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.

H₃: 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.

H₄: 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.

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