



THE INSTITUTE OF SOCIAL SCIENCES OF
ANKARA YILDIRIM BEYAZIT UNIVERSITY

**A STUDY IN UNDERSTANDING THE SAVING BEHAVIOR:
FRUGALITY AND MATERIALISTIC BEHAVIOR OF
COLLEGE STUDENTS**

MASTER'S THESIS

BERFAY ERDOĞAN

DEPARTMENT OF ECONOMICS

ANKARA, 2021

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ANKARA, 2021

APPROVAL PAGE

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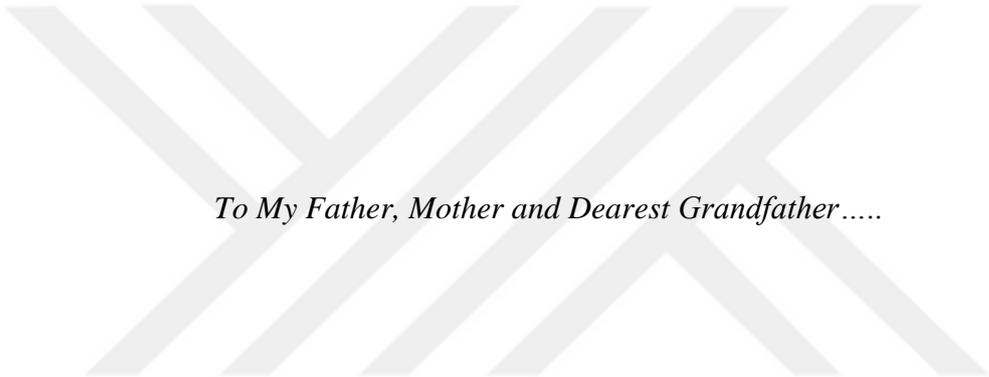
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PLAGIARISM

I hereby declare that all materials and informations that were obtained in this thesis were presented by academic rules and ethics, and all the studies that were mentioned in this study are fully cited and referenced properly from plannig to writing the thesis. (29/05/2021)

Berfay ERDOĞAN





To My Father, Mother and Dearest Grandfather.....

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ÖZET

Tasarruf Davranışını Anlamak Üzerine Bir Çalışma: Üniversite Öğrencilerinin Tutumluluk ve Materyalist Davranışları

Bu tez, üniversite öğrencilerinin tasarruf davranışlarını kişilik özelliklerini ve tutumlarını dikkate alarak incelemeyi amaçlamaktadır.

Bu çalışmada kullanılan veriler 2020 Ocak-Şubat tarihleri arasında Ankara Yıldırım Beyazıt Üniversitesi öğrencilerinden elde edilmiştir. Araştırmaya 263 öğrenci katılmıştır. Anket otuz sekiz sorudan oluşmaktadır ve cevap kağıdında “5’li Likert ölçeği” kullanılmıştır. Anket soruları, geniş anlamda, literatürde ana hatları verilen tasarruf davranışının önemli belirleyicilerine odaklanmayı amaçlamaktadır; tutumluluk, materyalizm, aşırı harcama, tasarruf, ebeveynlerin etkisi ve ekonomik zorlukların etkisi. Altta yatan tutumları veya özellikleri bulmak için Varimax rotasyonu ile faktör analizi kullanıldı, çıkarım yöntemi olarak PCA seçildi. Faktör analizi bize kişilik özelliklerini ve tutumları farklılaştıran dört farklı değişken getirmiştir; müsriflik, gösterişçilik, otokontrol ve ekonomik zorlukların etkisi. Ayrıca üniversite öğrencilerinin tasarruf davranışları, kişilik özellikleri, tutumları ve demografik bilgilerini içeren değişkenler arasındaki ilişkiyi araştırmak için ikili lojistik regresyon analizleri yapılmıştır.

Sonuçlar, otokontrollü öğrencilerin tasarruf etme olasılığının daha yüksek olduğunu, gösterişçi ve müsrif öğrencilerin ise tasarruf davranışı ve eğilim gösterme olasılıklarının daha düşük olduğunu göstermektedir. Ek olarak, ekonomik zorlukların etkisi ve aile gelirin öğrencilerin tasarruf davranışlarını etkilemediği bulunmuştur. Ayrıca, gelecekte ülkenin ekonomik koşulları hakkında iyimser beklentileri olan öğrencilerin paralarını harcama olasılıkları daha düşüktür. Aksine, bu konuda kötümser öğrencilerin harcama davranışına girme olasılığı daha yüksektir. Ancak günümüz beklentilerinin öğrencilerin tasarruf ve harcama davranışları üzerinde hiçbir etkisinin olmadığı görülmüştür.

Anahtar Kelimeler: Davranışsal İktisat, Ekonomik Psikoloji, Lojistik Regresyon, Materyalizm, Tasarruf Davranışı, Tutumluluk, Üniversite Öğrencileri

ABSTRACT

A Study in Understanding the Saving Behavior: Frugality and Materialistic Behavior of College Students

This thesis aims to investigate the saving behavior of college students by taking into account personality traits and attitudes.

Data used in this study were obtained from students in Ankara Yıldırım Beyazıt University between January to February in 2020. 263 students participated the survey. The questionnaire consisted of thirty-eight items and we use “a 5-point Likert scale” in answer sheet. The survey questions, in broad sense, aim at focusing on important determinants of saving behavior outlined in the literature; including, frugality, materialism, overspending, saving, the effect of parents, and the impact of economic hardship scales. To find underlying attitudes or traits, factor analysis with Varimax rotation was employed, PCA was chosen as an extraction method. The factor analysis brings us four distinct variables differentiating personality traits and attitudes including; lavishness, pretentiousness, self-control, and impact of economic hardship. Furthermore, binary logistic regression analyzes were conducted to explore the relationship between saving behavior, personality traits, attitudes, and variables that contains demographic information of college students.

The results indicate that students who have self-control are more likely to save, whereas pretentious and lavish students are less likely to show saving behavior and tendency. In addition, impact of economic hardship and family income do not influence saving behavior of students. Furthermore, students who have optimistic expectations about economic conditions of country in the future are less likely to spend their money. On the contrary, pessimistic students in this regard are more likely to engage in spending behavior. However, it has been observed that today's expectations have no effect on students' saving and spending behaviors.

Keywords: Behavioral Economics, College Students, Economic Psychology, Frugality, Logistic Regression, Materialism, Saving Behavior

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller Test
APC	Average Propensity to Consume
CBRT	Central Bank of the Republic of Turkey
CCA	Canonical Correlation Analysis
CFA	Confirmatory Factor Analysis
CPI	Consumer Price Index
EGM	Endogenous Growth Model
GDP	Gross Domestic Product
LCH	Life Cycle Hypothesis
MPC	Marginal Propensity to Consume
OECD	Organisation for Economic Co-operation and Development
R&D	Research and Development
PCA	Principal Components Analysis
PIH	Permanent Income Hypothesis
PP	Phillips Perron Unit Root Test
TURKSTAT	Turkish Statistical Institute
VAR	Vector Autoregression
VECM	Vector Error Correlation Model
WSD	World Saving Database

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1.INTRODUCTION

An important part of society, young ones, constantly interact with their environment. They learn, grow, adapt accordingly to what they see and to a certain extent the experience they have with their peers. However, throughout their years of growth, until young adulthood, they mostly depend on their parents financially. Therefore, “for most young adults, college marks the beginning of greater financial independence from their parents and greater responsibility for making sound financial decisions” (Lyons et al., 2006, p.64). Since it is the case, it is important to acknowledge their economic behavior and their impact on the economy. Because, overall, saving is crucial for developing countries like Turkey, and Turkey has been suffering from insufficient household savings (Ministry of Development, 2018), and young people constitute an important share of total population, it is of great importance to examine the impact of the smallest chains of society on country savings. In addition, although the youths do not have significant income and thus their savings constitute only small portion of total savings in the economy, their pattern of savings will provide important information about their future behavior and thus total savings.

Much research attempted to investigate the saving and spending behavior of college students with different approaches. For instance, changing the nature of consumption culture guided researchers to look into credit card usage since college students are not immune to that cultural change. Studies proved that compulsive buying affects credit card misuse (Palan et al., 2011). Additionally, it is confirmed that credit card usage change by gender (Hayhoe et al., 2000), and is found that there are close relationships between compulsive buying, power-prestige, and anxiety based on credit card usage (Roberts and Jones, 2001). Other attempts focus on financial skills, financial knowledge (Falahati and Paim, 2012; Norvilitis et al., 2006; Sabri and Macdonald, 2010). The common agreement is that students’ access to credit cards is easier, and therefore, the possession of credit cards results in increasing the possibility of spending over their budget. Looking for an answer, researchers turned to different elements in terms of explaining saving behaviors. The term ‘well-being’ is investigated as it refers to financial happiness (Joo, 2016). It is found that financial happiness is determined by positive financial behavior (Xiao et al., 2009). It is clear that the burden of excessive spending exhausts young people. Starting life in such dire conditions can reverse their participation in social, economic life. Since the definition of saving behavior, attitudes

are the same in different cultures, Kasser and College (2005) pointed out the importance of three attitudes: materialism, frugality, and generosity. Frugality refers to self-restriction regarding economic matters. Theoretical studies state that frugal people often focus on long-term achievements (Bearden, 2006) and internal motivations, which means they find satisfaction and happiness through inner goals or achievements. Therefore, it is expected that frugal people are more likely to save. Materialism, however, is associated with buying goods (predominantly unnecessary), is motivated by external factors. Materialist individuals find happiness and satisfaction through physical possessions and often engage in non-generous acts which means they are less willing to share their possessions and belongings with someone else. Materialistic attitudes are related to excessive buying, therefore showing less saving tendencies are expected as an outcome (Kasser and College, 2005). In addition, since frugality is often considered to be motivated by inner goals and achievements, it is the opposite of materialism (Lastovicka et al., 1999; Kasser & College, 2005; Goldsmith et al., 2014). However, whether they can be considered as personality traits or behavior or not, definitions are open-ended.

By using Kasser and College (2005) as our reference piece, this thesis aims (1) to investigate Turkish youth's saving behaviors (or to what extent their spending/saving behavior) are in line with frugality and materialism and (2) to contribute Turkish economic literature by providing some insights about the behavioral dynamics of Turkish youths in their spendings/savings decisions. According to Kasser and College (2005), that relationship between materialism and frugality is mostly ignored in the literature. Therefore, they argue that the links between these traits calls for through investigation. Given this suggestion, this thesis has three aims; first, creating alternative scales for explaining the students' saving behavior, second, analyzing the relationship between measurements, and lastly, determine which variables affect the measurements related to the saving behavior of college students. By doing so, we will add the stock of research in saving behavior of youth in Turkey. According to our knowledge, there is no study in Turkish economic literature focusing on the issue at hand by using survey-based analysis.

As stated above, this study explores the college students' saving behavior by using both factor analysis and regression analysis. Another important point is that this study adopts the survey employed by Kasser and College (2005) and did necessary modifications to attain the questions which are in line both with research questions and with the characteristics of

Turkish social and economic features. In order to examine the relationship, first factor analysis is carried out to extract the factor scores so that meaningful factors are driven. Afterward, by using both direct variables (driven from the survey) and also the constructed-variables (obtained via factor analysis) are utilized in the multiple regression analyzes. Put it differently, the study makes use of four distinct types of variables in addressing the link between personality traits and saving behavior for college students in Turkey, and the set of variables include: (i) constructed variables (i.e. variables constructed via factor analysis), (ii) demographic variables such as age, gender, (iii) intrinsic variables containing expectations, and also (iv) variables that contain information about the parent of the student such as family income, family support. By taking into account the variables proposed in Kasser and College (2005), this study aims at addressing to what extent these two variables (frugality and materialism) play role in the savings behavior of Turkish university students. This thesis runs a battery of regression models by using different set of variables to identify the nature of the saving behavior of Turkish youth.

Given these objectives, the set of tasks carried out in the study involve some caveats that are needed to be highlighted. First of all, the study does not claim that it can account for all aspects of the saving behavior of Turkish youth or general population. Since the data is obtained through survey, the shortcomings with respect data and the methods employed in this study are also applicable to the current study. Moreover, the scope of the study concentrated on two variables (frugality and materialism) and therefore the other behavioral variables proposed in the literature for savings are not incorporated. Note also that the survey conducted only on the undergraduate students attending Ankara Yıldırım Beyazıt University, and therefore, the sample may not reflect the full characteristics of all undergraduate students in Turkey let alone all the Turkish youth.

The thesis plan is as follows; the second chapter covers both traditional and behavioral economic literature and also survey studies about Turkey on savings. The third part explains and demonstrates the chosen methods and materials that were used in this study. The fourth part covers the findings derived from the analysis. The fifth part includes a comparison with existing literature and lastly, sixth part presents the conclusion of this study.

2. LITERATURE REVIEW

Saving is an important and is also a popular research topic in the economic literature. In order to understand the financial behavior of people, first, the definition of saving must be done both economically and psychologically.

Most of the time, saving is referred to as the money that is put aside for future for some reasons; higher future consumption, consumption smoothing, investment etc. However, the definition of saving varies according to perspectives or aims that a particular research focuses. Traditional economics mostly consider saving as rather 'residual' as Keynes described, whereas behavioral economics explains saving as the control mechanism and characteristic features of individuals. Katona (1975) defines savings as the amount of money that is separated due to the uncertainties and goals for possession of goods.

This section expounds the definition of saving in the mainstream economics literature and give information about the psychological background as mentioned above.

2.1 Saving Behavior in Economic Literature

In the traditional economics, humans are considered as 'homo-economicus', that is humankind is making choices rationally, their aim is to maximize their utility. There are no flaws or mistakes in making financial decisions. The intelligence and capacity of homo-economicus are in the manner of a 'computer' that selects the best of the infinite possibilities they encounter. For many years, this assumption has been held since it is easy to construct a model in that sense. If this assumption about 'rational man' is abandoned, it is argued that economic models will be complicated beyond comprehension. However, recent studies provide theories that consider human beings' psychological states. This section covers the theories and ideas for saving motives and behaviors.

2.1.1 Micro-Economic Theories

2.1.1.1 Neo-Classical Theories

Marshall (1920) points out that security is an important factor for saving. He also highlighted a point that mostly wealthy cohort can save strongly. On the other hand, Marshall

stated that villagers show little saving. Moreover, according to him, one of the most important motives in saving is family. Parents generally aim at leaving some sort of financial means for their children to make sure that their spouse will deal with the risks that may face. He discussed that the person aims to leave their income as much as possible for their spouse and children. Marshall's idea is formulated by Wärneryd (1989), stating that saving patterns can be explained by the relationship between 'present and deferred gratification'. Economic literature takes advantage of psychological aspects in explaining the decision-making process regarding economic matters and gratification and this proposed link has benefited the economists in conceptualizing the behavioral aspects of the saving behavior. Gratification is a term to describe the pleasure that stems from achieving goals or desires. Gratification is usually explained in economic studies by investigating individuals' decisions and preferences between today's and future's consumption.

By incorporating the extent that impatience may play the consumption behaviors was studied by Fisher (1930). Furthermore, according to him the impatience may vary from person to person regarding individuals' income. Also, income depends on "the size, its time shape, its composition and its risk" (Thaler, 1997, p.439). Fisher (1930) explains the definition of time shape as:

"...The degree of his impatience depends on his entire income stream, beginning at the present instant and stretching indefinitely into the future; that is, on the amount of his expected real income and the manner in which it is expected to be distributed in time. It depends in particular on the relative abundance of the early as compared with the remote income items-or what we shall call the time shape of the expected income stream" (Fisher, 1930, p.67).

According to Fisher (1930) besides impatience, there are psychological factors that influence individuals' consumption behavior such as being short-sighted and having a weak will. Also, the habit of spending freely, selfishness, the presence of uncertainty in life, and following the fashion can be counted as factors that influence individuals' spending behavior. In the book of 'The Theory of Interest', it is stated that being shortsighted can decrease the amount of savings that separated from income and therefore, it can be concluded that shortsighted individuals care little of about their future financially.

Self-control is an important characteristic that can influence savings. People who have self-control can obtain the present income for future purposes. Fisher (1930) also pointed out that by human nature people tend to follow their habits. He explains this by giving an example of a rich man who is getting used to spending their income lavishly and therefore,

prefers today's consumption to future. It can be understood that such a habit has an impact on saving. Lastly, Fisher also pointed out two additional factors: uncertainty and fashion-addiction. The higher the uncertainty, *ceterus paribus*, the more saving a person makes and the more fashion-prone a person is, s/he will spend more and save less.

In 'Intertemporal Budget Constraint' it is assumed that individuals always want to spend their income on the desired goods, products. However, their spending is not infinite, they are facing a limited budget. Fisher (1930) stated that this might be the reason for them to not spend all the income they have.

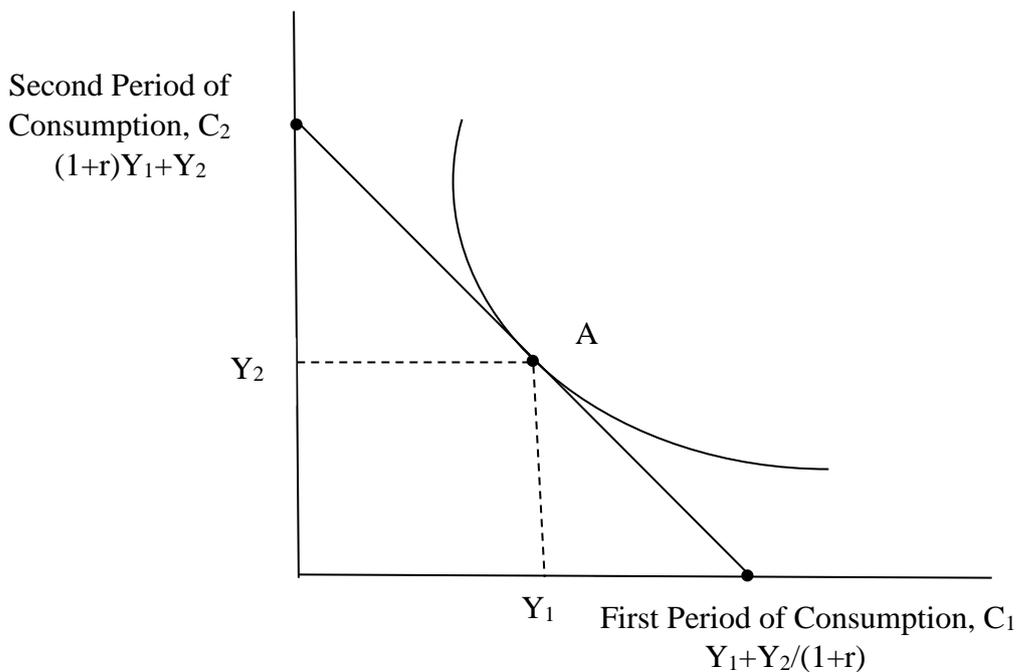


Figure 2.1. Consumer's budget constraints and preferences

For better understanding Figure 2.1. above shows the intertemporal consumption graph. As mentioned earlier Fisher stated that consumption behavior can change over time by not only individuals' income, but also their characteristics, preferences, and habits. Point A represents the optimum level of satisfaction that an individual can obtain. The model assumes that people have only two periods. Individual consumes and earns income in both periods. The model also allows consumers to borrow. In the first period, individual's saving is determined by only income and consumption which is income minus consumption.

However, in the second period, the interest rate which is r also affects the consumption level. $(1+r)$ is discounting which is an interest rate on savings. If the discount rate increases, it means that consumption in the second period is provided by the savings of period one. Also changes in income and interest rate affect consumption. An increase in income shifts budget constraints to the right. Also, an increase in interest rates makes budget constraint to rotate. The model, therefore, projects that income and interest rates are the two main determinants of the saving behavior along with the shape of indifference curve. The curvature describes the strength of income and substitution effects when an individual faces a rise in interest rate.

To put it in simply, income effect is a change in consumption based on the real income. For instance, if the real income increases, purchasing increases also. Substitution effect is the effect when individuals, for instance, face an increase in prices of products or bundles, they will look for alternative product that relatively cheaper.

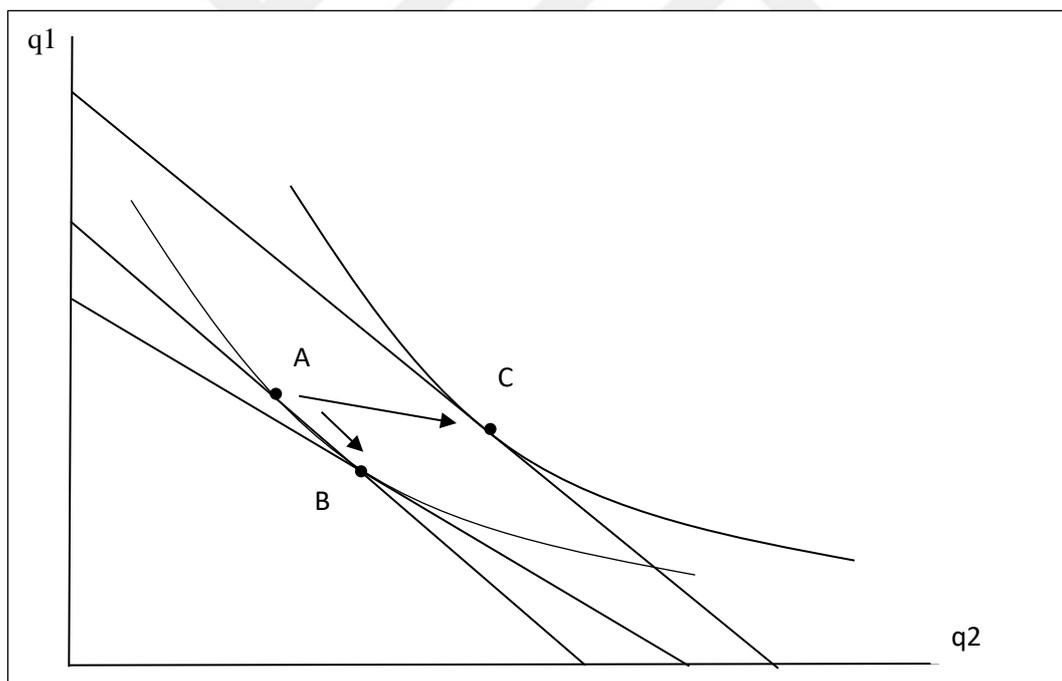


Figure 2.2 Income and substitution effect based on increase in income

In order to understand how these two effects work, Figure 2.2 shows it graphically. Suppose an individual's choice is on point A where indifference curve and budget line intersect. An increase in income shifts individual's current level A to the new level C, which means individual is facing an increase in income, therefore, the products and items will be

more accessible for him/her, that is, now individual is on the higher difference curve. On the other hand, suppose the starting level of consumer's bundle at the point A. An increase in prices of product (q_1) causes a shift from point A to point B. The difference between income and substitution effects is that the latter causes a shift on the same indifference curve which means consumer adjusts the quantity of the demanded products (q_1 and q_2) based on her/him income. If the interest rate comes to the play, for instance, an increase in interest rate leads to a lower consumption due to the substitution effect, because the cost of spending today will be more expensive therefore, individual responses to that increase in interest rate by decreasing the consumption level. However, a higher interest rate leads an increase in real income, hence, consumption increases due to the income effect. Each effect has an ambiguity in explaining the relationship between interest rates and consumption. Which effect outweighs the other is still on the debate.

2.1.1.2 Behavioral Economics

Katona (1947), who is considered the founding father of behavioral, psychological economics, emphasizes the importance of an individual's economic behavior and also the motives behind an individual's economic decisions. He argued that the mainstream approach mostly concentrates on aggregate saving, However, according to Katona (1947), in order to understand the importance of various factors in explaining the different pattern among different people's saving behavior, the best approach may be conduct survey focusing on: (1) to what extent each factor's effect on savings and also (2) the strength or relative importance of each factors that can explain the different saving behavior among individuals.

In 1954, Katona came up with an article called 'Economic Psychology'. He used a survey as a tool to analyze people's behavior, attitude on economic situations. The survey was conducted between 1950 and 1951. After the interview was implemented, Katona (1954) proposed three factors to study with; first demographic measures such as occupation, age, marital status, etc., secondly economic measures that cover the individual's income, debts, consumption, and lastly, psychological factors that include the motives that drive a person the things that s(he) does. The study concludes that when in a good economic environment, people tend to reduce their savings in order to maintain their standard of living to compensate for the decline in income. However, it is found that generally when there is a rise in income, individuals tend to increase their consumption upward than the rise in income

itself in the presence of a good economic environment. Moreover, Katona (1954) proved that if an individual expects the price to get higher, they do not stimulate their consumption as Keynes's approach refers (see section 2.1.2.1). Finally, it is furthermore proved that the behavior of the individual is affected by general economic situations. Katona's work, without a doubt, with the statement of Wärneryd, made a difference in demonstrating the saving of individuals (1982).

Ölander and Seipel (1970), also proposed a formal framework that incorporates psychological aspects that may have an influence on saving and consumption decisions. Firstly, they criticized the mainstream macroeconomic vision concentrates on saving and consumption. The aggregate point of view has some important intellectual values, but without incorporating individual psychological and behavioral aspects, the savings will not be adequately examined. In order any scholarly enterprise to examine savings (or any other economic variables), the construction requires establishing alternative links that connecting psychological domains with economic variables. Investigating individuals' savings and behaviors can be explained only in such a manner and therefore, can make a difference. The important part of this paper is that it suggests psychological factors should enter into the economic models.

Katona's further study is published in 1974, Katona implemented methods that can be considered as experimental in which may shed a light into the saving behavior of individuals. Katona's proposition to investigate saving and consumption behavior by looking into the matter with alternative perspectives contributed to the economic literature due to the attempt of incorporating both socio-economic and psychological factors of individuals. First, the relationship between saving behavior and inflation was investigated. It can be concluded that people see inflation as, naturally, a negative matter. Participants of the survey believe that when prices increase due to inflation, their thoughts are shaped by spending more on their needs and therefore, spend less on their desired, non-compulsory goods. Besides, inflation creates uncertainty, as a result, the mentality of saving more settles in people's heads. However, the linkage between saving and recession is not crystal clear. Katona (1974) points out that saving varies according to economic situations. Another assumption that in agreement with traditional economics is that wealthy people tend to save more rather than spending their incomes. Furthermore, two aspects such as habits and aspirations as Katona (1974) described, can influence saving behavior. Meaning, if a person has a saving habit, it

is likely for them to save in the future. He stated that there is evidence for the ones who have higher income are willing to save more as in Marshall's statement. Lastly, he investigated whether ambition stimulates savings. As it is known, Katona discussed that individuals have an urge for putting goals for themselves due to their ambitious characteristics. As one goal is achieved, another goal is to be set. Katona applied this idea to the saving behavior of the individual. However, Katona did not find any empirical evidence that supports the idea of ambitions have an impact on saving tendency. To sum up, Katona (1974) concluded that four aspects that are mentioned in the article vary from person to person.

Shefrin and Thaler (1988) proposed an alternative Life Cycle Hypothesis in which it incorporates psychological variables such as self-control, mental accounting, and framing into the model. In framing the issue, they distinguish between regular income and bonus income, in line with permanent versus temporary income logic proposed by Permanent Income Hypothesis (PIH). Behavioral Life Cycle is a theory that crucial for understanding the behavioral factors such as habits, and expectations. Thaler and Shefrin (1988) offered a hybrid model that traditional economics did not consider. The model brings a new perspective to solve the paradox of saving which cannot be explained by the traditional approaches. Although the model offers a limited interpretation of individuals' savings motivations and behaviors, the model has made a great contribution to the literature by including psychological factors. Behavioral Life Cycle Model explains consumption and saving decisions by taking into account self-control mechanism. Shefrin and Thaler (1988) also state that households are prone to consume their current income rather than future income.

Deaton (1991) investigated the relationship between liquidity constraints and saving. He assumed that individuals are impatient, implying that people tend to prefer today's consumption over future consumption. Furthermore, saving has strong precautionary features. Deaton (1991) constructed a model with assumptions including first that agents face no restriction on borrowing, also there is no uncertainty. Deaton (1991) implemented a utility function in the proposed model where income is fixed and not fixed. The model overall, suggest that individuals are impatient. Therefore, in the scenario of income is not fixed in the model, it is concluded that individuals tend to preserve their income in case of dire conditions. According to Deaton (1991) precautionary savings occur because of people want to keep their assets for utilization. Deaton (1991), however, admits that the model is

insufficient to explain the saving behavior under the liquidity constraint and the proposed model does not apply to the whole circumstances. However, Deaton (1991) states that individuals who have liquidity constraints are responsible for a small part of savings.

Laibson (1994) studied self-control by incorporating hyperbolic discount functions in the dynamic choice model. Hyperbolic discounting refers to the psychological conflict between today's and future's preferences. For instance, a person who suffers from a bad habit, let's say excessive alcohol consumption, plans to quit drinking next year, however, as the next year comes, person changes his/her mind about giving up drinking alcohol because person is not ready to make that devotion. Laibson (1994) stated that this equilibrium offers three conclusions; first, the model explains individuals with same preferences exhibit different behavior, second, the model provides an explanation about why some individuals show resistance to break the cycle of habits. Laibson (1994) stated that individuals who have self-control are more likely to be cautious about not to have bad habits. Lastly, the model clarifies why individuals are 'self-diagnostic' about themselves. That is, individuals expect to continue to exhibit the same behavior or characteristic in the future. Laibson (1994) aimed to incorporate psychological factors to economic model in order to clarify saving and consumption decisions.

Later, Laibson (1997) further studied hyperbolic discounting by developing 'Golden Eggs Model' to investigate saving and consumption behavior of individuals. The model aims to explain why people abandon the saving behavior they planned for the next year when the next year comes. Golden Eggs Model offers an alternative way of explaining saving decisions. Laibson (1997), considers individuals as non-rational beings. Thus, those individuals are described as 'hyperbolic consumers'. The model shows that financial improvements might cause the saving rate to decrease. According to Laibson (1997) "financial innovation may have caused the ongoing decline in ... saving rates, since financial innovation increases liquidity and eliminates implicit commitment opportunities" (p.446).

Later, Thaler and Benartzi (2004), approach saving behavior by looking into the employee perspective. The main goal of this study is to introduce a new program called 'SMarT'. Program is created to help employees who have a lack of motivation to save more. It is assumed that people are not rational, on the contrary, they find it difficult to choose a proper and desired saving level for themselves. So, Thaler and Benartzi (2004) take into account the behaviors and characteristics of individuals, therefore, employees are assumed

that they have 'bounded rationality'. According to Simon (1991) individuals are rational, however they do not have an adequate knowledge to process all the possibilities and decide among them, and it is called 'bounded rationality'. Furthermore, the paper emphasizes the importance of self-control which is a personality trait that has been shown great interest by economists in recent and early years.

To test the efficiency of hypothesis Thaler and Benartzi (2004) had offered, an experimental study is employed to observe the saving behavior of individuals. The experiment contains three stages. In the first stage, consultant was hired to meet with suitable participants. It is reported that only a small proportion of employees were willing to meet the consultant. Furthermore, consultant asked each participant to what extent they are willing to accept the increase in their saving rate. If participants still have a hesitation about that increase, consultant offers a restricted program that contains less than 5% saving rate. Consequently, it is reported that only few of them agreed with consultant. Afterward, the "SMarT" program, which included a 3.5% increase in savings, was offered to the rest of the participants who disagreed with the consultant. However, 'SMarT' program would start at the very next paycheck. Thaler and Benartzi (2004) stated that participation to 'SMarT' program was high and the program was efficient to increase the savings of participants even though it is an 'aggressive' suggestion. Furthermore, it is also observed that participants who have agreed with the implementation of 'SMarT' program continued to use the program. Also, second and third stages were reported to yield same substantial results. To sum, Thaler and Benartzi (2004) investigated whether incentives can alter the individuals' characteristics and behaviors such as procrastination, self-control, and saving behavior. However, findings raised an ethical question regarding 'paternalism'. Thaler and Benartzi (2004) stated that these incentives are rather 'libertarian paternalism'. "Libertarian paternalism is a philosophy that advocates designing institutions that help people make better decisions but do not impinge on their freedom to choose" (Thaler & Benartzi, 2004, p.185).

2.1.2 Macro-Economic Theories

2.1.2.1 Keynes's Theory of Saving

In addition to microeconomic models (reviewed above, i.e., Marshall and Fisher), there are also macroeconomic models focusing on saving behavior and Keynesian model is one of the earliest within this line of construction. Keynes stated that it is unrealistic for 'homo-

economicus' to exist in real life. On the contrary, Keynes argued that humans are irrational. In this context, it is reasonable to conclude that economic behaviors such as saving, and consumption cannot be done in a manner of rationality.

Keynes described the saving as quoted, “excess of income over consumption, naturally follows” (Keynes, 1936, p.55). According to Keynes, saving is part of the income that considered as the ‘residuals’, meaning the remaining part of income after consumption (1936).

The first term that Keynes (1936) mentioned in the book of ‘General Theory of Employment, Interest and Money’, which has offered an important term in the mainstream literature, is marginal propensity to consume (MPC). Marginal propensity to consume (MPC) referred that when the income increases, it is expected that consumption increases also, but not in the same amount as income. Secondly, Keynes (1936) described the average propensity to consume (APC) by implying that the ratio of consumption to income increases as consumption decreases. Mankiw (2010) stated that Keynes believes savings are rather luxurious, in that matter, he believed that wealthy ones save more rather than the poor. Moreover, in that book, it can be seen that “psychological law” is used more than once. However, Keynes’s stand on the definition of psychological law of consumption is not clear even though it is used to describe the consumption pattern. Pech and Milan (2009), stated that although usage of the psychological law and other sayings are quite common in Keynes’s book, a clear definition of this term is not explicitly stated. Pech and Milan (2009) also mentioned in their article that Keynes’s hyperbolic discounting is a result of marginal propensity to consume (MPC). Therefore, according to Keynes people are more prone to getting quick results and planning short terms.

Figure 2.3. represents consumption function as graphical where C_0 is autonomous consumption when income is zero, c is marginal propensity to consume, also the slope of the graph is between zero and one. Keynes discussed that people with low income have higher spending proportions and have a higher average propensity to consume. As income rises, people keep spending their income, however not as much as the lower income groups, they are able to save some proportions of their income, and the consumption rate is lower than the disposable income.

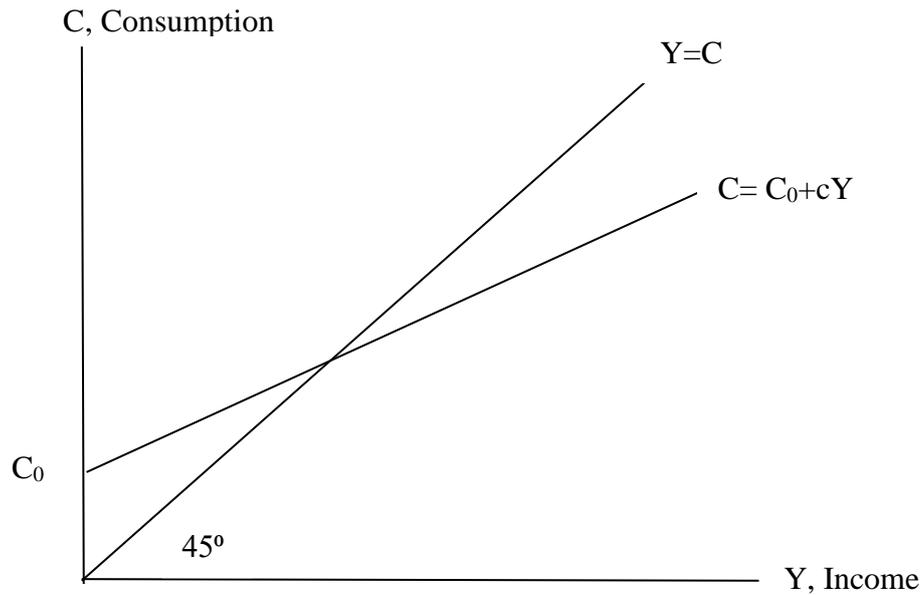


Figure 2.3. Consumption function

On the other hand, Keynes does explain saving patterns by characterizing individuals. He stated that there are eight factors for why people save. They are as Wårneryd describes “precaution, foresight, calculation, improvement, independence, enterprise, pride, and avarice (greed)” (Wårneryd, 1989, p.523).

In sum Keynes does aware that the assumption of rational man is not adequate to explain the individuals’ saving behavior. However, considering the famous book of his, the definition of psychological law is also insufficient to explain the behavior of individuals. Internal and external psychological factors have no place in Keynes’ model of consumption. In other words, an individual’s saving behavior is mainly governed by income and consumption.

2.1.2.2 Relative Income Hypothesis

Relative Income Hypothesis was developed by Duesenberry (1949) to give an alternative explanation to the saving and consumption behavior of individuals. Duesenberry (1949) emphasized the distinction between absolute and relative income. Relative income, in a way, involves comparing the income of individual with that of others. However, absolute income includes only the income that individual earns from work, there is no comparison and competition with the income and financial status of others. According to the theory,

people arrange their consumption and saving regarding the relative income, not the absolute income.

Duesenberry (1949) also stated that psychological factors cannot be ignored because people tend to adapt themselves and are influenced by environmental factors such as the consumption of others and the improvement of the standard of living. If individuals want to improve their quality of life, they will likely spend their income on some quality goods, so they eventually give up their savings. Relative Income Hypothesis proposed that in a person's life, physical necessities are important, and the major cause of consumption is motivation (Duesenberry, 1949). It is moreover accepted that households check the current income and the previous income. If previous income is greater, dissaving occurs and vice versa.

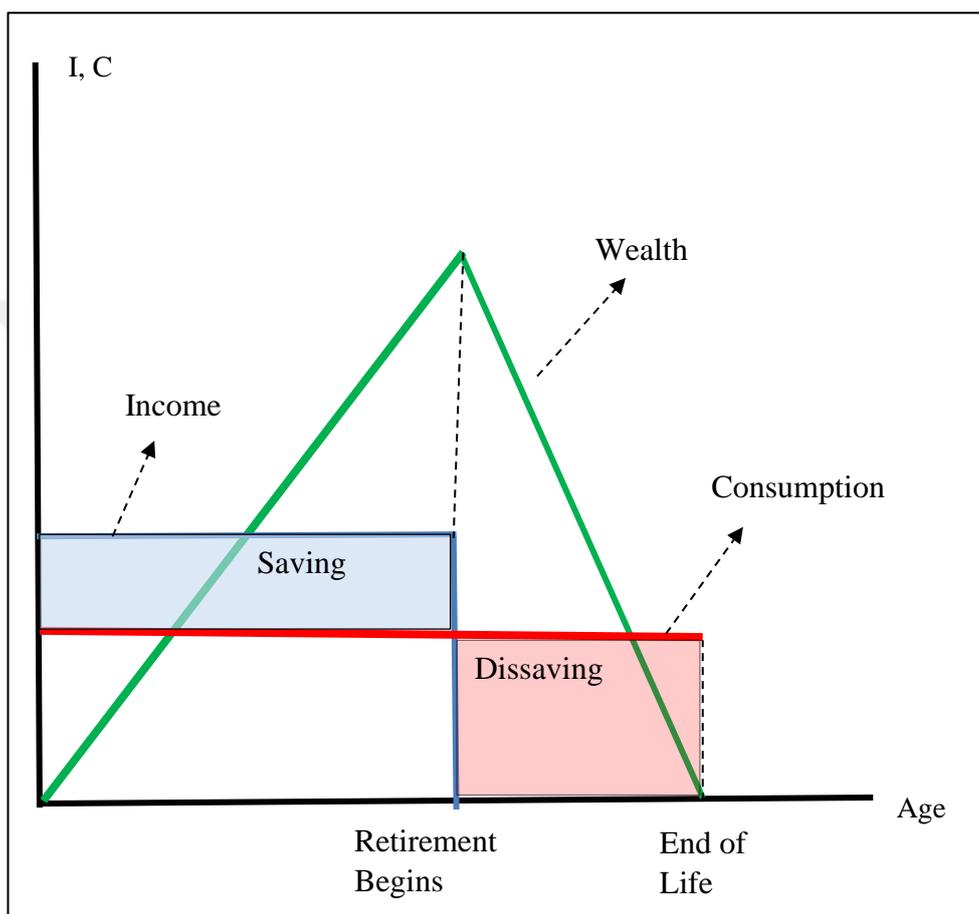
2.1.2.3 Permanent Income Hypothesis

Permanent Income Hypothesis is a theory that developed by Friedman (1957). Theory suggests that consumption is proportional to permanent income. Moreover, current income is the sum of permanent income and temporary income. Permanent income varies regarding income size, quality of education, personality, ability, etc. He stated that permanent income plays a crucial role in consumption and saving decisions. Friedman (1957) put forward his theory by pointing out that saving depends on long-term matters. Individuals arrange their savings regarding permanent income. Temporary income is only random, spontaneous. Mankiw (2010) explains temporary income by giving an example of winning a lottery or unexpected gain on income. On the other hand, permanent income is defined as money that is expected to be periodically continuous. People who have higher income, increase their consumption approximately as much as their income. Yet, if a person supposedly wins the lottery or receives unexpected income, they are not going to spend their income like a person who has a higher income. According to the theory, individuals distribute their income in a year, in other words, they will do consumption smoothing.

2.1.2.4 Life Cycle Hypothesis

Life Cycle Hypothesis (LCH) was constructed by Modigliani (1966). The purpose of this model is to explain how individuals distribute their consumption and saving throughout their lifetime. Basically, according to the model people start working at a young age, and

around that time, saving occurs. In the later period, after retirement, people will spend their savings until the end of their lives. Modigliani (1966) emphasizes that people distribute their wealth equally over their entire lives. Consequently, it can be said that, like Permanent Income Hypothesis (PIH), consumption smoothing also applies in Modigliani's model. The first appearance of Life Cycle Model is approximately in the '60s.



Source: Mankiw, Macroeconomics, Sixth Ed., 2010, p.532

Figure 2.4. Life cycle model

Modigliani (1966) made four assumptions when constructing the model. The first one is that rate of return is stable in time, secondly, there are no bequests or motives. The third assumption is the homogeneity of the life experience of the cohort. The fourth assumption is current consumption must be equal to the current value of resources. However, in 1986, Modigliani stretched those assumptions for a better explanation. Letting a constant rate in the model allows consumption to occur at a higher rate. Moreover, Modigliani (1986) predicts family size, and age affect the saving rate and consumption. It is stated that young

people have a tendency for lower savings. In addition to that, model assumes that retirement and working lengths depend on the individual. Therefore, it can be stated that this can influence savings. At an early version of the model, the presence of rationality was assumed. Modigliani also admits that people might be myopic in the last version. People may not have sufficient information on how to distribute their allocations. Lastly, when people face liquidity constraints, it is possible to increase the saving rate. Also, Modigliani (1986) admits that bequest is influenced by the individuals' education level, social status, income size.

Figure 2.4. illustrates the Life Cycle Hypothesis. The initial model assumes that individuals work and earn income and will retire around at the age of 65. The important thing is, individuals do not wish to consume more than they need, therefore, they distribute their wealth as equally as possible.

2.1.2.5 Random Walk Hypothesis

Further research was done by Hall who introduced the Random Walk Model. Hall (1978) states that Life Cycle Hypothesis, indeed, made a difference in explaining the saving behavior regarding the current and future periods. Hall (1978) offers an altered model of the Life Cycle Hypothesis. Random walk implies that occurrence cannot be predicted. Hall concluded that consumption cannot be explained through disposable income. Mankiw (2010) explains Random Walk Model by stating people choose their consumption preferences by adjusting their current expectations. Moreover, people change their consumption behavior as they expand their knowledge. The difference between the original Life Cycle Model and Random Walk Model is that here consumption is considered as an exogenous variable. Furthermore, Hall (1978) found that consumption behavior of individuals follows a random-walk like behavior. Put it differently, a basic random walk model, proposed in the time series framework is as good as explaining the time series behavior of consumption relative to the other models with several explanatory variables (that we reviewed so far).

2.1.3 Summary

To summarize, the evolution of theories that related to saving and consumption are reviewed here. Saving and consumption behaviors have been studied with different approaches over the years. Although the analyzes differ between macro and micro economic

studies, the main purpose of both disciplines remains the same. That is to explain the saving behavior of individuals and determine the possible impact on the economy. Incomprehensible movement of saving behavior of individuals in times of war yields scholars to investigate saving behavior intensely.

Later, the psychological factors such as characteristics and decision-making process of people have found a place in the mainstream literature to measure the saving behavior. It can be also concluded that those psychological factors have entered the economic model much later. However, most scholars realized that the changes in savings and the patterns of savings cannot be explained under the homo-economicus assumption. Often, the rational behavior of individuals is widely accepted among the scholars because it provides a simplicity in economic models. Psychological factors, in fact, have entered into the empirical models in approximately in the '50s.

Further research tries to explain saving behavior by looking into self-control mechanisms, the habit of individuals, preferences, and intertemporal choices. Some scholars suggested that to measure the household's saving choices and motives, the survey is a tool that can be beneficial to the economic literature. Up to now, the survey has been widely used for that aim in studies with a focus of savings.

2.2 Behavioral Economics on Psychology of Saving

Although there are no specific studies about economic psychology in the discipline of psychology itself, the theories that support the economic literature and fundamental elements will be reviewed here. Since motives behind the saving behavior are based on some psychological aspects. Therefore, scholars benefit the psychological theories, especially in behavioral economics, regarding the decision-making process, self-control, etc. that economics is heavily interested in.

2.2.1 Prospect Theory and Decision Framing

Prospect Theory is one of theory in this regard, developed by Tversky and Kahneman (1979). The main aim is to investigate how individuals make their decisions under uncertainty. The theory assumed people are loss-averse, they tend to avoid as much as possible from the losses and gain as many as they could.

Prospect theory offers three types of effect: certainty effect, reflection effect, and isolation effect, respectively. Certainty effect demonstrates people tend to choose certain outcomes in order to avoid taking risks. Reflection effect is used for replacing the gains with losses. Tversky and Kahneman (1979) explain reflection effect as a mirror where the result of gain is reversed to a negative sign. One can conclude that as certainty increases both loss-aversion and willingness to gain increase. Lastly, isolation effect occurs when an individual has two options for the same outcome but differs in processing when deciding which one to choose. This difference can cause individuals' decisions to vary.

Tversky and Kahneman (1981) introduced another term called 'decision frame' to understand human decisions and preferences. Framing effect explicates which option to choose and possible consequences for this act. Tversky and Kahneman (1981) state that framing effect depends on individuals' characteristics, habits. An experimental study is done on college students whose participants are mostly young adults. Two options are offered to the participants. The study proved that people are more likely to be risk-averse, also, paper presents that the significance of small expenditures compared to larger expenditures diminishes due to the framing process. Overall, Tversky and Kahneman (1981) give an alternative approach to economic psychology, stressing the importance of how options are presented to consumers can change their perception.

2.2.2 Two-Self Model and Mental Accounting

The contribution of Thaler and Shefrin to Behavioral Economics is undoubtedly important. Thaler and Shefrin (1981) continue the search for alternatives to economic human to homo-economicus. What differs is that with the previous research, Thaler and Shefrin (1981) offered a prototype for the behavior of the individual is called 'two-self model'. The model assumes that in the same period human preference contradicts each other. Thaler and Shefrin (1981) called these two different states as 'myopic doe' and 'farsighted planner'. Overall, this model is an alternate approach to self-control mechanism, indicates that people put restrictions on their behavior. Furthermore, the paper discovers which one saves on what condition and the role of self-control overall.

Thaler (1985), states that everyone has a system to calculate the possibilities and decisions they have made, the system that has an impact on choices, the system is called 'mental accounting'. Mental accounting is a violation of the principle of economics. Thaler

(1985), developed a ‘transaction utility’ to include psychological aspects, in his words, mental coding covers gain, losses, and evaluation of purchases. It is found that if an individual faces an option that is a purchase of any kind, first they look at their temporal budget, then decide or adjust their expenditure in this way. Consequently, according to Thaler (1985), mental coding process is a resolution to such matters.

2.2.3 Bounded Rationality

As it overviewed earlier in section 2.1.1.2, Simon (1991) introduced the term called ‘Bounded Rationality’. According to this perspective, people are assumed to have only restricted amount of knowledge rather than unlimited and the perspective assumes that people have only limited capacity in processing this information. Put it differently, economic man can not possess all the information and does not have mental capacity in evaluating and calculating the costs and benefits associated with all alternatives. This, in turn implies that, people cannot make the best financial decisions for themselves due to these two constraints. In this regard, the assumptions have enormous capacity to account for different behaviors and furthermore these assumptions also facilitate in constructing links about certain behaviors (consumption, investment, savings) of individual with the events or situations that surround the individuals. Therefore, the contribution of Simon deserves further elaboration.

2.2.4 Decision-Making and Choices

Multiple Choices

Consumer behavior in the context of multiple choices have studied by Read and Loewenstein (1995). Paper begins with the term of diversification bias, meaning, people prefer variety in future consumption when they must choose more than one item. Read and Loewenstein (1995) argued that this finding contradicts the classical utility assumption. According to classical utility assumption, if consumption increases for a specific product, marginal rate of consumption will be diminished, therefore the product will be less appealing. Moreover, classical assumption refers that consumers choose the best option within the bundle. Also, Read and Loewenstein (1995) stated that people may prefer to purchase the items separately instead of bundles.

Choice Overload

When there is more than one alternative, choice overload occurs, resulting in dissatisfaction and unhappiness among individuals. Choice overload is investigated by Iyengar and Lepper (2000). Paper provides that when individuals encounter a large number of products or goods, they tend to go for limited goods and make the purchase among them. The study provides an alternative approach to the decision-making process. That is, large set of options cause individual to get confused and put the person into a complicated mindset, therefore makes decision-making difficult. Therefore, choice overload affects purchasing behavior in this way.

Partition

Partition is a useful resource allocation according to Cheema and Soman (2008). The purpose of this idea is that people who engage in excessive purchasing and consuming can adjust their consumption by partitioning their money, food, etc. The study supports the idea of dividing resources slows the process of consumption. Thus, the decision-making process about spending money on physical resources can be easier. Cheema and Soman (2008) concluded that the division of units affects consumption decisions. Partition helps individuals to decide how many units to consume or what to purchase, causing people to think about those questions and help to answer for their own sake.

2.2.5 Bias

Anchoring

Anchoring is a psychological term to describe the individuals' decision-making process. Tversky and Kahneman (1974) described anchoring as "different starting points yield different estimates, which are biased toward the initial values. We call this phenomenon anchoring" (Tversky and Kahneman, 1974, p.1128). People mostly rely on the information that was obtain from the beginning and make judgments according to this initial information. This cognitive process causes bias.

Wansink and Kent (1998) investigated the impact of anchoring on consumers and consumption behavior. It is stated that consumers interact with cognitive evaluation in order to decide whether it is a necessary purchase and if they have concluded that it is a necessary purchase then consumers decide how many of product that should be bought. Study shows that anchoring affects the quantity of products that are purchased. Furthermore, study put

emphasis on proper advertisements may stimulate individuals' consumption behavior. These specific advertisements are called 'anchor-based' promotions. Wansink and Kent (1998) stated that 'anchor-based' promotions have an ability to increase consumption.

Action Bias

Action bias is introduced by Patt and Zeckhauser (2000). The term refers to the instant urge to act. They pointed out that individuals act because they are passionate, and reward-driven and expect positive effect in accordance with rationality. However, these acts can occur in the presence of non-rationality and the outcome may not be always positive. Patt and Zeckhauser (2000) describe this situation as 'action bias'. The study emphasizes that the individual feels overconfident under the presence of uncertainty. This theory explains why people tend to gamble or play the lottery. The study contributed different approach to studying the decision-making process in economics.

2.2.6 Pain, Well-Being, Indulgence, and Self-Control

Pain of Paying

Prelec and Loewenstein (1998) derived a term called 'pain of paying' to describe the feeling of instant regret and discomfort after purchasing. The term was derived from 'Double-Entry Model'. Prelec and Loewenstein (1998) constructed a hybrid model that takes into account psychological factors by using utility function. Findings pointed out that individual has a cognitive process before purchasing, a decision-making process. However, this decision-making process depends on individuals. If a person has a tendency to go for a shopping spree, s(he) is likely to push his/her budget and financial limits. On the other hand, thrifty ones decide whether to buy or not by calculating the cost in all aspects. In sum, according to Prelec and Loewenstein (1998), individuals' consumption behavior can depend on the attitudes and characteristics. In addition, it is stated that feeling pain through consumption may vary in accordance with individuals' characteristic and attitude. For instance, thrifty individuals may feel more pain after purchasing.

Hedonic Adaptation

Hedonic adaptation is a term used to describe the adaptation of people due to the life-changing events or circumstances offered by Frederick and Loewenstein (1999). One of the

aspects that this thesis is concerned with is that increase in income, contrary to popular belief, does not improve the well-being of individuals. In fact, the paper states that with the support of previous research, even wealth does not appear to be a satisfactory factor for happiness.

Zero-Price Effect

Shampanier et al. (2007) introduced Zero Price Effect where they try to answer the phenomena that is people value zero priced products overwhelmingly when there are two options. Underlying psychological effects are investigated, Shampanier et al. (2007) discussed that when there is no price on the goods, individuals are more likely to consider social norms rather than market norms, causing them to increase the value of the zero price products. The second factor according to Shampanier et al. (2007) is mapping difficulties. Individuals cannot decide what is costly and whatnot when buying products, it is hard for them to give credit for their inner instinct, so they tend to measure the cost by looking at external signs. Consumer choices of buying products and willingness to pay to what extent are investigated both economically and psychologically.

Ego Depletion

One of the terms that economic psychology is interested in is ego depletion. Ego depletion is depicted as a muscle in Baumesiter et al. (2008), in fact, the muscle is self-control with a restricted capacity, if it expands, self-control capacity will be impaired. Baumesiter et al. (2008) pointed out that ego depletion also can be applied to consumer behavior to clarify spending habits, particularly, impulsive buying. Furthermore, Baumesiter et al. (2008) stated that it is important to investigate the role of self-control in saving and spending decisions. For instance, what is the reason that prompts the individual to buy some fancy items instead of choosing to save that money? Self-control is one of the basic elements of answering this question to shed light on consumption behavior.

2.2.7 Recognition Heuristic

Another decision-making study is done by Goldstein and Gigerenzer (2002), introduced the recognition heuristic that refers to the restricted capacity when there are two options and one of the options is not recognizable by the individual. Further, 'fast and frugal' which is part of the recognizable heuristic, refers that under the limited capacity, it is possible to make effective decisions, and utilize the information that is taken from the environment.

This cognitive process is described as being ‘ecologically rational’ (Goldstein & Gigerenzer, 2002).

2.2.8 Nudge Theory

Thaler and Sunstein (2018) stated that people always put restrictions on themselves or set goals, however, they hardly follow them. One might put a goal to save more but at the end of the year, they give up or forget. Thaler and Sunstein (2018) mostly focused on retirement saving rates to track saving habits in the USA. They stress the importance of simplified methods and compulsory selection for saving to increase, namely incentives. This is because people easily get bored when dealing with the complicated process and tend to procrastinate it, so individuals’ saving habits can be shaped with a proper implementation. This process is called ‘nudge’.

2.2.9 Habits

Along with the prior research, Wood and Neal (2009) investigate the habits and its influence on consumer behavior and choice. Since people tend to repeat their actions and routines on a daily day basis, it can shed light on the consumption patterns of consumers. Wood and Neal (2009) discussed that the brand loyalty and mentality for purchasing a certain product is a result of repeated actions that are driven by habits. In addition to that, habits are rigid, in other words, it takes time to change. Moreover, Wood and Neal (2009) stated that the reason for the adoption of habits is because people are reward driven. They extent this statement by giving an example of people who are more reward-driven tend to put this action in a repeated manner when there is a price promotion.

Habits can explain consumer preferences or for instance, why some of them give importance to brands than any others or why people tend to purchase the same amounts of products or drink the same type of coffee every day. In that case, consumption motives can be explained by the habits of individuals.

2.2.10 Summary

In sum, economics, especially behavioral economics, takes advantage of the psychological aspects that influence human beings. Since saving and consumption mostly

are tracked by not only the income but also the decision-making process of individuals. In order to understand the pattern behind it, scholars investigate self-control mechanisms, habits, short-term and long-term decisions, and alternative assumptions to rational humans.

The above-mentioned studies attempted to explain economic behaviors by placing psychological factors in economic models, namely in the utility function. It has been proposed to work with the literature of psychology to investigate saving and spending behavior. These studies are worth mentioning in order to understand saving and consumption behavior.

2.3 Seeing the Bigger Picture: Saving in Growth Models

Growth models are divided into exogenous and endogenous models as they differ in terms of the methods they deal with. Here, we will examine the perspectives of these models on savings.

2.3.1 Exogenous Growth Models

Exogenous growth models examine economic growth by assuming all the factors (for instance, technological progress, saving rates, etc.) that are incorporated are external. The most known exogenous growth theories are the Harrod-Domar Model, Solow-Swan Model, Ramsey-Cass-Koopmans Model, and they will be reviewed here briefly.

2.3.1.1 Harrod-Domar Model

Harrod-Domar Growth Model was developed independently by Harrod (1939) and Domar (1946). The model considers saving and capital-output ratio in other words productivity of capital investment as a crucial factor for economic growth. However, the capital-output ratio is constant. The model concludes that higher savings lead to higher investments, therefore, economic growth. It is discussed that developing countries lack physical capital and labor therefore, it causes insufficient economic growth. Harrod-Domar Model is important because it employs Keynesian approach to explain long-run growth equilibrium.

Harrod (1939) proposed three notions, which are warranted (G_w), natural (G_n) and, actual (G) growth. Warranted growth is described as all the savings that accumulated are absorbed by investments. According to Harrod (1939), growth is dependent on marginal propensity to save (s) and fixed capital-output ratio (v) which gives the warranted growth (Cesaratto, 1999).

$$G_w = s/v \quad (1)$$

Natural growth is a state that represents full employment. It should be noted that these concepts are developed under the presence of a closed economy. Actual growth is determined by the change in a country's gross domestic product (GDP) between the current and past periods. The model assumes economic growth is its steady level with full employment at $G = G_w = G_n$ as known as 'knife-edge balance'. Below and above points of knife-edge balance suggest that the economy is either suffering from insufficient capital stocks or excessive capital stocks, affecting economic growth.

2.3.1.2 Solow-Swan Growth Model

It is important to study one of the benchmarks in economics, especially in economic growth studies, that is initially a response to the Harrod-Domar Model, criticizing the fixed capital-output ratio. Although in Solow's words, proposed assumptions are a bit illogical, but this is what makes a theory a theory (Solow, 1956).

The growth Model proposed by Solow (1956) and Swan (1956) has found its place in neo-classic theories, because of considering saving rates, technological progress, and population growth as exogenous. The initial model assumes capital (K) and labor (L) as a function of production and exhibits constant return to scale and A represents the knowledge. Meaning, doubling the capital and labor doubles the produced output. Each output is either consumed or saved and the rest is invested. There is a constant saving rate for the proportion of output $sY(t)$, and the capital stock is identified as the accumulation of commodities, therefore investment increases capital stock $\delta K/\delta t$. The production function is developed as:

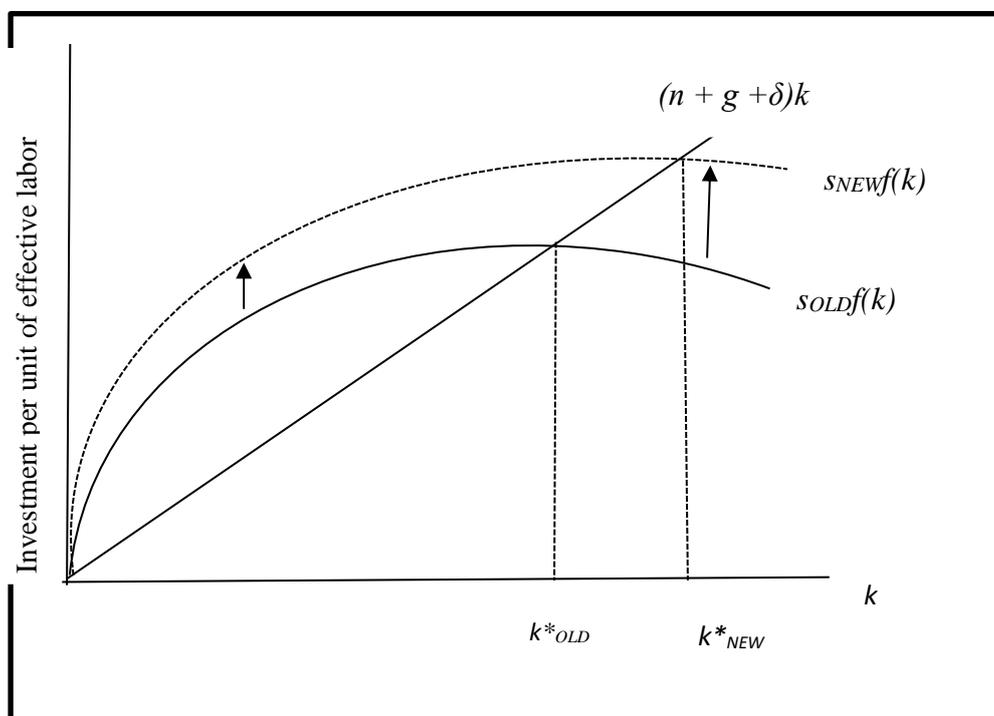
$$Y = F(K, AL) \quad (2)$$

Incorporating time and considering labor population which grows at a constant rate and adding the knowledge give the effective labor rate and increase as $(n+g)$ times and δ

represents the physical depreciation in capital stock. The final form of the Solow-Swan Growth Model with the enhancement of production function as:

$$\dot{k}(t) = sf(k(t)) - (n + g + \delta)k(t) \quad (3)$$

The equation above (3) shows that change in capital stock is defined as investment of effective labor minus break-even investment. The main objective is to keep k at the break-even point. In the long run, it is discussed that the saving rate cannot make a difference in the growth rate, instead, it causes the growth path to shift. Romer (2011), stated that only technological progress has an impact on the growth rate.



Source: Romer, D. *Advanced Macroeconomics*, Fourth Ed., 2011, p.19

Figure 2.5. Increase in saving rate in investments

According to the Solow-Swan Model, an increase in saving rate affects the investment line, therefore causes the growth rate to increase temporarily (Romer, 2011). Figure 2.5. demonstrates the process of the proposed model, an increase in saving rate leads to k^* to increase therefore, the line shifts upward.

Furthermore, in order to understand the importance of saving for countries, it is questioned whether there is a difference in regard to economic growth between developed and developing countries. The model pointed out that developing countries grow faster than

the developed countries and as a result, developing countries catch up to the developed countries, it is called ‘conditional convergence’. Romer (2011) stated that this convergence might base on three aspects; firstly, every country has its own ‘balanced growth paths’ or the steady-state and since it is the case developing countries tend to catch developed countries’ growth rates faster. Secondly, capital flows to developing countries increase because of rich countries have lower returning rate on capital. Lastly, it is discussed that if there is a delay in the transmission of knowledge and a lack of technological developments, there will be income differences in poorer countries. This causes a realization of that situation and makes that income gap tend to close.

Solow believes that the investment and saving of a country determine the people’s standard of living (Mankiw, 2010, p.256). Therefore, effective implications of government are crucial for directing savings of households and firms to achieve economic growth. Governments have the ability to adjust savings and investments at the aimed level. It is important to recognize that the efficiency and merit of institutions must be prioritized.

2.3.1.3 The Ramsey-Cass-Koopmans Model

Findings of Ramsey (1928), Cass (1965), Koopmans (1963) are gathered to explain economic growth with a different approach, known as the ‘Infinite Horizon Model’. Similar to the Solow-Swan Model, growth rate and knowledge are considered as exogenous. However, what differs between the two models is that this model considers saving rates as endogenous.

Ramsey-Cass-Koopmans Model approached the growth with microeconomic analysis. Using intertemporal utility function and investigating the households’ and firm’s economic behavior through this method opened a new window in explaining economic growth with the smallest parts of the economic agents. The important direction offered by this model, saving is derived from the household behavior, and often households are considered to choose current consumption rather than future consumption. The equation is constructed as in Solow-Swan Model, only $c(t)$ is added which represents consumption per worker:

$$\dot{k}(t) = f(k(t)) - c(t) - (n + g + \delta)k(t). \quad (4)$$

The saving rate is determined by the proportion of output and capital and is fixed. And the saving rate is determined as:

$$s = (y - c)/y \quad (5)$$

The main aim is to keep the economic growth at its steady state, in order to do that, consumption needs to reach its maximum level. However, it is impossible to keep consumption at its highest level in every period. And even though the saving rate is endogenous, its effect is only on the output per worker (Romer, 2011). At the steady-state, optimal consumption is determined as:

$$c^* = f(k^*) - (n + g + \delta)k^* \quad (6)$$

In order to understand how the model works, suppose for instance the capital stock is below the balanced path. To reach its optimum level, the increase in saving occurs to stay on the balanced path at the $k^*=k_{GR}$. Hypothetically, k_{GR} represents the maximum level that consumption per capita can reach (Acemoglu, 2008) and therefore causes consumption per worker to increase and vice versa. However, this effect is only temporary because savings are determined by the households' preferences.

2.3.2 Endogenous Growth Models

The fundamental of the endogenous growth model is that economic growth is determined by internal factors rather than external factors, thereof, it differs from neo-classical or exogenous growth models. Endogenous growth models challenge exogenous growth models by taking into account innovation, human capital, technology, research and development (R&D). Arrow (1962) stressed the importance of the role of learning in economic growth. Often the model is known as 'learning by doing'. Experience is considered as the output of learning. Under the assumption of a fixed saving-income ratio, growth rate increases with 'growth rate of the labor force', therefore with that, the economy is introduced with more progressed equipment. Uzawa (1965) also emphasized technological progress's role in economic growth based on the assumptions of the Solow-Swan Model, the economy has two commodities: labor, and capital. The output is either consumed or invested. Technological knowledge is employed in every period of labor. Lucas (1988) further expanded Uzawa's model, saving ratio is now endogenous in the model and differentiated in every economic agent (O'Connell, 1998). To sum the Uzawa-Lucas Model refers that

economic growth can be achieved with the accumulation of human capital. Romer (1986), also treated knowledge as an endogenous with increasing returns. According to Romer (1986), innovation can lead the economic growth in the long run. Rebelo (1991) emphasizes that in order to achieve steady-state growth in the long run ‘the rate of technological progress’ is a key element, and endogenous growth is a function of saving rate (Rebelo, 1991).

In endogenous growth models (EGM), the role of saving is not explicitly stated and is not evident as in the exogenous growth models. Bertola (1994) discussed the reason for savings remain in the background when explaining the economic growth in endogenous growth models is that the accumulation of production and investment depend on the saving decisions and the endogenous models are focused on private savings rather than aggregate savings.

2.3.3 Empirical Studies

The previous section investigated the role of savings by revisiting economic growth models. In line with this, in order to understand the impact on savings, here empirical studies are presented.

Mikesell and Zinser (1973) investigated developing countries, it is found that saving is negatively associated with net import and positively associated with exports, also savings are sensitive to the change in real interest rates. It is discussed that effective monetary policies on national income and investments can influence savings positively. Bacha (1990) constructed ‘three gap model’ which implies that countries have to handle saving constraints, foreign exchange constraints, and fiscal constraints in order to achieve economic growth. Bacha (1990) focused on the developing countries that have high debt, and investigated the relationship of constraints, it is found that proper fiscal and foreign exchange regulations on savings affect economic growth positively. Jappelli and Pagano (1994) studied OECD (Organisation for Economic Co-operation and Development) countries with data covering the years between 1960-1980, it is shown that liquidity constraint on households causes an increase in savings, thus, increases economic growth. Morandé (1998), studied whether savings are playing an important role in economic growth for Chile, and was found, consistent with the literature, savings fuel economic growth. However, for the case of Mexico, Sinha and Sinha (1998) found that economic growth increases savings which

indicates a reverse causality. Kriekhaus (2002), further proved that public savings are crucial for developing countries to maintain economic growth. Kriekhaus (2002) investigated data of 32 countries covering the years 1960-1980. Katırcıoğlu and Naraliyeva (2006) found that causality moves from investment and savings to economic growth in Kazakhstan. The paper employed The Augmented-Dickey Fuller Test (ADF) and Phillips-Perron (PP) unit root on the data covering the years between 1993-2002. Aghion et al. (2009) investigated the impact of saving on endogenous economic growth, using the data from the years 1960-2000 of 118 countries. Paper emphasizes that domestic savings are crucial for countries that have an inadequate technological frontier, but no significant effect can be observed for countries that have advanced technological frontier. Therefore, in order to catch developed countries, developing countries need to rely on foreign investments to create an accumulation of technological progress. Poorer countries' response to high savings is found to be significant for economic growth. Yenturk et al. (2009) showed that economic growth induces savings for Turkey. Study employed Vector-Auto Regression (VAR) to clarify the interaction between savings and economic growth by using the data covering the years between 1989 and the second quarter of 2003. Tang and Chua (2009) found that savings affect economic growth in Malaysia by investigating the years between first quarter of 1971 and the fourth quarter of 2008. The TYDL Granger causality test is employed in the paper. Çiftçioğlu and Begovic (2010) investigated Central and East European countries, findings pointed out that domestic saving rates have a positive effect on economic growth, paper studied this causality by constructing the Pooled Classical Regression Model. Zeren and Akbas (2013) studied the case of Turkey. Data covers the years between 1961 and 2010 and Granger causality test was employed to investigate the nexus between saving and economic growth. Their findings reveal that there is a two-way interaction between savings and economic growth. Tang and Tan (2014) also studied this relationship for the case of Pakistan, Granger causality test is implemented in the process. Findings show that savings have a positive influence on economic growth. Patra et al. (2017) studied the case of India, draw a similar conclusion that savings affect economic growth in the long run.

2.4 Saving of Turkish People

Higher saving is important for a country to maintain the economic cycle to work efficiently. Therefore, higher private savings are especially important for developing countries such as Turkey. Domestic savings play a crucial role in financing investments. As

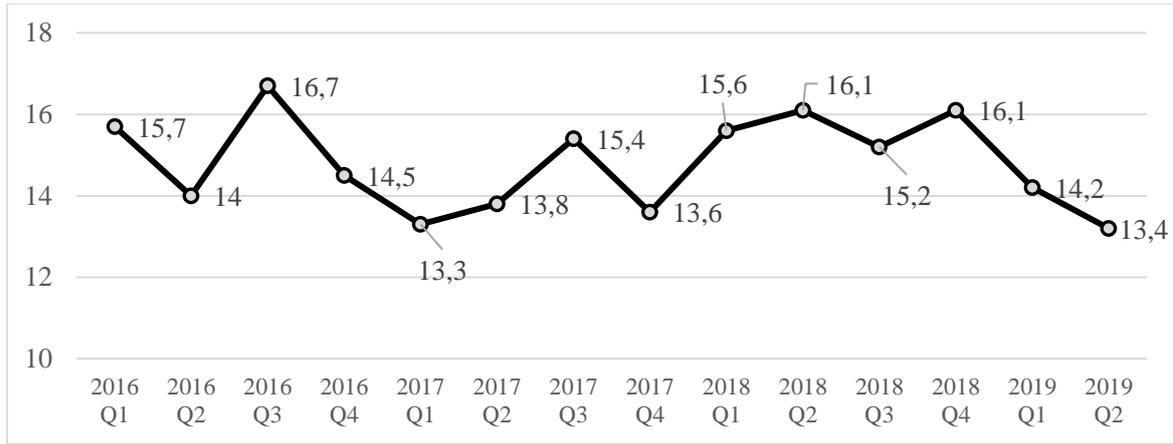
known, Turkey struggles with low saving rates. Therefore, increasing private savings is one of the main goals to be achieved. In addition to that, household savings cannot be ignored for that matter. Since part of the private savings are created by household savings. Therefore, household tendencies and responses to certain circumstances regarding savings need to be investigated. Since saving tendencies of individuals and households depend on the situations that surround them such as uncertainty and other precautionary matters. In order to avoid these possible situations, households set aside their portion of income. Investigating further these acts is needed to understand the household's motives for saving, what factors influence the most that the households willing to save is an important question to be answered.

In this section, first, we will review the macroeconomic effects of savings in Turkey. Secondly, studies regarding saving tendencies and behavior of Turkish households, and lastly, studies that focus on aggregate saving of Turkey will be briefly discussed.

2.4.1 Saving Trends of Turkey

In the eleventh development report covering 2019 to 2023 prepared by Strategy and Budget Office (2019), domestic savings took place at 26.5% and personal savings at 24.7%. It is pointed out that within the four years, the saving of younger generations should be increased, and therefore, in order to achieve that, it is necessary to work for state aids. It is an important point coinciding with the problem since this thesis is concerned with the younger generations saving behavior and characteristics. It can be easily concluded that saving rates are quite low and increasing savings is crucial for countries like Turkey.

A report by ING in 2019 about Turkey provides a quite interesting insight about saving behaviors of individuals in Turkey. This report covers 2016 and up to the second quarter of 2019. In the report prepared by ING (2019), it is observed that personal savings decreased to 13.4%. According to the report, one of the reasons people cannot save is that people think they do not have adequate income for savings. Debt issues of people follow as a second reason for the inability to save.



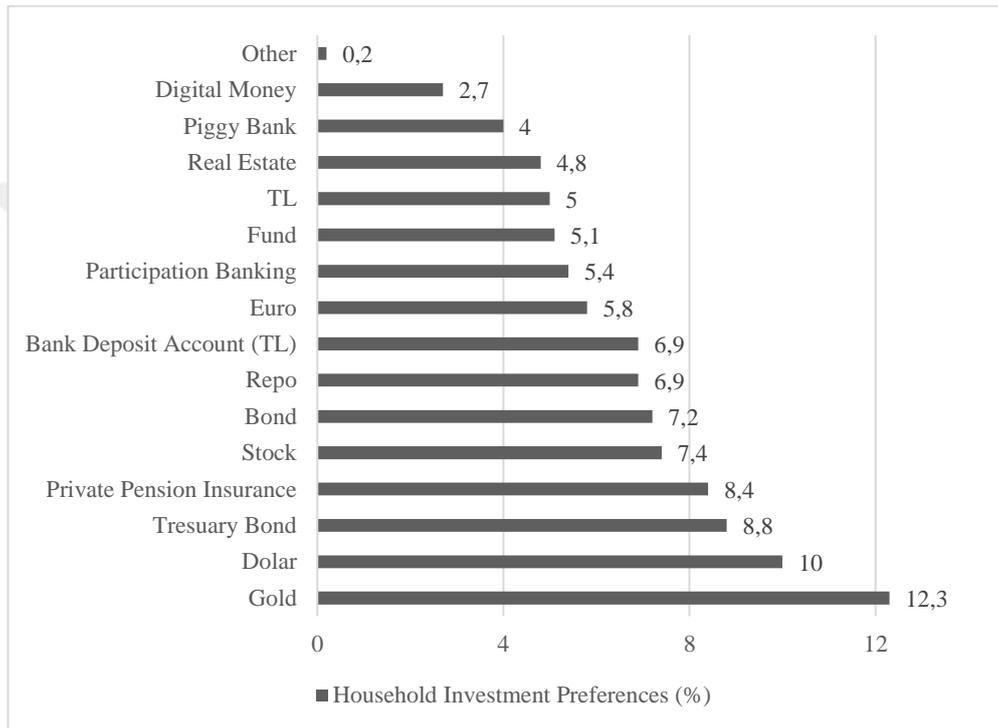
Source: ING, Türkiye'nin Tasarruf Eğilimleri Araştırması, 2019, p.4

Figure 2.6. Saving rate (%)

Saving rate in Turkey was presented on Figure 2.6. It is clear from the graph that the rate of saving has fluctuated between 13% and 16% in the last 3 years and it saw its lowest value in the first quarter of 2017 with 13.3%. Savings reached its peak in the third quarter of 2016 with 16.7%. However, the saving rate is visibly low relatively compared to Turkish ambition about economic growth targets as well as relative to other emerging countries. According to ING assessment, Turkish saving is low mainly due to expectational factors or uncertainties about the future. (As of 2016, TURKSTAT has made changes in the calculation of national accounts in order to comply with the European System Accounts (ESA-2010) (Kula, 2018). These changes also include items used in calculating of household consumption, such as relative rent. In addition, the base year was determined as 2009 (the base year before the changes was 1998). Boratav et al. (2018) stated that there is a serious increase in gross savings/GDP ratio with this revision.)

When households' saving preferences are observed (Figure 2.7.), gold as an investment tool is chosen as the most preferable and foreign currency follows as a second. However, considering the distribution of investment instruments in 2003 and 2016, individuals who prefer real estate as an investment tool ranked first with around 4.19% (Ministry of Development, 2018), although the proportion of real estate does not change much according to 2018 data, there is a large increase in those who use foreign currency and gold as an investment tool. This situation can be inferred from the depreciation of the Turkish lira against foreign currencies and the households invest in foreign exchange to cover their losses. In addition, the value increase in gold has made it the first most preferred investment

tool for households besides foreign currency. Moreover, in the report prepared by the Ministry of Trade, those who did not save as of 2018 were determined as 61.9% and those who save were reported as 38.1% (Ministry of Trade, 2018). Looking at previous years, for example, the rate of households who did not save in 2016 was reported as 77.9%. (Ministry of Development, 2018). When examined from this perspective, it seems that there is an increase in the rate of households who save. However, still, a big proportion of people do not save due to various reasons.



Source: T.C. Ticaret Bakanlığı, Türkiye İsrar Raporu, 2018, p.202

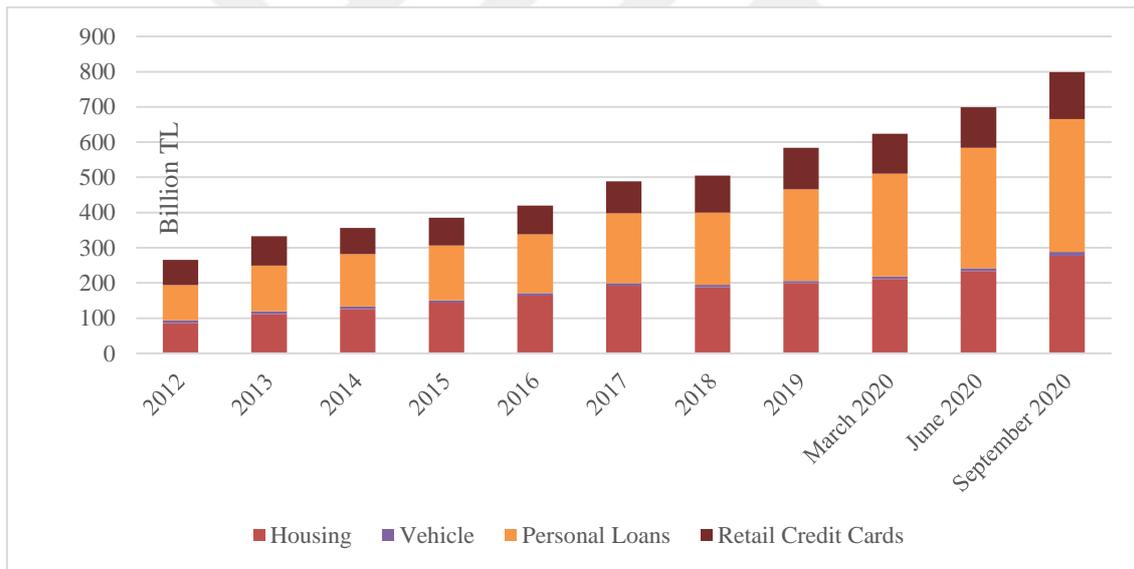
Figure 2.7. Household investment preferences 2018 (%)

Identifying the underlying causes of low savings rates are crucial for eliminating the low savings both on the macro and micro level. For instance, Zengin et al. (2018) found that saving depends on the level of education and size of income. Davidson and MacKinnon (1983) show that there is evidence that inflation affects savings. Er et al. (2014) investigated the case of Turkey, also found results that consistent with the findings of Davidson and MacKinnon (1983), that there is a relationship between savings, economic growth, and inflation where the relationship is positive between saving rate and inflations. Higher inflation is seen as an indicator showing higher macroeconomic risks and therefore households may respond by increasing their savings. For further understanding, the decrease

in savings should be investigated, to do this, the relationship between savings and economic indicators will be examined here.

Interest Rates and Savings

As we explained in the previous section, a change in interest rate causes two effects; income effect, and substitution effect. A decrease in real interest rate, according to the substitution effect, causes receiving a reward from saving to become less attractive, and spending will be more appealing. Therefore, households substitute spending to saving. And according to income effect, a decrease in real interest rate urge households to save more due to the loss of income, therefore, in order to maintain their current income level, household choose to save more. As can be seen, the effect of real interest rates on savings is not crystal clear. Pirgan-Matur et al. (2012) found that higher interest rates cause higher savings in Turkey.



Source: BDDK, Türk Bankacılık Sektörü Temel Göstergeleri, 2020, p.12

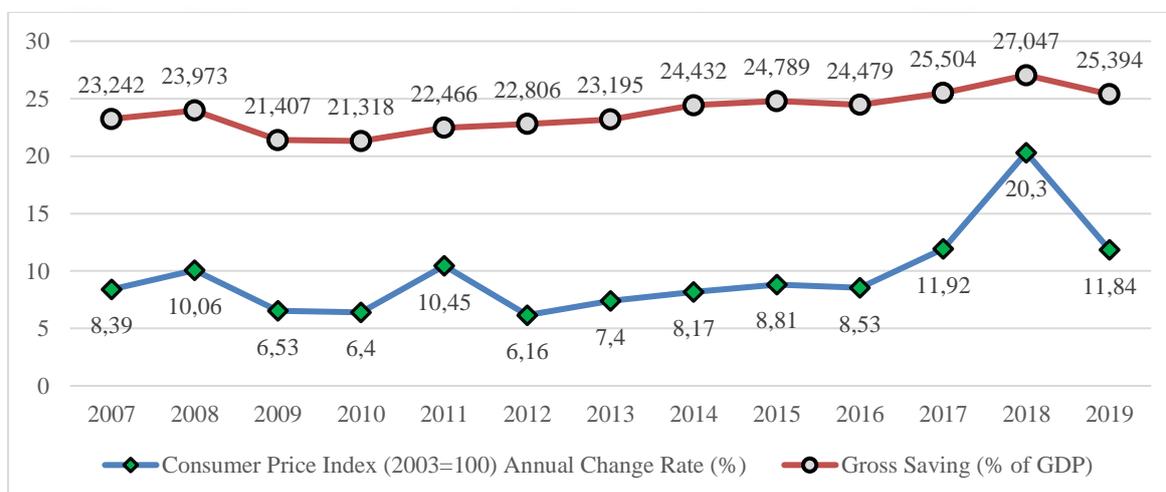
Figure 2.8. Development of consumer loans

Another way to looking at the impact of interest rates on saving is to investigate households' debt burden by looking at loans requested from banks. It is expected that low interest rates increase the private sector's lending from banks and reduce the savings rate. As of 2020, the ratio of consumer loans in total loans is 22%. To understand the impact of this, Figure 2.8 demonstrates the change in loan volume over the years. It can be seen that there is a significant increase in given consumer loans. One of the reasons for that is Central Bank

of the Republic of Turkey (CBRT) reduced the interest rate to 9.75% and thus, caused a decrease in borrowing rates, therefore made consumer loans to become more accessible.

Inflation and Savings

The effect of inflation on consumers manifests itself on households' saving level. In cases of higher inflation, it pushes the incentive to save by creating uncertainty over the household. Inflation affects individuals' confidence negatively, thus, feeds the urge for personal savings (Howard, 1978). Precautionary savings increase due to economic instability. In order to determine the pressure of economic instability on consumers, the consumer price index (CPI) should be observed.



Source: T.C. Hazine ve Maliye Bakanlığı, Ekonomik Göstergeler, 2020, p.i, World Bank Data

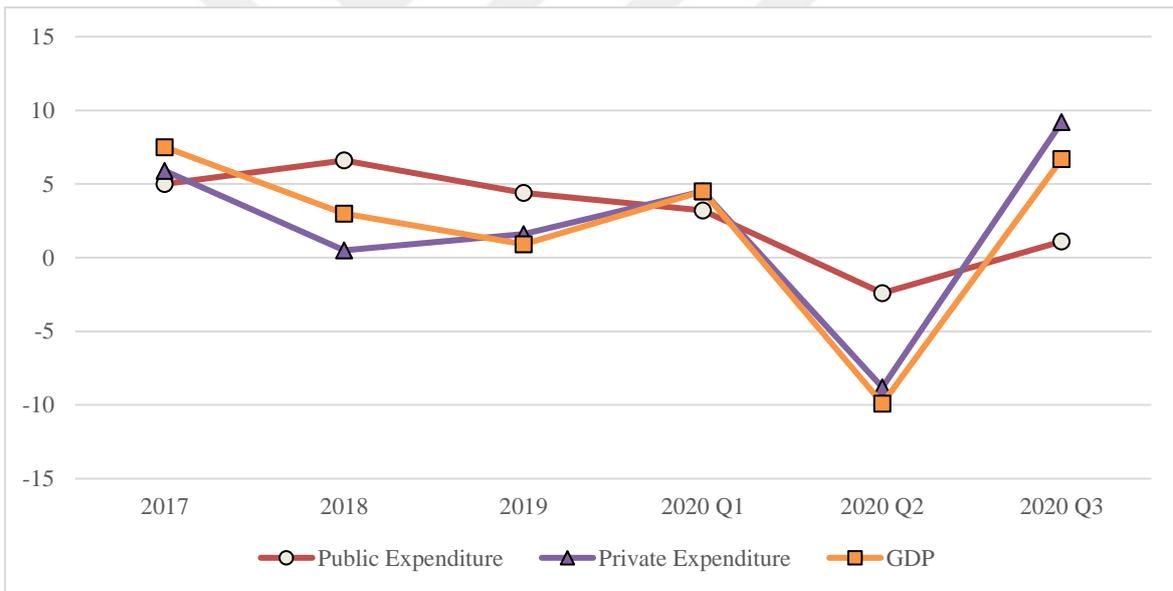
Figure 2.9. Consumer price index and gross saving change rate over the years

Changes in consumer price index (CPI) and gross savings over the years (Figure 2.9.) can tell that gross savings vary according to inflation. It can be seen that in 2018, the consumer price index (CPI) reached its peak with 20.3%, and accordingly, gross savings are increased by around 27%. However, in years when inflation was low, it is observed that gross savings also decreased. This may be due to the economic stability and decreased uncertainty felt by households.

Economic Growth and Savings

There have been various studies that investigated the relationship between economic growth and savings. Even though studies show that there is a one-way or two-way

interaction, the relationship between economic growth and savings has been the focus of macro-economic studies even today. When consumers' side is examined, due to the economic growth, households expect an increase in their income, therefore, increase their expenditures and decrease savings. The course of economic growth and savings can be analyzed by looking at consumption rates. It can be clearly seen in Figure 2.10. private expenditures increase or decrease in accordance with changes in GDP. It can be concluded that both public and private sectors' expenditures increased in the years when high growth was observed. Therefore, it is possible to conclude that there is a decrease in savings rates due to the increase in expenditure. On the contrary, in the second quarter of 2020, there is a sharp decline in GDP, and both public and private sectors responded to this decline by decreasing their expenditures. Savings are expected to rise, according to the mainstream economic literature, when spending declines. Therefore, the decrease in expenditures during this period led to an increase in savings.



Source: SBB, Türkiye Ekonomisinde Haftalık Gelişmeler ve Genel Görünüm, 2020, p.12

Figure 2.10. Public and private consumption and GDP growth between 2017-2020 (expenditure method)

2.4.2 Conspicuous Consumption

The previous section aims to analyze the impact of private savings, especially household savings on economic factors, and stress out the importance of savings for Turkey. It is a well-known fact that household savings are determined by their preferences. Since

humans as economic agents are able to socialize, their consumption attitudes are shaped by both internal and external factors. In order to understand the underlying determinants and saving and consumption behavior, this section expounds the possible causes for the economic behavior of individuals.

The term ‘conspicuous consumption’ was brought up by Veblen (1899) to explain the motive behind individuals’ consumption behavior, which is purchasing specific products or services, especially expensive and luxury ones, to display their wealth, economic and social status. According to Busch (2008), Adam Smith draws another conclusion that human beings are socially active creatures, therefore, in accordance with the visible hand, poorer ones’ consumption stimulates by the rich ones’ consumption.

Today, the evolution of ‘conspicuous consumption’ displays itself in modern consumer theories as ‘consumerism’, refers to achieving happiness and satisfaction depends on purchasing, consuming. Trentmann (2004) describes ‘consumerism’ as “mentality, behavioral motivation, and individual action, as well as commercial institutions and a defining feature of society at large” (p.377). Overall, the meaning of consumption and beliefs, attitudes, and preferences have changed significantly. And to avoid this cultural, economic transition is neither an option nor preventable.

Among the reasons for conspicuous consumption, Kumhof et al. (2013) point out that the availability of credit loans for middle income and high-income groups and the income inequality push conspicuous consumption. Frank et al. (2014) emphasize the importance of imitation. It is found that lower-income groups imitate higher-income groups’ consumption, this behavior is defined as ‘expenditure cascade’. In the case of Turkey, Tamgaç-Tezcan (2016) found that lower-income households are affected by rich households’ consumption behavior. Açıklım et al. (2009) studied Turkish college students, findings further proved that income differences influence conspicuous consumption. Güner-Koçak (2017) investigated Turkish youth's tendency to conspicuous consumption, findings suggest that younger ones think that purchasing products is an indicator of socio-economic status. Along with those studies, to further support the general findings, the report prepared by the Ministry of Trade (2018) gives an idea about Turkish society in detail. According to the report, 93% of participants own a smartphone, and among those high school graduates ranked first, middle-school graduates ranked second. The average time to change mobile phones is found to be 3.7 years. Also, it is stated that young participants tend to change their smartphones

more frequently. Moreover, 30.8% of participants report the reason for changing their smartphones is the desire to have new models. When vehicle purchasing is observed, according to the findings, participants' average frequency of replacement of the vehicle is approximately 2.8 years. It is stated that 30% of the participants report that having a new model is the reason for changing cars. The frequency of changing cars was found to be higher for individuals with 'low consumer consciousness' (Ministry of Trade, 2018). On the other hand, the frequency of changing major appliances was determined to be more than 4 years, and here it is seen that as the consumer awareness increases, the frequency of changing major appliances decreases. In addition, 79.3% of the respondents said that the reason for changing major appliances was to wear out. Looking at clothing expenditures, it stands out in the report among the results that the high-income segments spend more on clothing. Another interesting finding is the expenditure based on customs and traditions. It is stated that participants who have higher income make purchase decisions according to that, and one out of two people exceeds their budget for special days.

2.4.3 Studies About Savings of Turkish Households

In this section, studies related to households are briefly explained and discussed in order to understand the determinants and tendencies of Turkish households' saving behavior.

Hayta (2008) showed that education level affects the saving rate. A positive relationship was found between the level of education and saving. Also, Hayta (2008) points out that families' first reason to save is to be prepared for their kids' educational expenses and future issues. The second reason to save is to be prepared for unexpected circumstances.

Marangoz and Uluyol (2010) attempts to explain household behavior under the economic crisis. It has been observed that households change their economic behavior when faced with economic difficulties. That is, households increase their savings due to the economic hardship. Furthermore, Marangoz and Uluyol (2010) found that households procrastinate their expenditures to reduce the impact of the economic crisis.

Çolak and Öztürkler (2012) studied the determinants of saving by looking at the size of income. The study shows that lower-income groups have difficulty allocating their income for saving, thus, exhibiting an income paradox that contradicts the traditional approach.

Furthermore, Çolak and Öztürkler (2012) state that, this problem can only be overcome by an increase in income.

Aktaş et al. (2012) used Turkish Statistical Institute (TURKSTAT) data that covers the years between 2003-2008. With the cross-sectional analysis, it is found that income and savings were positively correlated. It is also found that elderly and children dependency rates undermine the saving rates. Aktaş et al. (2012) found that the relationship between education level and savings is positive. These findings are consistent with other findings. Lastly, the article shows that an increase in the fertility rate leads to a decrease in household savings.

Ceritoğlu and Eren (2014) also examined the impact of education on household savings. Turkish Statistical Institute (TURKSTAT) data were used in this article. It is found that the relationship between savings and education is positive. Ceritoğlu and Eren (2014) stated that college graduates have an impact on increasing total savings in the household.

Hamarat and Özen (2015) investigated the saving preferences and factors that affect savings. To find an interaction between the two factors, canonical correlation analysis (CCA) was chosen. The paper shows that there is an important interaction between savings and income, and population density. Also, Hamarat and Özen (2015) stated that Turkish households mainly choose gold and foreign currency as a tool for saving.

Şengür and Taban (2016) investigated the factors influencing savings other than income. The article used data covering the years 2002-2013. Şengür and Taban (2016) showed that age and saving are positively related, meaning older people tend to save more. In addition, it is determined that as the education of the head of the household increases, the household savings will also increase. Finally, it is found that living in a city leads the family to save more. However, it is reported that the relationship gets complicated when the work of the breadwinner and the size of the disposable income are included in the model. Finally, Şengür and Taban (2016) stated that the saving and consumption behavior of households is changing due to the variety of purchases.

Erdoğan (2017) examined the relationship between household savings and economic growth in more detail using data covering 2002-2017. Vector auto-regression (VAR) is used in this study. It is concluded that there is a positive relationship between savings and economic growth. Erdoğan (2017) stated that the factor that should be taken into

consideration is the real exchange rate. That is, household saving is affected by the real exchange rate.

Özcan and Peker (2018) also investigated the determinants of personal savings, taking into account the data covering years 1985-2014. It is stated in the article that saving is highly susceptible to the economic crisis, and it was also found in the report that public savings crowd out personal savings. In addition, Özcan and Peker (2018) found that elderly dependency leads to low savings and, finally, inflation leads to higher savings.

Ayvaz-Kızılgöl and İpek (2019) used the probit model to find the saving behavior of households and conducted a similar study by observing the years 2002-2016. It is found that higher educated households, households that have second home, and households that prefer heating systems instead of stoves, household heads over the age of thirty-five and with health insurance are more likely to save. Additionally, households with one or no children are more likely to save.

2.4.4 Empirical Studies About Domestic Savings of Turkey

This section covers the studies that include the domestic savings of Turkey and investigates the aftermath and effects of saving on the macroeconomic level in order to understand the influence on individuals' saving behavior and the effect on the aggregate saving.

Özcan et al. (2003) investigated the determinants of saving. In the study, the data covering the years 1968-1994 were taken from the World Savings Database (WSD) and, Augmented Dickey-Fuller Regression was employed. It is found that government saving does not necessarily exclude private savings. Also, a positive relationship was found between income and saving rates. Also, Özcan et al. (2003) state that inflation rate pushes people to save on precautionary measures.

Ekinci and Gül (2007) explained the relationship between domestic savings and economic growth by using data covering the period from 1960 to 2004 in Turkey. Using the method of vector error-correction model, Ekinci and Gül (2007) concluded that there is a long-term relationship between saving and economic growth. The article explains that savings have no effect on economic growth, but the level of economic growth affects savings in some way.

Düzgün (2009) also investigated the determinants of private savings by working with data covering the years 1987-2007. Düzgün (2009) found that private savings and public savings, inflation rate, interest rate, money supply have a negative impact, while foreign savings have a positive impact on private savings.

Matur et al. (2012) tried to identify the factors affecting private savings. Unit root test was applied to detect the interaction and the model was also created in the article. The conclusion drawn by Matur et al. (2012) is that while per capita income, inflation and real interest rate have a positive effect on private savings, public saving rate, per capita income growth, elderly dependency have a negative effect on private savings.

Uygur (2012) also aimed to examine the factors affecting private savings by using the Johansen Cointegration Analysis. The data covers the years 1987-1998. The purpose of this study is to examine the relationship between private savings in macroeconomic context. In short, Uygur (2012) found that public savings, real exchange rate, and economic growth have a significant impact on private savings.

Another similar research on economic growth and savings was done by Barış and Uzay (2015). They investigated the period of 1960 and 2012 and explained the relationship using Vector Auto Regression model (VAR). It is stated that economic growth is an important factor in increasing domestic savings.

Uçgun (2017) worked with the data covering the years 2000-2014, and constructed a model using Dynamic Least Square Method. In short, Uçgun (2017) found that the increase in the gross domestic product (GDP) led to an increase in savings in parallel with the external deficit and, that household consumptions and government spending negatively affected domestic savings.

2.5 Understanding Youth: Generation Y and Z

The term generation is defined as “an identifiable group that shares birth years, age location and significant life events at critical development stages divided by 5-7 years” (Kupperschmidt, 2000, p.66). Each generation shares different experiences, lifestyles, perspectives. New incomers have always been targeted by companies, advertisements in order to survive in the market. Today, the last two youngest generations are Generation Y

(Gen Y) and Generation Z (Gen Z). This cohort is either in college or has entered the workforce.

Generation Y, known as 'millennials' is used to describe the individuals who were born between the early 1980s and mid-1990s. And those who were born in the mid-1990s and early 2010s are defined as Generation Z. This thesis' target cohort is consisted of mostly 18-25 years old, in another saying Gen Y and Gen Z, that is why it is important to understand their distinctive attitudes and behavior.

2.5.1 Generation Y

Generation Y is considered to hold a significant population in the market because their purchasing power is enormous (Noble et al., 2009). By the time, some of them in college and the others start a career and build a new life. For those reasons, researchers' attention is greatly on Generation Y.

Many studies have attempted to understand this particular cohort by looking at their purchasing behavior, perspectives of the world overall. Studies have found that they are brand conscious (Fernandez, 2009; Giovannini et al., 2015; Valaei & Nikhashemi, 2017). They care about how others see them and consider brands as a self-esteem sentiment. They also pursue uniqueness in purchasing, and when it comes to choosing a product (Butcher et al., 2017). Looking different and presenting themselves as diverse as possible are playing an important role in their purchasing behavior. Also, it is stated that they are fashion conscious (Noble et al., 2009). They are aware of what they have bought, and they consider negative and positive impacts. Gen Y also is influenced by music preferences and media when choosing their fashion style (Badaoui et al., 2012). And since they were born in the internet age, it is discussed that the internet shapes their purchasing behavior, additionally, tv is also found to be an important tool for their purchase preferences (Wolburg and Pokrywczynski, 2001). Moreover, they are skeptical about advertisements (Beard, 2003). As for the ethical consideration of the internet, Gen Y has tolerance for pirated products (Freestone and Mitchell, 2004). Furthermore, they are considered as the most educated cohort than any other generation, and they are outcome-focused (Crampton and Hodge, 2009). Their prominent features are described as outgoing, sensitive, friendly, and they want to make a difference in the world (Berkowitz and Schewe, 2011), also, they tend to be loss-averse, and they focus

on short-term results (Viswanathan and Jain, 2013). Williams et al. (2010) describe Gen Y as “notoriously selfish, live for today, and spend big” (p. 29).

2.5.2 Generation Z

Generation Z is a successor of Millennials and a growing population. They are also the generation that has not experienced the pre-internet era. Therefore, they can easily adjust themselves to technological progress (Turner 2015).

Generation Z pursues uniqueness, creativity, they are not brand loyal, and they are an idealist and rational (Shevchenko, 2013). They have the ability to influence. According to Lindstrom (2004), they can influence their parents about their purchasing behavior and decisions, and this feature distinguishes Generation Z from any other generation. Also, another prominent feature of them is in a way they are independent, pragmatic, and often they are careful with their spending (Wood, 2013). Generation Z also is influenced by their music taste, movies, etc. similar to Generation Y (Ordun, 2015). Also, they are environmentally conscious, they tend to purchase environment-friendly products (Budac, 2013). Additionally, although they are known as rational, escapist feature another characteristic of theirs. Due to the economic challenges Generation Z tends to find products that they can be able to dissociate themselves from the real-world struggles (Wood, 2013).

2.5.3 Turkish Youth

Generation Y and Z have started to attract attention in Turkish studies as well as foreign studies. As of 2019, Turkish youth compose 15.6% of the total population (TURKSTAT, 2019). Therefore, it is crucial to understand the Turkish Gen Y and Gen Z in order to determine their lifestyle, preferences.

Yüksekbilgili (2013) investigated whether the characteristics of Gen Y apply to Turkish youth, findings pointed out that accepted features of Gen Y do not necessarily define Turkish youth. For instance, Turkish youth do not shop online, they do not define themselves as impatient, they think that they can deal with difficult people, they think that making a lot of money is more important than to make a difference in the world, they can focus on long-term achievements (Yüksekbilgili, 2013). Findings of Kavalcı and Ünal (2016) reveal that

Turkish Gen Z is more entertainment-oriented about their consumption decisions than Turkish Gen Y.

Özkan and Solmaz (2017) studied Turkish Generation Z, findings further proved that the internet is playing a crucial part in Turkish Gen Z's purchasing preferences and additionally, it can be understood from the findings that they are environmentally conscious, and careful with spending money, and they take advantage of the internet when they decide to buy a product. Additionally, Bulut et al. (2017) studied Turkish older and newer generations' perception of sustainable consumption, findings suggest that Gen Y and Gen Z avoid unnecessary consumption.

Özden (2019) found that there is a significant difference between Gen Y and Gen Z regarding consumption behavior. According to the study, Turkish Gen Z is more perfectionist, brand-focused, fashion-focused, and is more likely to interact with purchasing without thinking than Gen Y (Özden, 2019, p.17). Koçer and Aysel (2019), stated that Gen Z's consumption decisions are shaped by the internet, whereas Gen Y's consumption decisions are based on mostly experience.

Also, it is worth mentioning that the latest report of Varkey Foundation that prepared by Broadbent et al. (2017) revealed that Turkish Gen Z is pessimistic about their future and the biggest worry of this cohort is money.

3. MATERIAL AND METHOD

3.1 Review of Methodological Literature

For the past few years, studies targeting students have momentum in academic circles, particularly in social science. Especially in Behavioral Economics, it is crucial to explain the economic patterns of individuals to understand the reasons for their financial decisions or motives behind it and why are they making such an act. As known, humans surround themselves with not only their family but also other actors or entities such as school, work, etc. Since, as the world changes so rapidly, the impacts of these transformations on the individual are significant. This section covers studies that are particularly interested in college students, therefore, studies that related to the topic will be reviewed here and the results will be discussed in order to understand college students' economic habits, and conditions that push them to save money or the opposite. Of course, there are some aspects that are taken into consideration to understand the personality traits related to financial choices and in this section, we will review these factors.

Kasser and Ryan (1993) investigate the extrinsic motives and well-being in college students. The definition of extrinsic is described as financial success. Kasser and Ryan (1993) discussed that the American dream and financial success as a life goal are imposed by the nature of capitalism, however, the outcome of this is negatively correlated with the well-being of the college students as they are more prone to anxiety and depression. One of the important findings in that study, and one of the important sub-questions this thesis examines, is the proposition that men are more likely to pursue financial success than women in college. In contrast, women tend to achieve intrinsic values such as self-acceptance.

Another research was done by Hayhoe et al. (2000) on college students' financial behavior. Although this study focuses on credit card usage and attitude, purchasing goods are differentiated between male and female students, where female students are more likely to use their credit card to buy clothes and male students are more likely to use their credit card for entertainment and electronic devices. The data provided from the questionnaire and in order to detect purchasing behavior, logistic regression is constructed. The variables are gender, income, marital status, credit attitude. Also, Hayhoe et al. (2000) found that, the female students who live on campus are likely to feel sorry after purchasing goods, in addition, married female students are likely to plan their spending and prone to saving. This

study gives an opinion about the college students' purchasing pattern and how other factors such as income, gender, marital status have effects on the purchasing behavior over goods and services.

Roberts and Jones (2001) discussed that American college students are exposed to excessive spending culture and credit cards at a young age. The findings support literature that college students who use credit cards are more likely to spend their money quickly and, are more likely to purchase goods with no hesitation. Therefore, in this study authors point out that compulsive buying, and usage of credit card limits have a link and, college students who have a large number of credit cards are likely to have lower price sensitivity, therefore, higher compulsive buying habits. Furthermore, it is pointed out that the life goal of college students has shifted towards more materialistic aims, such as graduating from school to make more money or to be financially very wealthy. The survey conducted in this research covers factors such as credit card usage, compulsive buying, and anxiety, respectively. Confirmatory Factor Analysis (CFA) is also employed because survey questions were taken from other studies.

Another study was done by Erskine et al. (2006) to understand the saving behavior of the sample with a young people, from the age of between 12 to 24. Students are divided into five personalities in regard to their attitudes and behavior in school. Erskine et al. (2006) identified students' personalities as; brains (students who like to read, study), jocks (students who participate in sports-related activities), populars (students who like to try new things), skaters (students who like to skateboard), performers (students who like to participate in art related activities), and partyers (students that go to parties, clubs regularly). It is concluded that brain and performer students are more likely to care about their future goals and academic success, therefore, more likely to save. On the other hand, the saving habits of jocks and populars vary by the circumstances and matters. Lastly, skaters and partyers are less likely to show saving patterns. The conclusion that can be drawn from this study is that the characteristics and attitudes of young people also affect their economic behavior.

Vansteenkiste et al. (2006) investigated the relationship between well-being and materialistic values among college students who enroll in business and education faculties. The paper provides that there is a distinctive behavior between the students who enroll in these two majors where business students are more materialistic and their well-beings depend on physical values, whereas students who major in education are more likely to

follow intrinsic values. These results show that materialism or thriftiness can change between faculties. Phau and Woo (2008) did a similar research where they investigated Australian young adults' financial behavior for both compulsive and non-compulsive buyers, focused on credit card usage regarding whether participants show a sign of compulsive buying or not. Results indicated that compulsive buyers spend more and more, therefore findings support the existing literature. It is proved that there is a positive relationship with credit card usage, on the other hand, no relationship is found in money attitudes such as anxiety, distrust, and compulsive buying.

Shim et al. (2010) highlight another direction that has an impact on the financial behavior of college students; the role of parents. Study was conducted on first-year college students, it is found that parents have an important role in adolescents' financial behavior and financial learning. Also, Gutter et al. (2010) found that parents have an impact on the financial behavior of the students. Gutter et al. (2010) also indicated that adolescents who discuss their financial matters with parents and friends tend to save more, furthermore, adolescents who have observed their parents' financial behavior adopt similar acts like their parents and are more likely to save.

Sabri and MacDonald (2010) investigated the relationship between saving behavior and financial literacy among Malaysian college students. It is concluded that saving behavior and financial literacy have a positive relationship which means if a student is rather conscious and has knowledge about their finances, student is more likely to be careful in spending. Moreover, it is found that saving behavior varies according to the gender differences. Female students tend to save more than male students.

Palan et al. (2011) did similar research on American college students to determine which variables have an impact on compulsive buying. Credit card usage of young ones has been excessively studied by scholars, it can be also seen that here, the worries about students' credit card debt have increased. Also, here, credit card usage and compulsive buying are proven to be directly affecting one another. The difference that has been made by this study is that compulsive buying fits into a model as "variable behavior ranging in frequency" (Palan et al., 2011, p.91) rather than as a characteristic behavior.

Falahati and Paim (2012) investigated gender differences and the impact on saving behavior. The study demonstrates that saving behavior depends on financial knowledge,

childhood financial experience, and financial skills. Also, it is stated that gender differences affect the saving behavior. It is found that male college students have more financial knowledge and experience than female students. Falahati and Paim (2012) point out that these differences between female and male students may depend on cultural aspects such as male individuals mostly considered as breadwinners. Therefore, it is likely for them to interact with financial matters and knowledge than female students.

3.1.1 Summary

Throughout the years, the financial behavior of students has been intensively studied to understand whether there is a pattern in intrinsic and extrinsic motives, and which factors have shaped their perspective on financial matters. Humans are under the influence of culture because after the birth, people, we, are nested within culture through which we view the world. That is, people view the world through their subconscious cultural habits and some of our behaviors have strong links with the culture. Therefore, in addition to conventional factors such as income, gender, financial posture, the cultural habits have strong effects over savings. However, what stands out is that credit card usage. It is one of the popular topics that scholars try to find a connection with compulsive buying behavior. And it is found that there is an evidence that credit cards fuel excessive consumption in young people. Indeed, consumption culture also shapes studies, the effect of society and the culture people live in is inevitable and it can change from country to country. But there is a common voice that raises a question and tries to find solutions to understand the young cohort's financial characteristics.

In light of this information, previous studies are cited in order to gain insight into the financial behavior of college students and to understand the pattern and how they see the culture they live in and people that surround themselves with. It is necessary to understand the financial behavior of other nations' students and contribute to the literature that whether Turkish students share the same saving and materialistic behavior, attitude, or personality traits as the rest of the world.

3.2 Weaknesses and Strengths

Social Sciences have been using surveys as a tool to collect data since humans are the central subject of the experiments. But the survey comes with advantages and disadvantages.

It is a proper instrument for clarifying human behavior, decisions, understanding the psychology of humans, offers a great range to investigate. Furthermore, it is quite easy to implement. The other way around, survey is mostly collected from a relatively small crowd, therefore, cannot represent the whole population. Weisberg (2008) emphasizes issues related to sampling stating that targeting the sub-population to implement the survey cannot/may not resemble the whole population. However, Kelley et al. (2003) state that it can represent the aimed population. In addition to that, participants may be dishonest and reluctant to answer the survey questions. Also, there is a possibility to consider that questions may not reflect the individuals. Furthermore, questions that were taken from another survey may not represent the population that has been chosen. Before preparing and implementing a survey, those possibilities mentioned above should be taken into consideration.

3.3 Questionnaire

The questionnaire contains three parts. The first part includes demographic variables such as student's age, faculty, gender, etc. and, information about family members. The second part includes measurements to determine the economic behavior and characteristics of students with thirty-eight items in total. As we reviewed in the theoretical section, Kasser and College (2005) offered three important attitudes in explaining the saving behavior and they are materialism, frugality, and generosity. Inspired by the theoretical studies, we designed our survey so as to incorporate the work of Kasser and College (2005) and also to examine their opinions directly. The reason to ask these opinion questions is that to see the collective thoughts and memory about themselves as well as their family members, and friends. Because materialism is considered as 'negative' in the public eye (Ger and Belk, 1999) and condemned by various religions or cultures (Belk, 1983). On the contrary, frugality is considered as a positive characteristic or lifestyle that contribute the economic growth and stability (Argandoña, 2010). Schwarz and Oyserman (2001) discussed that asking questions about others gives the researcher an opportunity to observe the validation of concepts and how the participants see their environment. Therefore, in order to see the impact of bias on students solely, and how they see these concepts and identify themselves, opinion questions were asked. Therefore, the third part contains yes/no questions to observe their opinions about their acquaintances, families, and their selves. Questions are; 'Do you think your friends are prone to save', 'Do you think your family is prone to save', 'Do you think Turkish people are pretentious', 'Do you see yourself as frugal' and, 'Do you describe

yourself as materialist' respectively. The questionnaire is represented in Appendix-1 in detail.

3.4 Measurements

Measurements consist of six scales: frugality, materialism, the impact of economic hardship, saving, overspending, and the effect of parents.

3.4.1 Frugality Scale

Frugality is a personality trait that is often used to describe being self-restricted about wasting resources, pre-cautious about using their sources, making the most of what they have both economically and events that encounter on a daily day basis in their lives.

Frugality is not a new term to describe the personality. Its roots go back to the old times, in some cultures, frugality is a part of the traditions, a lifestyle that is considered good and appreciated for. Besides that, frugality has some religious aspects since many religions praise frugality. In many religious books, being frugal is encouraged, and seeking the intrinsic values are advised. These aspects that surround humans have a significant impact on their character development. For instance, Ulusoy (2015) found that religions have a strong influence on consuming less, avoiding unnecessary purchases. Sood and Nasu (1995) found religion among different cultures and the degree of individual devoted themselves to religious practices make differences in purchasing behavior.

Along with religion and cultural values, there is a psychological side that needs further scrutiny. People who are associated with frugality traits seek to achieve intrinsic goals rather than extrinsic ones and are more likely to wait so they can increase their satisfaction. Also, frugal people are more likely to focus on long-term goals rather than pursuing short-term achievements. The difference between being frugal or having materialistic values and other factors that count in that matter can be changed regarding how individuals perceive the type of values and goals considering the time restrictions. But overall, the basic motive and element of frugality as with DeYoung's word, "careful use of resources and avoidance of waste" (DeYoung, 1986, p. 284).

According to Bouckaert et al. (2011) in economic literature, frugality is associated with saving and investment and considered as a tool to increase welfare, therefore, the

meaning of frugality has faced a transition in disciplines. This transition is a result of early thought and theories of economics which are proposed by Adam Smith and Max Weber (Bouckaert et al., 2011). However, frugality in economic literature has caught attention recently. But before that, it is mostly ignored. Lastovicka et al. (1999), state that frugality is often found its place in the economic literature as ‘delayed gratification’. Later, to extend the definition of frugality in economic literature, Lastovicka et al. (1999) developed the frugality scale. Here, in this study, 8 items of the frugality scale are taken from Lastovicka et al. (Lastovicka et al., 1999, p.89).

3.4.2 Materialism Scale

As consumption culture changes, personality traits also face a transition due to environmental adaptation. So, materialism is a term that has been used with a wide range in different disciplines. According to the economic literature, “materialists place possessions and their acquisition at the center of their lives” (Richins & Dawson, 1992, p.304). In contrast to frugality, achieving extrinsic goals is more tempting to the materialists.

Belk (1985) describes materialistic traits with three prominent features. They are possessiveness, non-generosity, and envy, respectively. Possessiveness is described as the tendency to control or ownership of what an individual considers worthy. However, this want of possession can be on physical things or can be based on events, status, in other words, can be counted as experiences. Belk (1985) mentioned this possibility to understand that possessiveness is not about only purchasing goods and gaining control over them, rather it can be based on experiences such as travel, or knowledge. Secondly, non-generosity is another trait according to Belk (1985). Paper explains non-generosity as unwillingness to donate or share their possessions, showing reluctance to participate in charity organizations. Lastly, Belk (1985) mentioned envy as a third feature. Envy is a desire to have and longing for another’s possessions, assets. Belk (1985) also explained that envious individuals show resentful acts toward the person who has possessions that are desired.

Bearing in mind the information that mentioned above, it is proper to add materialism measure to understand the effect on individuals’ economic behavior. Before explaining the items, it should be expounded that since this study mostly focused on physical possessions and the effect on the individuals, previous discussions mentioned above such as experience, non-generosity are not taken into consideration but explicated in here to clarify the features

of materialist personality. Materialism scale consists of 7 items. Item 15 'I like to own things to impress people' (p.366), 16 'My life would be better if I own things I do not have right now' (p.366) and, 17 'It is important to make a lot of money when I graduate' (p.366) were taken from Kasser and College (2005). Item 17 adjusted for college students due to the Kasser and College's research focused on adolescents and children's behavior. It is important to keep that in mind that items 15, 16, and 17 initially were developed by Richins and Dawson (Richins and Dawson, 1992, p.310).

3.4.3 Effect of Economic Hardship & Uncertainties

Economic crisis can change individuals' and households' saving and consumption attitudes. Generally, it is assumed that during the economic crisis, economic agents shift their consumption and saving patterns. In dire economic situations, people tend to restrict their expenditures, particularly on items such as luxury expenses, travel plans etc. and they ramp-up their savings. To give an explanation, for instance, Ang et al. (2000) studied Asian households' consumption and saving behavior during the economic crisis. The paper presents that Asian families are being careful with their sources, are avoiding unnecessary expenditures, and they prefer cheaper products. Also, under uncertainties, people tend to be more cautious about their expenditures. Since the future is unclear and there will be a need for money, assets for an emergency. Besides these, uncertainties create risk, and, in that case, people are afraid of taking unnecessary risks.

There are few studies that explore the effect of economic crisis and hardship on Turkish households. Hüsnuoğlu and Güler (2010), examine household saving and consumption behavior during the crisis period and their study was based on the behaviors of households in Giresun, a small city in Turkey. It is found that households tend to choose cheaper products and restrain their expenditures for luxury goods. It is also stated that people reduce the time they spend outside and increase the time they spend at home. However, no change found in purchasing durable goods. Kaytaz and Gül (2014) investigate the 2008 crisis and its impact on Turkish households. Similarly, it is found that during the crisis people change their consumption to save money. It is found that they prefer cheaper products. Also, here, the demand for durable goods increases during the 2008 crisis. Aytaç et al. (2014), showed the effect of the economic crisis on households and the impact on the chosen community in Turkey. The paper shows that besides the increase in crime, and

unemployment, families switch their consumption to compensate for their financial loss, such as moving to cheaper places, selling assets, or borrowing.

Since August of 2018, Turkey has also faced substantial instability and turbulence in economic realm, particularly in financial and exchange rate markets. When the survey is conducted in between January and February of 2020, these markets started to calm but the undesirable consequences of the turbulence remained intact considerably. Therefore, the students participated our survey felt -although to a different extent- the adverse effects of the turbulence. With all this information, the questions of this thesis are: (i) Is the impact of the perceived economic crisis on students reflected in their character or attitude? (ii) To what extent does it affect saving and spending behavior? Thus, it was aimed to prepare a scale consisting of 4 items by focusing on the investigation of these questions.

3.4.4 Saving

Money management is not an easy task for some people. However, for many, it is a crucial behavior to work on and to make a habit of. Some people save regularly and some struggle to keep money in his/her pocket. Various factors are studied to determine the possible impact on the saving behavior, and financial management. Hira (1997) reported that younger generation different from the relatively older generation of the sample develops spending habits and therefore faces financial debt. Falahati and Paim (2012) found that saving behavior can be changed regarding gender differences and moreover, financial knowledge is found to be the key element for saving behavior. Fisher (2010) also found that saving behavior varies between males and females. Female respondents that have low-risk tolerance are not likely to save in the short-term while male respondents that have higher education are likely to save in the short-term. Donnelly et al. (2012) investigated the impact of personality traits on saving behavior. The paper presents that people who have materialistic values are more likely to spend and save less while conscientious people maintain their money better.

All things considered, college students are the perfect sample for investigating the saving habits and behavior of human beings. Since, after graduation, they will aim to find a good job, get married, and they will aim to be an adult who covers their own expenses. Therefore, it is important for them to maintain their salaries for their own sake to participate in society in a healthy way. Items 9 to 14 are developed for saving behavior scale with 5

points Likert Scale. Item 10 'I look at prices before purchasing a product', and item 11 'I purchase cheaper products that have similar features instead of expensive one' were taken from Altınırmak et al. (Altınırmak et al., 2017, p.484). Item 14 'I buy only thing I need' was from Richins et al. (Richins et al., 2004, p.217).

3.4.5 Overspending

Overspending is a term that used for spending money beyond the budget. Bae et al. (1993) state that overspending is an obstacle to saving most of the time. Lea et al. (1995) emphasize both psychological and sociological elements can affect overspending behavior. Since human beings interact with others almost every day. Socializing is a part of human nature and therefore, it is inevitable to be influenced by the surroundings, to compare themselves and catch up to the others' lifestyles, purchases. The pressure of catching up to the others who have better standards of living can cause individuals to purchase more and more and creating debt that cannot be handled. Lea et al. (1995) also discussed that the perception of buying has changed, due to the mentality of buying is now based on what others bought. Additionally, Tokunaga (1993) found that people who see money as a sign of prestige are more likely to get in financial debt. There is evidence that younger individuals get involved with overspending due to the urge of impressing others. For instance, Livingstone and Lunt (1992) found that younger ones are more likely to get in debt than the older ones in Britain. All things considered, this thesis' one of interests is to investigate the overspending pattern of college students. Because the interaction with the outside is higher at that moment in the life of theirs. In this research, overspending scale is developed, contains 8 items, and rated to 1 to 5 with Likert Scale. Overspending scale consists of items 19, 20, 22, 25, 26, 27, 28, and 29.

3.4.6 Impact of Family

Family is the first social circle for children, adolescents to socialize, and learn the behavior of their parents and therefore, to some degree adapt themselves according to their family. Also, it is the first environment that children to face and develop some skills, habits, attitudes. In this case, it will be an accurate way to describe their capacity and adaptation skills, as like a sponge. Because children can be so sensitive to their surroundings that they interact and implement specific behaviors, and without a doubt, they are willing to imitate

them. The influence of parents on their children is clearly a valuable factor to search for. The interaction between parents and child continues until the child enters the university, and even after graduation in Turkish families. So, it is expected that even in the phase of transition from adolescence to young adult, the impact of parents on their children is quite prominent. Also, families play an important role for their children to develop economic socializing as an individual. Spending and saving behaviors of the younger ones are associated with the families' similar saving and consumption pattern as they are heavily dependent on their parents. However, Cronqvist and Siegel (2015) found that parenting regarding saving behavior is found to be insignificant in the child's lives. Meaning, the effect of family on the child cannot last forever, as they grow up, children can dissociate themselves from the saving behavior of their parents. Gratz et al. (2006) discussed that the level of income of the parents has an impact on children regarding economic socialization. Paper emphasizes that parents who have lower income may not spend adequate time to educate their children to prepare for economic matters due to the fact that they have to work for long hours. As it is mentioned previously, especially for families in Turkey, children live with their parents even after they find a job. So, even still it is worth investigating the impact of parents on the child. Effect of family scale consists of 4 items that were taken from Altınırmak et al. (2017, p. 484-485). The measurement focuses on the parents' saving behavior and perspective. Therefore, only the saving patterns of families and the possible impact on their children are taken into the consideration.

3.5 Data Collection and Procedure

The survey is conducted on 263 students. However, before engaging the survey, we applied a pilot study to over 26 students. Both pilot and the actual surveys were conducted at AYBU. The research was based on anonymity and confidentiality. Students were assured that this survey is not mandatory but for scientific research, therefore, participation is up to the students. Students were free to participate and leave at any time. Traditional print survey was chosen for conducting the survey. The sample is taken from various classes, students were chosen randomly and during the class hours. The survey was carried out with the permission from the lecturers. The purpose of this research was explained in detail to prevent any misunderstanding throughout the process both with the letter and verbal. Permission was granted from Ethics Committee of AYBU to apply the survey between January and February in 2020. Ethics Committee approval is attached in Appendix-3.

Table 3.1. Measurement items

Construct	Measures	Scale
Frugality	1. I believe in being careful in how I spend my money*	1-5
	2. I control myself to make sure that I get the most from my money*	1-5
	3. I am willing to wait on a purchase I want so that I can save money*	1-5
	4. There are things I resist buying today so I can save for tomorrow*	1-5
	5. If you take good care of your possessions, you will definitely save money in the long run*	1-5
	6. There are many things that are normally thrown away that are still quite useful*	1-5
	7. Making better use of my resources makes me feel good*	1-5
	8. If you can re-use an item you already have, there is no sense in buying something new*	1-5
Saving	9. I spend my money within the budget I decided	1-5
	10. I look at prices before purchasing a product*	1-5
	11. I purchase cheaper products that have similar features instead of expensive one*	1-5
	12. In order to achieve my goals, saving is important for me	1-5
	13. I am less stressful when I have savings	1-5
	14. I buy only thing I need*	1-5
Materialism	15. I like to own thing to impress people*	1-5
	16. My life would be better if I own things, I do not have right now*	1-5
	17. It is important to make a lot of money when I graduate*	1-5
	18. It is important for me to keep up with trends	1-5
	21. It is important for me to shop from well-known brands, even if it is expensive	1-5
	23. I live my life to the fullest, there is no point in saving	1-5
	24. My life goal is to possess material things	1-5
Overspending	19. I do not mind shopping excessively from my savings	1-5
	20. I purchase new clothes even if it is similar to the one I have	1-5
	22. It is important for me to purchase the newest technologic devices, even though mine just works fine	1-5
	25. I purchase products even though I cannot afford it	1-5
	26. I do not mind using credit card for luxury needs	1-5
	27. Shopping makes me happy	1-5
	28. If I love the product so much, I do not mind the price	1-5
	29. Some of the products that are purchased are never worn or used	1-5
Effect of Parents	30. My parents save money*	1-5
	31. My parents warn me about saving my allowance*	1-5
	32. My parents emphasize the importance of saving*	1-5
	33. My parents are thrifty*	1-5
	34. My parents have an effect on my saving habits*	1-5
Impact of Economic Hardship	35. Because of the uncertainty in economy, I am cautious about spending my money	1-5
	36. I save more due to the economic hardship	1-5
	37. Economic uncertainties cannot prevent me from spending my money	1-5
	38. My parents postpone their expenses because of the economic uncertainties	1-5

Note: After the plot test, items 5,7,10,13 are removed from the survey in order to increase the reliability ($\alpha=.670$ to $\alpha=.728$).

Note2: * represents that item was taken from other studies, to see which, see 3.4 Measurements section.

3.6 Plot Test

Prior to conducting the survey to 263 students, 26 students were chosen to test the internal consistency of questions. Cronbach Alpha is commonly used for this purpose especially in social sciences to measure the accuracy of psychological attitudes and, perceptual factors. Cronbach Alpha was developed by Cronbach (1951), to calculate the consistency and reliability of items with each other. Cronbach (1951), denotes that before conducting factor analysis, measuring reliability is a must for trustworthy results. Widely acceptance is that Cronbach Alpha should be above 0.7 for adequate results. Although, debate on the coefficient that accepted which is 0.7 is ongoing and it is discussed that this particular method is shortsighted and insufficient (Cortina, 1993; Schmith, 1996), however, mostly 0.7 and above are considered enough to continue the research. For this thesis, the general assumption of Cronbach alpha is accepted. Survey contains 38 items. First, measurement of Cronbach alpha is 0.67 which is low enough to proceed. In order to increase alpha's value, item 5 that is 'If you take good care of your possessions, you will definitely save money in the long run' and item 7 'Making better use of my resources makes me feel good' that taken from Lastovicka et al. (1999) are removed from the survey. Moreover, item 10 'I look at prices before purchasing a product' and item 13 'I am less stressful when I have savings' are extracted from saving scale. After this process, Cronbach alpha reached 0.72 which is adequate to move forward to conduct the survey.

3.7 Sample

It should be noted that before going into the detail, from 263 students, 4 students were removed because three of the students did not take the survey in a serious matter, it is clearly understood that they marked the items without reading it. Also, one of the students refused to participate completely, stated s(he) is against filling the surveys in any circumstances. Therefore, the analysis was carried out with 259 students.

The sample consisted of 163 female students and 96 males. So, it can be clearly seen that the majority of the students are females. Also, the majority of students (n=184) report their age between 18 and 20. 72 students report their age as between 21 and 23. Only 3 students report their age as 24 or above.

Table 3.2. Descriptive variables of college students

Variables	Female(n=163)	Male(n=96)	Total(n=259)
Age			
18-20	130 (79.8%)	54 (56.3%)	184 (71%)
21-23	32 (19.6%)	40 (41.7%)	72 (27.8%)
24 and above	1 (0.6%)	2 (2.1%)	3 (1.2%)
Settlement			
Dorm	56 (34.4%)	29 (30.2%)	85 (32.8%)
With Parents	88 (54%)	46 (47.9%)	134 (51.7%)
Other	19 (11.7%)	21 (21.9%)	40 (15.4%)
Faculty			
Faculty of Political Sciences	71 (43.6%)	57 (59.4%)	128 (49.4%)
Faculty of Law	47 (28.8%)	26 (27.1%)	73 (28.2%)
Graduate School of Health Sciences	43 (26.4%)	12 (12.5%)	55 (21.2%)
Business School			
Business School	2 (1.2%)	1 (1%)	3 (1.2%)
Family income per month			
2000 and below	25 (15.8%)	10 (10.6%)	35(13,9%)
2000-4000	78 (49.4%)	42 (44.7%)	120(47.6%)
4000-6000	38 (24.1%)	28 (29.8%)	66(26.2%)
6000 and above	17 (10.8%)	14 (14.9%)	31(12.3%)
Financial support from parents			
Yes	130 (81.8%)	75 (78.9%)	205 (80.7%)
No	27 (17%)	20 (21.1%)	47 (18.5%)
Receiving scholarship or credit			
Yes	113 (69.3%)	64 (66.7%)	177 (68.3%)
No	50 (30.7%)	31 (32.3%)	81 (31.3%)
Expectations of Turkish Economy (Now)			
Too Bad	55 (33.7%)	27 (28.1%)	82 (31.7%)
Bad	81 (49.7%)	47 (49%)	128 (49.4%)
Neither	19 (11.7%)	11 (11.5%)	30 (11.6%)
Good	8 (4.9%)	11 (11.5%)	19 (7.3%)
Too Good	0	0	0
Expectations of Turkish Economy (Future)			
Too Bad	58 (35.6%)	30 (31.3%)	88 (34%)
Bad	70 (42.9%)	30 (31.3%)	100 (38.6%)
Neither	23 (14.1%)	18 (18.8%)	41 (15.8%)
Good	10 (6.1%)	17 (17.7%)	27 (10.4%)
Too Good	2 (1.2%)	1 (1%)	3 (1.2%)
Postponing purchases of durable goods in the last one or two years			
Yes	103 (63.2%)	47 (49.5%)	150 (58.1%)
No	60 (50.5%)	48 (36.8%)	108 (41.9%)

Settlement is another descriptive measure in this research. 134 respondents report that they are living with their parents, and 85 students are staying in dorms. And 40 students report that they are living in other settlement areas. It can be concluded that, students who enroll in Ankara Yıldırım Beyazıt University, choose college according to where their families live. Lastly, questionnaire responses were received from Faculty of Political Sciences with 128 students, Law Faculty with 73 students, Graduate School of Health Sciences with 55 respondents, Business School with 3 students. The reason for only 3 students' attendance is because survey was conducted in common classes in the Faculty of Political Sciences. All other descriptive statistics are listed in Table 3.2.

3.8 Factor Analysis

Factor analysis is a method in social sciences that is used for reducing variables and gathering variables into fewer factors. In this study, Principal Component Analysis (PCA) is chosen as an extraction method with Varimax rotation. Principal Component Analysis (PCA) allows researchers to contain the information which is desired while helping to reduce larger sets to smaller. Therefore, it is appropriate to apply Principal Component Analysis (PCA) to this data since larger set of variables are used to determine the underlying causes and latent factors.

Kaiser- Meyer- Olkin measure of sampling adequacy test is .812 which is enough to proceed, and Bartlett's test of Sphericity test is significant at $\chi^2(153) = 1379.281, p < .000$. This indicates that the sample is enough to move forward to conduct the factor analysis.

Table 3.3. Factor scores

	N	Min	Max	Mean	Std. Dv.
Lavishness	259	1,00	4,86	2,3244	,83288
Self-Control	259	1,00	5,00	3,7938	,82741
Impact of Economic Hardship	259	1,00	5,00	3,0901	,67328
Pretentiousness	259	1,33	5,00	3,6165	,91573
Valid N (listwise)	259				

Four factors are extracted during the process, in total, explains 55% of the variance and eigenvalues change between 4,690 and 1,185. Item loadings for factor 1 are developed to understand the spending patterns. Except, one item, that is trying to measure the materialistic values regarding the perception of well-known brands. However, it is

reasonable to consider that this item belongs to factor 1, since there is a thin line between determining materialistic values and overspending. Watson (2003) stated that often materialists pursue new purchases as they are characterized as ‘excessive spenders’. Also, participants’ thoughts on this specific aspect that is valuing brands can change therefore, they do not have the same values, lifestyle, varies from one another. Factor 2 has a common aspect between frugality and saving behavior items like factor 1. However, the latent feature is mainly thinking, planning for tomorrow, therefore, can be named as ‘self-control’. The third and fourth factors are extracted from the items in the same measurement groups. Table 3.3. above shows the factor scores and factor loadings are presented in Appendix-4.

3.9 Correlation Results for Factor Scores

In order to understand the college students’ attitudes and personality traits and how they affect each other, correlations were investigated. Measurements are factor scores that are extracted from the factor analysis.

Table 3.4. Correlations between factor scores

Variables	1	2	3	4
1.Lavishness	1.00			
2.Self-Control	-,352**	1.00		
3.Impact of Economic Hardship	-,062	,268**	1.00	
4.Pretentiousness	,228**	,148*	,255**	1.00

Note: **, * refer correlation is significant at the 0.01, 0.05 level (2-tailed) respectively.

Correlation results suggest that five out of six measures are statistically significant but in the low magnitude. The correlation between impact of economic hardship and lavishness, however, is found to be not significant. Results indicate that the strongest relationship is between lavishness and self-control. Overall results suggest that there is a reversed relationship between lavishness and self-control. Meaning, students with lavish attitudes do not associate themselves with self-control. In addition, pretentiousness, self-control, and impact of economic hardship have a positive influence on one another.

3.10 Logistic Regression

Logistic Regression is a frequently used analysis in social sciences where the dependent variable is categorical. It allows researcher to predict the probabilities of the target variable based on the independent variables. Different from ordinary least square (OLS) regression, homoscedasticity and normality are not required in logistic regression. Peng et al. (2002) discussed that OLS regression is not sufficient to handle categorical dependent variable because of the assumptions of OLS are challenging to achieve. Logistic Regression offers a great flexibility to explain the complex questions. There are many transformation techniques regarding odds ratio, however most popular method is logit transformation, which can be demonstrated as the following equation,

$$\log(\text{odds}) = \text{logit}(P_i) = \ln\left(\frac{P_i}{1-P_i}\right) = b_0 + b_1x_1 + b_2x_2 + \dots \quad (7)$$

Where there is a linear relationship between log odds of dependent variable and independent variable, and right-hand side of the equation contains constant term (Osborne, 2007). For better understanding, suppose dependent variable takes two values (Yes/No, and in this case Yes=1 and No =0), each independent variable simultaneously entered in the regression demonstrates the probability of the event that either occurred or not occurred. This explanation leads us to construct the equation in regard to odds (probabilities),

$$P_i = \frac{\exp(b_0 + b_1x_1 + b_2x_2 + \dots + b_{i-1}x_{i-1})}{1 + \exp(b_0 + b_1x_1 + b_2x_2 + \dots + b_{i-1}x_{i-1})} \quad (8)$$

Where P_i is the probability of the event that occurred compared to event that not occurred in the category, \exp is the exponential function and takes to value between 0 and 1, b_0 is the intercept of the model, and b_i is the coefficient of the independent variable. Furthermore, in line with the explanation above, we can conclude the equation of not occurring probabilities as,

$$1 - P_i = \frac{\exp(b_0 + b_1x_1 + b_2x_2 + \dots + b_{i-1}x_{i-1})}{1 + \exp(b_0 + b_1x_1 + b_2x_2 + \dots + b_{i-1}x_{i-1})} \quad (9)$$

In logistic regression, hypothesis testing is the key element, where:

H_0 : All the coefficients are zero in the model.

H_1 : There is an improvement in the model when coefficients are different from zero.

Rejecting the null hypothesis (H_0) indicates that predictor variables made a difference in explaining the dependent variable. Hosmer and Lemeshow (2000) stated that these independent variables are often called ‘covariates’.

In our case, this thesis aim is to identify intrinsic and demographic variables that may affect students' saving and consumption behaviors. Therefore, the best approach to investigate this is to apply Binary Logistic Regression.

In this study the dependent variables are defined as ‘saving behavior/tendency’ (SB) and ‘consumption behavior/tendency’ (CB). Therefore, for each one, odds are denoted as,

$$SB_i = \begin{cases} 0 & \text{not likely to save} \\ 1 & \text{likely to save} \end{cases} \quad CB_i = \begin{cases} 0 & \text{not likely to spend} \\ 1 & \text{likely to spend} \end{cases}$$

Therefore, the previous equation can be re-written as according to this thesis focus, which is,

$$\log\left(\frac{\text{likely to save}}{1-\text{likely to save}}\right) = b_0 + b_1x_1 + b_2x_2 + \dots \quad (10)$$

The equation above (4) demonstrates the odds for having saving tendencies of college students. Also, for the predicted probability of consumption behavior can be demonstrated as,

$$\log\left(\frac{\text{likely to spend}}{1-\text{likely to spend}}\right) = a_0 + a_1z_1 + a_2z_2 + \dots \quad (11)$$

Which can be interpreted as the probability of students to pursue spending behavior. All things considered, this thesis is interested in the probability of saving or spending behavior of college students by incorporating attitudes, expectations, and demographic variables.

4.RESULTS

4.1 Correlation Results for Saving Behavior

Before proceeding to the logistic regression, the formal pairwise correlation test was performed so as to show the size and statistical strength of the correlation coefficients among the variables we employ in the regression analysis. In the regression models, the saving behavior is taken as dependent or left hand-side variable whereas the variables we derive from directly survey and variables we constructed via factor analysis are all used as independent variables. Note also that in running regression analysis, the “parsimony” is taken as an important rule of thumb. Moreover, when running alternative regression models, we always make point of balance among these three factors: (1) theoretical models formulated in saving literature; (2) parsimony criteria and (3) take account of various statistical tests (to avoid committing statistical problems in proposed in econometric modeling). The pairwise-relation matrix is shown on table below.

Table 4.1 Correlations between saving behavior and explanatory variables

Variables	1	2	3	4	5	6
1.Saving Behavior	1.00					
2.Lavishness	-.238**	1.00				
3.Self-Control	.493**	-.352**	1.00			
4.Impact of Economic Hardship	.130*	-.062	.268**	1.00		
5.Pretentiousness	-.056	.228**	.148*	.255**	1.00	
6.Family Income	-.114	.157*	-.087	-.146*	-.042	1.00

Note: **, * refer correlation is significant at the 0.01, 0.05 level (2-tailed) respectively.

The pairwise correlation parameters between savings and other variables display mixed results. Highest correlation can be observed between saving behavior and self-control, suggesting students with self-control have a tendency to save. Lavishness, however, does not contribute positively to saving behavior, meaning lavish students are less likely to show saving behavior. Additionally, feeling the pressure of economic hardship may lead students to be more cautious about spending their money. Furthermore, the relationship between family income and saving behavior of college students is not statistically significant which means family income does not affect the saving behavior of students. However, when the

relationship between other variables and family income is observed, family income is positively associated with ‘lavishness’ and negatively associated with ‘impact of economic hardship’.

4.2 Logistic Regression Results for Saving Behavior

Several parsimonious models were carried out to predict the saving behavior of college students. To examine the relationship between saving behavior and attitudes and demographic factor (family income) and to find the best fit, analysis’ motives are, in fact, exploratory.

Table 4.2 Binary logistic regression analysis of saving behavior

	Model 1			Model 2			Model 3			Model 4		
DV: Saving Behavior	β	SE(β)	Wald	β	SE(β)	Wald	β	SE(β)	Wald	β	SE(β)	Wald
Lavishness	-.579	.171	11.51									
Self-Control				1.484	.225	43.64						
Impact of Economic Hardship							.350	.206	2.900			
Pretentiousness										-.150	.151	.979
Family Income	-.208	.163	1.63	-.214	.185	1.33	-.244	.160	2.329	-.289	.158	3.353
Constant	2.701	.563	22.99	-4.122	.958	18.51	.328	.791	.172	2.055	.704	8.52
Pseudo R ²	.059			.228			.024			.017		
H-L Test	$\chi^2(8) = 9.13$ (.331)			$\chi^2(8) = 7.77$ (.455)			$\chi^2(8) = 4.51$ (.809)			$\chi^2(8) = 5.29$ (.726)		
Model	$\chi^2(2) = 15.23$ (.000)			$\chi^2(2) = 64.88$ (.000)			$\chi^2(2) = 6.15$ (.046)			$\chi^2(2) = 4.22$ (.121)		

Note: The values shown in bold are statistically significant ($p < .05$).

Note 2: Values in the parentheses represent p values ($p < .05$).

First logistic regression model is significant, $\chi^2(2) = 15.233$, $p < .000$, pseudo R² = .059. Hosmer-Lemeshow test result shows ($\chi^2(8) = 9.136$, $p = .331$) that model is sufficient to predict the saving behavior of college students. The model indicates that lavishness has a statistically significant and negative effect on young people’s saving behaviors. Lavish students are less likely to save part of their income for uncertainties of the future. The variable ‘family income’ does not influence the saving behavior of college students. Second logistic regression model is also significant: $\chi^2(2) = 64.882$, $p < .000$, pseudo R² = .228. H-

L test result suggests that model is a good fit in explaining perceived saving behavior of college students ($\chi^2(8) = 7.779, p = .455$). ‘Self-control’ has an impact on saving behavior positively. However, the variable ‘family income’ is not statistically significant. The results overall demonstrate the likelihood of students who have self-control are more likely to engage in saving behavior.

Third logistic regression model was conducted on the ‘impact of economic hardship’ which represents the perceived feeling of economic difficulties and on socio-economic variable ‘family income’. Model has a %5 statistical significance on the margin where: $\chi^2(2) = 6.153, p = .046$, pseudo $R^2 = .024$. The variables ‘impact of economic hardship’ and ‘family income’ in the model did not contribute any statistical significance to students' saving behavior. However, H-L test result shows good fit ($\chi^2(8) = 4.507, p = .809$). Fourth logistic regression model’s results indicate that the model did not do a good job in explaining the saving behavior ($\chi^2(2) = 4.220, p = .121$). The results indicate that neither pretentiousness nor family income has an impact on saving behavior of college students.

4.3 Correlation Results for Consumption Behavior

In the second step, the previous procedures were also applied here to explain the consumer behavior of college students. First the correlations between attitudes, intrinsic variables and consumption behavior are investigated.

According to the correlation results, consumption behavior is positively associated with the attitudes ‘lavishness’ and ‘pretentiousness’, suggesting that students with lavish or pretentious attitudes are more likely to interact with spending rather than saving. Self-control, however, does not influence the consumption behavior of students. Additionally, the correlation between impact of economic hardship and consumption behavior is not statistically significant, meaning economic difficulties felt by students do not affect their consumption behavior. Another intrinsic variable ‘expectation of the Turkish Economy (future)’ exhibits a negative relationship with consumption behavior. The result suggests that the more students get optimistic about the Turkish Economy in the future, the less they have a tendency to spending. However, there is no significant relationship between ‘expectations of the Turkish Economy (now)’ and consumption behavior.

Table 4.3. Correlations between consumption behavior and intrinsic, socio-economic factors

Variables	1	2	3	4	5	6	7	8
1. Consumption Behavior	1.00							
2. Lavishness	.203**	1.00						
3. Self-Control	-.103	-.352**	1.00					
4. Impact of Economic Hardship	.047	-.062	.268**	1.00				
5. Pretentiousness	.219**	.228**	.148*	.255**	1.00			
6. Family Income	.102	.157*	-.087	-.146*	-.042	1.00		
7. Expectations of the Turkish Economy (now)	-.064	.015	.046	-.127*	-.178**	-.038	1.00	
8. Expectations of the Turkish Economy (future)	-.148*	-.045	.094	-.100	-.173**	.009	.693**	1.00

Note: **, * refer correlation is significant at the 0.01, 0.05 level (2-tailed) respectively.

4.4 Logistic Regression Results for Consumption Behavior

The same regression procedure was followed here to investigate consumption behavior of students. The variables were entered in the regression simultaneously. The variables contain attitudes and traits such as 'lavishness', 'self-control', 'pretentiousness', and perceived feelings regarding economic matters such as 'impact of economic hardship', 'expectations of the Turkish Economy (now and future)'. Lastly, demographic variable regarding parent's financial status is also added.

First model is statistically significant: $\chi^2(4) = 18.143, p = .001, \text{pseudo } R^2 = .07$. The regression result indicates that lavish students are more likely to pursue spending. Furthermore, optimistic expectations regarding Turkish economy in the future decrease the probability of students to engage in spending. Overall model exhibits a good fit according to Hosmer-Lemeshow test ($\chi^2(8) = 4.451, p = .814$).

Model 2 is also significant ($\chi^2(4) = 11.012, p = .026, \text{pseudo } R^2 = .043$). However, trait 'self-control' did not make any difference in explaining consumption behavior statistically. Only variable 'expectations of Turkish Economy (future)' shows significance as an intrinsic variable. Other variables that entered in the regression did not predict college students' tendency to spending. Model 3 has a limited explanation of consumption behavior: $\chi^2(4)$

=9.849, $p = .043$, pseudo $R^2=.038$. ‘Impact of economic hardship’, ‘family income’, ‘expectations of Turkish Economy (now)’ do not have an impact on students’ spending behavior. Only ‘expectations of the Turkish Economy (future)’ variable displays a negative significant effect as in model 2. Lastly, model 4 ($\chi^2(4) = 20.634$, $p = .000$, pseudo $R^2=.079$) shows a reliable statistical result. The attitude variable ‘pretentiousness’ is statistically significant which means pretentiousness increases students’ probability to engage in spending behavior. All other variables exhibit same significance with the previous models. Hosmer-Lemeshow test reveals that model is a good fit: $\chi^2(8) = 6.926$, $p = .545$.

Table 4.4. Binary logistic regression analysis of consumption behavior

	Model 1			Model 2			Model 3			Model 4		
	β	SE(β)	Wald	β	SE(β)	Wald	β	SE(β)	Wald	β	SE(β)	Wald
DV: Consumption Behavior												
Lavishness	.528	.179	8.719									
Self-Control				-.236	.174	1.847						
Impact of Economic Hardship							.183	.226	.654			
Pretentiousness										.589	.182	10.527
Family Income	.208	.172	1.469	.267	.168	2.514	.308	.170	3.285	.322	.170	3.560
Expectations of Turkish Economy (Now)	.216	.260	.694	.256	.252	1.030	.277	.250	1.229	.380	.265	2.045
Expectations of Turkish Economy (Future)	-.482	.233	4.283	-.506	.228	4.925	-.514	.224	5.248	-.523	.239	4.800
Constant	-2.338	.686	11.606	-.347	.870	.160	-1.926	1.000	3.707	-3.771	.973	15.028
Pseudo R²	.070			.043			.038			.079		
H-L Test	$\chi^2(8) = 4.451$ (.814)			$\chi^2(8) = 6.118$ (.634)			$\chi^2(8) = 6.632$ (.577)			$\chi^2(8) = 6.926$ (.545)		
Model	$\chi^2(4) = 18.143$ (.001)			$\chi^2(4) = 11.012$, (.026)			$\chi^2(4) = 9.849$ (.043)			$\chi^2(4) = 20.634$ (.000)		

Note: The values shown in bold are statistically significant ($p < .05$).

Note 2: Values in the parentheses represent p values ($p < .05$).

4.5 Evaluation of Findings

This section aims to give some evaluations and add insights based on the statistical findings. Saving behavior of college students is shaped according to their attitudes or traits. Lavish students are less likely to engage in saving behavior whereas students who have self-control mechanism are more likely to display saving behavior. According to the findings, lavishness feeds the act of purchase without thinking the consequences. Also, in line with this, lavishness as an attitude may hinder taking the long-term decisions. Therefore, it is reasonable to conclude that lavish students choose spending rather than saving. On the other hand, self-control feeds saving behavior of students. This due to the fact that, thinking long-term and achieving direct and indirect financial goals increase the likelihood of self-controlled students to save. These students are more likely to see saving as a ladder for their achievements. In addition, besides planning long-terms, resisting the urge of instant wants also changes according to students' attitudes and traits. It is expected that, lavish students have a strong drive to possess something financially whereas, self-controlled students are expected to resist the urge of owning something financially. The results indicate that lavishness and self-control are strong predictors in explaining saving behavior.

Furthermore, pretentiousness itself does not contribute students' saving behavior. Impressing others is not prominent factor for saving decisions of students. However, when students' spending behavior is observed, pretentiousness yields a positive relationship between spending behavior. It is in line with the materialistic personality since possession is considered as a strong motivation. Pretentious students are more likely to pursue spending behavior. As stated in the section 2.4.2, Turkish youth display spending behavior under the influence of pretentious attitudes. For instance, it is reported that changing mobile phones and cars is high among Turkish youth (Ministry of Trade, 2018), as they perceive having a new model as a way of showing their social status (Güner-Koçak, 2017). Therefore, this study's findings support the previous findings and evaluations. In addition, 'impact of economic hardship' does not have direct association with economic behaviors of students. This finding can be interpreted as uncertainties created by the economic hardship and turmoil are likely to be not prominent factors regarding students' saving decisions. However, results reveal that expectations play an important role in economic behavior of college students. Meaning, students with optimistic expectations about Turkish Economy (future) are less likely to lean on spending. This result indicates that optimistic students have probability to

think or plan the long-term. Expectations in this regard are promising intriguing findings along with the attitudes. Furthermore, socio-economic factor such as family income does not yield a significant improvement on predicting neither saving behavior nor consumption behavior. It is an expected result, since students receive pocket money from their parents therefore, family income has no direct influence on students' saving and spending decisions or behaviors.

Overall, findings shed a light on college students' economic behavior. For AYBU students, the tendency to spending or saving is determined by intrinsic variables rather than socio-economic or external factors. The decision-making process in regard to saving behavior of students is based on attitudes, traits and feelings such as expectations.

However, when evaluating the findings, it should be taken into consideration that we run a battery of alternative regression models, however, due to the trackability of this study, we excluded the regression models that have low statistical results. For instance, the models that include variables such as 'settlement' that tried to determine whether college students are staying with their parents, dorm or other settlements are excluded because the statistical significance of those models are not adequate.

In sum, this thesis investigated college students' saving and spending behavior and aimed to investigate one of the sub-questions regarding college students. Different from the other studies, this study experimented with alternative approaches. Firstly, 'pretentiousness' was taken as an attitude, studies that investigated this concept consider 'pretentiousness' as a type of consumption, namely 'conspicuous consumption'. Secondly, the correlations between the impact of economic hardship, lavishness, self-control, pretentiousness and expectations are examined. Therefore, this is one of the findings that needs to be pointed out for further investigation. Thirdly, expectations were handled separately as current and future, and how they affect students' saving and spending behavior, attitudes, traits, and expectations is also investigated.

5.DISCUSSION

This chapter aims to discuss the findings according to the literature and add some insight into the subject as a whole and the research. Further sections aim to give suggestions for future research.

5.1 Do Personality Traits Explain Saving Behavior?

The focus of this section is to answer whether personality traits have an impact on saving behavior by comparing this research's results and comparing them with the literature. In this regard, three features, lavishness, pretentiousness, and self-control will be investigated.

5.1.1 Lavishness and Pretentiousness in terms of Materialistic Personality

Materialism is often associated with poor money management, excessive spending because of the irresistible want of possessions. Materialist individuals are assumed to pursue happiness that comes from spending. Richins and Rudmin (1994) discussed that materialists put possessions and acquisitions to the center of their life because it gives them satisfaction or success.

Materialism usually finds its place in the literature with money management skills, debt management when investigating the college students' economic behavior. In line with other studies, this research examined the materialist personality traits by focusing on lavishness and pretentiousness. These two attitudes came to the fore in determining the materialist personality. However, because the materialist scale focuses on a specific feature or features, the results may be one-sided, which is worth mentioning.

Past studies proved the negative relationship between materialism and money management (Watson, 2003; Garðarsdóttir & Dittmar, 2012; Pinto et al., 2000; Brown et al., 2015). The common opinion is that materialist individuals have poorer money management and saving skills. Overall, this research is consistent with the previous findings, since materialist individuals, naturally, prone to excessive savings and, therefore lavishness is directly affiliated with that purpose. Donnelly et al. (2012) further investigate the reason behind why materialist individuals are prone to excessive spending. Paper focuses on the

happiness that comes from purchasing. It is found that materialist individuals believe that purchasing causes happiness and therefore they are less likely to manage their money and show lack of saving skills.

Pretentiousness is another attitude that is related to a materialistic personality. The desire to impress others with their possessions is a core element when demonstrating the instinct of materialistic behavior. Studies that discussed this motive within the materialistic personality trait, pointed out several topics; Richins, Dawson (1992) found that envy is an important feature in explaining materialistic behavior, often it leads to dissatisfaction and lower self-esteem. Sirgy (1998) stressed the importance of materialist individuals have an unrealistic vision about their standard of living. Sirgy (1998) also pointed out that these unrealistic opinions are defined by income, friends, wealth, etc. Therefore, it can be concluded that these factors might increase individuals' competitive drive of impressing others. The influence of the environment is crucial to understand the materialistic personality. Mentioning the underlying factors is important since psychological contributions can give more insight into the personality and how they respond to certain acts.

Along with these findings, this study proved that pretentious attitudes increase the probability of engaging spending behavior. Although there is no specific study that investigate 'pretentiousness' within the concept of materialistic personality in author's knowledge, similar studies that aim to explain materialist personality often consider 'envy' which is mentioned above. It can be argued about the change in meaning of the terms. Belk (1985) describes envy as being interested in other's possessions and showing resentful acts, whereas according to this study, 'pretentiousness' only attributes to longing for financial possessions that individuals do not have at the moment and the urge of impressing others, hence there is no expression that indicates resentful acts about someone's possessions which is different from 'envy'.

This study also aims to explain the relationship between materialistic personality and saving behavior by incorporating the demographic variables, specifically family income. This thesis found no significant relationship between family income and saving or spending behavior. It can be concluded that financial status of parents does not influence students' economic behavior. However, there are several studies that somewhat contradicts with this thesis findings. For instance, materialistic attitudes increase as individuals get older, because they are heavily exposed to the materialistic consumption culture (Kasser et al., 2004; Kasser

& College, 2005). In addition, males are more materialistic than females (Kasser and Ryan, 1993).

Also, there are number of studies that investigate excessive credit card usage and excessive spending and possible linkage with demographic variables, where age is found to be a significant predictor and the role of gender remains unclear (Norvilitis et al., 2006), family income is irrelevant and social support is found to be an important factor (Wang & Xiao, 2009), and the effect of parental involvement is found to be significant (Palmer et al., 2001).

Lastly, it is important to point out the relationship between ‘pretentiousness’ and other attitudes. Correlation results indicate that there is a positive relation with ‘self-control’ and ‘pretentiousness’ which means these two features are not necessarily opposite of each other. It is an interesting finding, since self-control is not associated with pretentious behavior. However, similar to this thesis finding, Tatzel (2002) describes these individuals who have these attributions as ‘value seeker’ (p.116) which means they enjoy fine things and have a desire to buy, however, they tend to save and buy the desired products on sale, in other words, they ‘save to spend’ (Tatzel, 2002, p.117). This outcome should be further investigated since pretentiousness does not fit fully not only with materialist personality but also with self-control. It is important to find what causes the relationship between self-control and pretentiousness.

5.1.2 Self-Control in Context of Frugality

Self-control is a trait that should be studied in order to understand saving behavior of individuals. Unlike materialistic personality, a person with self-control often plans their future, is not tempted with instant desires. Past research often explains this term through the ‘delayed gratification’. It is described as giving up the instant wants of rewarding today, chooses future rewards that provide the greater utility. Recent studies proved the relationship with self-control and weaknesses, traits, level of self-regulation (Baumeister, 2002), saving attitudes and saving behavior (Brandstätter, 2005), debt management (Webley & Nyhus, 2001). Additionally, the relationship between money management and self-control is explained through ‘being conscientious’ (Donnelly et al., 2012).

General findings suggest that self-control is an important feature for saving tendencies/behavior. In line with these findings, this study confirms that individuals who have self-control are more likely to engage in saving behavior. Long term planning and thinking are prominent features for those who have self-control, and in regard to economics perspective, it can be concluded that 'self-control' is a cognitive mechanism to prevent instant urge for spending. In addition, O'Donoghue and Rabin (2000) stressed out the importance of the awareness of self-control problems which can help individuals to withhold certain risky economic acts.

Traditional economic approach assumes that individuals often pursue short-term goals and are tempted by the urge of instant consumption (Fisher, 1930). Shefrin and Thaler (1988) discussed that self-control should be considered as a psychological factor because individuals have to decide between 'instant gratification' and long-term result. It can be concluded that, in economics, it is acknowledged that personality traits and attitudes, particularly self-control, are without a doubt influence individuals' economic behavior.

These findings further proved that; self-control is a way to investigate saving behavior. Not only in recent studies, but also in far past studies, the importance of self-control, or often described as self-efficiency, or before these definitions, delayed gratification has recognized in economics. Because it is considered as one of the key elements, and often considered as a 'good trait' because it feeds the risk-averse behavior and prevents individuals to get involve with various instant and risky acts.

5.2 Sensitivity to Economic Hardship

The term 'economic hardship' is used to describe the stress or other emotional reactions caused by financial circumstances. Davis and Mantler (2004) discussed that the psychological cost of economic hardship cannot be ignored. Economic hardship causes emotional instability, depression, anxiety, and other related post-traumatic behavior.

There are several studies that cover the psychological consequences of the impact of economic hardship where Lorenz et al. (1994) pointed out that economic hardship causes depression, Lynch et al. (1997) found that economic hardship has a negative impact on psychology. Fiksenbaum et al. (2017) found a positive relationship between economic hardship and suicide ideation. Also, the effect on parents and children is investigated. Elder, Nguyen and Caspi (1985), found that the impact of economic hardship on fathers hinders

the well-being and as a result affects parental behavior negatively. Conger et al. (1992), showed that economic hardship causes parents' relationship to be damaged and to be dysfunctional as a parent, Kloep and Tarifa (1993), found that economic hardship causes parents to conflict with each other, therefore especially daughters are affected indirectly and show depression and antisocial behavior. Newland et al. (2013) showed that the economic hardship has a negative effect on mothers, as an outcome mothers show less supportive parenting to their children. Overall, the consensus is economic hardship creates anxiety, hostility, depression, lack of parenting skills, conflict with social actors. For these reasons, it is crucial to acknowledge the psychological effect of economic hardship.

This research aims to investigate whether the impact of economic hardship explains the saving behavior of students. Findings, however, pointed out that the impact of economic hardship is not prominent as a response variable. There is no significant relationship between saving behavior and impact of economic hardship. One possible reason for that is the developed scale may be insufficient to explain stress, anxiety and other emotional impacts that caused by the economic hardship. Therefore, adding in-depth and detailed emotional scale regarding economic hardship can give more insight into the effects on saving behavior. Therefore, it is still valuable factor that needs to be looked into thoroughly.

5.3 Expectations

Lachmann (1943) discussed that expectations are a response to past experiences which means individuals shape their attitudes and acts according to past events and reflect these past experiences to the unknown ahead. Therefore, one can conclude that expectations are rather subjective, depend on individuals' experiences. Lachmann (1943) also stated that there are some difficulties in applying expectations as a 'data' in economic research, because expectations' borders as a measure are ambiguous. However, up to this day, psychological aspects have become crucial factor to investigate saving and spending tendencies/behavior, without a doubt studying expectations can shed light into individuals' economic behavior.

Studies that investigated expectations in the context of economics argued that optimistic and pessimistic expectations can influence individuals' saving behavior. According to Katona (1975), pessimistic expectations of individuals about economic climate (such as inflation) cause individuals to increase their spending especially for durable goods. Brown et al. (2005) found that there is a significant relationship between debt burden and

optimistic expectations. Also, it is further stated that children who have pessimistic expectations have a lower savings whereas, students with optimistic expectations increase their savings (Brown and Taylor, 2012). Van Raaij and Gianotten (1990) discussed that optimistic expectations can cause individuals to save less and spend more. In addition, it is worth mentioning that Engelberg (2007) pointed out that students' financial expectations can affect the self-efficiency and self-control. One can discuss about the variety of the findings based on expectations. It is reasonable to think that optimistic expectations can cause individuals to be overconfident about financially and therefore, more likely to borrow, and spend.

This study aims to determine the impact of expectations on saving behavior of college students by asking questions about the future and current economic conditions of the country. Results pointed out that students with optimistic expectations are less likely to spend, whereas pessimistic students are more likely to engage in spending behavior. This result is in line with findings of Brown and Taylor (2012). The findings suggest that being optimistic about future makes students to be hopeful and therefore, leads students to be more future-oriented and affects their economic behavior. Expectations regarding country's economic climate seem to influence students' saving behavior. Therefore, it is an important result which can support the literature by taking into account psychological aspects.

5.4 Limitations

When using the findings of the study, care should be taken due to some limitations of the study.

First of all, the sample size is very small and does have some limitations in reflecting all the young people in Turkish society. This study only covers a small group of students who enroll in the Faculty of Political Science. Therefore, research may not represent Turkish college students entirely. Also, it should be addressed that although the sample size is carefully selected, the age group unevenly distributed. The majority of the sample consists of 18-20 and 21-23 groups.

Second, results are based on self-reported measures. Data collected from the respondents can create biasedness problem. So, it should be noted that respondents may not be entirely honest with their choices or not be able to remember certain events that related

to the target measure. Also, respondents may have hesitations to give true information about themselves. Another possible problem is that respondents may not be clearly aware of themselves, know their traits, acts, or attitudes.

Third one is linked to the measurements. Some measurements did not cover the psychological, or other factors exclusively. The impact of economic hardship scale seems to be insufficient in explaining the students' personality traits and behavior. It is worth mentioning that adding psychological factors besides the change in saving, financial behavior can give more insight into the students' behavior and personality traits and how they are affected by it. Also, it is reasonable to add measurements that include both parents' and students' sensitivity to economic hardship separately. Thus, more detailed results can be obtained for both parents and children. The second measurement is the effect of parents on students, it is necessary to expand the items that surround family and children both psychologically also. Additionally, some of the items that were used in the measurements were developed, and some of them were taken from other studies. Hypothetical testing regarding the created scales may be insufficient due to the time limits.

In addition, one of the dependent variables 'consumption behavior/tendencies' was studied through self-perception about being materialistic. There is a growing body of evidence that supports this assumption that materialistic personality leads individuals to pursue excessive spending and borrowing (Watson, 2003; Ponchio & Aranha, 2008, Garðarsdóttir & Dittmar, 2012). Therefore, it should be noted that consumption behavior is determined by the based assumptions that provided within the existing literature.

Lastly, some of the items in the questionnaire were taken from different sources. Questionnaires were given to the students in Turkish language. Possible limitation is that the chosen quoted items may not represent the Turkish students, culturally, students may not find the items relatable or meaning might be lost when translating to another language.

5.5 Future Research

This thesis aimed to investigate the saving behavior of students regarding personality traits and demographic information that contains parents and themselves. Although the findings are in line with the theoretical framework, there are several unanticipated results that come to the surface, therefore raised questions that need to be answered.

First of all, it has been observed that the saving behaviors of students are affected by intrinsic rather than extrinsic factors. Therefore, this is an unexpected result when considered in terms of possible effects of socio-economic variables. Further research should aim to address this variable by taking into account other emotional states such as anxiety, stress, happiness, etc.

Second, lavishness and pretentiousness are investigated to understand the materialistic personality, however, it is found that lavishness and pretentiousness two separate attitude. Dealing with the subscales or scales can give more insights about personality traits, however, it should be kept that in mind that scales may have a closer relationship. Therefore, future research should construct a model that keeps the scales and/or subscales in the desired range.

Additionally, this study focuses on a specific group. The conceptual framework proposed by this study can be tested in different cities, universities, other chosen specific groups other than college students, or even different regions or cultures. By doing so, it can be understood that whether findings apply to different target groups. Because this study investigated only a small proportion of Turkish college students with relatively wealthier families in Ankara. Students who reside in closer cities or different cities with relatively poor or rich than those in Ankara can give more information about Turkish college students' saving behavior or personality traits.

Furthermore, this study's framework mostly focuses on students' saving behavior and personality trait. Although there are variables in relation to parents, the study did not capture the parents' saving behavior or effect on children exclusively as a measurement item. Also, impact of economic hardship scale should be expanded in order to capture a clearer effect on college students' personality traits or attitudes. Thus, different, or clearer results can be achieved.

5.6 Policy Recommendations

Based on the results found in this study, one can draw some conclusions. According to this thesis findings, self-control increases the probability to engage in saving behavior. One possible recommendation should be directed at schools. Studies show that schools play an important role in affecting students' saving behavior (Grohmann & Menkhoff, 2015; Shim, et al., 2010). Therefore, children should be informed about the importance of having

self-control in primary, secondary, and high schools by, for instance, creating mini games that have awarding system. By doing that, self-control can be imposed to children in practice. Also, educating parents about the importance of self-control can be beneficial for children since, they spend most of their time with their parents after the school hours. Influence of parental involvement on their children can shape their attitudes and saving behavior (Knowles and Postlewaite, 2005).

Secondly, it is found that lavish students are more likely to spend rather than save. It is important to identify this attitude by looking at its roots. For instance, what makes students to be prone to be lavish? Identifying underlying causes is important since it is reasonable to think that lavishness is not related to cognitive mechanism such as self-control, instead it is the attitude that is reflected to others. Therefore, shopping practices under the supervision of teachers and parents can make differences in children's perspective of savings and spending. Also, practical implications can increase students' learning about the money management.

Furthermore, pretentious attitudes seem to influence youth's spending behavior. One can discuss that age is playing a role in being pretentious. For instance, young ones are more likely to change their smartphones, cars to have a new model (Ministry of Trade, 2018). It can be clearly seen that Turkish youth focus on owning material things as a way of showing themselves. Therefore, both parents and schools have a role in this regard. Children should be taught in their early childhood to be confident, and it should be taught that the satisfaction and happiness cannot be achieved only with purchasing physical things and being materialistic. Policymakers should consider creating an environment in order to direct students' energy to other fields so that students can learn that owning material things is not the only way for showing themselves. For instance, programs can be prepared to enable students to get to know themselves and to highlight their abilities during certain class hours. In addition, these programs can be implemented during home hours in cooperation with parents.

In addition, financial illiteracy among young people is considerably high (Altıntaş, 2011; Coşkun et al., 2019). Adding compulsory classes about economic concepts would raise awareness in children and adolescents about saving behavior, and money management. Recently, the Minister of Education (Aytekin, 2019) states that they are aimed to add economics as a course in high school's curriculum to teach students the basic economic concepts and to develop financial literacy. Along with the theoretical implications, schools

should interact with their students by creating games, drama sessions, puzzles, activities that related to economic concepts, involving both parents and children. Also, including parents helps creating bond between parent and children in regard to financial education.



6. CONCLUSION

Recently, studies about the saving behavior of young people have become important in economic literature. This thesis investigated the saving and consumption behaviors of college students in the context of personality traits, attitudes, expectations, and socio-economic variables. It is found that students who have self-control are more likely to save, therefore, this finding is in line with the general assumption that proved previously. In addition, it is found that lavish and pretentious students are more likely to spend their money. When lavishness and pretentiousness are examined in the context of materialistic personality, it is also in line with the assumption that materialistic individuals are prone to spending rather than saving.

Besides attitudes and personality traits, expectations were found to be an important determinant for saving behavior. Students who have pessimistic expectations about country's economic conditions in the future are less likely to save, whereas optimistic students in this regard are more likely save.

It is possible to draw the following conclusion from this study; intrinsic factors are playing a key role in saving behavior and decisions. Therefore, this study justifies the importance of character development of young adults. Empirical results presented in this study contribute to the existing literature by acknowledging the importance of economic psychology.

This study highlighted the importance of personality traits and attitudes in explaining saving behavior. This thesis aims to fill the gap in economic literature in Turkey regarding Behavioral Economics. The study offers an exploratory approach to identify saving behavior by investigating intrinsic factors. Further research should expand the scales that are constructed in this thesis and aim to investigate the relationship between personality traits and psychological, emotional, and environmental factors that may influence the economic behavior of college students.

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8.APPENDICES

APPENDIX-1: Questionnaire (English)



ANKARA YILDIRIM BEYAZIT ÜNİVERSİTESİ

This questionnaire is made for the master thesis, therefore, the information obtained from you will be used purely for scientific purposes. You are free to participate and leave at any time. Thank you in advance for your valuable contributions.

1.Please tick and fill the answers that best suit you.

Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female			
Age	<input type="checkbox"/> 18-20	<input type="checkbox"/> 21-23	<input type="checkbox"/> 24 or above		
Where do you live?	<input type="checkbox"/> Dorm	<input type="checkbox"/> With Parents	<input type="checkbox"/> Other		
Which faculty are you in?					
Monthly income of parents	<input type="checkbox"/> 2000 and below	<input type="checkbox"/> 2000-4000	<input type="checkbox"/> 4000-6000	<input type="checkbox"/> 6000 and above	
Dou you have financial support from your parents?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Do you receive scholarship or credit?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			
How do you see economy in Turkey?	<input type="checkbox"/> Very Bad	<input type="checkbox"/> Bad	<input type="checkbox"/> Neutral	<input type="checkbox"/> Good	<input type="checkbox"/> Very Good
How do you see Turkey's economy in the next few years?	<input type="checkbox"/> Very Bad	<input type="checkbox"/> Bad	<input type="checkbox"/> Neutral	<input type="checkbox"/> Good	<input type="checkbox"/> Very Good
Does your family postpone purchases of durable goods (refrigerator, car etc.) in the last one or two years?	<input type="checkbox"/> Yes	<input type="checkbox"/> No			

2. For each of the question down below, circle the response that best characterized how you feel about the statement, where: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither, 4 = Agree, and 5 = Strongly Agree

Strongly Disagree
Disagree
Neither
Agree
Strongly Agree

1. I believe in being careful in how I spend my money

1 2 3 4 5

2. I control myself to make sure that I get the most from my money	1	2	3	4	5
3. I am willing to wait on a purchase I want so that I can save money	1	2	3	4	5
4. There are things I resist buying today so I can save for tomorrow	1	2	3	4	5
5. If you take good care of your possessions, you will definitely save money in the long run	1	2	3	4	5
6. There are many things that are normally thrown away that are still quite useful	1	2	3	4	5
7. Making better use of my resources makes me feel good	1	2	3	4	5
8. If you can re-use an item you already have, there is no sense in buying something new	1	2	3	4	5
9. I spend my money within the budget I decided	1	2	3	4	5
10. I look at prices before purchasing a product	1	2	3	4	5
11. I purchase cheaper products that have similar features instead of expensive one	1	2	3	4	5
12. In order to achieve my goals, saving is important for me	1	2	3	4	5
13. I am less stressful when I have savings	1	2	3	4	5
14. I buy only thing I need	1	2	3	4	5
15. I like to own thing to impress people	1	2	3	4	5
16. My life would be better if I own things, I do not have right now	1	2	3	4	5
17. It is important to make a lot of money when I graduate	1	2	3	4	5
18. It is important for me to keep up with trends	1	2	3	4	5
19. I do not mind shopping excessively from my savings	1	2	3	4	5
20. I purchase new clothes even if it is similar to the one I have	1	2	3	4	5
21. It is important for me to shop from well-known brands, even if it is expensive	1	2	3	4	5
22. It is important for me to purchase the newest technologic devices, even though mine just works fine	1	2	3	4	5
23. I live my life to the fullest, there is no point in saving	1	2	3	4	5
24. My life goal is to possess material things	1	2	3	4	5
25. I purchase products even though I cannot afford it	1	2	3	4	5
26. I do not mind using credit card for luxury needs	1	2	3	4	5
27. Shopping makes me happy	1	2	3	4	5
28. If I love the product so much, I do not mind the price	1	2	3	4	5
29. Some of the products that are purchased are never worn or used	1	2	3	4	5
30. My parents save money	1	2	3	4	5
31. My parents warn me about saving my allowance	1	2	3	4	5
32. My parents emphasize the importance of saving	1	2	3	4	5
33. My parents are thrifty	1	2	3	4	5
34. My parents have an effect on my saving habits	1	2	3	4	5

35. Because of the uncertainty in economy, I am cautious about spending my money	1	2	3	4	5
36. I save more due to the economic hardship	1	2	3	4	5
37. Economic uncertainties cannot prevent me from spending my money	1	2	3	4	5
38. My parents postpone their expenses because of the economic uncertainties.	1	2	3	4	5

3. Please answer the questions down below.

Do you think your friends are prone to save? Yes No

Do you think your family is prone to save? Yes No

Do you think Turkish people are pretentious? Yes No

Do you consider yourself as frugal? Yes No

Do you consider yourself as materialist? Yes No

APPENDIX-2: Questionnaire (Turkish)



T.C. ANKARA YILDIRIM BEYAZIT ÜNİVERSİTESİ

Bu anket yüksek lisans tezi için yapılmıştır, bu nedenle sizden elde edilen bilgiler yalnızca bilimsel amaçlar için kullanılacaktır. Ankete katılmakta ve istediğiniz zaman ayrılmakta tamamen özgürsünüz. Değerli katkılarınız için şimdiden teşekkür ederiz.

1. Lütfen, size en uygun cevapları işaretleyiniz ve doldurunuz.

Cinsiyetiniz	<input type="checkbox"/> Erkek	<input type="checkbox"/> Kadın			
Yaşınız	<input type="checkbox"/> 18-20	<input type="checkbox"/> 21-23	<input type="checkbox"/> 24 veya üstü		
Nerede yaşıyorsunuz?	<input type="checkbox"/> Yurt	<input type="checkbox"/> Aile ile	<input type="checkbox"/> Diğer		
Hangi fakültede okuyorsunuz?					
Ebeveynlerin aylık geliri	<input type="checkbox"/> 2000 ve altı	<input type="checkbox"/> 2000-4000	<input type="checkbox"/> 4000-6000	<input type="checkbox"/> 6000 ve üstü	
Ailenizden finansal destek alıyor musunuz?	<input type="checkbox"/> Evet	<input type="checkbox"/> Hayır			
Burs ya da kredi alıyor musunuz?	<input type="checkbox"/> Evet	<input type="checkbox"/> Hayır			
Türkiye ekonomisini nasıl görüyorsunuz?	<input type="checkbox"/> Çok Kötü	<input type="checkbox"/> Kötü	<input type="checkbox"/> Hiçbiri	<input type="checkbox"/> İyi	<input type="checkbox"/> Çok İyi
Önümüzdeki birkaç yıl içinde Türkiye ekonomisini nasıl görüyorsunuz?	<input type="checkbox"/> Çok Kötü	<input type="checkbox"/> Kötü	<input type="checkbox"/> Hiçbiri	<input type="checkbox"/> İyi	<input type="checkbox"/> Çok İyi
Aileniz son bir veya iki yıl içinde dayanıklı tüketim malları (buzdolabı, araba vb.) alımlarını erteliyor mu?	<input type="checkbox"/> Evet	<input type="checkbox"/> Hayır			

2. Aşağıdaki soruların her biri için, ifade ile ilgili ne düşündüğünüzü en iyi şekilde belirten yanıtı daire içine alın; 1 = Kesinlikle Katılmıyorum, 2 = Katılmıyorum, 3 = Hiçbiri, 4 = Katılıyorum, 5 = Kesinlikle Katılıyorum

	Kesinlikle Katılmıyorum	Katılmıyorum	Hiçbiri	Katılıyorum	Kesinlikle Katılıyorum
1. Paramı nasıl harcadığım konusunda dikkatli olduğuma inanıyorum	1	2	3	4	5
2. Paramı en iyi şekilde muhafaza ettiğimden emin olmak için kendimi kontrol ediyorum	1	2	3	4	5

3. Daha çok tasarruf edebilmek için indirim beklemeye razıyım	1	2	3	4	5
4. Bugün almaya karşı koyduğum şeyler var, böylece yarın için biriktirebilirim	1	2	3	4	5
5. Sahip olduğunuz mallara iyi bakarsanız, uzun vadede kesinlikle tasarruf edersiniz.	1	2	3	4	5
6. Normalde atılmış ve hala oldukça faydalı olan birçok şey var.	1	2	3	4	5
7. Kaynaklarımı daha iyi kullanmak beni iyi hissettiriyor	1	2	3	4	5
8. Zaten sahip olduğunuz bir öğeyi yeniden kullanabiliyorsanız, yeni bir şey almanın bir anlamı yoktur.	1	2	3	4	5
9. Paramı karar verdiğim bütçe dahilinde harcıyorum	1	2	3	4	5
10. Bir ürün satın almadan önce fiyatına bakarım	1	2	3	4	5
11. Benzer özelliklere sahip bir ürünün pahalısı yerine ucuzunu almayı tercih ederim	1	2	3	4	5
12. Hedeflerime ulaşmak için tasarruf yapmak benim için önemlidir	1	2	3	4	5
13. Tasarruf ettiğimde daha az stresliyim	1	2	3	4	5
14. Sadece ihtiyacım olan ürünleri satın alırım	1	2	3	4	5
15. İnsanları etkileyecek bir şeye sahip olmayı severim	1	2	3	4	5
16. Şu an sahip olmadığım şeylere sahip olsam hayatım daha iyi olur.	1	2	3	4	5
17. Mezun olduğumda çok para kazanmak benim için önemlidir	1	2	3	4	5
18. Trendlere ayak uydurmak benim için önemlidir	1	2	3	4	5
19. Birikmişlerimden aşırı harcama yapmayı sorun etmem	1	2	3	4	5
20. Sahip olduklarıma benzese bile yeni kıyafetler alırım	1	2	3	4	5
21. Pahalı olsa bile tanınmış markalardan alışveriş yapmak benim için önemlidir	1	2	3	4	5
22. Sahip olduğum teknolojik cihazlar iyi çalışsa bile en yeni cihazlara sahip olmak benim için önemlidir	1	2	3	4	5
23. Hayatımı dolu dolu yaşıyorum, tasarruf etmenin bir anlamı yok	1	2	3	4	5
24. Yaşam amacım maddi şeylere sahip olmaktır	1	2	3	4	5
25. Çok istediğim bir ürünü karşılayamasam bile satın alırım	1	2	3	4	5
26. Lüks ihtiyaçlarım için kredi kartı kullanmaktan çekinmem	1	2	3	4	5
27. Alışveriş beni mutlu eder	1	2	3	4	5
28. Ürünü çok fazla seviyorsam, fiyatı umursamıyorum	1	2	3	4	5
29. Satın aldığım ürünlerin bazılarını hiç giymedim veya kullanmadım	1	2	3	4	5
30. Ailem para biriktirir	1	2	3	4	5
31. Ailem harçlığımdan tasarruf etmem için beni uyarır	1	2	3	4	5
32. Ebeveynlerim tasarrufun önemini vurgular	1	2	3	4	5
33. Ebeveynlerim tasarrufludur	1	2	3	4	5
34. Ailemin tasarruf alışkanlıklarım üzerinde etkisi vardır	1	2	3	4	5
35. Ekonomideki belirsizliklerden dolayı paramı harcamak konusunda temkinliyim	1	2	3	4	5
36. Ekonomik sıkıntı nedeniyle daha fazla tasarruf ediyorum	1	2	3	4	5

37. Ekonomik belirsizlikler paramı harcamama engel olamaz	1	2	3	4	5
38. Ebeveynlerim ekonomik belirsizlikler nedeniyle masraflarını ertelemektedir.	1	2	3	4	5

3. Lütfen aşağıdaki soruları cevaplayınız.

Arkadaşlarınızın tasarrufa yatkın olduğunu düşünüyor musunuz? Evet Hayır

Ailenizin tasarruf etmeye eğilimli olduğunu düşünüyor musunuz? Evet Hayır

Türk halkının gösteriş meraklısı olduğunu düşünüyor musunuz? Evet Hayır

Kendinizi tutumlu olarak görüyor musunuz? Evet Hayır

Kendinizi materyalist olarak görüyor musunuz? Evet Hayır

APPENDIX-3: Ethical Committee Approval



APPENDIX-4: Factor Loadings

	Lavishness	Self-Control	Impact of Economic Hardship	Pretentiousness
It is important for me to shop from well-known brands, even if it is expensive	,761			
It is important for me to purchase the newest technologic devices, even though mine just works fine	,732			
I purchase new clothes even if it is similar to the one I have	,713			
I purchase products even though I cannot afford it	,650			
Some of the products that are purchased are never worn or used	,609			
I do not mind shopping excessively from my savings	,575			
If I love the product so much, I do not mind the price	,565			
I believe in being careful in how I spend my money		,792		
I control myself to make sure that I get the most from my money		,786		
I spend my money within the budget I decided		,736		
In order to achieve my goals, saving is important for me		,659		
I buy only thing I need		,617		
Because of the uncertainty in economy, I am cautious about spending my money			,839	
I save more due to the economic hardship			,778	
Economic uncertainties cannot prevent me from spending my money			-,646	
My life would be better if I own things, I do not have right now				,754
It is important to make a lot of money when I graduate				,684
I like to own thing to impress people				,640

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization^a.

a. Rotation converged in 5 iterations.