) states that the numerator should include current taxes and he uses pretax book income adjusted income or losses associated with extraordinary items and discontinued operations as denominator. Shevlin (1987) uses essentially the same formula as Stickney&McGee (1982), except his numerator is total tax expense less the change in the deferred tax liability. Since there are several ways to measure ETR, the ETR in this study, which is based on Porcano (1986)'s approach, measured as the ratio of real tax expense (tax expenses – deferred tax expenses) to earnings before interest and taxes (EBIT). Since EBIT represents firm earnings which results from the operation of the resource controlled by firms before paying to creditors, shareholders and government (Liu&Cao 2007), EBIT is used in this study as the denominator of ETR.

The independent variables used in this study are as follows:

- *Size:* Firms size (SIZE) is measured as the natural logarithm of firm's total assets. Due to inconsistent results and theoretical perspectives of previous studies any type of relation between firm size ETRs can be expected.

- *Leverage:* Following the most of the prior studies leverage (LEV) is defined as the ratio of total debt to total assets. According to the deductibility of interest, the association of leverage and ETR can be negative.

- *Asset Mix:* Two independent variables are included in the study to proxy for firm's asset mix; capital intensity (CAPINT) and inventory intensity (INVINT). Capital intensity is measured as fixed assets divided by total assets and inventory intensity measured as inventory divided by total assets. In line with most previous studies, a negative relation between capital intensity and

ETRs can be expected and a positive relationship between inventory intensity and ETRs can be observed.

- *Profitability:* Since ETRs can change simply due to changes in book income, the most suitable measure is return on assets (ROA), defined as the ratio of pre-tax income divided by total assets. Due to the previous results an increase in ROA can lead to an increase in ETRs.

3.3. Regression Model

Panel data multivariate model, that combines the advantages of cross-sectional model and time series model, is used to test the relationships regarding determinants of ETR. In this study regression analysis was carried out using fixed effects model (FEM), random effects model (REM) and pooled ordinary least squares (pooled OLS). The model specification is as follows:

$$ETR_{it} = b_0 + b_1\, SIZE_{it} + b_2\, LEV_{it} + b_3 CAPINT_{it} + b_4 INVINT_{it} + b_5 ROA_{it} + e_{it}.$$

Where i denotes the company, t denotes the years from 2007 – 2016 and b is the coefficient of regression and e is the error term. To compare the efficiency of models, the statistical tests like LR test, LM test and Hausman test have been used.

4. Results

4.1. Descriptive Statistics

The descriptive statistics for the variables are shown in Table 1 and it gives the mean, standard deviation, median, minimum and maximum of dependent and independent variables from 2007 to 2016.

Table 1: Descriptive Statistics of All Variables

Variable	Mean	Standard Deviation	Maximum	Minimum	Median
ETR	0.1477	0.2048	1.0000	0.0000	0.0982
SIZE	8.4157	0.8692	11.4889	5.7230	8.4051
LEV	0.4706	0.4357	8.6743	0.0003	0.4465
CAPINT	0.2586	0.2266	0.9869	0.0000	0.2296
INVINT	0.1235	0.1409	0.9199	0.0000	0.0887
ROA	0.0477	0.3163	8.8308	-7.1228	0.0444

As shown in Table 1, the average ETR is about 15 percent, it has a median of 9,8 percent. For the independent variables, size has a mean of 8.41 and a median of 8.40, leverage has a mean of 0.47 and a median of 0.45, capital intensity has a mean of 0.26 and a median of 0.23, inventory intensity has a mean of 0.12 and a median of 0.09 and ROA has a mean of 0.05 and a median of 0.04. Further, the results indicate that the level of consistency between means and medians for all variables is reasonable.

The descriptive statistics indicate that highest ETR is in 2007 about 16 percent and interestingly global financial crisis in 2008/2009 is not likely to have had significant effects on ETRs of public listed companies in Turkey. Table 2 gives the descriptive statistics of ETRs during 10 years of the research period.

Table 2: Descriptive Statistics of Dependent Variable

Year	Mean	Standard Deviation	Maximum	Minimum	Median
2007	0.1615	0.1949	1.0000	0.0000	0.1498
2008	0.1443	0.2262	1.0000	0.0000	0.0391
2009	0.1452	0.2024	1.0000	0.0000	0.0926
2010	0.1432	0.1917	1.0000	0.0000	0.1011
2011	0.1331	0.1847	1.0000	0.0000	0.0905
2012	0.1521	0.1918	1.0000	0.0000	0.1243
2013	0.1443	0.2114	1.0000	0.0000	0.0796
2014	0.1471	0.2051	1.0000	0.0000	0.0982
2015	0.1467	0.2122	1.0000	0.0000	0.0938
2016	0.1592	0.2255	1.0000	0.0000	0.0920

Pearson correlation coefficients for dependent and independent variables are reported in Table 3. According to the correlation matrix; ETR and firm size have positive and significant correlation, supporting political cost theory. Correlation matrix indicates that capital structure of companies in Turkey have a negative but insignificant relationship. However, capital intensive firms appear to have higher ETRs. The largest correlation among independent variables is only 0.164 for the correlation between firm size and leverage.

Table 3: Correlation Matrix of Variables

	ETR	SIZE	LEV	CAPINT	INVINT	ROA
ETR	1.0000					
SIZE	0.1079**	1.0000				
LEV	-0.0235	0.1648**	1.0000			
CAPINT	0.1304**	0.1455**	0.1327**	1.0000		
INVINT	0.0154	-0.0390**	0.1047**	0.0125	1.0000	
ROA	0.0047	0.0799**	-0.0769**	0.0049	0.0196	1.0000

** denotes statistical significance at the 5% levels, respectively.

Moreover, it appears that larger firms are more profitable, are associated with high leverage and high capital intensity, but they are less inventory intensive.

4.2. Regression Results

For testing the null hypothesis of individual-specific effects between FEM and pooled OLS, LR test is used and LR test value indicated that FEM is more efficient than pooled OLS. For the comparison of REM and pooled OLS, Breusch-Pagan Lagrange Multiplier (LM) is used and the statistics showed that REM performed better than pooled OLS. In order to choose between REM and FEM, the Hausman test is used. The Hausman test did not reject the null hypothesis, so the preferred model is random effects model. (Hausman chi2 = 1.75). Table 4 summarizes the results of random effects regression for the research model.

Table 4: Random Effects Model Regression Results

Variable	Predicted Sign	Coefficient	Z-value
SIZE	?	0.0258	3.88**
LEV	-	-0.0306	-2.51**
CAPINT	-	0.1105	4.72**
INVINT	+	0.0470	1.25
ROA	+	-0.0088	-0.72
Adjusted R-Squared	0,093		

** denotes statistical significance at the 5% level (two-tailed).

Regression model is significant with adjusted R^2 of 9 percent for effective tax rates. The coefficient of size is positive and significant, implying that a firm's ETR is related to its size. The results indicate that larger firms face higher income tax burdens, thus supporting the political cost theory.

The results indicate that higher levels of debt lead to lower ETRs in Turkey. This suggest that taking on debt is a motivating factor to reduce tax burden for Turkish public listed companies. In contrary to prior researches, the results of this study show a positive and significant relationship between capital intensity and ETRs, which can be explained that capital intensive firms benefit more from other tax policies than deducting the depreciation expenses. Inventory intensity has a positive but insignificant association with ETRs, implying that a firm's ETR is not related to its inventory intensity. The coefficient of ROA is negative and not significant, which is counter to expectations. This controversial result indicates that ROA has no influence over firms' ETRs.

As a robustness check of the results, sensitivity tests are performed. First, variance inflation factors for the independent variables were computed to specify the multicollinearity of the regression model and overall the biggest VIF is not bigger than 1,04. This result indicates that there is no multicollinearity between independent variables.

To test the relationship between ETRs and explanatory factors, the model was reestimated using alternative measures of ETR, firm size and profitability. First the denominator of ETR is changed to pre-tax income. Instead of ROA, ROE (return on equity) is used as a measure of profitability and firm size is measured as natural logarithm of total sales. In particular, the values of coefficients and significance levels show little changes. The results show that there are no large differences on the coefficients of size, capital intensity. However, the relation between leverage and ETRs is now insignificant and the relation between ETRs and inventory intensity turns significantly positive. The changes may be caused by omitting interest in the denominator by ETR calculation. In literature of accounting, EBIT is viewed as the best measurement of firm revenues.

5. Conclusion

In this study it was aimed to investigate the determinants of effective tax rates in Turkey. Based on financial statement information, the effective tax rate of each company was calculated and the results showed that average effective tax rate of Turkish public listed companies is 15% and under statutory tax rate of 20%. Using panel data estimation procedures, the data show that some of the explanatory variables used in the previous literature have significant effect on the tax burden of Turkish public listed companies. The regression results show that firms size has a significant positive effect on ETR, leverage again significant but negative effect and capital intensity significant positive effect on ETR. The study also found evidence that highly leveraged companies face lower ETRs and highly capital-intensive companies face with higher ETRs.

However, it should be noted that the results are not conclusive, especially for the variables; inventory intensity and profitability. Regarding inventories, the results indicated that there is an insignificant association between inventory intensity and ETRs and it cannot be claimed that more profitable firms are those that pay the most corporate income tax in Turkey.

Effectively, this study confirms the existence of an association between ETRs and firm size, leverage and capital intensity. The study adds to the literature on relationship between ETR and firm specific characteristics in an emerging market. Moreover, the results provide some additional insights into tax burden of listed companies in Turkey, and those are relevant for firm's future decision making. Various groups such as regulatory authorities, who deal with profit shifting and broadness of tax bases, tax researchers, who analyze factors of ETR and impact of tax reforms as well as corporate managers and investors, who use tax-related information for their decisions should also be interested in the results of this study.

The study has several limitations. Because of the data unavailability, it was only possible to include public listed companies in the sample. Adding unlisted companies to the sample would make it easier to assess the relationship between ETR and firm specific characteristics, also to generalize the results. Other factors such as industry specific characteristics, ownership structure, level of family ownership, corporate reorganizations resulting in a merger or acquisition or executives' effects that may affect on ETRs can also be included in this study. Further researches should also consider these issues.

References

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms?. *Journal of Financial Economics*, *95*(1), 41-61.

Delgado, F. J., Fernandez-Rodriguez, E., & Martinez-Arias, A. (2012). Size and other determinants of corporate effective tax rates in US listed companies. *International Research Journal of Finance and Economics*, *98*, 160-165.

Derashid, C., & Zhang, H. (2003). Effective tax rates and the "industrial policy" hypothesis: evidence from Malaysia. *Journal of international accounting, auditing and taxation*, *12*(1), 45-62.

Feeny, S., Gillman, M., & Harris, M. N. (2005). *Econometric accounting of the Australian corporate tax rates: A firm panel example* (No. E2005/16). Cardiff Economics Working Papers.

Fernandez-Rodriguez, E., & Martinez-Arias, A. (2011). Determinants of effective Tax Rate: Evidence for USA and the EU. *Intertax*, *39*, 381.

Fernández-Rodríguez, E., & Martínez-Arias, A. (2012). Do Business Characteristics Determine an Effective Tax Rate? Evidence for Listed Companies in China and the United States. *Chinese Economy*, *45*(6), 60-83.

Fernández-Rodríguez, E., & Martínez-Arias, A. (2014). Determinants of the effective tax rate in the BRIC countries. *Emerging Markets Finance and Trade*, *50*(sup3), 214-228.

Gupta, S., & Newberry, K. (1997). Determinants of the variability in corporate effective tax rates: Evidence from longitudinal data. *Journal of accounting and public policy*, *16*(1), 1-34.

Harris, M. N., & Feeny, S. (2003). Habit persistence in effective tax rates. *Applied Economics*, *35*(8), 951-958.

Janssen, B. (2005). Corporate effective tax rates in the Netherlands. *De Economist*, *153*(1), 47-66.

Kim, K. A., & Limpaphayom, P. (1998). Taxes and firm size in Pacific-Basin emerging economies. *Journal of international accounting, auditing and taxation*, *7*(1), 47-68.

Liu, X., & Cao, S. (2007). Determinants of corporate effective tax rates: evidence from listed companies in China. *Chinese economy*, *40*(6), 49-67.

Noor, R. M., Mastuki, N. A., & Bardai, B. (2008). Corporate effective tax rates: A study on Malaysian public listed companies. *Malaysian Accounting Review*, *7*(1).

Noor, R. M., & Fadzillah, N. S. M. (2010). Corporate tax planning: A study on corporate effective tax rates of Malaysian listed companies. *International Journal of Trade, Economics and Finance*, *1*(2), 189.

Omer, T. C., Molloy, K. H., & Ziebart, D. A. (1993). An investigation of the firm size—effective tax rate relation in the 1980s. *Journal of Accounting, Auditing & Finance*, *8*(2), 167-182

Plesko, G. A. (2003). An evaluation of alternative measures of corporate tax rates. *Journal of Accounting and Economics*, *35*(2), 201-226.

Porcano, T. (1986). Corporate tax rates: Progressive, proportional, or regressive. *Journal of the American Taxation Association*, *7*(2), 17-31.

Richardson, G., & Lanis, R. (2007). Determinants of the variability in corporate effective tax rates and tax reform: Evidence from Australia. *Journal of accounting and public policy*, *26*(6), 689-704.

Shevlin, T. (1987). Taxes and off-balance-sheet financing: research and development limited partnerships. *Accounting Review*, 480-509.

Shevlin, T., & Porter, S. (1992). " The Corporate Tax Comeback in 1987" Some Further Evidence. *The Journal of the American Taxation Association*, *14*(1), 58.

Stickney, C. P., & McGee, V. E. (1982). Effective corporate tax rates the effect of size, capital intensity, leverage, and other factors. *Journal of accounting and public policy*, *1*(2), 125-152.

Watts, R., & Zimmerman, J. (1986). Positive theory of accounting. *Englewood Cliffs, NY: Prentice-Hall*.

Wilkie, P. J., & Limberg, S. T. (1993). Measuring explicit tax (dis) advantage for corporate taxpayers: An alternative to average effective tax rates. *The Journal of the American Taxation Association*, *15*(1), 46.

Zimmerman, J. L. (1983). Taxes and firm size. *Journal of accounting and economics*, *5*, 119-149.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

INTERNATIONALIZATION IN ENTERPRISES FROM LUBELSKIE REGION (POLAND) – DOES THE DISTANCE MATTER?

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Ada DOMAŃSKA**
Robert ZAJKOWSKI***

Abstract

Internationalization is a complex phenomenon that can be described as process in which firms increase their involvement in foreign markets. It can be treated as a chance for small and medium enterprises to face the challenges which are the effects of globalization, such as global competition or growing needs of potential customers. Lubelskie region (eastern Poland) is one of the poorest, and as our research show – has rather small potential for internationalization. Nevertheless, we believe that if the actual barriers are indicated, more proper conclusions and recommendations for regional entrepreneurs and policy makers will be stated. In order to do that we apply the CAGE model framework and analyze the results of quantitative research which was conducted among enterprises from lubelskie region (voivodeship). As the initial results show, economic and especially political distance is the most determinative while choosing business partners.

Keywords: internationalization, barriers, enterprises, Poland
JEL Classification:

1. Introduction

Internationalization is a complex phenomenon that can be described as process in which firms increase their involvement in foreign markets (Johanson & Vahlne 1977; Welch & Luostarinen 1988) or it can be defined as the adaptation of firms' operations to international environments (Mejri & Umemoto 2010). It can occur in enterprises in many forms (Cieślik, 2011). Among internationalization activities we can indicate:

1. Obtaining certificates, licence, permissions for selling on the foreign market.

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2. Taking part in international trade – selling or buying products, employing foreign employees.
3. Capital connections and investments abroad.
4. Joint international scientific projects, international conferences, internships.
5. Licence agreements and with foreign entities.
6. Taking part in international trade fairs.
7. Protection of intellectual property in the international system.

In our research we stick to the first interpretation of internationalization construct in order to find out which internationalization activities and geographical destinations are the most common in lubelskie region – region situated in eastern Poland, classified as an emerging market (according to FTSE Russell, since September 2018, Polish market is defined as developed, however our research was conducted before this date). We decided to focus on this topic, as the internationalization can be treated as a chance for small and medium enterprises to face the challenges which are the effects of globalization, such as global competition or growing needs of potential customers. As the Polish authors claim, the most common form of internationalization among Polish enterprises is international trading (Gołębiowski, 2007, Hajduk, 2007, Plawgo, 2004). According to the data from Polish Central Statistical Office, in 2014, 7,8% were importing goods, 1,3% – services. The same database show, that in 2014 4,4% of all Polish enterprises exported goods, and only 1% – services (Polish Agency of Enterprise Development, 2015). Still, the least internationally active are enterprises, which employ less than 10 employees. Among enterprises which employ between 10-49, and 50-250 people, consequently 42,4% and 58,1% import, 31,1% and 46,8% export goods. This number still should be treated rather as insufficient, especially considering exporting activities.

Lubelskie region is one of the poorest, and as our research show – has rather small potential for internationalization. Nevertheless, we believe that if the actual barriers are indicated, we will be able to state more proper conclusions and recommendations for regional entrepreneurs. This research was undertaken in order to find out where entrepreneurs from lubelskie region are looking for their foreign business partners, which barriers are treated as the most important and try to explain why the internationalization level is not sufficient.

This research is a starting point for further examination of this phenomenon, so should be treated rather as a diagnosis of the current state.

2. About the Region

The lubelskie region is one of the poorest regions in Poland, situated in eastern part of the country. As the development indicators present (Tab 1), performance of this region are rather weak in comparison with other ones (Domańska, Żukowska, & Zajkowski, 2018).

Table 1: Development Indicators for Each region of Poland (Data for 2015)

Indicators / Regions	GDP per capita in euro (current prices)	Total length of express-ways and motorways per 1000 km^2	Investment outlays per capita (current prices)	Gross value of fixed assets in enterprises per capita – Poland=100	Value of foreign capital per capita (Poland=100)
POLAND	11 200	9,8	7069	100	100
Łódzkie	10 500	22,3	6980	94,5	39
Mazowieckie	15 500	7,2	10868	171,2	340
Małopolskie	10 100	11,4	6277	76,7	70
Śląskie	11 600	24,9	6445	117	71
Lubelskie	7 700	3,2	4837	53,5	14
Podkarpackie	7 900	6,9	5172	64,5	48
Podlaskie	7 900	2,3	5754	61,1	7
Świętokrzyskie	8 100	4,9	4624	67,4	40
Lubuskie	9 300	16,6	5762	94,1	27
Wielkopolskie	12 200	12,1	7291	105,3	119
Zachodniopomorskie	9 500	7	6383	82,5	86
Dolnośląskie	12 500	14,3	7800	118,4	110
Opolskie	9 000	9,4	8062	87,5	40
Kujawsko-pomorskie	9 000	11,1	6692	76,2	25
Pomorskie	10 700	7,5	7277	93,2	65
Warmińsko-mazurskie	7 900	5,8	5587	57,1	19

Source: Central Statistical Office of Poland, Eurostat.

This fact impacts also on the region's potential for internationalization. We indicate 18 characteristics, which are supportive for internationalization of Polish regions (Tab 2) and we compare lubelskie voivodship with others. In order to do that, we use the data from the Central Statistical Office and the Strateg Database (it collects data used in verification of specific regional and central strategies) from the year 2011 to 2015.

Table 2: Characteristic of Regions Used in Examining the Potential of Lubelskie Region

1	Hard surface public roads per 100 km2
2	Density of expressways and motorways per 1000 km2
3	Total railway lines per 100 km2
4	Export's share of non-financial enterprises with foreign capital in GDP
5	Share of net revenues from sales of new or significantly improved products of total turnover in industrial enterprises
6	Share of foreign capital located in entities in the voivodship in the total value of the capital in Poland
7	Investment outlays per capita (current prices)
8	National scheduled bus transport lines per 1 thousand inhabitants
9	GDP per capita (current prices)
10	Number of Small and Medium-Size Enterprises per 10 thousands inhabitants in working age
11	Share of industrial enterprises which participated in innovation activities cluster co-operation or in other formal types of co-operation in number of innovation active enterprises – entities employing 10-249 persons
12	Share of industrial enterprises which participated in innovation activities cluster co-operation in total enterprises participating in innovation activities co-operation
13	Share of service enterprises which participated in innovation activities cluster co-operation in total service enterprises participating in innovation activities co-operation
14	Share of enterprises which participated in innovation activities co-operation in the total number of innovation active enterprises
15	Business environment institutions (financial and insurance activities, real estate activities) per 10 thous. entities of the national economy
16	Number of foundations, associations and social organizations recorded in the REGON register per 10 thous. Inhabitants
17	Number of newly registered entities of the national economy in the REGON register per 10 thousands inhabitants
18	Number of entities of the national economy recorded in the REGON register per 10 thousands inhabitants

Source: Central Statistical Office of Poland, Strateg Database

We applied the zero unitarization method. This normalisation method was chosen, mainly because it is simplicity leads to easy interpretation of gained results. Moreover, as Kukula (2012) states, this method fulfil three important criteria:

1. After normalisation lengths of intervals of variability for all features are the same.

2. The lower and upper limits of intervals of variability for all features are the same: [0,1].

3. Features which have a zero value can be also normalised.

Formulas used in zero unitarization method, go as follows:

$$z_{ij} = \frac{x_{ij} - \min_i x_{ij}}{\max_i x_{ij} - \min_i x_{ij}}, X_j \in S \quad (1)$$

$$z_{ij} = \frac{\max_i x_{ij} - x_{ij}}{\max_i x_{ij} - \min_i x_{ij}}, X_j \in D \quad (2)$$

Where: zij is the standardized value of the variable Xj in the object Wi and xij is the value of the variable Xj in the object Wi. The object Wi is described by the vector of diagnostic variables:

$X_i=[x_{i1,} x_{i2} \dots x_{in}]$, (i=1, …, r) (3)

Formula 1 is used with variables which are stimulants (if they increase, the level of analysed phenomena increases) and formula 2 is used with destimulants (if they increase, the level of analysed phenomena decreases). In order to rank analysed regions, all variables need to be normalised and then summed up for each object :

$$q_i = \sum_{j-1}^{n} z_{ij}, \quad i = (1, \dots, r) \ (4)$$

qi – a synthetic variable, which assess the i-th object.

The results of analysis of the data from 2011-2015 show that lubelskie region is one of the least likely to have a potential for internationalization. As the graph 1 present, only one region has been ranked a little lower. This situation is caused by many factors, still, the most significant are: low GDP per capita, small number of entities which already exist and those newly registered. However, factors connected with infrastructure (i.e. total length of express-ways and motorways per 1000 km2) are also unsatisfying.

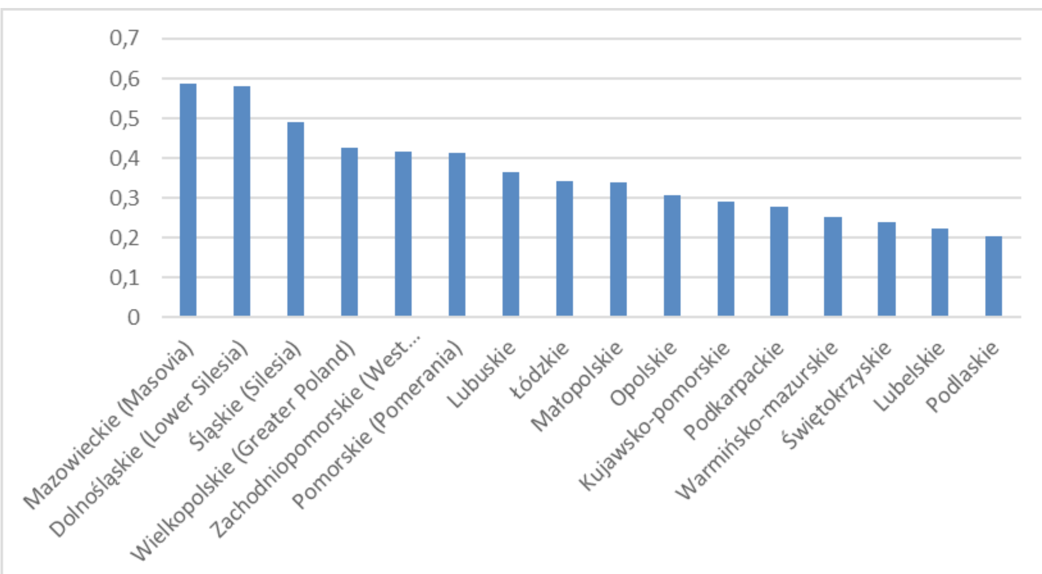

Figure 1: The Evaluation of Internationalization Potential Among Polish Regions (Based on Own Calculations)

As the more complex research said, it is also one of the least internationalized voivodeship in Poland – in 2014 only 12,6% of enterprises carried out international cooperation in any form (Polish Agency of Enterprise Development 2014). The Lubelskie borders Ukraine and Belarus – two post-soviet countries, outside the European Union. Despite similar history (communist regime), rather lack of language barriers (people leaving in the communist regime were forced to learn Russian in schools, so nowadays many people from post-soviet bloc can easily communicate) and common land border – factors which are supportive for bilateral cooperation (Ricart et al. 2004) – these countries are not very popular business partners for the examined region.

3. Internationalization Barriers

Choosing international expansion directions can be determined by many factors. According to the CAGE model (Ghemawat 2001, Hasan & Ibrahim, 2016), four dimensions of the distance can be indicated: cultural, administrative/political, geographic and economic. Those dimensions can be diagnosed in bilateral and multilateral perspective. In the graph 1, we present which factors can determines the specific dimension of the bilateral distance (between two countries). We can assume, that they can be treated as potential obstacles, which are rather tough or even impossible for individual entity which operates in specific region (like lubelskie) to overcome, when it wants to cooperate with a business partner from a specific country.

CULTURAL **Different languages** **Different ethnicities; lack of connective ethnic or social networks** **Different religions** **Lack of trust** **Different values, norms, and dispositions**	**ADMINISTRATIVE** **Lack of colonial ties** **Lack of shared regional trading bloc** **Lack of common currency** **Political hostility**
GEOGRAPHICAL Physical distance Lack of land border Differences in time zones Differences in climates / disease environments	**ECONOMIC** Rich/poor differences Other differences in cost or quality of natural resources, financial resources, human resources, infrastructure, information or knowledge

Graph 1: The Dimensions of Distance in CAGE Model (Bilateral Perspective)

There are also the same dimensions which describes more universal obstacles for internationalization, that can be apply not only when we analyze the pair of business partners, but might be rather considered as a hamper factors, which exist in a country or specific region. These are presented on the graph 2.

CULTURAL	**ADMINISTRATIVE**
Traditionalism	**Corruption**
Insularity	**Lack of membership in international organizations**
	Weak institutions
	Nonmarket/closed-economy
GEOGRAPHICAL	**ECONOMIC**
Weak transportation or communication links	Low per capita income
Geographic size	Economic size

Graph 2: The Dimensions of Distance in CAGE Model (Multilateral Perspective)

Cultural dimension is determined mainly by the history of the given region and is rather difficult to be changed. Similarly, the geographical dimension – it is impossible to overcome the lack of land border. However, taking into consideration the development of the transportation – physical distance becomes more important obstacle. Nevertheless, the most likely barriers to be reduce, are those categorized as administrative and economic dimension of the distance. In that case, implementation of central or regional policy which supports the given areas can be beneficial for the entities which considering the internationalization activities.

3. Methods Used

In May and June 2017 we conducted questionnaire-based research among enterprises operating in lubelskie region, which declared that they employ more than 10 people. The final sample reached 276 enterprises. The sample reflects the proportion of enterprises' localization in 4 subregions in lubelskie voivodeship (stratified sampling). The chi square test revealed that number of enterprises in each localisation was not significantly different from the actual structure of the population for tested region. Respondents were asked to complete a paper-based questionnaire, which included questions about their financial situation, competitiveness, internationalization and planning systems. In this research we use mainly descriptive analyses in order to find out which geographical pathways are the most popular and what kind of obstacles enterprises from lubelskie region face when they decide to internationalize their business.

4. Results

In our sample 27% of enterprises claim that they cooperate with foreign firms (export or import, mostly incidental), 18,11% declare at least one export partner. 17,4% of enterprises take part in international trade fairs or conferences, 8,1% realise joint projects with foreign businesses or have license contracts, only 1,1% declares having stocks in foreign companies.

We discovered that the most common direction for expansion in enterprises from lubelskie voivodeship is Germany (6,88% of examined enterprises export their goods or services there) and the United Kingdom (3,26%). Ukraine – the neighbor of lubelskie region was indicated as a business partner among 2,9% of enterprises, Belarus as the direction of extension is even less popular – only among 1,09% of enterprises. However, entrepreneurs from lubelskie region cooperate with businesses located in emerging economies such as Czech Republic (2,9%).

Entrepreneurs were also asked to indicate, which obstacles they find the most difficult to overcome, in order to start any internationalization activities. They has to choose and evaluate on the 5-grade scale which barrier is the most important for them. According to the CAGE model, we categorized the most common barriers taking into consideration all four dimensions: cultural, geographical, administrative and economic. Examined barriers are presented on the figure 2, and the letter after each barrier describes which dimensions it represent. Our research show that the most of indicated issues were those connected with financial/economic sphere and administration. In addition they were evaluated as the most important i.e.: meeting the needs of foreign consumers, maintain foreign market, finding honest business partners, acquiring reliable information about foreign market.

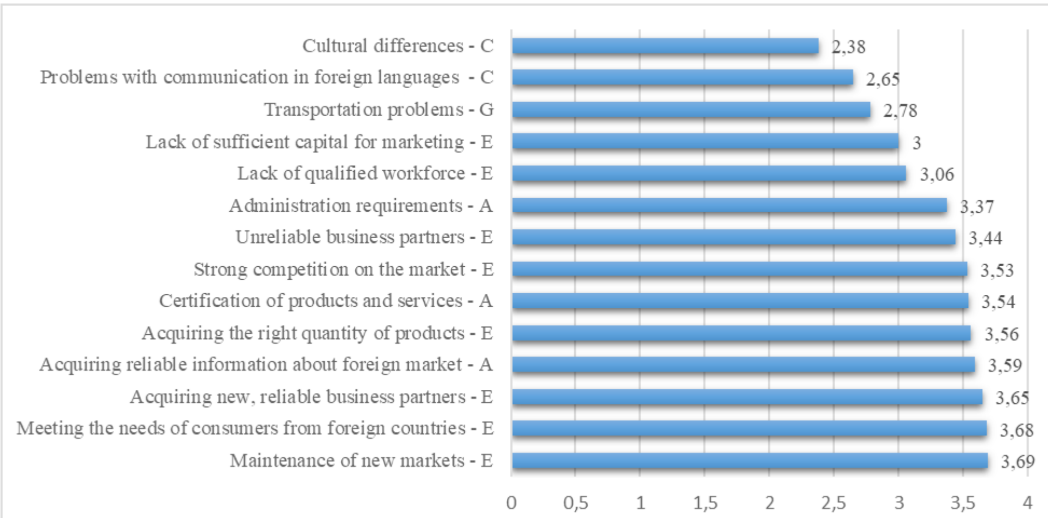

Figure 2: Evaluation of Internationalization Barriers Indicated by Enterprises from Lubelskie Region C – Cultural, G – Geographical, E – Economic, A – Administrative Dimension.

5. Conclusion

Those findings lead to conclusions that enterprises from lubelskie region despite of very low physical distance to their neighbours (Belarus and Ukraine) are not very keen to cooperate with those countries. European integration has a significant meaning in this case, as it support expansion among member countries. Eastern countries such Ukraine or Belarus are perceived as more risky, taking into consideration their political and economy situation. Considering internationalization barriers that respondent enterprises indicate, we may conclude that despite cultural similarities and geographic localization, economic and especially political distance is more determinative while choosing business partners. We indicate that in lubelskie region the most important barriers are not these connected with distance or culture. More important are economic and administrative obstacles. Knowing that, in the further research these two areas will be the examined more specifically. On this stage of the research, we could state a conclusion, that policy-makers in lubelskie region should channel their efforts on alleviating economic and administrative barriers, which are the most crucial in the cooperation with its closest neighbors.

References

Cieślik J., (2011). *Internacjonalizacja młodych innowacyjnych firm*, Polska Agencja Rozwoju Przedsiębiorczości, Warszawa 2011.

Domańska, A., Żukowska, B., & Zajkowski, R. (2018). Importance of Individual Characteristics of Entrepreneurs and Perception of Factors Determining the Start-Up of a Business in the Lubelskie Voivodship, *Barometr Regionalny, 16*(3), 101-108.

Ghemawat, Pankaj. 2001. "Distance Still Matters." *Harvard Business Review*, 79(September), 137–147. http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=5134712&site=ehost-live.

Gołębiowski, T., & Witek-Hajduk, M. (2007). Formy internacjonalizacji polskich przedsiębiorstw. *Marketing i Rynek, (2)*, 16-22.

Gołębiowski, T., & Witek-Hajduk, M. (2007). Stopień internacjonalizacji polskich przedsiębiorstw. *Marketing i Rynek, (1),* 15-21.

Hasan, M., & Ibrahim, Y. (2016). Institutional Distance Factors Influencing on Firm Performance : A Hypothetical Framework from Cross-Border Mergers and Acquisitions, *The Journal of Developing Areas, 50*(6), 377-386.

Johanson, J., & Vahlne, J. E. (2006). Commitment and opportunity development in the internationalization process: A note on the Uppsala internationalization process model. *Management International Review*, *46*(2), 165-178.

Mejri, K., & Katsuhiro U. (2010). Small – and Medium-Sized Enterprise Internationalization: Towards the Knowledge-Based Model. *Journal of International Entrepreneurship* 8(2): 156–67.

Plawgo B., (2004). *Zachowania małych i średnich przedsiębiorstw w procesie internacjonalizacji*, Orgmasz, Warszawa.

Polish Agency of Enterprise Development. (2014). *Raport Końcowy. Ewaluacja Potencjału Eksportowego Przedsiębiorstw W Polsce*. Warszawa.

Polish Agency of Enterprise Development. (2015), *Raport o stanie sektora małych i średnich przedsiębiorstw w Polsce 2016*, Warszawa.

Ricart, J. E., Enright, M. J., Ghemawat, P., Hart, S. L., & Khanna, T. (2004). New frontiers in international strategy. *Journal of International Business Studies, 35*(3), 175-200.

Welch, L. S., & Luostarinen, R. (1988). Internationalization: Evolution of a concept. *Journal of general management*, *14*(2), 34-55.

www.stat.gov.pl

www.strateg.stat.gov.pl

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

INSTITUTIONAL DETERMINANTS OF HOUSEHOLD SAVINGS IN POLAND

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Abstract

The article analyses the influence of institutional factors on saving in one of the poorest regions in Poland, which is Lubelskie voivodeship. The research was conducted on the basis of institutional saving theory by M. Sherraden. The data were collected at the beginning of 2018 via a survey of household representatives and investigated using statistical methods such as factor analysis, parallel of averages and correlation coefficients. The conclusion drawn is that the institutional saving theory is not applicable exclusively in rich countries due to prevalence of other than institutional factors influencing household savings. Although the respondents view institutional factors as important, they do not use them as sole determinants of their behaviour and decisions in the saving process.

Keywords: Households saving, saving factors, institutional theory of saving
JEL Classification: D14, E14, E21

1. Introduction

During the last several years, a significant increase of interest in household finance has been observed (Campbell, 2006), particularly in saving. Saving is considered an important factor of economic growth, and national saving is the essential source of financing of investments in sustainable developing economies. Furthermore, private saving, which mostly consists of household savings, is an important source of stable capital for the financial system in times of crisis. After 2008, in some economies in the European Union, a decrease of the share of household savings in private saving has been observed at the expense of corporate saving. This is the case in Poland (Liberda, 2015). What is more, the trends of saving rates from the macro and the micro point of view are opposite. While the microeconomic household savings rate in Poland is rising, at the same time, the macroeconomic household saving rate is decreasing. In this context, the recognition of determinants of savings is

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especially important so that using positive influences on them can strengthen the saving process in the country.

Considering all this, the aim of this article is to determine the influence of institutional factors on the household savings process in Poland. The author hypothesizes that the influence of institutional factors on the saving process appears insignificant in the Polish economy.

The first part of the article introduces the institutional theory of saving. This is followed by the presentation of research on the importance of institutional determinants to individuals, which was run in Lubelskie voivodeship. The final section contains conclusions.

2. Institutional Theory of Saving

On the basis of different economic theories, individual theories of saving and asset accumulation have emerged. From neoclassical economics, the life cycle hypothesis by Ando and Modligliani (1963) was proposed, followed by Friedman's permanent income hypothesis (1957). These scientists focus on a long-term financial situation of the household as the main determinant of their decisions on saving.

From another point of view, as stated in the works of G. Katona and other psychological and sociological theories, economic behaviours are conditioned by motives, aspirations and expectations. G. Katona (1975) argued that saving consists of two set of factors—ability to save and willingness to save. The psychological theories of saving are closely followed by behavioural theories (Beverly, & Sherraden, 1999).

In opposition to these theories are works of institutionalists such as T. Veblen and J. K. Galbraith (Green, 1991). They refuse to see an individual in isolation from society and treat a saving process as part of the total flow of consumer spending. Institutional economics emphasizes the need for broader study of institutions. According to this theory, institutions are individuals, firms, states and social norms. Institutionalists also view markets as a result of the complex interactions of these various institutions. Consequently, household saving behaviour is shaped by the saving process.

Finally, the institutional theory of saving posited by M. Sherraden in 1991 states that saving is a result of structured arrangements that involve explicit connections, rules and incentives (Curley, Ssewamala, & Sherraden, 2009). Institutions are understood as laws and other formal mechanisms. They are formal and purposeful, have a defined structure and rules, and are designed to alter behaviours and outcomes for individuals (Sherraden, & Barr, 2005). This theory usually deals with less developed economies or poorer/less wealthy households. That is why this article focuses on one of the poorest regions in Poland.

The main assumption of the institutional saving theory is that some institutional aspects have effects on asset accumulation. Specifically, seven institutional determinants are identified: access, information, incentives, facilitation, expectations, restrictions and security (Han, & Sherraden, 2009). Access means eligibility and practicality. It refers to financial market development, the number of institutions and the number of access points per inhabitant. The easier access is, the higher savings tend to be. Information is understood as ease of information access. It requires financial education as well as information on instruments and institutions provided by media and other sources. Incentives represent efforts to motivate individuals to save, e.g. tax relief, higher rates of return or subsidies connected with particular instruments and saving programs or employers' participation in saving programs, inter alia, by matching up employees' payments. Facilitation means institutional arrangements providing mechanisms to make saving more manageable, e.g. online services, automatic enrolling in programs, mostly "automatisation". Expectations are understood as suggestions about goals or match caps, profit expected from investments and specific goals to achieve through saving. Restrictions are prohibitions in access to and use of collected saving, e.g. limits referring to amounts and aims of saving as well as security allowing for lower risk in assets holding.

3. The Perception of Saving Institutional Factors

Poland is recognised as one of the less developed countries within the European Union, although since 2018, it has ceased to be ranked as an emerging market because of its financial market growth. The Lubelskie voivodeship is one of 16 voivodeships in Poland, it is in the Eastern Poland and—together with Podlaskie and Podkarpackie—it belongs to the poorest regions in the country (measured by GDP per capita), closely followed by Świętokrzyskie and Kujawsko-Pomorskie. According to the Central Statistical Office data for 2016, the disposable income per capita of households in this voivodeship is about 88% of the country average (Central Statistical Office, 2017a), and its GDP per capita is only 68,9% of the average (Central Statistical Office, 2017b). It is only reasonable to investigate whether under such circumstances the institutional saving theory applies to the households in Lubelskie voivodeship.

The research to analyse household finance was conducted in the voivodeship at the beginning of 2018 with the usage of the anonymous questionnaire. For this article, only respondents between 18 and 65 years of age who declared active employment were considered. In that way, the sample of 223 individuals was selected, each of whom represented one household from Lubelskie voivodeship. Considering, that there are 741.6 thousand households in analysed area, that allows to run statistical analysis with level of confidence of approximately 95 % and the expected error rate 6%. The respondents differed by gender, age, place of living and education. They also declared the size of their household measured by the number of its members, and they were asked to assess their financial situation. All calculations were run with the usage of IBM SPSS Statistics ver. 24.

Each respondent was asked to mark every single institutional factor individually on a scale from 0 (not important factor) to 10 (extremely important factor). The analysis was divided into three parts, and each of them answered one of three questions.

a) Can institutional factors be assigned to separate groups, or should they be considered as one integral group?

a) What is the assessment of institutional factors by the respondents?

b) Is there a statistical correlation between the respondents' perception of institutional factors and both demographic and economic characteristics of the respondents?

3.1. Internal Integrity of Institutional Factors as a Group

As mentioned in the introduction, the institutional saving theory states that particular institutional factors can be divided into three groups: explicit connections, rules and incentives. To determine division of institutional factors in reference to the respondents, factor analysis was run. The principal components matrix presents only one component with the results shown in Table 1.

Table 1: Principal Components Matrix

	Component 1	
Information	.813	
Incentives	.798	
Expectations	.795	
Facilitation	.762	
Access	.755	
Restrictions	.745	
Security	.736	
K-M-O test	.867	
Bartlett test		
	Approx. chi-sqr.	515.336
	df	21
	Significance	.000

Source: own calculations on the basis of the respondents' answers.

In the next step, several factor analyses were run to determine if institutional factors can be divided into groups depending on different characteristics of the respondents. The three groups, as in the original theory, were identified only in two cases: people whose savings equals 6-12 months of their income and people who save regularly but without a specific plan or goal. In other cases, the analysis allowed dividing factors into two groups or to present them as only one group. The distinctive factors usually were security, expectations, access and restrictions for analysing the respondents by their economic situation self-assessment.

The results may suggest that the behaviour of the respondents does not follow the pattern presented in the theory. This is further confirmed by the fact that all institutional factors are positively correlated with each other. This leads to the conclusion that further research is necessary to assess the influence of institutional factors on saving in Poland, particularly in Lubelskie voivodeship.

3.2. Evaluation of Institutional Determinants by Households

To assess the importance of institutional factors for the respondents, the average marks for each factor were calculated. The outcome is presented in Table 2.

Table 2: Significance of Institutional Factors (Average Mark)

Institutional factor	Average mark
Security	7.00
Incentives	6.37
Restrictions	6.26
Expectations	6.21
Information	6.01
Access	5.93
Facilitation	5.68

Source: own calculations on the basis of the respondents' answers.

The results imply that the respondents assess the importance of analysed factors above average, with security of assets being the most important. Facilitation with the score of 5.68 is considered the least important. This result stems from the significant lack of such facilities in Poland.

The best way to determine which factors influence saving the most is to compare the respondents' answers with the value of their reported savings and their attitude toward saving which they prefer.

Table 3: Significance of Institutional Factors by Declared Saving of Respondents

Institutional factor	Saving volume						Kruskal-Wallis test, grouped by saving value		
	1-3 months of income	3-6 months of income	6-12 months of income	1-3 years of income	3 years and more of income	Hard to say	Chi-square	df	Asymptotic significance
Access	5.78	5.64	6.17	6.6	5.75	5.52	4.198	5	0.521
Information	6.06	5.36	5.75	6.8	7.75	5.19	9.142	5	0.104
Incentives	6.19	6.07	6.33	6	6.75	4.43	7.034	5	0.218
Facilitation	5.47	5.93	5.08	5.2	6.75	4.9	8.629	5	0.125
Expectations	5.86	5.57	5.75	6.1	6	4.38	13.549	5	**0.019**
Restrictions	6.03	5.79	5.75	6.2	6.5	5.29	2.428	5	0.787
Security	6.83	6.43	7.75	6.6	7.25	5.57	4.777	5	0.444

Source: own calculation on the basis of the respondents' answers.

In the questionnaire, the respondents were asked to point out the value of their savings in relationship to their monthly income. Their responses are presented in Table 3. The largest group of respondents (35.9%) declared they had savings not larger than their 3-month income, which means that they do not reach the financial security buffer. It is assumed that to provide financial security in case of emergency, the household should be in possession of savings with a minimum value of its 3-month income. The next group consisted of respondents who did not declare their saving value either because they do not know it or they do not want to reveal it. This group included 53 persons, which accounts for 23.8% of the sample. For the other groups, the number of respondents falls with the extension of the period covered by saving volume. Thus, 14.3% of the respondents had savings of between 3 to 6 months of income, 12.6% had savings of between 6 to 12 months of income, 8.4% had savings of between 1-3 years of income and 5.4% of the respondents declared that their savings are greater than their 3-year income.

As can be observed, institutional factors seemed the most important for the respondents possessing the highest volume of saving and the least important for those who did not declare their saving value. These apparent differences between respondents were verified using Kruskal-Wallis test. It appears that the assessment of institutional factors varies significantly only in the case of expectations, while with the other factors, the differences are statistically insignificant.

In the questionnaire, the respondents were asked to point out their prevailing behaviours toward saving. The options were as follows.

1. I do not save—4.5% of the answers.
1. I spend everything on current needs, do not put by anything, do not invest (spend everything)—6.7% of the answers.
2. I usually devote everything to current needs, but from time to time, I manage to save something (save from time to time)—25.1%.
3. In addition to current expenses, I try to save some funds on a regular basis (try to save regularly)—34.1%.
4. I save a certain amount of money in addition to current expenses each month (save regularly)—17.5%.
5. I allocate funds for consumption and savings in advance, but I have no specific purpose to save and plan to use financial instruments (save without a goal)—6.7%.
6. In advance, I allocate funds for consumption and savings, which I invest in planned financial instruments (planned saving)—5.4%.

Once again, the average marks were calculated for each of the institutional factors, this time dividing the respondents by saving behaviours (Table 4).

Table 4: Significance of Institutional Factors by Saving Behaviour of Respondents

Institutional factor	Type of saving behaviour							Kruskal-Wallis test, grouped by saving behaviour		
	Spend everything	From time to time	Try to save regularly	Save regularly	Save without a goal	Planned saving	Do not save	Chi-square	df	Asymptotic significance
Access	5.40	5.45	6.08	6.24	5.90	6.56	3.38	16.559	6	**0.011**
Information	6.10	5.26	6.14	5.64	6.50	6.33	3.88	15.262	6	**0.018**
Incentives	5.70	5.55	6.80	5.72	6.30	4.67	5.13	8.877	6	0.181
Facilitation	6.00	5.34	5.69	5.24	6.20	4.89	2.88	9.485	6	0.148
Expectations	5.90	5.21	6.29	5.36	6.20	7.22	2.88	23.010	6	**0.001**
Restrictions	6.10	6.05	6.39	5.52	5.40	6.67	3.25	9.143	6	0.166
Security	6.70	6.42	7.82	6.52	7.00	6.67	5.13	14.882	6	**0.021**

Source: own calculation on the basis of the respondents' answers.

From this perspective, the differences between the respondents are visibly higher. The calculated average marks for analysed institutional factors range from 2.88 to 7.82. The lowest marks are among the respondents declaring no savings, although some incentives and security of assets can prompt them to start. For persons who plan their saving with the use of dedicated financial instruments, expectations are very important (7.22), while incentives and facilitation are marked below the average. In this case, statistically significant differences between average marks are among four institutional factors, i.e. access, information, expectations and security.

3.3. Correlation of Institutional Construct with Demographic Variables

The last part of this analysis focuses on the correlations between the evaluation of institutional factors and the respondents' characteristics. Variables such as age, gender, place of living, educational level of the respondents and self-assessment of their financial situation were considered. The correlations were measured with the use of Kendall coefficient because the characteristics of the respondents are non-parametric. The calculations established that the statistically significant correlations were observed only in six cases in Table 5, all of them positive.

It becomes evident that the connection between the respondents' characteristics and their assessment of institutional factors is very low. None of these cases indicates that Tau b coefficient is higher than 0.15. In three out of six cases, the correlation refers to expectations. That means that this factor's mark differs between women and men. It also rises along with the education level and financial situations of the respondents. Another institutional factor that rises in importance along with the respondents' education level is security.

Table 5. Statistically Significant Correlation Observed between the Institutional Factors and the Respondents' Characteristics

Institutional factor	Variable differentiating respondents	Tau b Kendall
Access	Self-assessment of financial situation	0.146**
Facilitation	Place of living	0.148**
Expectations	Self-assessment of financial situation	0.118*
Expectations	Education level	0.131*
Expectations	Gender	0.146*
Security	Education level	0.133*

* p=0.05, ** p=0.01

Source: own calculation on the basis of the respondents' answers.

The same tendency can be observed between the financial situation and access to both financial instruments and institutions. As for facilitation, it is positively correlated with the place of living, which means the bigger the city, the more important this institutional factor is.

4. Conclusion

Institutional factors of saving are perceived by individuals as essential determinants to undertake saving. The most important institutional determinant of saving is the security of allocated assets, followed by incentives. This confirms the common behaviour in which people tend to locate their savings securely and profitably. On the other hand, the least important is facilitation. This is so probably because Polish financial services are highly technologically advanced and electronic access, mostly online, is common. With such characteristics of the market, people do not consider electronic access advantageous. Moreover, there are no programs supporting saving products by automatic enrolment.

However, the research implies that the opinions of household representatives are not followed by real activity. The institutional factors, although considered important, are not crucial in households' decisions on the saving process. That is proved by the lack of correlation between institutional factors and volume of saving. The only two statistically significant correlations measured with Tau b Kendal are between responses "hard to say" (what my saving volume is) and both incentives (-0.155; p=0.05) and expectations (-0.200; p=0.01).

After dividing the respondents into groups by their saving volume or by their behaviour, it emerged that the statistically significant differences in viewing the factors influencing saving are expectation, security, access to financial products and information about them.

Thus, the research indicates that the institutional determinants should be taken into consideration while investigating household saving behaviour, but it has to be analysed together with other factors such as psychological or sociological ones. It is important to take into account the influence of institutional factors while constructing fiscal or monetary policy for the country's economy. Given the example of Lubelskie voivodeship, we can imply that the validity of institutional factors is relatively lower in high and middle high income countries such as Poland, even in its poorest regions, compared to low income countries where this theory was developed and put into use.

References

Ando, A. and Modigliani, F. (1963). The "Life-Cycle" Hypothesis of Saving: Aggregate Implications and Tests. *American Economic Review*, *53*, 55–84.

Campbell, J. Y. (2006). Household Finance. *The Journal of Finance*, *61*(4), 1553–1604. https://doi.org/10.1111/j.1540-6261.2006.00883.x

Central Statistical Office. (2017a). Sytuacja gospodarstw domowych w 2016 r. w świetle wyników badania budżetów gospodarstw domowych (Situation of households in 2016 in accordance with results relating to research analysing household budgets). Warsaw.

Central Ststistical Office. (2017b). Wstępne szacunki produkt krajowy brutto według województw w 2016 r. (Draft estimates of Gross Domestic Product by voivodeships in 2016).Katowice.

Curley, J., Ssewamala, F., & Sherraden, M. (2009). Institutions and savings in low-income households. *Journal of Sociology and Social Welfare*, *36*(3), 9–32.

Friedman, M. (1957). The Permanent Income Hypothesis. In *A Theory of the Consumption Function* (Vol. I, pp. 20–37). Princeton University Press. https://doi.org/10.1016/S0304-3932(98)00063-4

Green, F. (1991). Institutional and other unconventional theories of saving. *Journal of Economic Issues*, *25*(1), 93–113. Retrieved from http://www.jstor.org/stable/4226376

Han, C.-K., & Sherraden, M. (2009). Attitudes and Saving in Individual Development Accounts: Latent Class Analysis. *Journal of Family and Economic Issues*, *30*(3), 226–236. https://doi.org/10.1007/s10834.009.9157-8

Katona, G. (1975). *Psychological economics. Psychological economics.* Oxford, England: Elsevier.

Liberda, B. (2015). Macroeconomic Saving in Poland. *Ekonomista*, (4), 437–451.

Sherraden, M., & Barr, M. S. (2005). Institutions and inclusion in saving policy. In E. N. Retsinas, & E. Belsky (Ed.), *Building Assets, Building Credit: Creating Wealth in Low-Income Communities*. Brookings Press.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

CONTROLLING IN SMEs-IMPLEMENTATION AND IMPLEMENTATION OBSTACLES IN GERMANY, FRANCE AND TURKEY

KOBİLERDE YÖNETİM MUHASEBESİ-ALMANYA, FRANSA VE TÜRKİYE'DE UYGULAMA VE UYGULAMA ENGELLERİ

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Abstract

Controlling is increasingly important in a changing economic environment. Nevertheless, many SMEs in Germany, France and Turkey have not implemented adequate controlling measures. Besides financial limitations, one main reason seems to be the lack of awareness of the part of managers and the owners of SMEs. Typically, they build up the company and due to their recent success, they believe they can only make a few mistakes and need any foundation of decisions using controlling measures. An additional aspect to be investigated is the influence of national culture. In this paper, the authors present the background and basic considerations for the design of an empirical investigation analyzing the evidence for the influence of culture on controlling systems. The ongoing research project will try to provide empirical proof of the influence of cultural differences on the design and implementation of controlling systems.
Keywords: Controlling, SME, intercultural factors
JEL Classification: M1, M410

Öz

Değişen bir ekonomik ortamda kontrol giderek daha önemlidir. Bununla birlikte, Almanya, Fransa ve Türkiye'deki birçok KOBİ yeterli kontrol önlemleri uygulamamıştır. Finansal sınırlamaların yanı sıra,

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ana nedenlerden biri yöneticilerin ve KOBİ sahiplerinin bir kısmının farkında olmama gibi görünüyor. Genellikle, şirketi kurarlar ve son başarılarından dolayı, sadece birkaç hata yapabileceklerine ve kontrol tedbirlerini kullanarak herhangi bir karar vakfına ihtiyaç duyabileceklerine inanırlar. Araştırılacak ek bir husus, ulusal kültürün etkisidir. Bu yazıda yazarlar, kültürün kontrol sistemleri üzerindeki etkisine ilişkin kanıtları analiz eden ampirik bir araştırmanın tasarımı için temel ve temel düşünceleri sunmaktadır. Devam eden araştırma projesi, kültürel farklılıkların kontrol sistemlerinin tasarımı ve uygulanması üzerindeki etkisine dair ampirik kanıt sağlamaya çalışacaktır.
Anahtar Kelimeler: Kontrol, KOBİ, kültürlerarası faktörler
JEL Classification: M1, M410

1. Introduction

1.1. Background

Small and medium enterprises (SMEs) in both in Turkey, France and Germany are particularly important for the national economy. This is especially true for the provision of jobs and training places and the innovative power (Alptürk 2008, Müftüoğlu 2002, 51ff, Haşit 2009, Rehn 1998, 36f.).

Due to their especially lower internal bureaucracy, SMEs are commonly regarded to be more innovative than large enterprises. However, this is not reflected, for example in Germany, by patent applications or product / process innovations (Maaß & Führmann 2012). When organizational innovations are additionally considered, this image changes: 78% of companies with 10 to 49 and 84% of companies with 50 to 249 employees participate in the innovation process, compared to large corporates with 95%. Therefore, SMEs are more innovative than previously reported (Rammer et al. 2014). One always has to keep in mind, that a stable innovation process is a “condition sine qua non” in the global competition.

In both countries, SMEs are faced with growing challenges:

The transformation of the society leads to an increasing pressure of various stakeholders (Christopher & Towill 2002, 3). Examples are environmental protection, ethics, “of mature” consumers etc.

The economic world in general is newly-minted by New Economy and internet-based concepts and solutions gene (Emre & Budak 2006).

The competition increases in the wake of internationalization and globalization. This is accompanied by:

a complex and dynamic competitive environment (Chapman & Ward 2003 1053; Giddens 2003; Miller 1998, 500; Rahman & Kumaraswamy 2002, 49f.).

the globalization of markets,

shorter product life cycles, and

complex linkages within corporate networks.

Uncertainties of supply and demand often bring companies in risky situations (Craighead, Blackhurst, Rungtusanatham & Handfield 2007, 132; Harland, Brenchley & Walker 2003, 53; Hult, Ketchen & Slater 2004, 244): Even events in distant regions can influence persons and organizations who are otherwise completely uninvolved (Beck 1992, 29).

In this increasingly complicated environment, it should not be forgotten that, for companies, there is no alternative to risk taking. Addressing the challenges involves and requires taking entrepreneurial risk. In this environment, controlling becomes essential for company to avoid negative developments and to detect opportunities within an increasingly internationalized environment (Mäder & Hirsch 2009).

1.2. Content and Approach of the Overall Project

Within the environment outlined above, the research project consists of gathering insights into controlling in German, French and Turkish SMEs. The projects aims at increasing the penetration of controlling skills and in so doing, improving the resistance against risks of this economically very important group of companies. The approach of the project can be described by the following three steps:

Analysis of the current state-of-the-art of controlling in SMEs in the countries through literature analysis and derivation of challenges.

Usage of the findings of the literature review for the generation of issues as part of an empirical study with a focus on the socio-cultural aspects of controlling.

Derivation of options for action from the results of empirical study of German, French and Turkish SMEs.

As part of the project, in this article we reflect the following central questions:

How do conceptual factors influence the design of controlling

What are the differences between large companies and SMEs in relation to the design of controlling?

In what ways are there socio-cultural differences in terms of controlling in Germany, France and Turkey?

2. Controlling and Contextual Factors of Controlling

2.1. Definition of Controlling and Controlling Concepts

Within literature, several definitions and tasks of controlling can be found and the three following definitions are only a brief overview over these different approaches: Horvath (1978) defines controlling as a management system that coordinates planning, control and information supply.

Peemüller (1992) points out, that controlling is a system whose purpose is to provide management with the information necessary to plan, manage and control the business. Lachnit (1992) assigns controlling to a business service function aimed at assisting management in the goal-oriented management of a business on a conceptual, instrumental and informational basis. Already the definitions show that the role and understanding of controlling differ.

Corresponding to this, several controlling concepts were developed in the course of the evolution of controlling:

Historical-accounting-oriented controlling: Controlling is a management system that provides information about the actual status of the company and updates planning calculations. This controlling concept is recording and documenting. The emphasis is on summarization, overview and information in the sense of reporting.

Future – and action-oriented controlling: The focus of controlling activities is now on examining operational processes, uncovering weak points, introducing and supporting planning and control systems, carrying out target/actual comparisons and variance analyses.

Management system-oriented controlling (Lachnit/Müller 2012): The controller becomes a design carrier and innovator by designing concepts for more effective corporate management. This requires comprehensive knowledge of business techniques such as forecasting, planning, control, corporate and environmental analysis or information processing, as well as organization and management systems.

Controlling to secure rationality: According to Weber (2002, 48), the role of controlling is understood as securing the rationality of management or ensuring the effectiveness and efficiency of management. The task of controlling aims at supporting the assurance of rational corporate management.

In sum, controlling, in different amount, is leadership supportive, system-forming and system-connecting.

2.2. Context Factors of Controlling

Which of the concepts is used in a company depends, among other things, on internal and external aspects (context factors). Thus, many empirical analyses show a strong context dependence of the level of development of controlling (Kosmider 1994; Niedermayr 1997; Ossadnik, Barklage & Lengerich 2004; Zimmerman 2001; Dintner 1999).

Internal company context factors: company size, organizational structure, industry affiliation, information technologies used.

External context factors in controlling: Corporate environment such as (general) information technologies, legal rules, competitor, industrial sector and culture.

It is obvious that the stability (or speed of change) of the corporate environment determines the role and task of the controller:

In a relatively static environment, the controller acts as an accounting-oriented "registrar".

In a limited dynamic environment, the controller performs the tasks of a "navigator" by providing planning and control assistance.

In an extremely dynamic environment, the controller is an innovator involved in problem-solving processes (Zünd 1979)

In sum, many features characterizing a company such as structure, company size, industry, etc., affect the design and implementation of controlling. One must also keep in mind that each national culture is an important determinant of the design of organizational and controlling systems and their effectiveness (Hoffjan & Boucoiran 2008, 66). Cultural, social, legal and political sub-differences affect the strategic and operative business and thus controlling too.

2.3. Special Context Factors of Controlling in SMEs

As mentioned above, small and medium enterprises (SMEs) in Turkey, France and Germany are of particular importance to the national economy for providing employment or ongoing innovation. In all three countries, SMEs have to respond to the growing challenges they are facing due to the increasing competition because of internationalization and globalization, the transformation process especially in the Turkish society or by the New Economy, internet-based concepts and business world solutions newly embossed. SMEs have size-specific advantages and disadvantages in comparison to large enterprises, which are also relevant for the design of controlling. In general, SMEs differ from larger enterprises in limited financial and human resources, individual service provision, simpler organizational and management structures and a stronger entrepreneurial character (Wolf, Kuttner & Feldbauer-Durstmüller 2017). The following size-specific peculiarities of SMEs have a high influence on the design of controlling (Flacke 2006): Rapid adaptation to environmental changes, reaction pressure, niche market strategies. On the on hand, the smaller size of SMEs can be of specific advantage because they usually have flat hierarchies which enables a more flexible decision making process. On the other hand, SMEs often face

taxation discrimination (Sarısoy & Sarısoy 2008),

disadvantages of scale as in the field of securing the financial resources,

difficulties with export activities (Kılıç 2011), and

problems enabling corporate governance.

The main barrier for SMEs consists of lack of financial resources, which are required for investments in new technologies (Rautenstrauch & Müller 2005).

In general, the lack of investment affects the adaptability of SMEs to the new business world. The lack of financial resources also influences the extent of implementation of controlling systems, which enable founded decision preparatory (Kummert 2005, 155ff.) Consequently, many SMEs in Turkey as well as in Germany and France are far from complete controlling systems.

Apart from financials aspects, the dissemination of controlling instruments in SMEs has been hampered, because these were originally geared to the needs and resources of large companies and therefore not suitable for applications in SMEs (Dintner 1999, Dethlefs 1997, 40ff., Benz, Buchner & Burgath 1999). However, controlling instruments have meanwhile been developed for the specific needs of SMEs and they are ready for use in companies (Funk, Rossmanith & Eha 2009, Gleich, Hofmann & Schulze 2006; Hegglin & Kaufmann 2003; Müller 2009; Schade 2007; Schulze 2010, also Kramer & Valentin 2009, 89ff. for an overview). Nevertheless, preliminary studies show that the extent of the practical use of these controlling methods in German, French and Turkish SMEs still is full of gaps. This is unfavorable, both from an individual (company-orientated) and from an overall economic perspective, since potential and existence-threatening risks remain undetected. The question is why do SMEs do not use controlling instruments?

One possible explanation is the SME-specific leadership models which includes both opportunities and risks (Schöning & Ersen Cörmert 2018):

In SMEs decisions are often made by the company owner/owners “from the gut” i.e. without adequate situational foundations (Rehn 1998, 116ff; Dahms & Siemes 2005, 230). This aspect is also connected with the concentration and centering of the entire corporate management on the owner(s), who oftentimes is/are closely linked to the corporate formation and evolution. Thus, successful entrepreneurs will often have founded companies or expanded them without adapting their management structures to the growing company size. Such patriarchal or autocratic leadership cultures are distinctive feature of many SMEs.

In general, such a leadership culture can be favorable for the implementation of visionary ideas. Therefore, these leadership structures have led to a brilliant rise of companies in Turkey as well as in Germany. Striking examples for Turkey are Koç or Sabancı, and for Germany SAP or AWD. However, SME-specific management models also bear risks. Management structures which are oriented on one or a few people are prone to rapid collapse due to seriously wrong entrepreneurial decisions (Rautenstrauch & Müller 2005). The history of companies is filled with spectacular examples such as Schlecker or Grundig. The analysis of company failures indicates that in addition to company-external events (such as a drop of substantial customers or suppliers) primarily corporate causes are responsible for failures. Mitroff & Alpaslan (2003, 111) and Coleman (2006, 5) show that exceptional problems that interfere with the organizational routine and based on human errors are more common than in the past. Especially general management shortcomings and wrong decisions as a consequence of serious false assessments in areas like strategic planning, production planning, supply planning, sales planning, human resources planning or financial planning (Hoogen & Lingnau 2009, Elsweier & Nickel 2010). These are typical causes of corporate imbalances.

Especially in owner-managed companies, emerging crisis symptoms are often detected too late or not at all (Rehn 1998, 121f.). An important reason for the emergence of risks and the delayed introduction of countermeasures must be seen in an insufficient foundation of business decisions. As stated before, this is connected with the fact that in SMEs, controlling instruments designed to support decisions are oftentimes only partly implemented (Hoogen & Lingnau 2009, 112ff, Feldbauer-Durstmüller, Duller, Mayr, Neubauer & Ulrich 2012, Berens, Püthe & Siemes 2007). In companies that have experienced rapid growth, the foundation of decisions especially reflects the situation in small enterprises. Thus, the need for a controlling process is only seen in part and additionally, the results of the existing instruments are ignored.

Besides financial constraints, the fact that crises do not fit into the self-image of the entrepreneur is in many cases responsible for this. Entrepreneurs tend to ignore that human beings make mistakes, especially because previous economic success seems to be the proof and guarantee that severe mistakes will not occur in the future. Against this background, it is purposeful to analyze why people (and hence also entrepreneurs) error (see Schöning & Ersen-Cörmert 2018) and whether there is a connection between the establishment of controlling and intercultural differences.

Over all, the qualitative characteristics of SMEs have a significant influence on the design of controlling (Rautenstrauch & Müller 2005, Wolf, Kuttner & Feldbauer-Durstmüller 2017).

3. Socio-Cultural Peculiarities of the Understanding of Controlling in Germany, France and Turkey

3.1. Connection Between Culture and Controlling

Individual behavior and especially its control are highly dependent on national und intercompany culture. Different cultural preferences lead to different reactions to certain forms of planning and control. When providing controlling data, the culturally conditioned subjectivity of the interpretation of information must be taken into account (Hoffjan & Boucoiran, 2008).

Controlling instruments cannot have the same form in different cultural contexts. Since the beginnings of cultural research, attempts have been made to quantify the term “culture” in order to be able to compare different cultures. Best known cultural research studies come from Hofstede & Hofstede (2009), Hall & Hall (1990), Trompenaars & Hampden-Turner (1997).

3.2. Operationalization of the Concept of Culture by Hofstede

In order to describe differences between national cultures and to be able to transfer them into practice, Hofstede’s investigations from the 1960s and 1970s are still fundamental. As a first step, Hofstede proposed to operationalize the concept of culture using five cultural dimensions developed by him. The aim of this classification of culture into cultural dimensions is to identify the differences between national value systems that influence business activities. His findings are based on a survey of more than 116,000 employees in over 50 countries. Despite all the limitations (e.g. inadmissible generalization, obsolescence), the findings still seem well suited to highlight fundamental differences between cultures.

Hofstede identified the following dimensions (Hofstede & Hofstede 2009):

Under *power distance* Hofstede defines social inequality, including the relationship to authority and the emotional distance between employees and superiors (Hofstede 1993, 28 and 38). Power distance shows the degree of willingness to accept or expect an unequal distribution of power in a society or organization. Thus, representatives of cultures with a high power distance are prepared to accept inequality and to subordinate themselves to those in power. The outstanding feature of power distance in companies is that the relationship between superiors and subordinates has a pronounced hierarchical character. On the other hand, the distance between leaders and employees is less great in societies with a small power distance. This means distributed responsibility in business life as well as more independence and autonomy for each individual.

Individualism describes societies in which the tie between individuals is loose: One expects from everyone that he cares for himself and his immediate family. Its counterpart, collectivism, describes societies in which people are integrated from birth into strong, closed "we-groups" that protect them throughout their lives and demand unconditional loyalty. (Hofstede & Hofstede 2009, 66). In collectivist societies, the preservation of harmony is a virtue as an expression of loyalty; mutual help and support are taken for granted. On the other hand, all members of an individualist society are expected to perform and assert themselves for themselves. The free development of the personality and the formation and expression of one's own opinion are central.

Hofstede uses the dimension *masculinity* to describe determination as opposed to modesty (femininity). Masculinity characterizes a society in which the roles of the sexes are clearly separated from each other: Men are determined to be hard and materially oriented. Women must be more modest, more sensitive and attach importance to quality of life. Femininity characterizes a society in which the roles of the sexes overlap: Both women and men should be modest and sensitive and attach importance to quality of life (Hofstede & Hofstede & Hofstede 2009, 115). Masculine cultures are characterized by the high value placed on status symbols. Overall, they are more performance-oriented, aggressive and competitive. In contrast, in feminine cultures more emphasis is placed on part-time work, childcare facilities, friendships and voluntary work. In masculine cultures, conflicts tend to be resolved through a (fair) struggle, whereas in feminine cultures compromises are usually sought. In addition, gender roles overlap in feminine societies, interpersonal relationships are the focus, empathy is highly valued and goals are achieved through cooperation and willingness to compromise.

Uncertainty avoidance can be defined as the degree to which the members of a culture feel threatened by uncertain or unknown situations (Hofstede & Hofstede 2009, 158). Cultures with strong uncertainty avoidance are characterized by the need for written and unwritten rules, because the general willingness to take risks is low. This is particularly important for cooperation in companies, where there are many internal regulations in addition to the rights and duties of the employer and employee. On the other hand, in cultures with weak uncertainty avoidance, there is a need for renewal and flexible structures. In general, people here are more willing to take risks and are more relaxed about uncertainty situations.

The fifth dimension “short-term versus long-term orientation”, which was not considered in Hofstede’s original study, describes the extent to which a pragmatic, future-oriented attitude replaces the dogmatic, present-day perspective in a society. Due to the subsequent addition, the evaluation of its expression is based solely on expert estimates, as there are no country-specific studies for the countries requested by Hofstede.

3.3. Communication-Oriented Differentiation of the Concept of Culture by Hall

In view of the importance of communication in companies for their success, in addition to Hofstede’s findings it seems appropriate to make use of cultural comparisons based on the dimensions of Hall & Hall (1990). They differentiated national cultures on the basis of three criteria, the first of which is most important:

Type of communication. Due to the so-called context dependence of communication, “high-context-cultures” and “low-context-cultures” are defined.

Relationship to space.

Relationship to time.

In the context of the *context dependency of communication*, the spatial and climatic conditions, the spatial distance between communicators, but also events of the past, such as previous experiences in similar situations or events immediately preceding communication, are considered. The context is therefore made up of a multitude of individual factors. “Low-context” cultures are fundamentally characterized by direct and explicit communication. The message can thus be received directly by the recipient of the message and does not have to be brought into the context of the environment by the recipient. In contrast, in “high-context” cultures an implicit form of communication prevails. Accordingly, for successful communication in “high-context” cultures it is necessary to have a high degree of understanding for body language and cultural artefacts, for example. Collectivist cultures are usually high-context-bound. There is a distinct information network to family, friends, colleagues and customers, so that no background information is needed for daily business. In individualistic cultures it is necessary to communicate explicitly due to the low importance of relationships; these cultures and therefore rather low-context-bound.

As a further dimension, Hall and Hall identify the *relationship to space*. In humans, in addition to the skin, there are also other invisible boundaries within the surrounding space as visible boundaries to the outside. Examples of this are the work table, the office or any other delimited territory. The significance of territory is particularly pronounced in Germany and the USA. Here the consideration of spaces (such as the kitchen of a cook or the bedroom of a child) as “mine” has a high value and at the same time determines the position of power within a social system or an organization. This can be seen, for example, in the importance attached to the size of an office or to the question of whether an employee has to work in an open-plan office or can have an individual office.

The *personal space* concerns massively the living together with the fellow human beings. This can be seen, for example, in the demarcation of the intimate area from people and the related attitude to physical contact: In Northern European countries, apart from shaking hands, any kind of touch is not considered opportune, even in long-term relationships. In southern countries, on the other hand, a hug and a kiss on the cheek are an essential signal that there is more than a fleeting relationship. What is important here is that the attitude to physical contact can change over time: For example, it can be observed that in Germany, starting in southern Germany, a hug is gradually becoming established as a greeting, whereas in the Eastern European countries, after the end of socialism, the “brother kiss” is no longer considered opportune and a greater distance is maintained.

As a further characteristic of the relationship to space, Hall identified the space-use systems “star” with pronounced centralism and “grid” with distributed focal points. In the “star” system, there is a centre to which all traffic routes are directed. Distinctive examples are France with Paris and Germany between 1870 and 1945 with Berlin. The “star” type also has a pronounced tendency towards centralism in decision-making. A “grid” system, on the other hand, symbolizes a polycentric system and stands for federalism and distributed competences: Transport networks with several nodes, federal state structure and distributed responsibility in companies. The concepts have different advantages and disadvantages, which can be recognized both within the organization and in relations with the outside world, especially in supranational oriented companies, and which must be taken into account in actions.

According to Hall & Hall, different national cultures also differ in their *relationship to time*. He coined the terms monochronic and polychronic dealing with time. In this context, monochrony means focusing one’s attention on one thing and dealing with only one thing. In monochronic cultures, time is used linearly, which means that appointments are more important than a random conversation in the kitchen.

3.4. Cultural Differences between Germany, France and Turkey

In order to illustrate the importance of intercultural differences, the following overview will take a closer look at Germany, France and Turkey. Following on from the Hofstede cultural dimensions presented in Section 3.2, the following index values for the individual dimensions were determined for the three countries (see Table 1).

Table 1: Cultural Differences between Germany, France and Turkey

Index/ Culture dimension	Rank	Germany		France		Turkey	
Power distance	32-33 of 76	35	Low	68	High	66	High
Individualism	43 of 76	65	Individualistic	71	Individualistic	37	Collectively
Masculinity	43-45 of 76	67	Masculine	43	Feminine	45	Feminine
Uncertainty avoidance	23-25 of 76	66	High	86	High	85	High
Long – vs. short-term orientation	47 of 93	83	High	63	High	46	Medium

Source: Hofstede (2003)

As neighboring countries and core countries of the European Union, Germany and France have many social similarities that can be explained by the influence of similar influencing factors such as the enlightenment or religion. However, significant differences can also be observed, for example from the different state structure (federalism in Germany. centralism in France), the education system (higher degree of permeability in Germany vs. relatively rigid system of elite education in France; all-day care and school in France vs. dominance of half-day care in Germany, the importance of dual education in Germany) or the gender role understanding (higher degree of emancipation and participation in the economic life of women in France compared to Germany). In addition, the striking difference with regard to the power distance shows that the cooperative management style practiced in Germany in particular with strong involvement of employees in decision-making encounters difficulties in France because hierarchical decision-making structures are established. While bottom-up budgeting processes are common in Germany, for example, top-down budgeting is used in France. The difference in masculinity must also be taken into account, which is reflected, among other things, in the differing importance of objective orientation and personal relationships. With regard to the uncertainty avoidance dimension, there is a distinct tendency in both countries to limit risks as far as possible and, in case of doubt, to take a less risky (but also less high-yielding) alternative. However, this approach to business decisions is even more common in France than in Germany. It must therefore be borne in mind that in France employees at all levels of the company tend to identify low-risk alternatives, delegate decisions "upwards" or safeguard them. In this respect, correlations with the different ways of dealing with hierarchy are also important.

German and Turkish culture also have similarities in many areas, resulting in part from a similar recent history (e.g. late democratization). The results of Hofstede's research also illustrate the major differences between controlling in both countires: Starting from an average value of 50, the values for Germany and Turkey are on different sides of the scale in the dimensions of power distance, individualism and masculinity. With regard to the dimension of power distance, inequality between people is expected and desired in Turkish society. Accordingly, hierarchical structures in organizations are a mirror image of an inequality by nature between the upper and lower strata.

With regard to the dimension of individualism, the German society, which can be described as more individualistic, and the Turkish society, which is regarded as more collectivist, face each other. The effects on business life are manifold, for example in the form of the importance of the family and the group of employees, as well as the general importance of relationships that are given priority over tasks. The management of employees is particularly affected by this, as the preservation of harmony and the avoidance of direct disputes must be taken into account as far as possible.

Of decisive importance in dealing with intercultural differences between German and Turkish society, which also have effects on cooperation work in and between companies, is the recognition of the significance of "honour" (namus) and "reputation" (şeref) in Turkish culture (cf. Appl et al. 2016, p. 31 ff.). This particularly affects relationships between managers and employees as well as between male and female employees.

A comparison of the three countries also reveals further fundamental differences between Germany and France on the one hand and Turkey on the other. Even if religion is practised to varying degrees and the Turkish constitution explicitly states that there is a separation between state and religion, religion plays a much stronger role in the Turkish population than in Germany or France (Franken 2006, 147 f.). This is associated with a relatively low tolerance towards non-Muslims and also Muslims of other faiths.

In addition, cultural diversity within Turkey and the degree of inhomogeneity in Turkish society are significantly greater than in Germany and France. The background to this is the multi-ethical composition of Turkish society (about 20% of Turks are Kurds), but also the very pronounced differences between the urban, Western-oriented part of the population and the originally rural, traditionalist part of the population, which can now also be found in the large cities.

Even this brief overview shows that the following similarities and differences are or may be relevant in the context of controlling (Table 2):

Table 2: Intercultural Characteristics of Controlling

	Influencing cultural dimension	Germany	France	Turkey
Readiness for exchange of information	Collectivism	Individualistic	Individualistic	Collectively
Form of information	Power distance, uncertainty avoidance	Informal, detailed	Formal, detailed	Formal, detailed
Access to the controlling relevant information	Power distance	Non-hierarchical	Hierarchical, more difficult	Hierarchical, more difficult
Participation of employees in the planning process	Collectivism, power distance	Participative planning	Lower share	Lower share
Degree of precision of the planning systems	Uncertainty avoidance	High degree of precision	High degree of precision	High degree of precision
Participation in the control process	Power distance	High	Low	Low

Source: Hoffjan und Boucoiran (2008), Feldbauer-Durstmüller und Keplinger (2012), Feldbauer-Durstmüller & Kuttner (2017)

By this, the following socio-cultural characteristics of controlling in Germany, France and Turkey can be derived (Table 3):

Table 3: Intercultural Characteristics of Controlling

Germany	France	Turkey
tendential flat organizational structures	larger organizational structures	Larger organizational structures
less importance of the hierarchical principle strong participation in planning and control	high importance of the hierarchy principle low participation in planning and control	high importance of the hierarchical principle low participation in planning and control
Tendency towards decentralized structures	centralized structures	centralized structures
Direct, explicit and factual communication silence	indirect, implicit and formal communication silence	Indirect, implicit and formal communication silence
strong performance orientation	Interpersonal relationships in the foreground	Interpersonal relationships in the foreground
formal rulebook	formal rulebook	formal rulebook
Comprehensive and precise reporting	Comprehensive and precise reporting	Comprehensive and precise reporting

It can be seen that there are significant socio-cultural differences between the three countries considered. It can therefore be assumed that these differences are also reflected in the design and implementation of controlling systems both in companies in general and in SMEs.

4. Differences in Controlling Designs

4.1. Result of this Preliminary Investigation

There are several research papers which analyze the usage of controlling in SME. Among several other studies (see e.g. Keuper, Brösel & Albrecht 2009), the following studies are of special interest:

Hatunoğlu, Akpınar & Çelik (2013): In the study, the authors have questioned 350 SMEs from the areas Kahramanmaras and Gaziantep about the usage of controlling information. 69.4% of the companies surveyed believe that the controlling data is important or very important for planning. However, results from the study show that controlling reporting supports the management significantly more in the area of financing activities (67.6%) and less in the area of production activities (37.1%).

Mizrahi (2011): In this empirical study, the author has asked 80 SMEs from the industrial district of İzmir (İzmir Atatürk Organize Sanayii Bölgesi) about the effectiveness of their controlling system. From the results of the study it can be deducted that 65% of the companies surveyed do not use controlling as a source of information for management decisions. The study shows a strong positive relationship between the company size and the intensity of the use of controlling data.

Tak & Eroğlu (2010): In this study, the authors have interviewed 470 small and medium sized companies from the district of the Bursa Chamber of Commerce referring to the application of strategy-oriented approaches to corporate governance. The authors found out that the lack of basing strategy decisions was one of the most serious conceptual weaknesses of corporate governance in SMEs. The study showed that only 30% of companies surveyed had strategic planning.

Doğan (2014): As part of this study, 75 small and medium-sized companies from the Bartın district were surveyed on the use of controlling as an information system for business decisions. The study shows that the controlling data are not used as decision-relevant information in a majority of companies surveyed. The necessary integration of controlling and corporate management is missing.

Ossadnik, Barklage & Lengerich (2004): The authors surveyed 155 companies, each with less than 500 employees, on functional, instrumental and institutional design of controlling. 64% of the companies claimed that they had self-controlling filters. This form of institutionalization is present especially in companies with over 200 employees. In 31% of the companies surveyed, controlling tasks are done part-time. Only in companies with more than 100 employees, the implementation of comprehensive standard controlling instruments can be observed.

Wilken (2007): The study of SMEs in North West Germany shows that controlling now has indeed a firm anchorage in SMEs. However, at the same the range of modern controlling instruments and systems still is comparatively low.

Schindlbeck & Diringer (2007): This study covering 235 companies shows a strong connection between the assessment of the performance of an existing risk controlling system on the one hand and the company's success on the other: 72% of companies that assess the performance of their risk controlling as high, have an above-average corporate success. On the contrary, 49% of companies that assess the performance of their risk controlling as low, only have an average business success.

Diamant Software (2012): What do SMEs understand by "controlling", how does it implement its controlling tasks in practice and what significance and perspective will controlling have in the future? Diamant Software interviewed 320 people from medium-sized companies and organizations as part of this study. For about 80% of the respondents, accounting data forms the basis for controlling. A total of 76% of the respondents would like to further develop the company's own controlling system. 67% expect controlling to gain importance in their company over the next two years.

Over all, recent research shows that the scope of the practical use of controlling procedures in SME is still incomplete. All analyzed studies show the high relevance of a well-designed controlling. Often, the degree of implementation of controlling increases with the growing size of companies. In some areas such as investing, controlling instruments are already quite commonly used (Rautenstrauch & Müller 2006, 101ff.) However, the studies do not consider the linkage between the implementation of controlling and intercultural differences.

5. Conclusion

SMEs are called the "innovation engine" of an economy and therefore controlling in these companies must be determined as a microeconomic and macroeconomic necessity: In a microeconomic context, it is necessary to keep in mind the limited resources of SMEs and their vulnerability. From a macroeconomic point of view, SMEs are faced – even more than large companies – with the increasing global competition.

Unlike in the past, deficits in SMEs in the fields of controlling can no longer be explained (and excused!) by the lack of controlling tools, which are adapted to SME needs. Therefore, there must be other explanations for the rather low degree of implementation of these tools in SME. There are studies that investigate the expected theoretical effects of cultural differences on the implementation of controlling systems. On the basis of the existing studies, the following results have been identified: In Turkey, accounting, particularly in SMEs, is characterized by the dominance of annual accounts with the aim of tax policy shaping as the primary objective of balance sheet policy. The number of research projects in Germany and France that focus on the implementation of controlling is relatively high compared to Turkey. Particularly in Turkey, despite its great importance, there are no in-depth analyses of SMEs with a focus on controlling.

But there is no empirical evidence for the influence of culture on the controlling system. A research project can provide empirical proof of the influence of cultural differences on the design and implementation of controlling systems in Germany, France and Turkey. This research project in general aims at closing the research gap pointed out in the field of socio-cultural influences on controlling in SME. The project consists of two parts: Part 1 is an Analysis of the status quo of the usage of controlling instruments in German, French and Turkish SMEs. Part 2 consists of a comparative analysis of SMEs in Turkey, France and Germany.

The project has two major objectives: First, the elaboration of socio-cultural idiosyncrasies about the controlling understanding and controlling practices of SMEs in the three countries as well as by business characteristics. Second, the derivation of measures to improve the understanding of the necessity of controlling and the implementation level of controlling.

References

Alptürk, E. (2008). *Küçük ve Orta Büyüklükte İşletmeler (KOBİ) Rehberi*. Ankara: Yaklasim Yayincilik.

Appl, C., Koytek, A., & Schmid, S. (2016). *Beruflich in der Türkei: Trainingsprogramm für Manager, Fach – und Führungskräfte*. 2. ed., Göttingen: Vandenhoeck & Ruprecht.

Beck, U. (1992). *Risk society: towards a new modernity*. London: SAGE Publications.

Benz, C., Buchner, H., & Burgath, H. J. (1999). Aufbau eines Führungsberichtswesens im internationalisierten, mittelständischen Unternehmen. *Controller-Magazin 24*(3), 197–204.

Berens, W., Püthe, T., & Siemes, A. (2005). Ausgestaltung der Controllingsysteme im Mittelstand – Ergebnisse einer Untersuchung. *Controlling und Management 49*(3), 186–191.

Chapman, C., & Ward, S. (2003). Constructively simple estimating: A project management example. *Journal of the Operational Research Society 54*(10), 1050–1058.

Christopher, M., & Towill, D. R. (2002). Developing market specific supply chain strategies. *International Journal of Logistics Management 13*(1), 1–14.

Coleman, L. (2006). Frequency of man-made disasters in the 20th century. *Journal of Contingencies and Crisis Management 14*(1), 3–11.

Craighead, C. W., Blackhurst, J., Rungtusanatham, M. J., & Handfield, R. B. (2007): The severity of supply chain disruptions: design characteristics and mitigation capabilities. *Decision Sciences 38*(1), 131–156.

Dahms, S., & Siemes, A. (2005). Strategisches Controlling im Mittelstand – Empirische Erkenntnisse und Hilfestellungen (MinD®). *Controller Magazin 30*(3), 227–234.

Dethlefs, L. (1997). *Kennzahlencontrolling in kleinen und mittleren Unternehmen (KMU).* Frankfurt/Main: Peter Lang Verlag.

Diamant Software (2012): *Notwendigkeit oder zu viel Aufwand? Controlling im Mittelstand*. Retrieved from https://www.diamant-software.de/studie-controlling-im-mittelstand/ Zugriff

Dintner, R. (1999). *Controlling in kleinen und mittleren Unternehmen: Klassifikation, Stand und Entwicklung*. Frankfurt/Main: Peter Lang Verlag.

Elsweier, M., & Nickel, R. (2010). Logistik-Controlling-Studie – Ergebnisse und Handlungsbedarf. *Productivity Management 15*(2), 50–53.

Emre, Z., & Budak, A. (2006). Dünya uygulamaları çerçevesinde KOBİ borsalar, TSPAKB Retrieved from https://www.tspb.org.tr/wp-content/uploads/2015/06/AIM_Yayin_ve_Raporlar_Arastirma_Raporlari_Dun_Uyg_Cer_Kobi_Borsalari.pdf.

Feldbauer-Durstmüller, B., Duller, C., Mayr, S., Neubauer, H., & Ulrich, P. (2012). Controlling in mittelständischen Familienunternehmen – ein Vergleich von Deutschland und Österreich. *Controlling und Management 56*(6), 408–413.

Feldbauer-Durstmüller, B. & Keplinger, K. (2012). Einflüsse kultureller Faktoren auf die Gestaltung der Controllingsysteme in Österreich, den USA und Russland. In: Denk, C. (ed.). *Internationale Rechnungslegung und internationales Controlling*. Wien: Linde, 161–187.

Feldbauer-Durstmüller, B,; & Kuttner (2017) Controlling im internationalen Kontext. iKulturelle Einflüsse auf die Informationsversorgung, Planung und Kontrolle. In: Funk, W. & Rossmanith, J. (eds.). *Internationale Rechnungslegung und internationales Controlling.* 3. ed., Wiesbaden: Springer, 281-301.

Flacke, K. (2006). *Controlling in mittelständischen Unternehmen : Ausgestaltung, Einflussfaktoren der Instrumentennutzung und Einfluss auf die Bankkommunikation*. Dissertation University of Münster

Franken, S. (2006). Deutsch-türkische *Unternehmenskooperationen, Strategien für erfolgreiche interkulturelle Zusammenarbeit (Alman Türk şirketler kooperasyonu)*. Saarbrücken : VDM – Verlag Dr. Müller.

Funk, W., Rossmanith, J., & Eha, C. (2009). IFRS for SMEs – Auswirkungen auf die Gestaltung des Rechnungswesens und des Controllings in KMU. In: Müller, D. (ed.). *Controlling für kleine und mittlere Unternehmen*, Lohmar: Eul, 153–187.

Giddens, A. (2003). Runaway world: How globalization is reshaping our lives. London: Routledge.

Gleich, R., Hofmann, S., & Schulze, M. (2006). Controlling. In: Pfohl, H. C. (ed.) *Betriebswirtschaftslehre der Mittel – und Kleinbetriebe. Größenspezifische Probleme und Möglichkeiten zu ihrer Lösung*. Berlin: Erich Schmidt, 347–376.

Hall, E. T., & Hall, M. R. (1990): *Understanding cultural differences*. Yarmouth: Intercultural Press.

Harland, C., Brenchley, R., & Walker, H. (2003). Risk in supply networks. *Journal of Purchasing and Supply Management 9*(1), 51–62

Haşit, G. (2009). *Küçük ve Orta Ölçekli Aile İşletmelerinde Kurumsal Yönetim*. Ankara: Ekin Yayinevi

Hatunoğlu, Z., Akpınar, Y., & Çelik, A. (2013). *KOBİ'lerin Yönetiminde Muhasebe Bilgi Sisteminin Önemi: Gaziantep ve Kahramanmaraş Örneği*. Üniversitesi İİBF Dergisi, Cilt: 6, Sayı: 2, 307–322, Nigde.

Hegglin, A., & Kaufmann, H. (2003). Controlling in KMU. Zweckmässige Controlling-Instrumente in Klein – und Mittelunternehmen. *Der Schweizer Treuhänder 77*(5), 359–368.

Hoffjan, A., & Boucoiran, T. (2008). Kulturelle Aspekte im internationalen Controlling–Beispiel Frankreich. *Controlling 20*(2), 65–71.

Hofstede, G., & Hofstede, G . J. (2009). *Lokales Denken, globales Handeln*. 4. ed. München: DTV.

Hofstede, G. (1993). *Interkulturelle Zusammenarbeit*. Wiesbaden: Gabler.

Hoogen, M., & Lingnau, V. (2009). Perspektiven eines kognitionsorientierten Controllings für KMU. In: Müller, D. (ed.). *Controlling für kleine und mittlere Unternehmen*. München: Oldenbourg, 101–126.

Hult, G. T., Ketchen, M. D. & Slater, S. F. (2004). Information processing, knowledge development, and strategic supply chain performance. *Academy of Management Journal 47*(2), 241–253.

Keuper, F., Brösel, G., & Albrecht, T. (2009). Controlling in KMU – Identifikation spezifischer Handlungsbedarfe auf Basis aktueller Studien. In: Müller, D. (ed.). *Controlling für kleine und mittlere Unternehmen*, Wiesbaden: Gabler, 56–71.

Kılıç, S. (2011). *Küçü ve Orta Ölçekli İşletmelerde İhracat Pazarlaması*. Ankara.

Kosmider, A. (1994). *Controlling im Mittelstand*. 2. ed., Stuttgart: Schäffer-Poeschel.

Kramer, M., & Valentin, M. (2009). Controlling-Konzeptionen in KMU : Forschungsstand und Auswirkungen auf die Absolventenausbildung unter didaktischen Gesichtspunkten. In: Müller, D. (ed.). *Controlling für kleine und mittlere Unternehmen*., München: Oldenbourg, 73-100.

Kummert, B. (2005). *Controlling in kleinen und mittleren Unternehmen: vom Geschäftsprozessmodell zum Controller-Profil*. Wiesbaden: Deutscher Universitätsverlag.

Lachnit, L. (1992). *Controllingsysteme für ein PC-gestütztes Erfolgs – und Finanzmanagement*, München: Vahlen.

Lachnit, L., & Müller (2012). *Unternehmenscontrolling*, 2. ed, Wiesbaden: Springer.

Maaß, F., & Führmann, B. (2012). Innovationstätigkeit im Mittelstand – Messung und Bewertung. In: Institut für Mittelstandsforschung Bonn (ed.): *IfM-Materialien* Nr. 212, Bonn.

Mäder, O. B., & Hirsch, B. (2009). Controlling: Strategischer Erfolgsfaktor für die Internationalisierung von KMU. In: Keuper, F., Schunk, H. A. (ed.). *Internationalisierung deutscher Unternehmen*. Wiesbaden: Gabler, 171–201.

Miller, K. D. (1998). Economic exposure and integrated risk management. *Strategic Management Journal 19*(5), 497–514.

Mitroff, I. I., & Alapaslan, M. C. (2003). Preparing for evil. *Harvard Business Review 81*(4), 109–115.

Mizrahi, R. (2011). *KOBI'lerde Muhasebe Bilgi Sisteminin Etkin Kullanımı Üzerine Bir Araştırma*. Organizasyon ve Yönetim Bilimleri Dergisi, Cilt 3, Sayi 2, Mugla

Müftüoğlu, T. (2002). *Türkiye'de küçük ve orta ölçekli işletmeler KOBİ'ler: sorunlar, önerile*. Ankara: Turhan Kitapevi.

Müller, D. (2009). *Controlling für kleine und mittlere Unternehmen*. München: Oldenbourg.

Ossadnik, W., Barklage, D., & Lengerich, E. v. (2004). Controlling im Mittelstand, Ergebnisse einer empirischen Untersuchung. *Controlling 16*(11), 621–630.

Peemüller, V. (1992). *Controlling*, 2. ed., Herne, Berlin: Verlag Neue Wirtschafts-Briefe.

Rahman, M., Kumaraswamy, M. (2002). Joint risk management through transactionally efficient relational contracting. *Construction Management & Economics 20*(1), 45–54.

Rammer, C., Aschhoff, B., Crass, D., Doherr, T., Hud, M., Köhler, C., Peters, B., Schubert, T., Schwiebacher, F. & ZEW (2014). *Innovationsverhalten der deutschen Wirtschaft: Indikatorenbericht zur Innovationserhebung 2013*. Mannheim. Retrieved from http://ftp.zew.de/pub/zew-docs/mip/13/mip_2013.pdf.

Rautenstrauch, T., & Müller, C. (2005). Verständnis und Organisation des Controlling in kleinen und mittleren Unternehmen. *Zeitschrift für Planung und Unternehmenssteuerung 16*(2), 189–209.

Rautenstrauch, T, & Müller, C. (2006). Investitionscontrolling in kleinen und mittleren Unternehmen. *Controlling & Management 50*(2), 100–105.

Rehn, J. (1998). *Integrative Planungs – und Kontrollsystem für mittlere Unternehmungen. Konzeption, Gestaltung und empirisches Schlaglicht*. München: Hampp Verlag.

Sarısoy, İ., & Sarısoy, S. (2008). *Küçük ve orta ölçekli işletmelere yönelik vergi teşvik politikası*. DergiPark Akademik, cilt 25, Sayi 2, , Istanbul:Ticaret Odası Yayınları

Schade, S. (2007). *Kennzahlengestütztes Controlling für mittelständische Unternehmenskooperationen*. Frankfurt/Main: Peter Lang Verlag,

Schindlbeck, K., & Diringer, F. (2007). *Controlling im Mittelstand: Repräsentative Studie über das Controlling in Mittelständischen Unternehmen in Deutschland*, Fachhochschule Deggendorf. Retrieved from: http://www.commit-institut.de/pdf/haufeakademie.pdf.

Schöning, S., & Ersen Cörmert, C. (2018). Risk Controlling in SME – a German-Turkish Perspective, in: Bakırcı, F., Heupel, T., Kocagöz, O., Özen, Ü. (eds.). *German-Turkish Perspectives on IT and Innovation Management*, Wiesbaden: Springer, 429–446.

Schulze, F. (2010). *KMU im Wandel. Mehrwert im Mittelständischen Unternehmen durch Implementierung eines Beschaffungscontrollings*. Hamburg: Diplomica Verlag.

Tak, B., Eroğlu, U. (2010). Küçük ve Orta Ölçekli İşletmelerin Stratejik Bir Yaklaşım ile Yönetilip – Yönetilmediğini Tespit Etmeye Yönelik Bir Saha Çalışması. 4. Aile İşletmeleri Kongresi, Kongre Kitabı, İstanbul: Kültür Üniversitesi Yayınları.

Trompenaars, F., & Hampden-Turner, C. (1997). Riding the waves of culture. London: Brealey.

Weber, J. (2002). *Einführung in das Controlling.* 9. ed., Stuttgart: Schäffer-Poeschel.

Wilken, C. (2007). *Controlling in KMU: Eine empirische Untersuchung im Nordwesten Deutschlands*. Fachhochschule Oldenburg/Ostfriesland/Wilhelmshaven, Fachbereich Wirtschaft – Emden. Retrieved from: http://www.hs-emden-leer.de/web/forschung/docs/Forschungsbericht_060.820.07121912.pdf.

Wolf, T., Kuttner, M. & Feldbauer-Durstmüller, B. (2017). Anforderungen an Controller in KMU. In: Müller, D. (ed.). *Controlling für kleine und mittlere Unternehmen*. 2. ed., Berlin: De Gruyter Oldenbourg, 2–33 DOI: 10.1515/978.311.0517163-001.

Zimmermann, C. (2001). *Controlling in international tätigen mittelständischen Unternehmen*. Wiesbaden: Gabler. DOI: 10.1007/978-3-322-89653-7.

Zünd, A. (1979). Zum Begriff des Controlling, in: Goetzke, W., & Sieben, G. (ed.). Controlling – Integration von Planung und Kontrolle, Köln: GEBERA, 15–26.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

FINANCING THE SUSTAINABLE DEVELOPMENT PROJECTS OF FAMILY FIRMS ON THE BASIS OF PRIVATE-PUBLIC PARTNERSHIP

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Abstract

The research objective of the article is substantiation of methodological and applied recommendations for improving the system of financing the sustainable development projects in Ukraine in view of Sustainable Development Strategy realization. The study object is financing the family firms in framework of reforming the Ukrainian legislation aimed at establishing of a mechanism of funding the sustainable development projects. During the research there were used such methods as: dialectical method and methods of analysis and synthesis – to study the features of forming the national programs of the state development, the characteristics of private-public cooperation in the implementation of sustainable development projects; statistical method – to analyze the family firms' expenditures by their content and direction, for empirical determining the costs, which can be potentially directed on sustainable development measures of Lviv region; structural and logical analysis – to develop theoretical and methodological principles of forming an effective Program of the regional competition of sustainable development projects for family firms in Ukraine. The need to increase incomes of Lviv region family firms was established. This will facilitate the development of small and medium businesses in the country. There were characterized supporting programs and projects for sustainable development for the purpose to encourage households to make the appropriate changes, providing assistance through common financing.

Keywords: Sustainable development projects, family firms, private-public partnership, the programs of region development, regional funding.

JEL Classification: Q56, R28, R58, K32.

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1. Introduction

Nowadays, the ecological situation in Ukraine and world requires decisive actions related to warning and prevention the new challenges, the society is faced with. Countries transition to the sustainable development model long ago became the priority task in the whole world, since we have been already seeing the consequences of the massive energy consumption and greenhouse gasses permanent emission. And though Ukraine is one of the signatories of international agreements on climate change, the process of the economy transition to the sustainable development requires overcoming lots of problems and avoiding the range of risks. However, the urgency of these actions is obvious considering the ecology situation in Ukraine and world, as well as the increase in the fossil fuel cost.

It is generally recognized that in order to ensure the fulfillment of country's tasks and to improve the environmental situation in Ukraine and world as a whole, a new Energy Strategy and the Strategy of Low-Carbon Development must be based on the promotion of such directions as, in particular, defining the responsibility for the ecological state of a country, of a separate region, a united commune, private production etc. in the context of public-private partnership. Taking into account Ukraine's participation in the international treaties on climate change and ratification of the Paris Agreement within the United Nations Framework Convention on Climate Change, the Strategy of Sustainable Development "Ukraine-2020" has been confirmed. (Sustainable Development Strategy "Ukraine2020"). In particular, an action plan for implementing the Strategy provisions developed the vectors of movement for realizing the reforms and development programs of the state, including the Small and Medium Business Development Program, the Financial Sector Reform, the Natural Environment Conservation Program and others.

2. Forming the Programs for Financing the Sustainable Development Projects for Family Firms

In view of the development and ratification the Sustainable Development Strategy in Ukraine, there is an obvious need to define the clear action plan regarding the country transition to the use of renewable energy sources. Such kind of programs development is the logical start for the established action plan implementation in the context of movement vectors for reforms realization. It is fundamental for country to adopt the appropriate development programs regarding the natural environment conservation and small and medium business development.

A necessary step in forming the national programs of the state development is elaborating programs of this type at regional and local levels. This would enable activating the sustainable transformations in the country through natural environment conservation and transition to renewable energy sources at the level of individual territorial units.

The importance of ensuring the sustainable development of the territories is analysed in the research papers of A. Demyanyuk, who in particular outlines the necessity of coordinated development of plans for the development of economic, ecological and social spheres of life at the local level based on balancing the powers and responsibilities of local authorities to stimulate the effective use of the potential of these territories. In particular, the author notes that in the future, implementation of these measures will promote the level of competitiveness of territories, development of human resources and resource potential of territories, ensuring interregional cooperation, creating conditions for the development and implementation of the strategy of socio-economic development of territories. (Demyanyuk, 2017).

The Resolution of the Verkhovna Rada of Ukraine "On the Concept of Sustainable Development of Human Settlements" identified regional priorities of sustainable development [1]: ensuring balanced development of regions and cities on the basis of preserving their regional structural features, natural resources, economic and environmental capacity; balanced development of the territory within the ecological space of the region, as well as coordination of actions with the development of other regions of Ukraine.

T. Kozhukhova's research proves the importance of developing a strategic approach to financing sustainable development, defining the functions of international and national financing for sustainable development, measures for the effective use of financial resources for sustainable development. Thus, the author in her papers confirms that the needs for financing sustainable development are very large. But the current models of financing and investment will not be able to provide sustainable development. (Kozhukhova, 2014).

Expected returns from sustainable development investments are often less attractive than other opportunities, especially in the short term. At the same time, there are many divergent demands for public resources, and governments are not able to mobilize proper public funding to make the necessary investments which investors who seek profit abstain from. A closer alignment of private incentives with state objectives and the creation of a policy framework that will stimulate profit-oriented investments in these sectors are necessary, along with the mobilization of public resources for compulsory activities in the field of sustainable development. (Kozhukhova, 2017).

A. Zhuchenko notes that one of the key problems of regional management is to ensure long-term sustainable socio-economic development of the region. This problem is relevant not only for Ukraine, but also for other post-Soviet countries. (Zhuchenko, 2016).

Analysing the international experience of providing state support to economic entities, we can distinguish the provision of state guarantees for targeted redistribution of loan capital for financial support of enterprises; financing (co-financing) of large strategic projects in sectors that can accelerate economic development (infrastructure, energy, transport, telecommunications, housing construction); development of small and medium enterprises, incl. innovative. (Karapetian, 2016).

Taking into account the experience of the EU countries, we see that the provision of state support is widespread in the European Union. The main directions of their application include support for priority projects of state development, based on the scale, branch or territorial affiliation;

1 Source: *On the Concept of Sustainable Development of Human Settlements*. Resolution of the Verkhovna Rada of Ukraine on December 24, 1999 No. 1359-XIV. Retrieved from https://zakon.rada.gov.ua/laws/show/1359-14

development of small and medium entrepreneurship; interaction within the framework of public-private partnership. (Liutyi & Londar, 2016).

In the context of implementing the sustainable transformations at the regional and local levels, it is important to activate interest and motivation of population, family firms, small and medium business in the direction of using the alternative energy sources, of increasing the energy efficiency, the compliance with standards of ecological safety and preservation of the environment, of applying the nonpolluting equipment and service delivery processes, etc. Family firms' activities could be particularly important for the implementation of sustainable development programs.

The absence of the holistic complex program of sustainable development in regions is the most often compensated by the development of several programs that may be considered as the parts of the single program. This situation can be explained by the absence of necessary financial resources for the complex program implementation.

In particular, as of 2018 in Lviv region, there are 30 development programs, which are being funded from the regional budget. Within their list, we may single out, for example, the Energy Saving Program for Budgetary Sphere of Lviv Region for 2016-2020, the Energy Saving Program for the Population of Lviv Region for 2017-2020, the Program of the Regional Competition of Local Development Projects for 2016-2020, the Environment Protection Program for 2016-2020 (Table 1). Nevertheless, it is worth to be noted that there are no programs, directly concerning the implementation of sustainable development projects. That is, there are no programs of general regional development as the programs of involving the measures of sustainable development of medium and small companies, family firms.

Table 1: Regional Target Programs, Funded From the Budget of Lviv Region In 2018

Program's name	From the regional budget, thousand UAH	Funding as of 08/10/2018, thousand UAH
the Program of the Regional Competition of Local Development Projects for 2016-2020	123 000.00	36 547
the Energy Saving Program for Budgetary Sphere of Lviv Region for 2016-2020	35 300.00	12 788
the Energy Saving Program for the Population of Lviv Region for 2017-2020	18 000.00	9 700
the Environment Protection Program for 2016-2020	69 447.40	19 645

Source: Lviv Regional Council: http://www.oblrada.lviv.ua/oblprog2018.

Considering the above mentioned, it is necessary to implement the programs of region development in the context of realizing the Sustainable Development Strategy "Ukraine-2020". These programs should be directed, first of all, at family firms regarding environmental initiatives and sustainable development projects that would be implemented within their activities. In addition, such programs should also consider the possibility of participation of united territorial communities, cities, villages, settlements with the aim of increasing the environmental responsibility of the population and their participation in setting up sustainable development processes in the region, in particular, and the country as a whole. So, sustainable development programs will be realized on the basis of the private-public partnership, ensuring the integrated and systematic nature of their implementation.

Establishing the cooperation of this type requires regulatory and legal framework for the mechanism that would provide for conditions and criteria in terms of sustainable development projects elaboration.

The mechanism of funding the sustainable development projects should unite all the implementation parties of these projects in order to accelerate the state's transition to the model of sustainable development.

The recipient of the budgetary funding for the sustainable development projects under the umbrella of the proposed Program of the Regional Competition of Sustainable Development Projects for family firms is family firms, and they elaborate the project envisaged by the Sustainable Development Strategy "Ukraine-2020" and by the State Strategy of Regional Development for the period up to 2020. (On Approval of the State Strategy for Regional Development for the period up to 2020). Consequently, it is necessary to develop the normative documents for family enterprises regarding the implementation of sustainable development projects for submitting a competitive application for funding under the terms of the proposed Program.

Financing the sustainable development projects for family firms would be carried out by the provision of subvention funds of the regional budget under conditions of proportional co-financing from the budgets of cities, villages, settlements, united territorial communities and from its own resources.

Of course, substantiating feasibility, as well as determining some guarantees according projects implementation from regional budget, one of the key participants of the co-financing, requires the certain stability confirmation of this budget participation in previous programs and projects. A retrospective analysis can provide evidence on sufficient quality of regional authorities' activities regarding the regional programs funding. We would like to present the following data on regional programs implementation for 2014-2018 (Table 2).

Table 2: Trends in Costs of Implementing Regional Programs of Lviv Region for 2014-2018

Years	Regional programs delivery volume, million UAH
2014	159.8
2015	426.1
2016	863.8
2017	1075.4
2018 (plan)	1588.0
Totally in 5 years	4113.1

Source: Regional target programs funded from the regional budget in 2018. Lviv Regional Council. Access mode: http://www.oblrada.lviv.ua/oblprog2018.

The presented data points to continuous increase of Lviv region budget costs on implementing regional programs. That is, regional authorities focus on applying measures, which are of a great importance for citizens, business, including in some case but partially, for providing sustainable development of the region.

At the same time, it is necessary to analyze the family firms' readiness to participate in programs and projects of sustainable development. Since private-public cooperation provides for bilateral partnership. The issues of financing the family firms are studied by such scientists as Pernsteiner & Węcławski. In particular, in their papers authors consider the possibility of supporting family enterprises by private equity investors in solving problems of succession. This is one of the possible ways of investing in family business that provide the opportunities for accelerating its development. (Pernsteiner & Węcławski, 2016).

The analysis of family firms' expenditures shows that they include the following articles: foodstuffs and non-alcoholic drinks; alcohol; tobacco; clothes and shoes; housing, water, electricity, gas and other types of fuel; furniture, household items, household appliances, and daily house servicing; health care; transport; communication; rest and culture; education; restaurants and hotels; various costs and services. No expenditures on measures directly related to the implementation of sustainable development projects or programs are provided by the households of Lviv region. At least, statistic data demonstrate this. The same situation is typical for other regions of Ukraine.

3. Data Analysis of the Family Firms' Expenditures by their Content and Direction

While analyzing some costs of the family firms, we can make the following conclusion: these costs could be aimed at ensuring the sustainable development, although it was not directly mentioned. They include: costs for the private ancillary holdings; overhaul; constructing houses and other buildings; purchase of stocks, certificates, foreign currency, deposits in banks. The mentioned costs by their content and direction could be focused on implementing measures within the sustainable development programs and projects. The feature of such focus of these measures and costs is a usage of innovative technologies, materials etc. In other words, the content of the named articles of costs can be directed on energy saving, usage within family firms such technologies that provides for minimum utilization of fossil resources, maximum usage of wastewater treating technologies, utilization of exhaust gases, avoiding environment pollution.

Analysis of statistical data on expenditures per family firm provides an idea of the scale of expenditures for those items that can be potentially considered in the context of the implementing measures on sustainable development programs (Table 3).

Table 3: Costs, Which Can Be Potentially Directed on Sustainable Development Measures, per Family Firm

Indicators	**Values of indicators by years**					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**
Costs for private ancillary holdings, UAH	48.38	57.07	68.59	72.67	75.27	75.44
Real estate purchase, UAH	-	-	21.73	-	-	-
Overhaul, constructing houses and other buildings, UAH.	27.17	16.58	19.64	3.24	11.86	16.05
Purchasing stocks, certificates, foreign currency, deposits in banks, UAH	26.29	21.96	25.27	51.77	43.75	53.25
Total value of costs, which can be potentially directed on the sustainable development measures, UAH per month	101.84	95.61	135.23	127.68	130.88	144.74
Total value of costs, which can be potentially directed on the sustainable development measures, UAH per year (12 months)	1222.08	1147.32	1622.76	1532.16	1570.56	1736.88
Number of family firms surveyed, units	594	590	617	608	601	508

Source: Generalized and calculated by the authors in accordance with: Family Firms of Lviv Region. Statistical Compendium (2016). State Statistics Service of Ukraine. Main Statistical Office in Lviv Region.

Of course, it is necessary to argue what is meant when we talk about the potential possibility of these or other expenses to influence sustainable development through the measures for which they are spent. Thus, the costs for private ancillary holdings are considered mainly as the acquisition of new technologies, technical equipment, consumables for implementing the production. At the same time, if new technologies are not just updating old methods of work based on the used earlier old facilities, equipment, instruments, tools, but are innovative technical tools that consider the environmental safety requirements, then it is clear that these costs correspond to the needs of sustainable development. In addition, innovative facilities and equipment, as a rule, use environmentally friendly (for this stage of technological development) consumables. This also applies to hoisting-and-transport machines and mechanisms, vehicles, which are necessary for practically every family firm.

As for the real estate purchase, this can also be a contribution to sustainable development. For this property must meet certain environmental requirements. The closest example to these requirements is smart homes, which are already well known. On the other hand, such a property can be not only residential, but also for economic, industrial purposes.

Overhaul, construction of housing and other buildings can also be viewed through the prism of environmental requirements, sustainable development. In this area, the question can be very broad: from the production of building materials, building machines and mechanisms to the technologies of an immediate construction process. It is well known, how much the construction is a factor in environmental pollution. After all, construction work is carried out on construction sites. Houses overhaul provide for a partial change of individual structural elements of buildings. All this affects the pollution of the surrounding areas. However, modern methods of organizing construction work can decrease pollination, reduce exhaust emissions from machinery and mechanisms, and reduce noise pressure on the environment.

The purchase of stocks, certificates, foreign currencies, deposits in banks only at first glance may seem such that are not associated with sustainable development at the family firms' level. Thus, the owner of the invested funds may not take into account the direction of their use. But, if he has an interest in developing the infrastructure of the region, or the territory of a particular community, then he will invest in the securities, or in banks, which are associated with the relevant programs and projects. The infrastructure development can have a fairly large impact on sustainable development. In this regard, we should talk about the construction of roads, railways, airports, sea and river ports. Arrangement of adjoining territories, closing of open ground by plants and so on are directly related to these objects.

The mentioned aspects give some indication that the statistics provided do not fully answer the questions posed on the relationship between the investigated expenditures with programs or projects of sustainable development. Statistical indicators (except for special surveys) do not always successfully reflect the actual state of affairs. After all, without special indicators it is impossible to see the actual direction of cash flows.

Indeed, the statistics are generated in such a way that they do not allow to identify environmentally focused measures in the mentioned costs. But, if certain fluctuations are obvious in the direction of decreasing the expenses studied in 2010 compared with 2009, in 2012 compared with 2011, then in the subsequent years of 2013 and 2014, expenses increase in annual terms. The general trend in these costs dynamics is upward. At the same time, there is a tendency of reducing the number of family firms from 617 to 508 in the period from 2011 to 2014.

An important characteristic of the participation significance in sustainable development programs may be the share of costs on relevant measures in the total amount of family firms expenditures. The analysis of the cost structure answers this question (Table 4).

Table 4: Structure of Costs, which can be Potentially Directed on Sustainable Development Measures

Indicators	Value of indicators by years, %					
	2009	2010	2011	2012	2013	2014
Costs for private ancillary holdings	1.9	2.0	2.2	2.1	2.0	1.9
Real estate purchase	-	-	0.7	-	-	-
Overhaul, constructing houses and other buildings	1.1	0.6	0.6	0.1	0.3	0.4
Purchasing stocks, certificates, foreign currency, deposits in banks	1.0	0.8	0.8	1.5	1.2	1.3
Total value of costs, which can be potentially directed on the sustainable development measures	4.0	3.4	4.3	3.7	3.5	3.7

Source: Generalized and calculated by the authors in accordance with: Family Firms of Lviv Region. Statistical Compendium (2016). State Statistics Service of Ukraine. Main Statistical Office in Lviv Region.

We have chosen and summed up the shares of those family firms' expenditures, which could be, as it was argued above, directed, among other things, to activities related to sustainable development. From the data analyzed it can be seen that the share of these costs in the total expenditures of family firms is not growing. Dynamics is of fluctuating nature and the maximum total share of costs does not exceed 4.3% in 2011.

There is interesting data on the amount of costs per family firm as average values for all regions of Ukraine (Table 5).

Table 5: Average Monthly Costs Per One Family Firm That Can Be Potentially Directed On Sustainable Development Measures in All Regions of Ukraine

Indicators	Value of indicators by years			
	2011	2012	2013	2014
Costs for private ancillary holdings, UAH	64.70	66.06	68.79	80.19
Real estate purchase, UAH	22.49	6.02	28.51	1.20
Overhaul, constructing houses and other buildings, UAH.	23.09	21.83	21.99	19.66
Purchasing stocks, certificates, foreign currency, deposits in banks, UAH	101.67	104.31	115.60	110.85
Total value of costs, which can be potentially directed on the sustainable development measures, UAH per month	211.95	198.22	234.89	211.90
Total value of costs, which can be potentially directed on the sustainable development measures, UAH per year (12 months)	2543.40	2378.64	2818.68	2542.80
Number of family firms surveyed, units	17022.7	16984.1	16958.7	14455.5

Source: Generalized and calculated by the authors in accordance with: Family Firms of Lviv Region. Statistical Compendium (2016). State Statistics Service of Ukraine. Main Statistical Office in Lviv Region.

While comparing trends of family firms' expenses in Lviv region with all-Ukrainian indicators, we can observe the results as follows in Table 6.

Table 6: The Comparative Figures Regarding Amount of Costs, Which Can Be Potentially Directed On Sustainable Development Measures of Lviv Region, And of the Average Amount of Costs in All Regions Of Ukraine, Per One Family Firm In A Year

Indicators	Value of indicators by years			
	2011	**2012**	**2013**	**2014**
The total costs that can be potentially directed on sustainable development measures in Lviv region, UAH per one family firm in a year	1622.76	1532.16	1570.56	1736.88
The total costs that can be potentially directed on sustainable development measures in all regions of Ukraine, UAH per one family firm in a year	2543.40	2378.64	2818.68	2542.80
The share of costs, which can be potentially directed on the sustainable development measures in Lviv region, in the analogical costs of all regions of Ukraine, % per year	63.80	64.41	55.72	68.31

Source: Generalized and calculated by the authors in accordance with: Family Firms of Lviv Region. Statistical Compendium (2016). State Statistics Service of Ukraine. Main Statistical Office in Lviv Region.

The authors' calculations show that the costs that could potentially be spent on sustainable development measures per family firm in the Lviv region, compared with the average values of similar costs in all regions of Ukraine per year, are at least 55.72% in 2013, and the maximum value, 68.31%, is noted in 2014. Despite the growth trend of this indicator, which demonstrates that family firms' expenditures of Lviv region are approaching average values in the country, the gap of almost 40% is quite large.

This situation is undoubtedly associated with lower incomes of family firms in the Lviv region in comparison with other regions of Ukraine, which is a well-known fact, and it is not the aim of investigation in the presented publication.

4. Conclusion

Accordingly, the proposed tripartite private-public cooperation in the implementation of sustainable development projects will ensure the maximum responsibility of the parties regarding the eligibility of the project to the selection criteria for participation in the program, and the decision-making transparency to provide regional funding for the sustainable development projects implementation. On the other hand, the proposed mechanism provides funding for projects that have successfully passed the selection in accordance with all criteria.

Adoption and realization of the proposed measures will ensure the achievement of key coefficients and strategic indicators assessing the implementation of reforms and programs within the Sustainable Development Strategy "Ukraine-2020". In addition, the proposed recommendation will make it possible to define clearly the mechanism for financing sustainable development projects from local budgets in the context of the responsibility areas of government, business and civil society developed by the Strategy.

In general, the conducted study allows to draw the following conclusions. Firstly, it is necessary to increase incomes of Lviv region family firms. This can be done through the revitalization of economic activity. Secondly, in the process of public-private cooperation, it is necessary to pay attention to the direction family firms' funds spending, with the intention of supporting programs and projects for sustainable development. To this end, it is important to encourage households to make the appropriate changes, providing assistance through common financing.

As prospects for future research there can be distinguished the following: defining the conditions for bank ecological responsibility development, their role in achieving the sustainable development aims in 2016-2030, stated by the United Nations Summit. It is also worth researching the development of the methodological basis for the environmental risks management in the lending sphere; including the regulation of banks participation in the implementation of the system of environment safety measures by the evaluation of their credit portfolio; review of all projects, which are subject to lending, for compliance with standards of ecological safety and environmental protection; as well as refusal to consider applications for loans to projects that have potential danger for the environment and businesses dealing with environmentally hazardous activities.

References

Demyanyuk, A. (2017). Modern approaches to promote sustainable development of territories in Ukraine. *Economy and society*, 13/2017, 1083-1087. [in Ukrainian]. Retrieved from http://www.economyandsociety.in.ua/journal/13_ukr/181.pdf

Family Firms of Lviv Region. Statistical Compendium (2016). State Statistics Service of Ukraine. Main Statistical Office in Lviv Region.

Karapetian, O. (2016) International experience in providing state guarantees to enterprises: current determinants and influence on state financial security. *Modern approaches to enterprise management: a collection of scientific works of the National Technical University of Ukraine "Kyiv Polytechnic Institute"*, 1, 114–127 [in Ukrainian].

Kozhukhova, T. (2014). Strategies of funding sustainable development. Global and national problems of the economy, 2 /2014, 218-221. [in Ukrainian]. Retrieved from http://global-national.in.ua/archive/2-2014/45.pdf

Kozhukhova, T. (Eds.). (2017). *Formation and transformation of the global sustainable development financial system*. Monograph, Kryvyi Rig, 336. [in Ukrainian]. Retrieved from http://jmonographs.donnu.edu.ua/article/download/4646/4678

Liutyi, I. & Londar, O. (2016) Regulation of the provision of state guarantees in Ukraine. *Finance of Ukraine*, 2, 28-48. [in Ukrainian]. Retrieved from http://nbuv.gov.ua/UJRN/Fu_2016_2_4.

Pernsteiner, H. & Węcławski, J. (Eds.). (2016). *Finansowanie i corporate governance w przedsiębiorstwach rodzinnych*. C.H. Beck, Warszawa, 188.

Pro zatverdzhennia Derzavnoii stratehii rehionalnoho rozvytku na period do 2020 [On Approval of the State Strategy for Regional Development for the period up to 2020] Resolution of the Cabinet of Ministers of Ukraine No. 385, 06.08.2014. Official Journal "Uriadovyi kurier", 2014, No. 160 [in Ukrainian].

Pro Kontseptsiyu staloho rozvytku naselenykh punktiv [On the Concept of Sustainable Development of Human Settlements]. Resolution of the Verkhovna Rada of Ukraine on December 24, 1999 No. 1359-XIV. [in Ukrainian]. Retrieved from https://zakon.rada.gov.ua/laws/show/1359-14.

Regional target programs funded from the regional budget in 2018. Lviv Regional Council. Access mode: http://www.oblrada.lviv.ua/oblprog2018.

Stratehiia staloho rozvytku "Ukraina – 2020" [Sustainable Development Strategy "Ukraine2020"]. Decree of the President of Ukraine No. 5/2015, 12.01.2015, Official Journal "Uriadovyi kurier", 2015, No.6 [in Ukrainian].

Zhuchenko, A. (2016). The concept of sustainable development of the region: preconditions of formation and factors of influence. *Scientific Bulletin of Uzhgorod National University,* 9/2016, 63-66. [in Ukrainian]. Retrieved from http://www.visnyk-econom.uzhnu.uz.ua/archive/9_2016ua/16.pdf