HOUSEHOLD INDEBTEDNESS AND FINANCIAL LITERACY IN TURKEY

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HOUSEHOLD INDEBTEDNESS AND FINANCIAL LITERACY IN TURKEY

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DECLARATION OF ORIGINALITY

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ABSTRACT

Household Indebtedness and Financial Literacy in Turkey

This thesis aims to understand which factors affect households' decision to enter the credit market and the amount of debt they obtain, using data from the Credit Card Consumer Survey conducted in 2009 on 2576 credit card users across Turkey. Since this data presents information about different subcategories of debt, namely formal, informal and credit card debt, we examine whether different debt types have similar or different determinants. The possible factors that can affect formal, informal, credit card and total debt are investigated under five main categories: financial literacy, life cycles, economic situation, ability to get credit, and demographics. Financial literacy is divided into three components: financial inclusion, financial knowledge and financial behavior. We show that, more than financial information, it seems that people's financial behavior and attitudes make a difference in indebtedness levels and smart borrowing. Education to improve behavior (on money management, for example) and regulations on the usage of credit cards (to prevent imprudent behavior, for example) may be relevant policy tools to be employed. This thesis can serve as a useful beginning point for the rapidly growing Turkish credit market and it can contribute to the designing of various solutions for the rising indebtedness problem for different household profiles.

ÖZET

Türkiye'de Hanehalkı Borçluluğu ve Finansal Okuryazarlık

Bu tez, 2009 yılında, Türkiye'de yaşayan 2576 kredi kartı kullanıcısı arasında düzenlenmiş olan Kredi Kartı Kullanımı Araştırması Anketi verilerinden faydalanarak hangi faktörlerin hanehalkını kredi piyasasına yönelttiğine ve hanehalkının ne kadar borç almalarına neden olduğunu araştırmaktadır. Anket verileri borçluluk kategorisinde resmi borç, gayri resmi borç ve kredi kartı borcu olarak adlandırılan alt kategorileri de barındırdığından; söz konusu faktörlerin adı geçen farklı borçluluk kategorilerine etkisine ayrı şekilde bakabilmemize olanak sağlamaktadır. Resmi, gayri resmi, kredi kartı ve toplam borcu etkileyebilecek faktörler beş ana başlıkta incelenmiştir: Finansal okuryazarlık, yaşam döngüsü hipotezi, ekonomik durum, kredi alabilme yetkinliği ve demografik özellikler. Finansal okuryazarlık üç alt kategoriye ayrılmaktadır: Finansal sisteme dahil olma, finansal bilgi düzeyi ve finansal davranış. Finansal davranış ve tutumun hanehalkı borçluluğunu ve etkin borçlanmayı, finansal bilgi düzeyinden daha çok etkilediği görülmüştür. Bu yüzden, finansal davranışı geliştirebilecek eğitim (örneğin, para yönetimi) ve kredi kartı kullanımı ile ilgili düzenlemelerin (örneğin, savurgan davranışları önleyebilecek) uygun çözümler olabileceği söylenebilir. Bu tez, hızla büyüyen Türkiye kredi piyasasının dinamiklerini anlamak ve artan borçluluk oranına sahip olan hanehalkı profillerini tanımak adına önemli bir başlangıç noktası oluşturabilir.

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LIST OF ABBREVIATIONS

BRSA……The Banking Regulation and Supervision Agency

CBRT…..Central Bank of the Republic of Turkey

CMB…….Capital Markets Board of Turkey

CRA……..Central Registry Agency

LCH……..Life Cycle Hypothesis

NUTS……The Nomenclature of Territorial Units for Statistics

PIH……Permanent Income Hypothesis

POS……Point of Sale

SPO……State Planning Organization

TOKİ…….Housing Development Administration of Turkey

TURKSTAT…..Turkish Statistical Institute

CHAPTER 1

INTRODUCTION

After the 1980's, retail credits became the most important product in banking activities around the world. Thanks to the developments in the financial markets, even under-investment grade companies could find resources by issuing securities and this led to a decrease in the corporate credits. Moreover, due to advances in technology and communication, and improvements in risk analysis, banks turned to retail credit, especially credit cards, and diversified their product and service portfolios (Mishkin 2006). Banks started to concentrate on broadening products, diversifying revenues, substituting alternative delivery channels for branches, and offering a multitude of financial services. Instead of focusing only on corporate customers, they turned their attention to households.

According to Clark et al. (2008), *"*The three dimensions of the retail banking business—customers, products and services, and the delivery channels linking customers with products—are interrelated" (p.42). Therefore, there was a rapid change in banks' customer portfolios, turning from corporate customers to retail ones. The number of bank branches increased, and products and services that can appeal to the retail customer type emerged. While commercial banking offered various credit products and treasury and cash management services, retail banking started to offer checking and savings accounts, credit cards, and mortgages.

This rapid growth in retail banking, combined with regulatory and institutional problems and irrational financial behavior of individuals, fueled the US financial crisis in 2008. According to Iannicola (2011), credit policies of US FED, problems in US

regulations, complexity of new financial products, and the widespread usage of overleveraging among financial institutions led to institutional problems. Financial illiteracy is another factor that may have contributed to the picture as, at that time, many borrowers did not understand even the main conditions of mortgages. They took it for granted that institutions and lenders would protect their rights and they were optimistic that the increase in house prices would continue. According to Iannicola (2011), in the Consumer Financial Literacy Survey Final Report (2009), it is emphasized that 28% of borrowers thought that they expected different mortgage payments than they were faced with.

People's misunderstanding of terms led them to finance their homes in ways too expensive for their incomes. The housing demand exceeded the supply, resulting in increasing house prices, which in turn led to a rush for buying houses. So buyers had to pay high prices to get homes and this led to severe household indebtedness. But at that time, Iannicola (2011) states, "over 50% of Americans did not have enough emergency savings set aside to cover expenses for 3 months in case of sickness, job loss or other emergency, only 40% used monthly budgets, 34% spent all of what they made, 11% spent more than what they made, 47% of those with savings rarely or never rebalanced the investments in their retirement portfolios" (p.11). Since these people did not have enough emergency savings, they consequently defaulted on their mortgages. US citizens still suffer from their high levels of consumption in those days and the economy is getting back to past levels slowly.

However, in Turkey, after the 2000-2001 crisis, the Turkish banking sector had a severe transformation. In the 90's, banks were financing governments because of the large budget deficits and the public sector borrowing requirement. After 2001, due to

structural reforms in public finance and the finance sector in general, there were substantial changes in banks' balance sheet items. While assets were increasing in level and as a ratio to GDP, there was a decrease in securities and an increase in credits, especially retail ones.

In this period, the decreasing public sector borrowing requirement and increasing foreign capital led banks to turn to the retail credit market in Turkey. After 2001, decreasing interest rates, optimism around the world and the increase in national incomes resulted in higher household expenditures and in parallel retail credit demand increased substantially. Although household indebtedness in Turkey is low compared to other countries, there has been a rapid increase in retail credit lending supported by the favorable macroeconomic conditions and by the changing attitude towards credit. As Table 1 indicates, in 2005, the ratio of household indebtedness to GDP was 7.1%, and at the end of 2013, this ratio had increased to 21.3%. In Figure 1, increasing household liabilities levels and related ratios through time can be observed.

The BRSA took some precautionary measures to stop this rapid growth in household indebtedness. In the last quarter of 2013, the reserve requirements of banks that have a ratio of consumer credit to general credit larger than 20% were increased. To increase saving rates and to reduce unnecessary expenditures, there were some regulations about the number of installments and indebtedness. At the beginning of 2014, a policy that restricts the number of installments in buying certain goods with credit cards came into effect.[1] The number of installments cannot exceed nine and there will not be any installment postponement to increase this limit. There will not be any

[1] Source: Kredi karında taksit dönemi bitiyor. (31.01.2014). Retrieved from http://www.milliyet.com.tr/yarindan-itibaren-taksit%20olmayacak/ekonomi/detay/1830014/default.htm/

installments on mobile phone sales. Restaurant meals are also included in the prohibition of installments in the food sector. In addition, with the new regulations, automotive credit amounts cannot exceed 70% of the value of automobile if that value is smaller than 50,000 TL. Except for mortgages, the maturity of consumer credits cannot exceed 36 months, while for automotive credits this limit is 48 months. Moreover, credit card limits are also a matter of concern. The BRSA announced that this limit cannot exceed twice the income of cardholder for first-time card users in the first year and it will be limited to four times the income for other years.

Table 1. The Ratio of Household Debt Size / GDP for Various Countries

Developing Countries	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014Q1
Brazil	9.3	10.5	12.3	13.6	15.3	16.4	17.8	19.5	20.5	20.5
Indonesia										15.7
Israel	39.3	36.0	36.3	37.1	37.8	38.6	38.9	38.1	38.6	
Korea, Republic of				83.9	85.9	85.0	83.0	84.0	85.6	
Macedonia, FYR		11.1	15.1	18.2	18.4	18.2	18.4	19.4		
Russian Federation						9.5	10.7	13.4	16.0	16.1
South Africa				49.6	47.9	45.1				
Croatia		34.3	37.2	38.3	39.0	40.7	40.5	40.0	39.5	39.6
Poland				31.1	33.0	35.6	36.7	35.5		
Romania					20.4	19.5	18.0	17.6	16.3	15.5
Turkey	7.1	8.8	10.9	13.4	13.6	15.1	17.2	19.0	21.3	
Developed Countries										
Austria		54.2	53.6	54.0	55.5					
Finland	46.8	50.2	51.5	53.5	60.8	62.1	62.2	64.1	65.4	
France				50.8	53.6					
Germany	69.9	67.5	63.8	61.9	64.4	61.5	59.5	58.8	57.7	
Ireland	88.8	102.4	110.6	121.0	127.2					
Sweden		67.6	70.4	70.4	81.4	87.0	81.8			
US	92.9	97.1	99.4	97.0						

Source: IMF, Financial Soundness Indicators, 2014

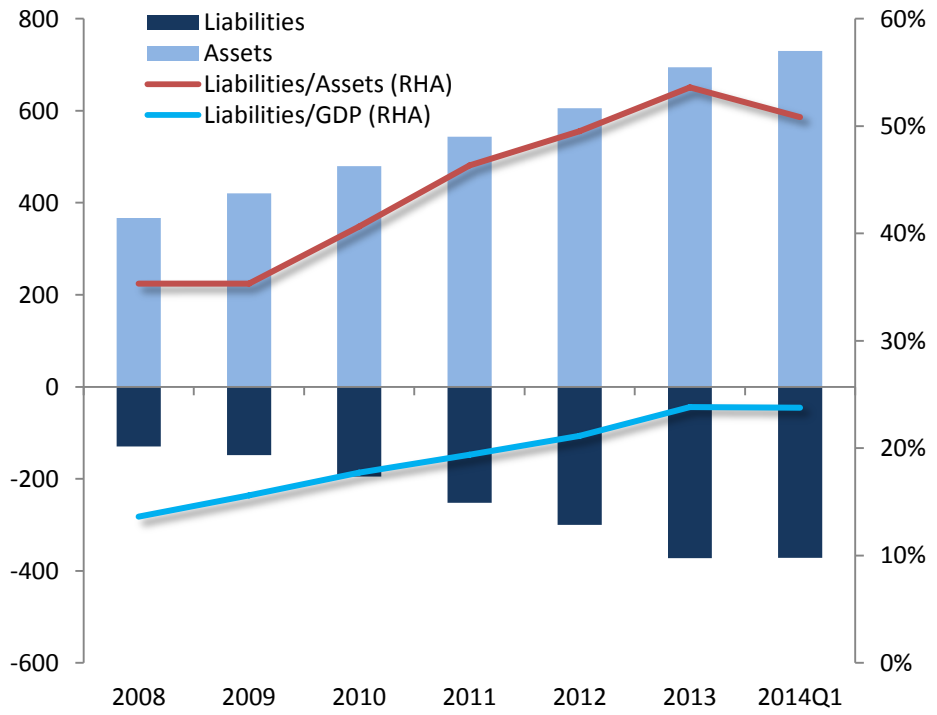

Figure 1. Turkish Household Assets and Liabilities (billion TL, %)
Source: CRA, CMB, CBRT, TURKSTAT, TOKİ, BRSA

As seen in the US financial crisis, financial illiteracy may be a major factor, in addition to regulatory and institutional problems. Although research so far has presented conflicting evidence, consumer financial education is possibly a valuable policy tool to promote economic stability. In the BRSA Strategic Plan 2013/2015, attention is drawn to increasing the financial literacy levels of individuals and it is emphasized that the education of the financial consumer, provision of financial access, and the protection of the financial consumer rights should be handled together.

Nowadays, financial stability is a supplementary objective in addition to the primary objective of price stability for some of the central banks, including the CBRT. The Financial Stability Report of CBRT published in May 2012 asserts that increasing financial literacy will contribute to the formation of more efficient financial markets and

in turn, an increase in social welfare, and the enhancement of saving awareness. The report points out that there are some steps being taken regarding national strategy on financial education around the world. According to the study by Grifoni and Messy (2012), 14 countries had started to implement national strategies and 19 countries including Turkey were considering creating national strategies (see Table 2).

Table 2. Stages of Development in Establishing National Strategies for Financial Education

National Strategy	Countries
Countries that have designed and implemented (implementation date)	Australia (2011), Brazil (2010), Czech Republic (2010), Ghana (2009), India (2006/2010), Ireland (2009), Japan (2005), Malaysia (2003), Netherlands (2008), New Zealand (2008 2010), Portugal (2011), Slovenia (2011), Spain (2008), United Kingdom (2003), United States (2006, 2011)
Countries that have started considering and/or designing a NS (but not yet implemented it)	Canada, Colombia, Estonia, Indonesia, Kenya, Latvia, Lebanon, Malawi, Mexico, Peru, Poland, Romania, Serbia, South Africa, Sweden, Tanzania, Turkey, Uganda, Russian Federation, Thailand, Zambia

Source: Grifoni and Messy (2012)

To our knowledge, there is no previous study which examines household indebtedness using micro data for Turkey, even though this topic has been extensively researched in other countries, both developed and developing.[2] One aim of this thesis is to fill this gap and to obtain estimates about the determinants of household indebtedness, giving an insight into the demand side of the fast-growing Turkish retail credit market.

[2] To name a few: USA (Chien and DeVaney 2001, Baek and Hong 2004, Zhu and Meeks 1994, Schooley and Worden 2010, Brown and Taylor 2005, Crook 2007), Germany (Keese 2009, Brown and Taylor 2005), Italy (Magri 2007), UK (Brown and Taylor 2005, Bridges and Disney 2004, Disney et al. 2006, Kempson 2002), Australia (Worthington 2006), Poland (Dawid and Slawomir 2006), Chile (Cox et al. 2006) and Swaziland (Erasmus and Mathunjwa 2011), Madagascar (Zeller 1994), Malawi (Diagne 1999), Vietnam (Nguyen 2007)

In addition, our data set enables us to observe informal and formal borrowing separately, as well as credit card indebtedness only. These borrowing types may have different determinants. Likewise, various aspects of financial literacy may have different impacts on formal and informal borrowing. This thesis will also examine how the effects of financial literacy may differ in different categories of indebtedness as well as overall borrowing.

The data allows us to estimate two things: whether one participates in the relevant credit market or not, and, if they participate, the quantity of credit taken. To estimate this twofold model, we will make use of the Heckman selection and double hurdle estimation methods. Our data source is the Credit Card Consumer Survey conducted in 2009 (Akin et al.), which polled 2576 credit card users in Turkey .

In the Section 2, the literature will be investigated. Then, in Section 3, data and variables will be explained and the research question will be presented. In Section 4, different econometric model specifications and a transformation technique for the dependent variables will be introduced. Section 5 will present estimation results and Section 6 will conclude the thesis.

CHAPTER 2

LITERATURE

This thesis brings together two types of literature: one on indebtedness and one on financial literacy. In this section we will discuss each separately, and then review the research on the effect of financial literacy on financial behavior, combining the two topics.

2.1 Indebtedness literature

The demand side of the credit market is the end result of various financial decisions made by market participants. The determinants of household indebtedness have been investigated for various countries using different approaches.

One approach to explaining indebtedness is the permanent income hypothesis (PIH), which is somewhat similar to the life cycles hypothesis (LCH). This thesis will use variables capturing the effects of these hypotheses. Both of these theories state that individuals want to maximize their lifetime utility by smoothing their consumption over the long term, even though they may have variations in income. To be able to achieve this, they may prefer saving in certain stages of their lives and they may spend more than their current income during the rest. Younger people are expected to have higher consumption and consequently higher indebtedness, whereas starting from middle age, people begin accumulating wealth, with savings being greater than consumption. However, people who retire start to dissave and spend their savings.

In PIH, people's lives are assumed to be infinite. They have an expectation of average income and consumes accordingly. They save the rest of their income, called transitory income. LCH is similar to PIH in most aspects, but it criticizes PIH on some points. The first difference is that since PIH advocates an infinite life cycle, it does not

allow bequests. By allowing bequests, LCH accounts for inequality issues. For example, the inheritants of the rich will have more bequests and therefore do not need to save more to reach the same consumption level that those without bequests might have to. With PIH, people do not think about their offspring. They just create an expectation of their average income and start to save to use up everything they have accumulated without leaving any bequests. Secondly, according to LCH, an individual's consumption is predicted by their current income and not by their average income, so with this view a less transitory income is obtained. However, these theories generally lead to the same outcomes (Jappelli 2012).

Cox and Jappelli (1993) inspect the effect of borrowing constraints on household indebtedness through different life cycles stages and find that desired and actual debt levels follow the life-cycle pattern, increasing until the household head reaches middle age, and then it decreases. Baek and Hong (2004) create and use various life-cycle dummy variables, using a combination of age, marital status and the presence of children variables to explain indebtedness. They find that installment debt relates more to life-cycle stages: solitary, single-parent and empty-nest households are less likely to have this type of debt which is usually utilized for a specific purpose such as education or buying durable goods. Crook (2001) finds that larger households demand more debt and that debt demand decreases when the household head is over 55. Crook and Hochguertel (2007) conclude that Dutch household demand for debt supports the PIH as lower-than-permanent-income is a factor increasing applications. However, these results are not supported by the data from the US, Spain and Italy. They also find that having teenage children increases debt demand for US households.

Another line of research concentrates on the effects of the ability to borrow on debt. Duca and Rosenthal (1993) focus on borrowing constraints on household debt. They try to understand which households would like to have more debt than the limit allowed by lenders. To be able to do that, first they determine who is not credit constrained and desires to have a positive amount of debt. Then they estimate a debt demand function using only unconstrained households that hold positive amounts of debt. Their conclusion is that people with credit constraints tend to desire to hold more debt and lenders choose to put these constraints on lenders in terms of their credit risk. Cox and Jappelli (1993) find that young households will be better off when liquidity constraints are relaxed since this group has the highest gap between desired and actual debt.

Baek and Hong (2004) find that the financial resources of a household have a significant impact on their borrowing behavior. These may capture both the ability to borrow and the need to borrow, and hence the results reflect either, depending on the setting. In general, the ability to borrow turns out to increase indebtedness and having financial assets decreases it. A positive attitude towards debt increases the probability of borrowing. Households with a more prudent outlook on spending and payment habits have less debt. Crook and Hochguertel's (2007) findings show that American households are more credit-constrained than Spanish, Dutch and Italian households. Higher wealth decreases demand for Italian and Dutch households. Income, on the other hand, increases it linearly for the US and non-linearly for Spain, Italy and Netherlands.

Magri (2007) focuses on Italian household debt, separately depicting the demand and supply-side factors with emphasis on enforcement costs of loan contracts in case of default. She finds that the age of the household head is an important demand factor

rather than a supply one. A higher income increases loan demand and reduces the chances of being credit constrained. Enforcement costs are related to the region of residence and they affect supply in the debt market. These costs not only decrease the chance of entering the debt market but they also reduce the loan size.

Diagne (1999) analyzes formal and informal credit markets in Malawi and Zeller (1994) researches informal lenders in Madagascar. Nguyen (2007) inspects the borrowing behavior of rural households in Vietnam and identifies the determinants of debt amount with a Heckman selection model. The estimation strategy resembles the study by Duca and Rosenthal (1993). Keese (2009) investigates how shocks on income or expenditure affect households' severe indebtedness in Germany. Del-Rio and Young (2005) study the impact of unsecured debt on financial distress, whereas Kempson (2002) conducts research on over-indebtedness in Britain.

Another approach in this area is related more to behavior. The attitude towards debt is examined as a factor affecting indebtedness levels. Zhu and Meeks (1994) research the relationship between low-income families' ability and willingness to use consumer credit and their debt levels. They fail to find a relationship unless these variables are interacted with others. One explanation for this result may be credit constraints, which tamper the willingness to borrow. Schooley and Worden (2010) try to identify attitudes toward credit use by using debt creditworthiness and financial discipline of individuals. They find that a positive attitude towards debt increases indebtedness. Creditworthiness is also a significant factor.

2.2 Financial literacy literature

Financial literacy is defined as "the combination of consumers'/investors' understanding of financial products and concepts and their ability and confidence to

appreciate financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being" (The World Bank, 2009, p.2). In the face of households' unwise economic decisions in the last decade leading to big financial crises, an important topic has been whether higher financial literacy leads to better financial outcomes, and if so, whether spending resources on improving financial literacy levels of households is an efficient means of obtaining better economic outcomes. There is conflicting evidence and differing stances on both topics.

There is no standard way to measure the financial literacy level of an individual using a survey, but there are some approaches that have gained widespread usage. Presenting possibly the most commonly used sets of questions, Lusardi and Mitchell (2007) categorize financial literacy into two groups: basic and sophisticated financial literacy. They measure basic financial literacy using questions about simple interest calculation, compounding interest calculation, inflation, time value of money and money illusion. Some surveys use additional knowledge and/or numerical literacy questions. Jappelli and Padula (2013), for example, were inspired by the questions in Lusardi and Mitchell (2007) and added categories such as being able to compute percentages and calculating prices of goods when there are discount. Sophisticated financial literacy is inferred from knowledge on concepts of the difference between stocks and bonds, the function of the stock market, the working of risk diversification, and the relationship between bond prices and interest rates.

Questions such as those above focus on the knowledge component of financial literacy. In addition, some researchers also take into account consumers' outlook on debt. Leach et al. (1999) add attitude elements to the financial literacy literature.

Treating the number of credit cards and credit card limits to be in the information category, credit attitude is measured under feeling, knowledge and usage subjects. Baek and Hong (2004) try to incorporate the effect of ability, willingness, and need to borrow, and prudence on consumer debt. While they are investigating the effects of life cycles stages of households on indebtedness, they search for an answer for why in some cases life cycles hypothesis fails. They surmise that one reason may be the inability of consumer to borrow and another reason they suspect is prudence. Prudent people may behave extra cautiously about debt. Willingness and need to borrow are also added in interpreting this failure since the authors state that not everyone will always take debt even if they want it, and they may not need to use up all their credit limit. These financial literacy related variables can give hints about households' financial behavior and their attitudes toward debt.

Atkinson and Messy (2012) divide financial literacy into three components: knowledge, behavior and attitude. Financial knowledge is measured in line with previous literature, using factors such as knowing division calculations, concepts related with the time value of money, interest plus principle calculations, compound interest calculations, risk and return concepts, and definitions of inflation and diversification. The financial behavior category, on the other hand, includes factors such as thinking before making purchases, paying bills without delay, being careful about personal financial affairs, setting long term targets and trying to achieve them, being responsible and making a household budget, having saved or bought investments in the past year, choosing financial products not randomly but after having some information, deciding types of financial products after shopping and asking for objective information or advice, and not having borrowed to manage to live with enough money to cover daily

basic expenses. Financial attitude is calculated from three categories: being inclined to spend it now rather than saving it for the long term, finding living for today more satisfying than thinking about tomorrow, and believing that the only purpose of money is spending.

Education or, more specifically, financial education is sometimes also used as a proxy. Mandell and Klein (2009), for instance, utilize taking a financial management course as an indicator of financial literacy. Mandell and Klein (2009) question whether people who have taken a financial management course exhibit different behavior in financial matters than those who did not take a course. They research the relationships between taking a course, having higher financial literacy, and one aspect of financial behavior: being savings-oriented. They do not find evidence to support the hypotheses that a course improves financial literacy, or that it improves financial behavior.

Whether such courses increase financial literacy, however, is a matter of dispute in general. Another group of researchers resort to self-assessment to measure financial literacy (Hastings et al. 2012). Such subjective measures are found to have a positive correlation with more objective ones in general. Atkinson and Messy (2012) try to measure financial literacy under financial knowledge, behavior and attitude categories. They interpret financial behavior under such categories: being careful about purchases and personal financial affairs, being responsible about household budget.

In light of the literature, in this thesis, financial literacy is decomposed into and examined under various aspects: financial inclusion, financial knowledge and financial behavior.

2.3 Financial literacy and financial behavior

In recent years, financial literacy has been a hot topic that draws the attention of regulators, financial institutions and academic researchers in terms of its possible effects on economic outcomes. The possible effect of financial literacy on financial behavior, consequently, has been researched extensively in the literature. There are conflicting results, some providing evidence that financial literacy improves financial behavior and some finding no significant link.

According to some results, the financial literacy levels of households are a determinant of their financial behavior (for example Disney and Gathergood 2011, Lusardi and Tufano 2009, Robb and Sharpe 2009, Atkinson and Messy 2012). However, the research examining the impact of financial literacy on indebtedness is very limited. This thesis also contributes to the literature by studying the effects of this factor on household indebtedness.

The relationship between financial literacy and stock market participation is one such topic. To assess whether more financially literate people tend to invest in stocks more, Rooij et al. (2011) make use of questions measuring financial knowledge used by Lusardi and Mitchell (2007). It was found that less financially literate people are less likely to invest in stocks. Kimball et al. (2006) investigate whether financially more sophisticated people participate more in the stock market or hold more of their wealth in stocks. The result is that more sophisticated investors behave in the way that financial economists suggest. It is also understood that financial education is a valuable tool in terms of the possibility of overcoming suboptimal behavior in financial markets.

Campbell (2006) analyzes the effects of education (which is sometimes used to proxy financial literacy) and wealth on households' mistakes in financial markets such

as not diversifying one's portfolio because of a preference for investing in local firms and employer stock, or selling assets that appreciate while keeping those whose value declines even if their future returns are expected to be the same. It is shown that households can understand their capabilities in financial markets and try to avoid complicated financial strategies that they cannot comprehend.

Choi et al. (2009) observe that individuals fail to minimize fees in investing during a laboratory experiment (between four different S&P 500 index funds). They investigate whether the fees paid decrease with financial literacy level of individuals or not. They found that even if individuals think that they are making a mistake in choosing funds with high fees, they cannot minimize these costs. However, more financially literate people pay fewer fees.

There is also some specific work on indebtedness. Lusardi and Tufano (2009) define debt literacy as "the ability to make simple decisions regarding debt contracts, applying basic knowledge about interest compounding to everyday financial choices" (p.1). They find that individuals with lower levels of debt literacy are likely to have high-cost transactions, incurring higher fees and/or using high-cost borrowing. It was found that ignorance is one reason for the high charges and fees paid by financially less knowledgeable individuals. The less knowledgeable also report that their debts are excessive or that they cannot understand their debt position.

Disney and Gatherhood (2011) try to identify the link between financial literacy and credit usage. They use a dataset consisting of approximately 2500 non-retired individuals, extracted from a survey of a representative sample of the U.K. population. The survey has questions about simple interest calculation, compounding interest calculation and fixed fee vs. APR knowledge. They find that less literate households are

more likely to hold higher levels of debt relative to their wealth (and this result is valid when literacy is instrumented by financial education). In addition, they identify that less literate households use higher cost credits and in turn make higher debt payments.

Robb and Sharpe (2009) use a dataset that is gathered from 3884 students at a large Midwestern university in the United States. Contrary to expectations, they conclude that those with higher levels of financial knowledge have significantly higher credit card balances. Studies by Schooley and Worden (2010) indicate that the recent increase in household indebtedness can be the result of a positive attitude towards having debt because of the insufficient financial knowledge of individuals. In addition, they show that disadvantaged people (less educated, lower income, minority, female and/or divorced) are at risk because of their high debt levels.

Baek and Hong (2004) analyzed installment and credit card debt in terms of the life-cycle hypothesis, ability, willingness and need to borrow variables, and prudence. They found that all of these factors are significant. Life cycles stages are captured with age, marital status and presence of children variables. It was indicated that the traditional life cycles hypothesis has limitations. It also concluded that households with a positive attitude toward credit are more likely to have larger amounts of debt. But, at the same time, prudency results in an extra cautious behavior in terms of indebtedness.

CHAPTER 3

DATA

The data used in this thesis is from the Credit Card Consumer Survey (see Appendix C) conducted in 2009 (Akin et al.) across randomly selected 2576 credit card users in Turkey. The target population in this survey is credit card users in Turkey, and hence our analysis will be limited to a sample from this population. This leads to a restriction when interpreting our results in that those who do not have credit cards are not represented in our sample. On a bright note for this thesis, however, credit cards were randomly distributed to people on the streets for a while in Turkey, regardless of their credit standing. Nevertheless, it should be kept in mind that the results apply to credit cardholders in Turkey.

Credit card holders generally live in urban areas where the businesses and infrastructure are suitable for credit card usage. Point of sale (POS) machines are not widely available in rural areas. Therefore, the survey was conducted in urban areas.

The Nomenclature of Territorial Units for Statistics (NUTS), which is a regional statistical unit system developed by the European Union for referencing the administrative divisions of countries for statistical purposes, was used for the distribution of the entire sample to regions. TurkStat and the SPO designed this according to Turkey's geographical and cultural characteristics. In this design, NUTS1 has 12 main regions made up of provinces with similar features. NUTS2 is more detailed than NUTS1, and examines the country under 26 regions which show heterogeneity within themselves. The 81 provinces, which are the existing administrative regions of Turkey, are inspected under 81 parts of NUTS3. However, in this study the NUTS2 division is used, as shown in Table 3.

Table 3. Selected Provinces at the NUTS2 level

Selected Provinces at the NUTS2 level	Sample Size
Istanbul	689
Ankara	236
Izmir*	194
Bursa*	128
Antalya*	127
Denizli	121
Icel*	121
Kocaeli*	108
Samsun*	98
Manisa*	87
Trabzon	82
Balikesir	73
Konya	65
Kayseri	64
Gaziantep	63
Hatay*	60
Edirne	54
Malatya	49
Diyarbakir	44
Zonguldak	40
Nevsehir	39
Erzurum	37
TOTAL	2579

* Survey applied in some districts in these provinces.

One disadvantage was that there is no pooled information about the number of credit cards by province or by NUTS2 regions, but there is data that can proxy credit card numbers in the regions. Since POS machines are related to non-cash shopping, it is likely that the number of these machines will be correlated to the number of credit card users in that region. Yet in touristic areas, more POS machines than needed by the locals can be used and this can lead to an upward bias in these areas. Another candidate that can proxy the number of credit card users in a region is the number of bank branches.

Since credit cards are one kind of bank service, it was expected that there would be a correlation between the number of these card users and the number of bank branches. However, state banks pose a problem since they are required to open branches in many places even if there is not enough economic activity. The arithmetic mean of the number of POS machines and the number of bank branches is used to proxy the number of credit card holders in a region to mitigate these two problems. These means were converted into weights to distribute the sample into the 26 NUTS2 regions.

Four regions (Kastamonu, Mardin, Van, and Ağrı regions) ended up with too few surveys, and for efficiency purposes, their share of surveys was reassigned to the other regions within the same NUTS1 division.

In the next step, cities were selected in each province to conduct the survey. Each province's central city, that is, the administrative capital and also generally the biggest urban area, was automatically selected for the sample. In some provinces that had enough survey allocations, some towns were also included in the sample. First, the provinces which had enough non-central city urban population to receive at least 30 surveys were determined. Then one or two towns with a minimum adult population of 45,000 were selected in the order of size, depending on whether there were enough surveys. These towns can be found in Table 4.

Then, households were chosen using the clustered random sample selection method. Neighborhoods were chosen to be the cluster points, with a cluster size of 10. This means that a maximum of 10 interviews could be be assigned to each neighborhood. Two hundred fifty neighborhoods were randomly chosen using voter population as weights. For backup, an additional 50 neighborhoods were determined. After the completion of this step, by using the street data from the Ministry of Finance,

streets were randomly selected. The number of primary streets was determined as five and the number of backup streets as two. The target was to conduct two surveys in each street.

Table 4. Selected Towns

Selected Towns	Province	Sample Size
Alanya	Antalya	30
İnegöl	Bursa	30
İskenderun	Hatay	30
Tarsus	Içel	30
Ödemiş	Izmir	30
Gebze	Kocaeli	30
Derince	Kocaeli	30
Turgutlu	Manisa	30
Bafra	Samsun	30

In each street, generally the first dwelling was randomly chosen by a supervisor. If there was no response or there was rejection, or when the household members did not pass the filter (via the two questions below), the interviewer skipped three dwellings and tried again. Supervisors did not have to implement the rule of skipping three dwellings if the region had a very small number to interview because of low ownership of credit cards. Later follow-ups were conducted for 30% of the interviews via telephone calls or door checks to confirm their reliability.

The filtering questions were:

- Do you have a credit card?
- Do you make the decisions concerning the choice of credit cards and the payment of credit card bills yourself?

The survey was conducted only if the person answered both questions positively. When more than one individual in a household qualified, the alphabetical order of their

names was used to determine the interviewee. These interviews were usually conducted in the evenings or weekends since a big proportion of the target population consisted of working people. The response rate was 65% among those who passed the filter.

We aimed to estimate two facets of borrowing together: factors that affect the decision to borrow, and determinants of the quantity of debt. Thus, there are two nested dependent variables. The first one is the decision to enter the credit market, which is a binary variable, and the second one is the quantity of debt, a continuous variable.

3.1 Dependent variables

The decisions about whether to borrow and the quantities to be borrowed are estimated for four credit types: total debt, formal debt, informal debt and credit card debt. The dependent variables are formed using the following survey questions:

- If any, what is your total bank debt excluding any credit card debts?
- If any, what is your total debt to your family, friends, firms and other people?
- Did you pay all of your last credit card bills completely? If not, how much do you owe on them?

The summation of the amounts of answers to these three questions gives us the total debt amount, and the binary variables are constructed by checking whether the answers are zero or not. If the debt amount in a specific market is greater than zero, the participation variable for that market (binary) takes the value 1, and 0 otherwise. Hence:

- TotalParticipation is 1 if total debt is greater than 0, and 0 if this debt is 0,
- FormalParticipation is 1 if formal debt (excluding credit card debt) is greater than 0, and 0 if this debt is 0,

- InformalParticipation is 1 if informal debt is greater than 0, and 0 if this debt is 0, and
- CCDebtParticipation is 1 if credit card debt is greater than 0, and 0 if this debt is 0.

There is also another variable: InformalOnlyParticipation. Due to the fact that many interviewees in the sample who had borrowed informally had also borrowed from banks, the InformalParticipation variable was inadequate in capturing the determinants of this type of borrowing. By narrowing our sample to people with positive informal debt and no formal debt, we aim to isolate the effects explanatory variables on this type of debt (credit card debt is not excluded since its amount is very low compared to other debts, the sample consists only of card holders, and it was seen that even when it is excluded there is no difference in estimation output compared to InformalOnly debt).

The summary statistics are presented in Table 5. The last column in this table gives the percentage of 1s for the relevant binary variables, in other words the percentage of individuals who have the relevant kind of debt. Table 6 shows the summary statistics for the continuous variables for only positive values of the binary variable (denoting the ones that have the debt from that category).

Table 5. Summary Statistics of Dependent Variables (in Turkish Liras except for the second and last columns)

Variable	Total	Number of Obs.	Mean	Std. Dev.	Min	Max	Participation
Total Debt	8,284,919	2,521	3,286.4	10,826.8	0	175,600	41.61%
Formal Debt	6,276,369	2,536	2,474.9	9,512.7	0	150,000	22.56%
Informal Debt	1,737,575	2,537	684.9	4,392.0	0	100,000	10.84%
Credit Card Debt	429,161	2564	167.4	736.6	0	20,000	23.13%

Table 6. Summary Statistics of Dependent Variables for Positive Values (in Turkish Liras except for the second column)

Variable	Total	Number of Obs.	Mean	Std. Dev.	Min	Max
Total Debt	8,284,919	1,049	7,897.9	15,665.5	30	175,600
Formal Debt	6,276,369	572	10,972.7	17,559.5	60	150,000
Informal Debt	1,737,575	275	6,318.5	11,950.3	40	100,000
Credit Card Debt	429,161	593	723.7	1,395.0	15	20,000

3.2 Independent variables

The explanatory variables can be grouped under five categories: financial literacy, life cycles, economic situation, ability to get credit, and demographic variables. The following subsections explain these groups. The column numbers of the survey questions from which these variables were derived are given in parentheses.

3.2.1 Financial literacy

As stated in the literature review, there is no single or combined universally accepted measure to capture the financial literacy of a person.

In line with the previous literature and adding to it, variables capturing the financial literacy levels of the interviewees were created under the following four categories:

1. Financial inclusion
2. Financial knowledge
3. Financial behavior
4. Financial attitude

Financial inclusion is the delivery of banking services at an affordable cost to the vast sections of disadvantaged and low-income groups (Leeladhar 2006). It is added to

our model to be able to understand how a person acts in terms of indebtedness depending on their degree of integration and access to the financial system.

Kempson and Whyley (1999) advocate that financially excluded people have similar characteristics such as age, gender, employment status and income. However, they also do not have current accounts, cannot make bill payments, cannot handle checks, cannot take short term credits to help make ends meet, and do not have any financial security for their families and children, or insurance against job loss or a pension plan.

In this thesis, it is expected that when a person is more integrated into the financial system, they can be more aware of different ways of borrowing and can finance their needs through financial institutions more easily than the others. Except for informal borrowing, it is predicted that there will be a positive impact of this variable on the dependent variables.

The index capturing inclusion is denoted by *inclusion_index*, and it is created using several questions from the survey. In various parts of the survey the respondents are asked if they have a liquid deposit account (C4), if they have a wage account (C8), if they carry out investment transactions through their bank (C5), if they use their bank account to make tax or insurance payments (C9), if they make money transfers via their bank (C17), if they have taken out auto credit (C10), if they have taken out housing credit (C11), if they have used consumer credit (C12), if they have used commercial credit (C13), if they use automatic payment orders (C7), if they utilize commercial banking services (C18), if they use internet banking (C14), if they use telephone banking (C15), if they use ATMs (C16), if they have accounts at multiple banks (C19-C25), and if the monthly credit card share in their expenditures is greater than 50% (C150). Their

affirmative answers are coded as 1 and negatives as 0. Each of these questions is expected to assess how much the individual is integrated into the financial system. The index is the sum of the answers to these questions and thus it varies between zero and 16. Figure 2 shows the frequency distribution for this index.

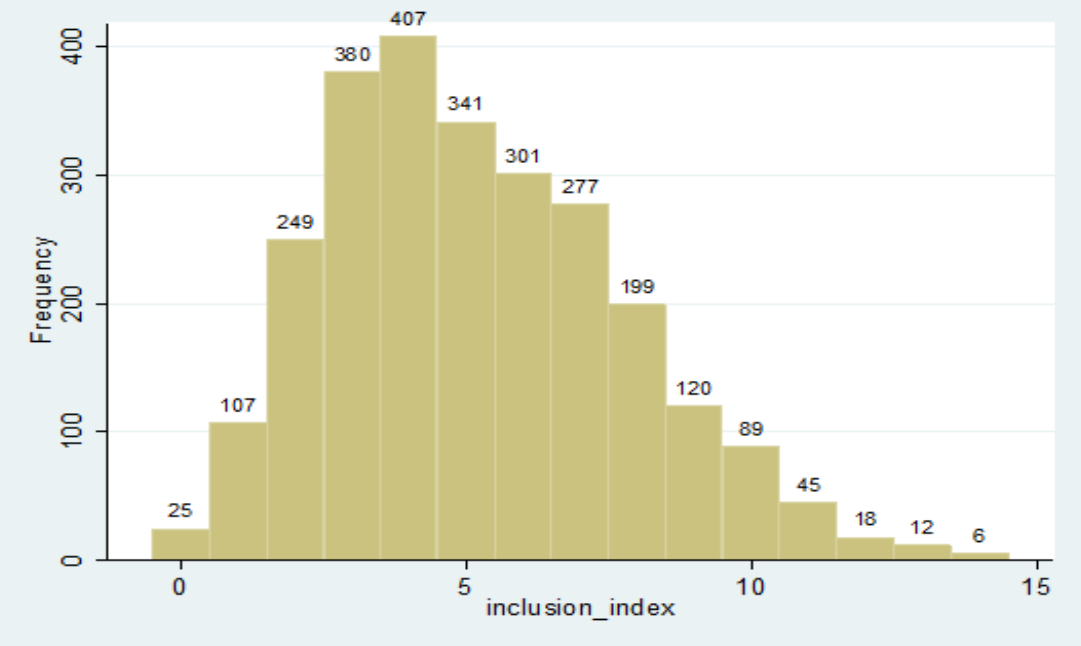

Figure 2. Distribution of inclusion_index

The financial knowledge variable tries to capture the overall financial information level of a respondent and it is denoted by *Knowledge_index*. Similar indexes are commonly used in the literature (for example, Robb and Sharpe (2009), Lusardi and Tufano (2009), Atkinson and Messy (2012)) and are usually based on questions used by Lusardi and Mitchell (2007). The five questions below were selected to create an index for knowledge:

- Knowledge of the quantity of state guarantee on deposits: takes the value 1 if the respondent answers the question "What is the quantity of bank deposits under the

guarantee of the state for every depositor for each bank?" correctly from among multiple choices C(58).[3]

- Knowledge of one's main credit card interest rate: is 1 when one answers the question "what is the interest rate on your main credit card" within 0.30 points of the correct level (C168).
- Knowledge of one's credit card late payment interest rate: is 1 when one answers the question "what is the late interest rate on your main credit card" within 0.30 points of the correct level (C169).
- Awareness of credit cards with lower interest rates in the market: is measured by the response to the question "Is there any credit card in the market that has a lower retail interest rate than your credit card?" If the respondent gives a correct answer to this question, it takes the value 1 and 0 otherwise (C170).
- Research difficulty: takes the value 1 if the respondent claims that their not knowing how to do research on credit cards is not a factor making comparison shopping on credit cards difficult (if C 191 is not equal to 1).

Knowledge_index sums up the values from all these questions. It can take a maximum value of five. The distribution of the index values is presented in Figure 3. Only the first and last questions above are used for the regressions on credit card debt in order to avoid potential endogeneity problems. This reduced index is denoted by *knowledge_index_CC* and can take a maximum value of two.

[3] The correct answer is "up to 50,000 TL."

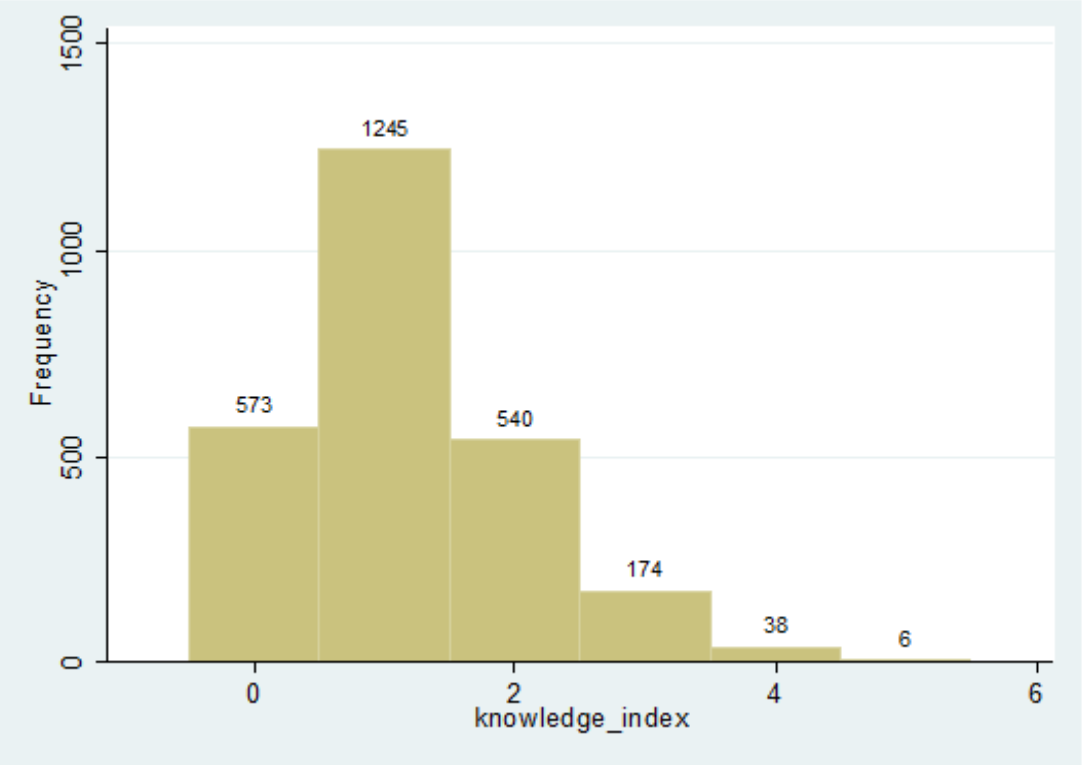

Figure 3. Distribution of Knowledge_index

Financial behavior is inspected under different names in the literature. Atkinson and Messy (2012) constructed a behavior variable from whether a person monitors expenses, has insurance, saves money or spends from savings, the number of credit cards they own, and their purpose of credit card usage. Mandell and Klein (2009) take saving behavior as their benchmark. Baek and Hong (2004) advocate that prudency can bring along an extra cautious kind of behavior towards indebtedness. In this thesis, behavior is examined under four categories since financial behavior has several aspects: Financial activeness, Money management, Trouble with credit cards, and Prudence.

Financial activeness refers to how actively consumers exert themselves in achieving the best financial outcomes. This is different from financial knowledge, as a person can be knowledgeable but may not bother to follow their financial situation

closely or incur the opportunity cost of achieving optimal outcomes in every detail, or "…financial education does not carry with it any incentive to act" (Hastings et al. 2012, p. 27). Similar measures are not frequently employed in the literature. Akın et al. (2011) use a financial activeness variable in their estimations. We utilized the following three dummy variables in order to create an *activeness_index* capturing this aspect of consumer behavior. The related frequency distribution for this index can be found in Figure 4. The index is simply a summation of the following variables:

- If the person has changed their bank at some point (C56) and they did this not just because the bank at which their salary is deposited by their employer was changed (C57), and/or if the person has changed their credit card (C206) and they did this not just because they changed their main bank (C208), and/or if the person has attempted to reduce or avoid annual credit card fees (as has been done by many people in Turkey after banks started implementing annual fees), and/or if the person has cancelled a credit card in the last two years (C229), this component of the index takes the value 1, and 0 otherwise. The reason these are not added up is because even though the presence of these actions is an indicator of activeness, their absence does not necessarily mean the individual is not active.
- If the person has obtained their main credit card through their own application instead of accepting an offer from a bank, this component of the index is 1, and 0 otherwise (C127).
- If the person claims that when acquiring their main credit card they did comparison shopping where they rated their main card at least three on a scale of five, this component is equal to 1 and 0 otherwise (C129).

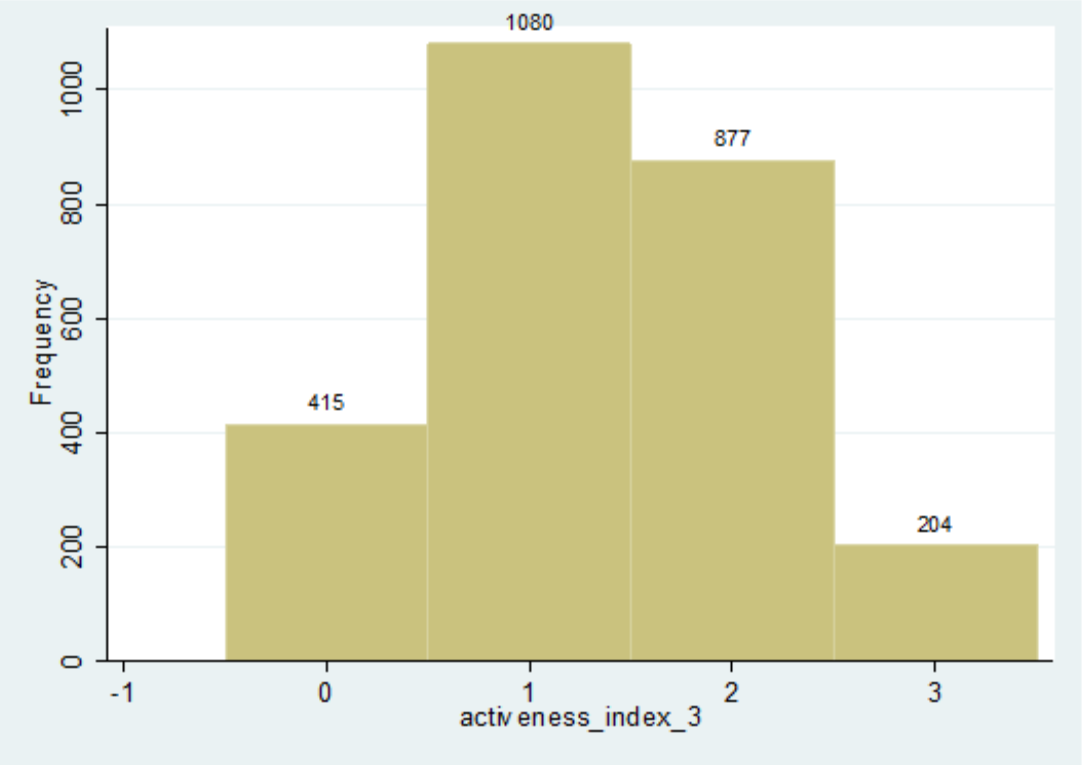

Figure 4. Distribution of activeness_index

Some of the questions in Atkinson and Messy (2012) are related to being careful about personal financial affairs, so the first two questions above are related. Still, our measure tries to capture whether the person is active in managing their financial affairs, not just keeping watch on them. In addition, making a choice on a financial product after building up some information is another financial behavior criterion in Atkinson and Messy (2012) and it matches the third category in our activeness_index. It is predicted that a more financially active person would make and implement more rational borrowing decisions.

Money management refers to how effectively a person manages their budget. In this thesis it is measured by *money_management_index*. The frequency distribution of

this index is shown in Figure 5. It is the sum of the values of the following three variables:

- The first component of the index derives from whether an interviewee claims they hold multiple credit cards because a single card's limit is not enough. If they do, the index takes the value -1, and 0 otherwise (C122). Keeping multiple cards to increase total limit can be a sign of bad money management since a bank issues credit card limits based on the income of the cardholder, and trying to exceed this limit may show one is spending beyond one's means using an expensive financing method.
- The second component of the index takes the value -1 if the cardholder agrees with the statement that they do unnecessary shopping because of having a credit card, and 0 otherwise (C199). The statement that they buy things that they would not choose to if they were paying cash is evaluated as an indicator for bad money management skills, as they seem to have a false perception of their budgets when using a credit card.
- The last component of the index takes the value 1 if a person uses credit card bills to keep track of their expenditures, and 0 otherwise (C68). The fact that a person would like to keep track of their spending indicates that they do some financial planning, so it points to better money management skills.

This variable is similar to the measure used by Atkinson and Messy (2012), derived from questions such as saving money vs spending your savings, number of credit cards, purpose of credit card usage and monitoring expenses. People with better money management skills may need to enter a debt market less frequently due to their effective budget planning. However, when they enter, this may mean that they borrow greater amounts for investment purposes, such as for buying property.

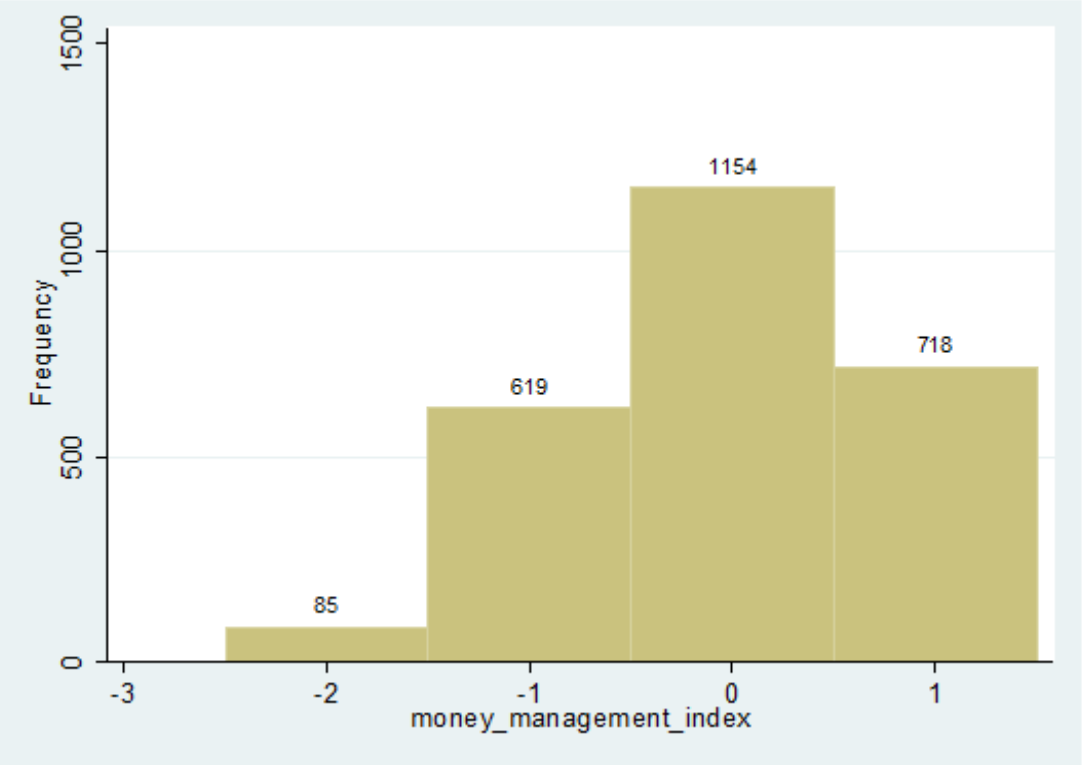

Figure 5. Distribution of money_management_index

Trouble with credit cards is a variable that tries to utilize the existing data set in order to create a measure of delinquent financial behavior. Since the data set contains questions mostly on credit cards, general delinquency will be proxied with this measure. This variable takes the value 1 if any one of the following applies: the person has had a rejected credit card application in the last five years (C206) and/or their account has been turned over to collections at some point due to extended delinquency (C226), and/or they have made less than minimum payment on their credit card bill more than twice in the last twelve months (C152) and/or they claim that an effective or very effective factor which makes it harder for them to switch to a credit card with a lower interest rate is that they think they may be rejected (for reasons other than a high outstanding balance) (C179). Trouble with credit cards is excluded from credit card

related estimations since there may be an endogeneity problem. The frequency distribution can be seen in Figure 6.

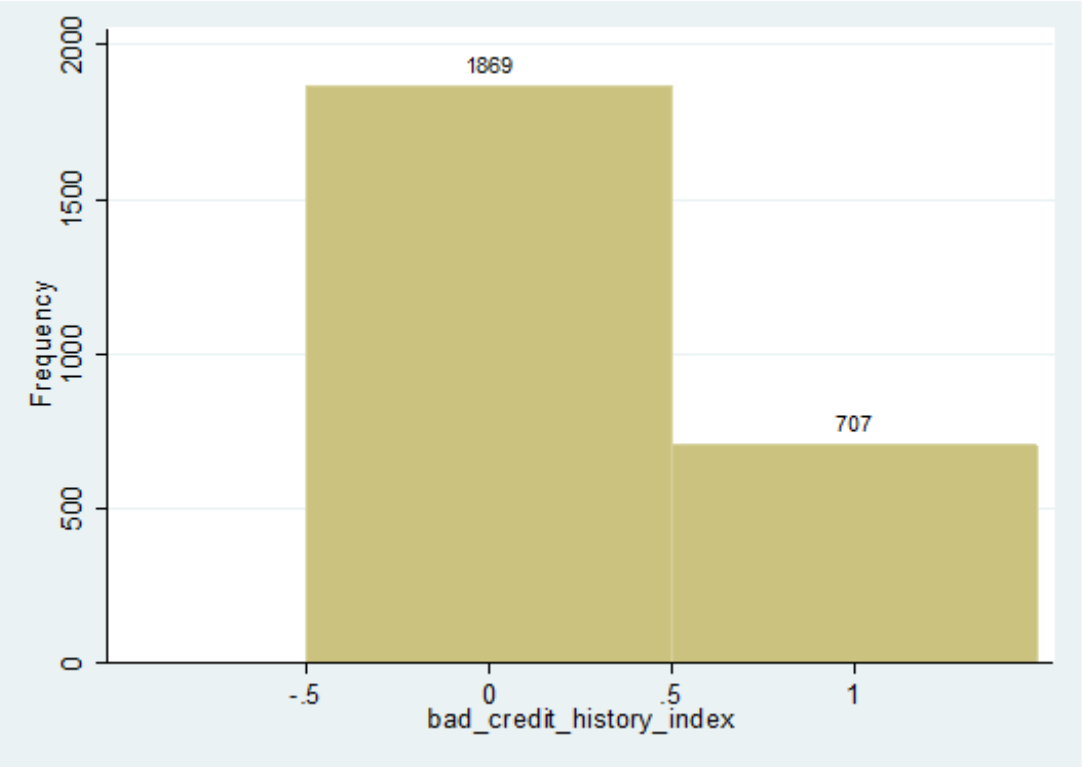

Figure 6. Distribution of trouble with credit card variable

Duca and Rosenthal (1993) try to understand the credit constraints on household debt and they extract a related variable from answers such as "in the past few years he/she (or their spouse) thought about applying for credit, but changed their mind because [the household] thought it might be turned down" or "had a request for credit turned down by a particular lender or creditor in the past few years, or was unable to get as much credit as he/she had applied for" (p.82). Our variable is similar in the sense of measuring credit-constrained people's behavior in the financial market. It is predicted that credit-constrained people turn towards informal debt market more frequently since their ability

to borrow from banks is limited. Even if they enter the formal market, they may be able to borrow only in lower amounts.

Prudence is another financial behavior category. It is also used by Baek and Hong (2004) to assess how cautious people are towards the uncertain events of the future. It also resembles the category in Atkinson and Messy (2012), "Before I buy something I carefully consider whether I can afford it" under financial behavior (p.64). In this thesis, Prudence takes the value 1 if the individual has a time deposit (C3) and/or pension fund (C6) and 0 otherwise. Having either one of these is an indication that the individual is showing an effort to be prepared for financially bad times. The related frequency distribution is shown in Figure 7.

Prudent people may need to enter the debt market less frequently in the face of income or expenditure shocks, but the amount of debt choice if they enter can be argued to go both ways. These people may only enter a debt market since they need to borrow in high amounts for investment purposes. However, they may also be averse to getting indebted in high amounts. The data is expected to shed light on which of these effects dominates.

Financial attitude refers to a consumer's outlook on debt. It is captured with the variable *attitude_index,* which is the average of the answers to two questions in the survey. The first one is the answer to the question "in your decision to use a credit card, how effective is the convenience of borrowing by not paying the whole credit card bill on a scale of 1 to 5?" where 1 denotes not effective and 5 shows very effective (C60). The second variable is the answer to the question "in your decision to use a credit card, how effective is the convenience of drawing cash on the card on a 1 to 5 scale?" where 1 denotes not effective and 5 shows very effective (C62). This variable is also scaled from

1 to 5. The values of these two answers are summed up and divided by two to come up with the attitude_index variable. These questions try to assess whether the person views a credit card more as a borrowing tool rather than a payment method. Those who view it as a credit tool can be said to have a more positive attitude towards credit card debt.

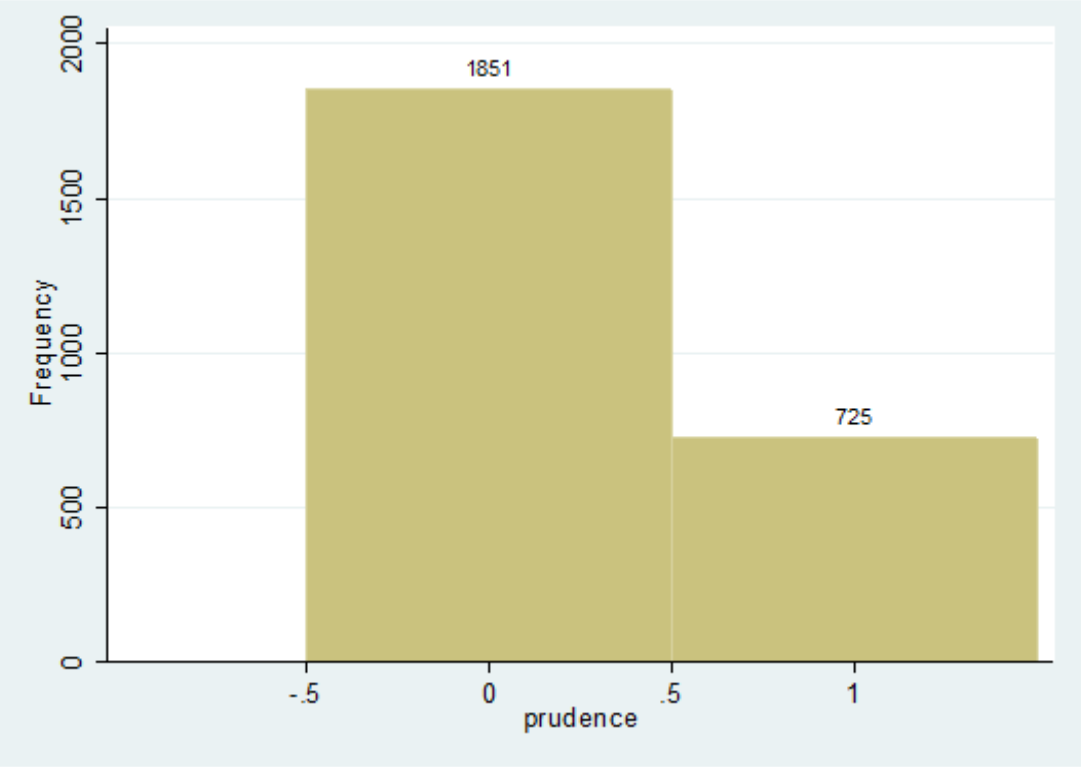

Figure 7. Distribution of prudence variable

Baek and Hong (2004) use an "attitude toward credit" variable in relation to the willingness to borrow. Such a variable is also used in Atkinson and Messy (2012). In this thesis, it is included only in credit card debt related estimations since it does not have the relevant information for other debt types. The frequency distribution is shown in Figure 8. A higher value of the attitude_index variable is expected to cause a higher level of credit card debt.

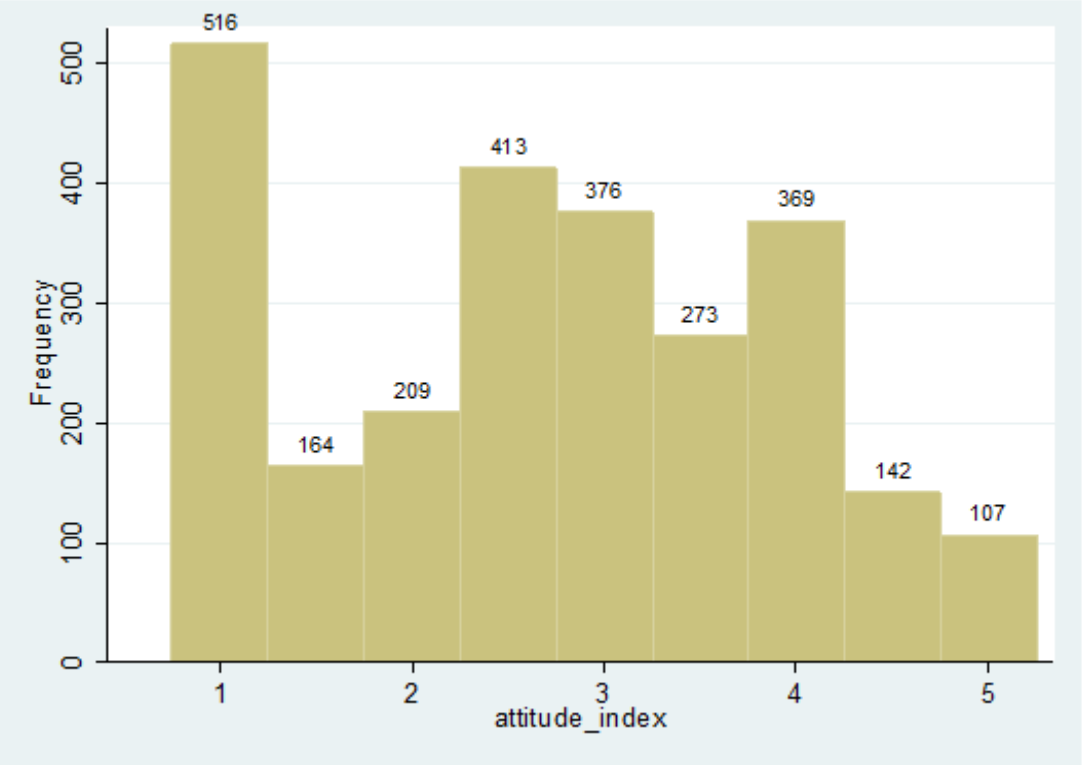

Figure 8. Distribution of attitude_index

3.2.2 Life cycles

The life cycles hypothesis states that individuals try to smooth out their consumption through their lifetime for the sake of maximizing their lifetime utility. For this reason, when they are young and they start to work, they tend to consume more than they save. This pattern changes when they reach middle age. They save more and begin accumulating wealth so that when they retire and their incomes decrease, they can use these savings.

Most of the papers in the literature use life cycles related variables such as age, marital status and sometimes presence of children. Baek and Hong (2004) and Cox and Jappelli (1993) test the life cycles hypothesis. Baek and Hong (2004) create life stage dummies by combining the age of the household head, their marital status and the

presence of children whereas Cox and Jappelli (1993) focus on the age of the household head.

Similar variables are chosen to test the life cycles hypothesis in this thesis. Household size is denoted by *hhsize* and shows the number of people in a household (C252). This is used to proxy for the presence of children in the interviewee's household. The presence of children would indicate that the household is in a certain life cycle in which the parents are young or middle-aged and their children are living with them. This stage is named "full nest I" or "full nest II" depending on the age of the household head in Baek and Hong (2004). They conclude that when household size increases, debt demand also increases. In our data the majority of households are composed of four people (32.85%). Other than that we are generally faced with households of three, two and five people, as can be seen in Table 7.

Another life cycles variable is the age of the interviewee at the time of the survey and it is denoted by *age*. The mean age value in our data is nearly 38. The squared value of age, *agesq*, is also added to reveal a potential nonlinear relation between age and the dependent variable of interest. Age is included to show being in different stages of life cycles. For example, being young or old is expected to have different effects on indebtedness (C250). In the literature the age of the household head who is responsible for managing the expenses of a household is generally used as an indicator of the life cycles stage. However, since we do not have that data, we used the age of the interviewee. Baek and Hong (2004) and Cox and Jappelli (1993) find that until the household head is middle aged, indebtedness is increasing and through the middle age period it is decreasing. These results are in parallel with the life cycles hypothesis, which states that people consume more than they save until middle age and then the pattern is

reversed. Therefore, in this thesis, we expect to see the same pattern as in the previous literature.

Table 7. Frequency Distribution of Household Size

hhsize	Frequency	Percent (%)
1	101	3.92
2	397	15.42
3	693	26.91
4	846	32.85
5	344	13.36
6	129	5.01
7	35	1.36
8	10	0.39
9	11	0.43
10	3	0.12
11	2	0.08
12	2	0.08
13	1	0.04
15	1	0.04

Marital status is captured by *married*, which takes the value 1 if the person is married and 0 if they are not (C251). Seventy percent of our sample consists of married individuals. In the literature, marriage alone does not seem to affect household indebtedness significantly. This may stem from the fact that the combined income of two people is probably higher than a single one, so they may need to borrow less than single people. However, with marriage, additional expenses such as expenses for children may be incurred. Either effect may dominate.

Divsepwid takes the value 1 if the person is widowed, divorced or separated, and 0 if they are single or married (C251). This is an additional factor to marital status since

being divorced or separated may change the debt level. The majority of people in the sample (96%) are neither divorced, separated or widowed. This variable is not common in the literature. However, Baek and Hong (2004) add it as an extra component for marital status. Since they create life cycles variables by combining more than one characteristic, the effect of this factor is hard to extract. Although being widowed, divorced or separated may create extra hardship for a single individual rather than splitting it into two, it is also possible that the need for debt may decrease since they do not have to cover some expenses that can occur in marriages. In this thesis, we will try to follow these two opposite effects and see whether one of them is stronger than the other.

3.2.3 Economic situation

Household income is preferred as an economic indicator over personal income since we deal with household indebtedness in this thesis (C245). Logarithmic transformation is used for income and it is denoted as *lnhhincome*. Monthly household income is almost 2232 TL on average in our sample. Household income is frequently used in the literature. Some studies (Duca and Rosenthal (1993), Baek and Hong (2004), Kim and DeVaney's (2001), etc.) find that having a higher income leads to more debt as this enhances the ability to borrow. Others conclude that individuals with higher income do not need debt to finance themselves. Our results will indicate which effect dominates.

In order to assess wealth, the variable state_home is used. This is the state or appearance of the home of the interviewee as evaluated by the interviewer on a 1 to 5 Likert scale, from "very poor" to "very good" (C273). Ninety percent of the homes were given three or four points by interviewers. Similar variables are utilized in the literature

to proxy wealth. Diagne (1999) uses residence value to be an indicator of wealth, but the value of the house may not be a good candidate to proxy wealth in our case since indebtedness can be the result of the residence value in case a mortgage was taken, creating a possible endogeneity problem. In the literature, wealth is found to reduce the indebtedness levels of individuals. We expect to see similar results in this thesis.

3.2.4 Ability to get credit

Lncclimit, the borrowing limit on the main credit card of the individual in logarithmic form, is added to the model to assess how formal credit availability affects various household indebtedness measures (C230).[4] The credit card limit of the individuals in our sample is 2436 TL on average. Kim and DeVaney (2001) use credit limit as a possible determinant of outstanding credit card balance and they find a positive effect. Baek and Hong (2004) state that consumers' ability to borrow can be restricted by their credit card limit because of credit constraints. Even if they want to get indebted for high amounts, credit sources may not provide this opportunity for them. We expect to see a similar result between credit card limit and credit card debt in this thesis. It is difficult to predict whether this credit card limit will also affect other debts such as debt in total or informal debt. However, it is expected that the option of borrowing higher amounts of formal debt might affect people's informal debt choice and hence total debt amount positively, too, as informal sources may also be willing to lend more to those whom they perceive as being able to pay back. On the other hand, a person's inability to get as much formal credit as they want may cause them to resort to family, friends and other informal sources.

[4] The main credit card is the credit card declared to be the most frequently used one by holders of multiple cards, It refers to the only credit card owned by holders of a single card.

3.2.5 Demographics

Demographic factors may affect individuals' decisions on borrowing. One of these is education. Education levels of individuals were controlled by using dummy variables in the estimations (C255). The first dummy variable, *drop_primary_secondary*, takes the value 1 for primary school dropouts, primary school graduates and secondary school graduates, and zero otherwise. The first category constitutes nearly 33% of our sample. *High school* is 1 when the interviewer is a high school graduate, and 0 otherwise. Nearly 36% of the sample is made up of high school graduates. When the individual has a university degree (bachelor's, master's or doctorate), *university* is equal to 1, and otherwise it is 0. The rest of the surveyed individuals (nearly 31%) are university graduates. The university graduate percentage is quite high compared to the level in Turkey. This may stem from the fact that only credit card owners who make their spending and payment decisions themselves were interviewed. The university variable was chosen to be the base category and is left out of the regressions.

Occupation types of individuals are also controlled by dummy variables: *cservant* denotes civil servant, *private* is 1 if the individual works in the private sector, *self_emp* is 1 if the individual is self-employed, *farm_season* denotes farmers and seasonal workers, *unemployed* indicates people who do not have a job but are currently seeking one, and *out_lab* is for people who are not in the labor force (C256). Nineteen percent of our sample is composed of civil servants, 16% are self employed, 3% are farmers or seasonal workers, and another 3% are unemployed, 19% are out of the labor force and the remaining 40% work in the private sector. Private was chosen to be the base category.

The gender of the interviewee is captured by *female*, which takes the value 0 when the gender is male and 1 when it is female (C249). Men constitute 71% percent of our sample whereas women make up only 29%.

Region of residence is another explanatory variable related to demographics. Four dummy variables were created to capture all the regions of Turkey: *Coast*, *Black Sea*, *Middle_anatolia* and *East.* East is chosen as the base category. Nearly 68% of the individuals in our sample live in coastal regions, 9% live in the Black Sea region, 16% live in central regions of Anatolia and 7% live in eastern regions. There is also another location-related variable: *Town*, which takes the value 1 if the person lives in a town and 0 if they live in a province center (C271). Nearly 11% of our sample lives in towns and the remaining 89% live in province centers. The summary statistics of life cycle, economic situation, ability to get credit and demographics variables are given in Table 8 and summary statistics of financial literacy variables together can be found in Appendix A.

Table 8. Summary Statistics of Independent Variables for Positive Values (financial literacy variables excluded)

Independent Variables (financial literacy variables excluded)	Mean	Std. Dev.	Min	Max
hhsize	3.642718	1.394754	1	15
age	38.01011	12.02202	18	83
married	.7099029	.4538951	0	1
divsepwid	.0368932	.1885362	0	1
hhincome	2231.887	1793.931	0	34400
state_home	3.475155	.6578606	1	5
cclimit	2435.549	2929.127	100	40000
female	.2853261	.4516573	0	1
drop out, primary, secondary	.3295807	.4701522	0	1
High school	.3583075	.4795962	0	1
University	.3121118	.4634451	0	1
cservant	.1896619	.3921097	0	1
Self_emp	.1609017	.3675117	0	1
farm_season	.0338127	.1807818	0	1
unemployed	.03459	.1827744	0	1
Out_lab	.1931597	.394854	0	1
Private	.3878741	.4873603	0	1
coast	.6840062	.4650007	0	1
blacksea	.0854037	.2795358	0	1
Middle_anatolia	.1556677	.3626104	0	1
East	.0749224	.2633171	0	1
town	.1052019	.3068729	0	1

CHAPTER 4

ECONOMETRIC METHOD AND TRANSFORMATION OF DEPENDENT QUANTITY VARIABLES

The question addressed by this thesis consists of two parts. First, the underlying factors that affect the decision to borrow (from various types of sources) are sought. Secondly, the determinants of the quantity debt are investigated for various methods of borrowing. Thus, as emphasized before, there are two nested dependent variables: The first one is the decision to enter the credit market as a binary variable, and the second one is the quantity of debt as a continuous variable. Therefore, we searched estimation strategies in which the decision to participate and quantity are estimated. There are different models to use for this purpose, which are summarized in the next subsections.

4.1 Tobit model

The Tobit model is a censored regression model that can deal with left or right censoring in the dependent variable. In our case, we have left censoring since there are no debt values for non-borrower households in the data. The Tobit model can be used in our case to estimate a linear relationship between variables since it can deal with the censoring feature of the variable of interest.

The standard Tobit specification is defined as below in Greene (2011):

$$y_i = \mathrm{X}_i{}^{*}\beta + \varepsilon_i$$

$$y_i = \begin{cases} y_i{}^{*} \; if \; y_i{}^{*} > 0 \\ 0 \; if \; y_i{}^{*} \leq 0 \end{cases}$$

where $y_i{}^{*}$ is a latent endogenous variable in our case representing individual i's desired level of debt amount, and y_i shows the actual debt amount. X_i is a set of individual characteristics that explain both the decision to enter the debt market and the debt

amount, and β is the vector of parameters to be estimated. The second equation states that the observed debt amount becomes positive if a positive debt amount is desired, and zero otherwise. Since there is no negative debt amount in our data, left- censoring will be placed at zero.

The first disadvantage of the Tobit model in the current setting is that it is a one-stage model, so only amount-related estimations can be carried out without considering the entrance decision to the debt market. In the literature, it is criticized since it does not consider the sources of the zeros. When the sources of zeros are not taken into account, individuals' non-participation decisions in the debt market can be ignored. Since the Tobit specification imposes implicitly that both entrance and amount decisions depend on the same factors, it is quite restrictive for our case.

In addition, as Nguyen (2007) points out, the non-random decision of a household to enter the debt market can lead to a sample selection problem and the Tobit model cannot handle this bias. In addition to the participation decision, households may not have access to credit. For instance, a non-borrowing household may want to participate in the credit market but may have been rejected by lenders. Because of these limitations of the Tobit model, other models for our purposes were sought.

4.2 Heckman model

The first problem mentioned above for the Tobit model can be dealt with the two-stage estimation method proposed by Heckman (1979). In this model, a full sample Probit estimation is followed by a censored estimation carried out on the non-zero subsample. The first stage gives us the probability of observing a positive outcome (known as the selection or participation equation), and the second stage shows the level

of participation, conditional on observing positive values (known as the conditional equation) (Dow and Norton 2003).

In contrast to the Tobit model, Heckman's (1979) model assumes that the zero observations do not arise randomly but from individuals' own deliberate decisions. With the Heckman specification, different sets of variables in each step of this two-step estimation procedure can be used to understand the reasons of zero observations. According to the Heckman selection model, a household must pass a participation hurdle before it is observed with a positive debt amount. The reduced forms of participation and debt amount equations are below, as described by Nguyen (2007):

$$d_i^* = Z_i \Upsilon + \mathrm{u}_i$$

$$d_i = \begin{cases} 1 \; if \; d_i^* > 0 \\ 0 \; if \; d_i^* \leq 0 \end{cases}$$

and the credit amount equation

$$y_i = X_i \beta + \varepsilon_i \text{ if } d_i = 1$$

$$= 0 \text{ if otherwise}$$

where d_i^* is a latent variable, and d_i and y_i are dependent variables. Z_i and X_i are control variables, Υ and β are the vectors of parameters to be estimated, and u_i and ε_i are the error terms for the first and second stages, respectively ($u_i \sim \mathrm{N}(0,1), \mathrm{corr}\,(u_i, \varepsilon_i) = \rho_{u\varepsilon}$). ε_i is assumed to be normally distributed but $\mathrm{E}(\varepsilon_i) \neq 0$ because of the censoring in y_i (zero or positive debt amount). d_i=1 indicates entrance to the debt market whereas d_i=0 shows non-participation. The Heckman model only includes the observations with d_i=1 in the second stage of the model.

According to Nguyen (2007), there are two cases to be discussed in terms of sample selection bias. When participation in the debt market and the amount of debt

decisions are independent, meaning that $\rho_{u\varepsilon} = 0$, there is no sample selection problem. OLS can be used for this case. However, when those decisions are dependent ($\rho_{u\varepsilon} \neq 0$), OLS will result in a bias, so the sample selection problem should be handled (Heckman 1979). Heckman suggests that the first stage should be estimated by MLE and the sample selection bias should be corrected by an additional term called the inverse Mills ratio $\widehat{\lambda_i} = \frac{\phi\,(X_i\,\widehat{\Upsilon_i})}{\Phi\,(X_i\,\widehat{\Upsilon_i})}$. In the second stage, OLS should be carried out with this additional term. Then the debt amount equation can be written as follows:

E ($y_i \mid X_i, d_i = 1$) = $X_i\,\beta + \sigma_i\,\rho_{u\varepsilon}\lambda_i$

However, one disadvantage of the Heckman model is that it assumes that there will be no zero observations in the second stage once the first-stage selection is passed. This feature of the model can be restrictive for our purposes, with reasons that will be touched upon while explaining the next model.

In this thesis, Heckman is only used in credit card related estimations. It is anticipated that it will yield similar results with the double hurdle model since our data consists of people who all have credit cards, and so are able to have positive amount of credit card debt. However, this is not so for other types of debt, and hence the Heckman model is not used for those cases.

4.3 Double Hurdle model

As the name of the model suggests, two hurdles have to be overcome to observe positive values. According to Cragg (1971), "First, a positive amount has to be desired. Second, favorable circumstances have to arise for the positive desire to be carried out"(p.831). There is a lot of research in various areas that utilize this methodology. For example, it has been used to predict the consumption of durable goods (Yen and Huang

1996) and alcohol (Aristei et al. 2005), for loan repayment behavior (Bhattacharjee and Rajeev 2013), for outstanding mortgage loan (Cunha 2009), for loan default (Moffatt 2005, Lambrecht and Pawlina 2013), for credit card behavior in relation with financial knowledge (Robb and Sharpe 2009), and to estimate consumer debt (Baek and Hong 2004).

When we adapt this methodology to our case, it can be said that borrowers must cross two hurdles in order to have a positive amount of debt. When the individual passes the 'first hurdle' she becomes a potential borrower. Given that she is a potential borrower, according to the definition above, circumstances will determine whether she passes the 'second hurdle' and actually borrows. It is suitable for our case since different sets of parameters can affect the decision to participate in the debt market and the amount of debt taken in different ways.

The double hurdle model differs from the Heckman model in one important point. The Heckman model assumes that when an individual passes the first hurdle, they directly become an actual borrower. There is no chance that circumstances then dictate whether or not they can be a potential borrower. Double hurdle relaxes this assumption and takes into account the possible situation that a potential borrower may have zero debt. Therefore some of the non-borrowers can be included in the quantity regression. The double-hurdle model contains two equations. We write:

$$d_i^{*} = z_i'\alpha + \varepsilon_i$$

$$y_i^{**} = X_i'\beta + \mathrm{u}_i$$

$$\begin{pmatrix}\varepsilon_i \\ \mathrm{u}_i\end{pmatrix} \sim \mathrm{N}\left[\begin{pmatrix}0\\0\end{pmatrix}, \begin{pmatrix}1 & 0\\ 0 & \sigma^2\end{pmatrix}\right]$$

Note from the diagonality of the covariance matrix that the two error terms are assumed to be independently distributed.

The first hurdle is represented as below:

$$d_i = \begin{cases} 1 \; if \; d_i^{\,*} > 0 \\ 0 \; if \; d_i^{\,*} \leq 0 \end{cases}$$

The second hurdle is actually similar to the Heckman model:

$$y_i^{\,*} = \max(y_i^{\,**}, 0)$$

Finally the observed variable is determined as:

$$y_i = d_i y_i^{\,*}$$

where $d_i^{\,*}$ and $y_i^{\,**}$ are latent variables, and d_i and y_i are dependent variables. Z_i and X_i are control variables, α and β are the vectors of parameters to be estimated, and u_i and ε_i are the error terms for the first and second stages, respectively.

The log-likelihood function for the double-hurdle model is:

$$Log\ L = \sum_{0}^{\infty} \ln\left[1 - \phi(z_i'\alpha)\phi(\frac{X_i'\beta}{\sigma})\right] + \sum_{+}^{\infty} \ln\left[\phi(z_i'\alpha)\frac{1}{\sigma}\phi(\frac{y_i - X_i'\beta}{\sigma})\right]$$

The maximization of this function for the sample values yields our estimates for the unknown parameters.

4.4 Transformation of the dependent quantity variables

The double-hurdle model is based on the assumption that the error terms are normally distributed. To be able to employ the maximum likelihood methodology as double hurdle estimation requires one should make sure that the residuals are normal. Otherwise, as Moffatt (2005) mentions, without normality the property of consistency of

the MLE fails to hold. In order to satisfy this requirement, a transformation of the dependent quantity variable is usually necessary.

The logarithmic transformation is clearly inappropriate due to the presence of the many zero-valued observations in the sample, and especially since the zeros are one focus of the analysis. So there are other transformation methods as:

4.4.1 Box-Cox transformation

The Box-Cox transformation is as follows:

$$y^T = \frac{y^\lambda - 1}{\lambda}, 0 < \lambda < 1$$

The parameter λ of Box-Cox transformation lies between the linear transformation ($\lambda = 1$) and the logarithmic transformation ($\lambda = 0$). Moffat (2005) applies this transformation to the data and then carries out Box-Cox double hurdle model.

4.4.2 Inverse Hyperbolic Sine (IHS) transformation

The IHS transformation accommodates zero, negative, and positive values for the random variable and is known to better handle extreme values than the Box-Cox transformation (Yen and Jones 1997). The transformation equation is given by

$$T(y) = \frac{log\left(\theta y + \sqrt{\theta^2 y^2 + 1}\right))}{\theta} = \sin h^{-1}(\theta y)/\theta.$$

The IHS transformation is commonly used in the literature for the double hurdle model. Some examples are Yen and Jensen (1995) in estimating alcoholic consumption by households, Yen and Jones (1997) in cheese consumption by households, Newman,

Henchion and Matthews (2003) in Irish household expenditures on prepared meals, and Sinning (2011) on the determinants of savings in Germany.

It is not advised to use the same set of regressors in both stages of the double hurdle model. The first hurdle is generally a function of non-economic factors affecting a household's borrowing decision, and the second equation usually consists of income-related variables. (Aristei and Pieroni 2005). This method was chosen for the estimations in this thesis in line with the literature.

CHAPTER 5

ESTIMATION RESULTS

Using the techniques described in Section 4, debt participation and debt quantity were estimated for a household's total debt, total debt to banks, total debt to informal sources, total credit card debt and total debt for those who only borrow informally. The results are presented in Appendix B. The resulting parameter values will be discussed according to their categories in the coming subsections.

Because of the nature of most of our variables, knowing the exact marginal effect is not necessary. It would be meaningless to state how much increase is expected when financial inclusion increases by 1 unit. Therefore, it is sufficient to know whether a variable affects the decision to participate in the debt market or the decision on debt amount positively or negatively.

5.1 Financial literacy

Financial literacy is assessed under four dimensions: inclusion, knowledge, behavior and attitude. There is a single index measuring the first category and it increases as the level of financial inclusion increases. The regression results indicate that being more financially included increases the probability of taking debt in general, borrowing on one's credit card, and borrowing from formal sources. The result for credit cards is confirmed with the Heckman model estimation. The results about credit cards and formal debt are as expected because when a person becomes more integrated into the financial system; they will have more access to debt obtained from financial institutions. Why they borrow more often is another question. It is possible that more included people optimize their lifetime consumption better, smoothing their incomes

through borrowing. Another possibility is that there is endogeneity associated with this variable, and having to borrow more often causes one to seek and find out about banks' services and use them. This is not expected to be a strong effect, though. The inclusion index includes many variables that have nothing to do with bank loans. Borrowing more often is not likely to be inducive to their utilization.

Inclusion also increases the amount of total debt and credit card debt, in line with the participation regression results. Informal debt amount, however, also seems to increase with inclusion. When we examine the sample we see that more than 35% of those who borrow from informal sources also owe banks non-credit card debt. The correlation between total debt and informal debt may be the cause of this result. To test this, we also use having only informal debt and the amount of debt for those who only have informal debt as dependent variables (informalonly), as can be seen in column 5 in Table 9. Inclusion index coefficient loses its significance, implying that the coefficient for Inclusion index for informal debt captures the effect on the amounts of both kinds of debt.

Financial knowledge, the index that increases in the measurements associated with one's financial information level, increases the probability of having debt in total at a low significance level, and increases the quantity of formal debt taken. It is possible that the financially more knowledgeable people borrow more often in general to smooth consumption. However, since this significance level is nearly negligible; we can also interpret the results as financial knowledge is not an important criterion while getting indebted. But, once the person becomes a borrower; it gains importance. This can e seen as compatible with daily life. People generally take debt because of necessity; though in the process of deciding the amount of it, they can consider different factor. So,

knowledge may become important in the second stage. and have more access to formal sources.

Different aspects of Financial behavior are captured with four indexes. The first one is Financial activeness, which increases in the amount of effort put in by the individual to achieve financially optimal outcomes. Financial activeness does not turn out to have any effect on taking debt more or less often in total, but it increases the quantity of debt once the person becomes a borrower. Being financially more active also decreases the probability of having credit card debt. The Heckman model also confirms that being financially more active decreases the likelihood of entering credit card market. These suggest that the financially more active people borrow in larger amounts when they borrow, and avoid expensive short-term small-amount loans. There is also the somewhat surprising and marginally significant result that a financially active person resorts more to informal sources when borrowing, but it is not confirmed by the InformalOnly regression results.

People with better money management skills incur all types of debt less often except for formal debt, about which there is no significant difference amongst varying money management index levels. But when they do borrow, these people prefer higher amounts of total debt. Borrowing less often may be interpreted as implying that these people are better prepared for emergencies, and they do not have to resort to borrowing in small amounts on their credit cards or from family and friends for income and expenditure shocks. When they do borrow, it is for big expenditures that may not be affordable otherwise, like mortgages or automotive credits.

People who experience more trouble with their credit cards are more likely to incur all types of debt. When they enter into these markets, however, they will have

smaller amounts of debt in total. It is possible that these people borrow in order to refinance their credit card debts. Since their financial troubles are registered in the banks and maybe also known by friends and family, it may be difficult for them to borrow high amounts from these sources.

People with high prudence levels borrow less often in total. Being prudent also affects the probability of having credit card debt negatively (also true for the Heckman model estimation). It does not affect the amount of debt from any kind of debt market. Prudent people may be more likely to spend within their income and be better prepared for financial shocks, and avoid debt whenever possible. This would explain their having to borrow less often on their credit cards and in total.

Financial attitude is only used for credit card related estimations. This index increases if a person's attitude towards credit card debt becomes more positive. A higher level of the index increases both the likelihood of entering the credit card market and the amount of debt taken from this market. In the literature, Baek and Hong (2004) also use attitude toward credit as a proxy for willingness to borrow and they conclude similarly that households with a positive attitude toward credit are more likely to have larger amounts of debt. The Heckman model also finds that a more positive outlook towards debt increases the chances of entering credit card debt market but it does not confirm the effect on quantity.

Overall, it seems that people's financial behavior and attitude are more important determinants of indebtedness levels and borrowing patterns than financial information. If financial education is to be used to improve individuals' decisions, it seems that improving money management skills is a more effective area to work on. Also, regulations may be pointed towards curbing imprudent behavior.

5.2 Life cycles

Baek and Hong (2004) find that household expansion increases debt demand. In our estimations Household size, a variable expected to proxy whether a household consists of a family with children, does not turn out to be an important factor in whether a person takes debt or not in general, but it has a significant positive effect on the probability of entering the informal debt market. These results suggest that families with children are more likely to borrow from friends and relatives. It is possible that larger families have more access to informal borrowing sources, or that they have less access to the formal financial system. This result does not hold for informalonly estimations, though. The quantity estimations show that even though the total debt amount does not depend on household size, increasing household size increases the amount of debt incurred in both informal and informalonly categories. Hence, our outcome for Turkey is in line with the life cycles theory for the informal debt category only.

Age is another variable capturing at which stage of life an individual is, though the sample does not necessarily consist of household heads and thus the age variable may not give information about the household's life cycle. It is found that when age increases, the likelihood of entering the debt market (in total) increases, though at a decreasing rate since the coefficient of agesq is significant and negative. This result is consistent with Magri's (2007) finding that the probability of demanding a loan increases until a certain age and then it begins to fall. This is in parallel with the life cycles hypothesis. In addition, there is a linear increasing relationship between age and the probability of entering the formal debt market. This result, on the other hand, may indicate that the ability to get formal credit increases with age as consumers start accumulating assets for collateral and building credit histories.

Age does not have any effect on debt amount in total but it affects the informal debt amount positively and at a decreasing rate, as in Baek and Hong (2004) and Cox and Jappelli (1993). However, this result does not hold for informalonly, and so may apply to more than just informal debt, or may not mean much since the variable does not capture the household head's age. Increasing values of the variable also decrease the formal debt amount in a linear fashion at a low level of significance. Coupled with the previous result, this suggests that as people age they borrow more often from banks but in decreasing amounts. This is consistent with people borrowing for large-expenditure items when they are younger, and using smaller amounts of credit like consumer credit later in life.

Marital status is not a significant factor on whether a person takes debt or not in total, but married people borrow larger amounts when they do. Being married may point to a life cycles stage in which one needs to buy items such as a house or a family car. To finance such needs, married people may have a higher total debt amount compared to single ones. Another result is that being married increases the probability of entering the informal debt market (which includes formal borrowers as well), and the amount of debt for those who only borrow from informal sources. It is possible that married people have larger family networks from which to borrow. Being married also increases the amount of credit card debt at a low level of significance but the Heckman model does not confirm it. Being widowed, divorced or separated, compared to being single or married, does not affect the probability of entering any type of debt market, however it increases total debt amount at a low level of significance. Married people may have the advantage to combine savings that widowed, divorced or separated people lack.

5.3 Economic situation

Income increases the probability of entering the debt market in total. It also increases the probability of participating in the formal debt market whereas it makes borrowing only from informal sources less likely. These results are as expected: higher income people have more access to loans, especially in the formal market, since they are seen as a safe group that is capable of paying back their debt. Lower income people, on the other hand, are more likely to borrow from friends and relatives, probably because they are refused or expect to be refused by banks. Once an individual enters these markets, higher income leads to higher debt amount for all kinds of debt except for credit cards. This can be due to two reasons. First, when people have a higher income, they may be viewed as more creditworthy by all types of creditors, and hence allowed higher lines of credit. Second, higher income people may have higher future income expectations, and they may want to get indebted accordingly in order to smooth their lifetime consumption. As for credit cards, both double hurdle and Heckman models yield insignificant coefficients. People usually borrow in small amounts on their credit cards, and since the sample consists of only people with credit cards, income differentials do not make much difference.

Higher values of Wealth, proxied by the state or appearance of the dwelling of the interviewee as evaluated by the interviewer, decreases the probability of taking debt in total. It also reduces the probability of taking credit card and formal debt. It decreases the amount of total and formal debt. These suggest that people who already own the big-expenditure items need to borrow less often and in smaller amounts. Crook and Hochguertel (2007) find a similar result that the wealth effect is strongly negative on

debt demand for Netherlands and Italy. For credit cards, the double hurdle and Heckman models yield the same result: they both predict that when a person is wealthier, the probability of their taking credit card debt decreases but the amount of this debt is not affected by wealth. Wealthier people are less likely to be revolvers but since the quantity of credit card debt does not show as large a variation as other types of debt, when they do borrow the quantities are not different from the less wealthy in a meaningful degree.

5.4 Ability to get credit

Credit card limit, denoted by lncclimit, is used to control for the ability to borrow only as pertains to quantity. The entire sample is made up of credit card owners. Hence, the total credit card limit is a variable that helps to differentiate between these subjects in terms of the extent of their borrowing ability, and so it is only used in the second stage of the double hurdle model. A consumer's inability to borrow is treated as a credit constraint and it is a possible reason for the failure of the life cycles hypothesis. Although people may want to undertake bigger debt burdens early in their life cycles stages, they may not be able to since they are constrained by credit sources (Baek and Hong 2004). The results show that when credit card limit increases, total debt and formal debt amounts increase, confirming our expectation. This result is similar to Kim and DeVaney's (2001) result that credit limit and the amount of credit card debt have a positive relationship. Since this variable is credit card limit, its effect on credit card is also positive and significant as would be expected in both the double hurdle and Heckman models. Therefore, it can be concluded that when people are not credit constrained, they are likely to have higher amounts of debt.

5.5 Demographics

Education can affect debt participation and quantity in a variety of ways. People with higher levels of education may have higher income jobs, giving them more ability to borrow, or more willingness to borrow considering future income expectations. On the other hand, if wealth and getting educated are correlated, the result may be a lower propensity to borrow. Education levels of the interviewees were grouped into three categories for the regressions. The first category consists of drop outs and primary or secondary school graduates. The second category is high school graduates and the third one (the base category) is those with at least a bachelor's degree. The results indicate that those in the first two categories are more likely to have credit card debt, formal debt and total debt. This result points to the possible wealth-education association. The result for credit card market participation also holds in the Heckman model. Likewise, Min and Kim (2003) note that the probability of borrowing from credit card is negatively correlated with years of education.

In the quantity regressions, it is seen that drop outs and primary or secondary school graduates have higher levels of total debt compared to university graduates. Min and Kim (2003) also find that the level of credit card borrowing and education years have a negative relationship. These results are in accord with the participation regression results. Similarly, the results also show that high school graduates have more credit card and formal debt compared to again university graduates at a low level of significance.

Occupations are controlled in the regressions using six categories. Compared to the base category of private sector employees, farmers and seasonal workers have higher tendencies to have debt overall. They are also more likely to take credit card and formal

debt at a low level of significance. Farmers and seasonal workers have seasonal incomes, and hence they need to borrow more often in order to smooth consumption. Farmers are also entitled to special farming credits and special credit cards from banks given at convenient rates, explaining more of the results above. The credit card result is confirmed by the Heckman model. Nguyen (2007) arrived at a similar conclusion, stating that households who are in the agriculture sector are more likely to borrow. In terms of quantity, this group borrows more in general and has more formal credit.

Estimation results also indicate that it is also more probable for civil servants to enter the formal debt market and borrow larger amounts of formal and total debt than private sector workers. Civil servants have a regular and stable income, making them more eligible for bank loans. The results reflect this fact. The self employed, on the other hand, are not different from the other occupational groups in terms of the likelihood of taking any type of credit, but they borrow higher amounts of total, formal and credit card debt, though the last result is not confirmed by the Heckman model. The irregularities in the incomes of the self-employed may push them to borrow larger amounts, just like farmers and seasonal workers.

Unemployed people borrow more often in general, and from credit cards and other formal sources. This is likely to be because of their needs. When they borrow, they borrow more, in general, on their credit cards (not supported by the Heckman results), and from informal sources, but the significance of these findings is low. They may not have access to large quantities of debt since they may be considered risky. Those out of the labor market do not show different characteristics from private sector workers in terms of entering debt markets or borrowing amounts.

Gender does not turn out to be a factor for having any type of debt. However, being female negatively affects the amount of debt in total. This finding is quite common in the literature. It is justified with the male being more frequently associated with being the household head, and being more likely to take loans for the entire household. Diagne (1999) also finds that both formal and informal loan sizes demanded are smaller for women.

There is a higher chance that people living in the coastal and Black Sea regions enter the formal debt market compared to the people live in the eastern regions of Turkey. People in the eastern region may have less access to reach these debt markets, as there are fewer banks and fewer branches. People who live in towns are more likely to have debt in general and informal debt. Both credit card estimations predict that people who live in towns participate less often in the credit card market. This may stem from the fact that some towns may not have the necessary infrastructure (POS) to use credit cards on the same scale as a city. When we turn to the amount of debt, it is seen that no region is significantly different from the others, nor are towns different from cities.

CHAPTER 6

CONCLUSION

Following the 1980's, banking activities began focusing on retail credit globally. With better risk management tools, credit cards and other innovative products came into the picture. Households became the target group of banks instead of corporate customers when retail banking started to gain importance. However, in addition to institutional failures, households' lack of financial literacy brought problems to the financial system and this finally led to the US financial crisis in 2008.

Turkey, at that time, was experiencing a banking sector transformation following the 2000-2001 crisis. The macroeconomic conditions such as increasing foreign capital and decreasing public sector borrowing requirement gave an opportunity for banks to put emphasis on retail credit demand. Even though there is still a low rate of household indebtedness in Turkey compared to many other countries, there is a severe increase.

This thesis aims to understand the factors which affect households' decision to enter the credit market and the amount of debt they desire. Since there is no research examining the demand side of the retail credit market using micro data for Turkey, this thesis will serve as a useful beginning point about the rapidly growing Turkish credit market. In addition, financial literacy has been on the agenda in recent years, both for policy makers and academic researchers, due to the possibility that it is a factor affecting financial behavior and financially desirable outcomes for entire economies. In this thesis, this potential relationship is examined and various important conclusions are drawn for regulators, financial institutions and researchers. Moreover, the data presents information about different subcategories of debt, namely formal, informal and credit

card debt. This thesis investigates whether different debt types have similar or different determinants. By learning this, it is possible to design various solutions for different household profiles concerning the rising indebtedness problem.

The possible factors that can affect formal, informal, credit card and total debt are investigated under five main categories: financial literacy, life cycles, economic situation, ability to get credit, and demographics. Financial literacy is divided into three components: financial inclusion, financial knowledge and financial behavior.

The double hurdle model by Cragg (1971) was chosen as the most suitable model to estimate the significant factors for both households' decision to enter credit market and the amount of debt. In this specification, there are two hurdles to be overcome to observe a positive debt amount. When the first hurdle is passed, the individual is called a potential borrower. Given the individual is a potential borrower, current circumstances decide whether they can have positive amount of debt to pass the second hurdle. To carry out this estimation with maximum likelihood methodology, error terms should be normal; otherwise, the consistency of the MLE cannot hold. A transformation technique called Inverse Hyperbolic Sine (IHS) transformation was used since it is not possible to have normal residuals without this transformation.

To interpret the results generally, ignoring the marginally significant coefficients, it was seen that being more integrated into the financial system increases both the likelihood of acquiring debt and the amount of debt in general. This result also holds true for credit cards, and in one tier each of formal and informal debt estimations. Financial knowledge increases formal borrowing amounts. When examining financial behavior, we see that being financially more active actually leads people to borrow larger amounts only from the informal credit market and also in general. People with

better money management skills borrow less often from credit cards, from the informal market, and from the debt market in general. Those who have had trouble making credit card payments borrow more often from other types of creditors, possibly to pay their credit card debts. Prudent people borrow less often on credit cards and in total. Having a more positive attitude towards debt increases the odds of people borrowing on their credit cards. The overall picture points to the conclusion that people with better financial behavior are better prepared for emergencies and borrow less often on their credit cards. When they do borrow, it is for large sums, possibly for smoothing consumption by purchasing expensive items like housing. This presents evidence supporting the thesis that financially more literate people make more rational borrowing decisions. Also, financially more included people borrow more often from formal creditors.

Households with a large number of members have a greater tendency to borrow from relatives or friends, and they borrow high amounts of debt from these sources. Age increases the probability of entering the debt market but to a certain point as it has a decreasing rate of increase. This result is also in parallel with the life cycles hypothesis. Being married, widowed, divorced or separated does not turn out to be related to the probability of taking debt but it increases the amount of debt. It is easier to enter the credit market and take more debt for people who have higher income. However, wealthier people do not want to enter the credit market as the less wealthy do. Credit card limit, denoting one's ability to get credit, increases the amount of credit card debt one can incur. Less educated people are more inclined to have debt and they borrow in higher amounts. When it comes to occupations, people who have jobs with stable income have less motivation to get credit, but when they enter the debt market, they get indebted for larger amounts. While there is no gender difference in the probability of

borrowing, men get indebted for larger amounts compared to women. Regions with more access to banks have higher indebtedness probabilities. People who live in towns as opposed to province centers are more inclined to enter the credit market.

These results are important for policy makers in making decisions on measures affecting indebtedness and on financial education to improve financial literacy. More than financial information, it seems that people's financial behavior and attitudes make a difference on indebtedness levels and smart borrowing. Education to improve behavior (on money management, for example) and regulations on the use of credit cards (to prevent imprudent behavior, for example) may be relevant policy tools to be employed.

APPENDIX A

SUMMARY STATISTICS OF FINANCIAL LITERACY VARIABLES

Independent Variables – Financial literacy	Mean	Std. Dev.	Min	Max
Inclusion index	5.177019	2.608818	0	14
Knowledge index	1.175854	.9174338	0	5
Knowledge index for credit card	.820264	.6041225	0	2
Activeness index	1.337733	.8393646	0	3
Money management index	-.0275621	.8065371	-2	1
Trouble with credit card index	2744565	.4463266	0	1
Prudence	.2814441	.4497909	0	1
Attitude index	2.703776	1.201079	1	5

APPENDIX B

ESTIMATION RESULTS

TIER 1	Total	Formal	Informal	Credit Card	nformalOnly
hhsize	0.014	-0.011	0.051	0.027	0.040
	(0.65)	(-0.48)	(1.99)**	(1.21)	(1.37)
age	0.043	0.038	0.006	0.028	-0.014
	(2.55)**	(2.08)**	(0.25)	(1.51)	(-0.55)
agesq	-0.000	-0.000	-0.000	-0.000	0.000
	(-2.18)**	(-1.34)	(-0.44)	(-1.76)*	(0.22)
married	-0.124	0.036	0.215	-0.127	0.150
	(-1.50)	(0.39)	(1.97)**	(-1.42)	(1.22)
divsepwid	-0.021	0.050	0.133	0.276	0.055
	(-0.12)	(0.27)	(0.59)	(1.53)	(0.21)
lnhhincome	0.142	0.289	-0.033	0.020	-0.179
	(2.47)**	(4.56)***	(-0.45)	(0.32)	(-2.11)**
state_home	-0.187	-0.186	-0.010	-0.185	0.048
	(4.11)***	(-3.70)***	(0.18)	(-3.71)***	(0.72)
drop_primary_secondary	0.389	0.379	0.118	0.299	0.144
	(4.34)***	(3.87)***	(1.03)	(3.06)***	(1.09)
high_school	0.259	0.206	0.067	0.287	0.041
	(3.49)***	(2.54)**	(0.68)	(3.52)***	(0.35)
cservant	0.069	0.269	-0.152	-0.127	-0.178
	(0.82)	(3.00)***	(-1.34)	(-1.36)	(-1.35)
self_emp	0.040	0.045	0.147	-0.011	0.039
	(0.47)	(0.47)	(1.40)	(-0.12)	(0.32)
farm_season	0.304	0.328	0.295	0.294	0.094
	(1.93)*	(1.91)*	(1.63)	(1.81)*	(0.46)
unemployed	0.405	0.417	0.067	0.422	-0.071
	(2.57)**	(2.45)**	(0.35)	(2.67)***	(-0.33)
out_lab	-0.019	0.077	-0.076	-0.003	-0.136
	(-0.19)	(0.69)	(-0.58)	(-0.03)	(-0.91)
female	-0.017	-0.050	0.003	-0.099	-0.066
	(-0.25)	(-0.67)	(0.04)	(-1.36)	(-0.65)
coast	0.146	0.257	0.038	0.188	-0.069
	(1.26)	(1.82)*	(0.27)	(1.48)	(-0.45)
blacksea	0.130	0.346	0.013	0.229	-0.066
	(0.88)	(2.03)**	(0.07)	(1.44)	(-0.33)
middle_anatolia	-0.059	0.108	-0.148	0.029	-0.227
	(-0.46)	(0.69)	(-0.90)	(0.20)	(-1.26)
town	0.159	0.130	0.206	-0.208	0.233
	(1.74)*	(1.31)	(1.89)*	(-2.03)**	(1.93)*
inclusion_index	0.105	0.145	0.016	0.051	-0.015
	(7.80)***	(9.80)***	(0.93)	(3.54)***	(-0.78)
knowledge_index_CC				0.014	
				(0.26)	
knowledge_index	0.058	-0.026	-0.001		-0.015
	(1.83)*	(-0.75)	(-0.02)		(-0.32)
activeness_index_3	-0.031	0.043	0.073	-0.066	0.025
	(-0.93)	(1.19)	(1.71)*	(-1.80)*	(0.52)
money_management_index	-0.177	-0.033	-0.125	-0.389	-0.129
	(-5.01)***	(-0.87)	(-2.80)***	(-10.16)***	(-2.53)**
trouble with credit card	0.795	0.272	0.378		0.306
	(12.50)***	(3.99)***	(5.01)***		(3.56)***
prudence	-0.221	-0.093	-0.114	-0.256	-0.106
	(-3.32)***	(-1.31)	(-1.31)	(-3.44)***	(-1.04)
attitude_index				0.180	
				(6.99)***	
_cons	-2.648	-4.705	-1.712	-1.698	-0.115
	(-5.04)***	(-8.04)***	(-2.53)**	(-2.94)***	(-0.15)
TIER 2	Total	Formal	Informal	Credit Card	InformalOnl y
hhsize	0.014	0.019	0.097	0.014	0.124
	(0.38)	(0.46)	(1.78)*	(0.51)	(1.71)*
age	-0.013	-0.059	0.158	0.016	0.084

	(-0.42)	(-1.72)*	(3.23)***	(0.73)	(1.27)
agesq	0.000	0.001	-0.002	-0.000	-0.001
	(0.66)	(1.62)	(-3.14)***	(-0.56)	(-1.31)
married	0.619	0.275	0.321	0.175	0.802
	(4.29)***	(1.61)	(1.28)	(1.69)*	(2.58)***
divsepwid	0.532	0.256	0.235	0.064	0.198
	(1.88)*	(0.80)	(0.47)	(0.33)	(0.30)
lnhhincome	0.531	0.474	0.575	0.028	0.634
	(5.22)***	(4.07)***	(3.44)***	(0.36)	(3.02)***
state_home	-0.143	-0.176	-0.150	-0.030	-0.191
	(-1.78)*	(-1.92)*	(-1.19)	(-0.47)	(-1.16)
lncclimit	0.395	0.310	0.138	0.406	0.198
	(5.94)***	(4.06)***	(1.26)	(8.35)***	(1.38)
drop_primary_secondary	0.363	0.259	0.317	0.074	0.269
	(2.28)**	(1.49)	(1.22)	(0.62)	(0.76)
high_school	0.210	0.268	0.070	0.183	-0.081
	(1.59)	(1.84)*	(0.32)	(1.84)*	(-0.26)
cservant	0.569	0.744	0.096	-0.013	0.043
	(3.89)***	(4.70)***	(0.37)	(-0.11)	(0.12)
self_emp	0.294	0.346	0.312	0.238	0.417
	(1.99)**	(1.97)**	(1.30)	(2.21)**	(1.41)
farm_season	0.496	0.603	0.273	0.207	-0.498
	(1.93)*	(1.89)*	(0.73)	(1.17)	(-1.04)
unemployed	0.438	0.446	0.736	0.308	0.302
	(1.77)*	(1.49)	(1.78)*	(1.89)*	(0.59)
out_lab	0.172	0.286	0.337	0.014	0.321
	(0.98)	(1.36)	(1.14)	(0.11)	(0.87)
female	-0.198	-0.211	0.160	-0.090	0.318
	(-1.68)*	(-1.55)	(0.85)	(-0.99)	(1.21)
coast	0.117	-0.065	0.229	0.034	0.330
	(0.54)	(-0.22)	(0.75)	(0.22)	(0.92)
blacksea	0.203	0.077	0.078	-0.037	-0.024
	(0.77)	(0.23)	(0.19)	(-0.19)	(-0.05)
middle_anatolia	0.040	-0.068	0.159	-0.007	0.367
	(0.17)	(-0.21)	(0.43)	(-0.04)	(0.84)
town	0.193	0.231	-0.189	0.029	-0.121
	(1.25)	(1.33)	(-0.80)	(0.23)	(-0.43)
inclusion_index	0.111	0.041	0.106	0.043	0.077
	(4.54)***	(1.45)	(2.60)***	(2.39)**	(1.53)
knowledge_index_CC				-0.017	
				(-0.26)	
knowledge_index	-0.019	0.204	0.100		0.085
	(-0.35)	(3.34)***	(1.11)		(0.75)
activeness_index_3	0.119	-0.036	0.078	-0.015	0.263
	(2.08)**	(-0.56)	(0.83)	(-0.35)	(2.15)**
money_management_index	0.108	0.066	0.101	-0.057	-0.034
	(1.77)*	(0.93)	(1.00)	(-1.23)	(-0.27)
trouble with credit card	-0.190	-0.034	-0.027		0.052
	(-1.89)*	(-0.28)	(-0.16)		(0.24)
prudence	0.124	-0.029	-0.205	-0.059	-0.027
	(1.06)	(-0.23)	(-1.02)	(-0.64)	(-0.10)
attitude_index				0.059	
				(1.83)*	
_cons	0.261	3.85	-1.401	2.552	-1.315
	(0.28)	(3.55)***	(-0.90)	(3.60)***	(-0.53)
_cons	1.502	1.249	1.238	0.821	1.215
	(44.54)***	(32.80)***	(22.98)***	(33.38)***	(18.49)***
	2,336	2,347	2,350	2,346	2,350

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

CCDebt	hhsize	37.324
		(0.61)
	age	42.158
		(0.74)
	agesq	-0.597
		(-0.80)
	married	-34.893
		(-0.13)
	divsepwid	-66.164
		(-0.13)
	lnhhincome	36.854
		(0.28)
	state_home	-115.866
		(-0.39)
	lncclimit	578.275
		(7.67)***
	drop_primary_secondary	271.957
		(0.54)
	high_school	460.549
		(1.01)
	cservant	-341.365
		(-1.19)
	self_emp	256.875
		(1.41)
	farm_season	369.266
		(0.71)
	unemployed	377.858
		(0.58)
	out_lab	227.141
		(1.06)
	female	-178.868
		(-0.81)
	coast	-256.857
		(-0.62)
	blacksea	100.775
		(0.20)
	middle_anatolia	-390.149
		(-1.28)
	town	-211.746
		(-0.58)
	inclusion_index	55.866
		(0.68)
	knowledge_index_CC	0.735
		(0.01)
	activeness_index_3	-150.258
		(-1.27)
	money_management_index	-364.879
		(-0.63)
	prudence	-523.449
		(-1.24)
	attitude_index	205.504
		(0.75)
	_cons	-6,268.979
		(-1.43)
CCDebtParticipation	hhsize	0.028

		(1.23)
	age	0.028
		(1.53)
	agesq	-0.000
		(-1.80)*
	married	-0.135
		(-1.51)
	divsepwid	0.258
		(1.45)
	lnhhincome	0.022
		(0.35)
	state_home	-0.183
		(-3.68)***
	drop_primary_secondary	0.303
		(3.11)***
	high_school	0.286
		(3.51)***
	cservant	-0.135
		(-1.45)
	self_emp	-0.003
		(-0.03)
	farm_season	0.302
		(1.86)*
	unemployed	0.420
		(2.67)***
	out_lab	-0.005
		(-0.05)
	female	-0.108
		(-1.48)
	coast	0.205
		(1.62)
	blacksea	0.239
		(1.51)
	middle_anatolia	0.039
		(0.27)
	town	-0.201
		(-1.97)**
	inclusion_index	0.051
		(3.51)***
	knowledge_index_CC	0.012
		(0.23)
	activeness_index_3	-0.062
		(-1.71)*
	money_management_index	-0.388
		(-10.16)***
	prudence	-0.259
		(-3.50)***
	attitude_index	0.181
		(7.06)***
	_cons	-1.742
		(-3.02)***
mills	lambda	1,115.705
		(0.54)
N		2,378

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

APPENDIX B

ESTIMATION RESULTS

frekans RESEARCH	Boğaziçi University	TÜBİTAK	**Survey No**	
			Province	
			Town	

The Survey of Credit Card Usage - April 2009

Have a good day. My name is ..... We are conducting a survey on credit card usage on behalf of Boğaziçi University supported by the Scientific and Technological Research Council of Turkey (TÜBİTAK) for scientific purposes only. The interviews are conducted on households which were selected by random methods covering 2,500 people across Turkey. This study will be evaluated only for general results and your personal information will not be used in any way. Our survey will take approximately 30 minutes. Thank you in advance for your help.

A-INTRODUCTION

A-1	**Do you have a credit card?**	1> Yes **2> No (Finish the interview)**	c1.
A-2	**Are the decisions concerning the selection and monthly payments of this credit card made by you?**	1> Yes **2> No (Finish the interview)**	c2.

C-BANK CHOICE

C-1	**Now, I will ask you some questions about banking services.**	No	Yes	
	Do you have a time deposit account?	0	1	c3.
	Do you have a liquid deposit account?	0	1	c4.
	Do you make investment transactions from your bank? (foreign exchange, fund, debenture, bond, Eurobond, stock, gold, repos, derivatives exchange)?	0	1	c5.
	Do you have a private pension fund account?	0	1	c6.
	Do you use automatic payment orders in your bank?	0	1	c7.

	If you are working, are your wages deposited at the bank?	0	1	c8.
	Do you make tax or insurance payments from your bank?	0	1	c9.
	Have you ever used automotive credit?	0	1	c10.
	Have you ever used housing/mortgage credit?	0	1	c11.
	Have you ever used consumer credit?	0	1	c12.
	Have you ever used commercial credit?	0	1	c13.

C-2	**How often do you use the following banking services?** **Please assign 5 to the very frequently used services and 1 to services you never use.**	Never	Seldom	Sometimes	Frequently	Very Frequently	
	Internet banking	1	2	3	4	5	c 14.
	Telephone banking	1	2	3	4	5	c 15.
	ATM	1	2	3	4	5	c 16.
	Transfer Operations like EFT	1	2	3	4	5	c 17.
	Commercial banking services (check, script, leasing)	1	2	3	4	5	c 18.

C-3	**At which banks do you have an account?** **(You can select more than one bank name)** **(If the subject is not able to remember, read the bank names.)** **NOTE: All banks at which the subject has a credit card should be selected.**	1.Akbank 2.Al Baraka Türk 3.Anadolubank 4.BankAsya 5.Citibank	15.Kuveyt Türk 16.Millennium Bank 17.Şekerbank 18.Tekstilbank	c19. c20. c21. c22. c23. c24.

		6.Denizbank 7.Eurobank Tekfen 8.Finansbank 9.Fortisbank 10.Garanti Bankası 11.Halk Bankası 12.HSBC Bank 13.ING Bank 14.İş Bankası	19.Turkish Bank 20.Turkland Bank 21. Türk Ekonomi Bankası 22.Türkiye Finans 23.Vakıfbank 24.Yapı ve Kredi Bankası 25. Ziraat Bankası	c25.
C-4	**Which of these banks is the one you use most frequently?**	.....		c26.
C-5	**For about how many years have you been working with this bank?**	..... years 96> Less than a year		c27.

C-6	**Please rate the effectiveness of the listed factors in your decision to choose this bank.** **Please assign 5 to the most important reasons and 1 the least important reasons.** **(Note to surveyor: SHOW CARD)**	Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	01. Higher interest rates on deposits	1	2	3	4	5	c 28.
	02. Low account fees (or zero)	1	2	3	4	5	c 29.
	03. Low fees on transactions like money transfers, checks	1	2	3	4	5	c 30.
	04. Lower interest rates and costs for credit	1	2	3	4	5	c 31.
	05. Ease of using credit	1	2	3	4	5	c 32.
	06. Some household income is deposited at this bank	1	2	3	4	5	c 33.
	07. Special services for tradesmen and farmers	1	2	3	4	5	c 34.
	08. People I am in touch with are working with this bank	1	2	3	4	5	c 35.
	09. Closeness of bank branch	1	2	3	4	5	c 36.

	10. Branch density	1	2	3	4	5	c37.
	11. Service quality (like speed of services, courtesy of workers, and ambiance of bank branch)	1	2	3	4	5	c38.
	12. ATM density	1	2	3	4	5	c39.
	13. Good internet banking	1	2	3	4	5	c40.
	14. Good telephone banking	1	2	3	4	5	c41.
	15. Ease of foreign transactions	1	2	3	4	5	c42.
	16. High security in transactions	1	2	3	4	5	c43.
	17. The availability of customized services	1	2	3	4	5	c44.
	18. The availability of a wide range of services	1	2	3	4	5	c45.
	19. Having a prestigious and good name?	1	2	3	4	5	c46.
	20. Its being a trustworthy and sound bank	1	2	3	4	5	c47.
	21. Its being a state bank	1	2	3	4	5	c48.
	22. Its being a Turkish bank	1	2	3	4	5	c49.
	23. Its being an international bank	1	2	3	4	5	c50.
	24. Its being a participation bank (interest free banking)	1	2	3	4	5	c51.
	25. Recommendations of acquaintances	1	2	3	4	5	c52.
	27. Its being my first bank	1	2	3	4	5	c53.
	Other:		2	3	4	5	c54.
C-7	**How would you rate your level of satisfaction with this bank?**	1> Not all satisfied 2> Dissatisfied 3> Neutral 4> Satisfied 5> Very satisfied					c55.

C-8	**Have you ever changed your most frequently used bank?**	1>Yes 2>No (Skip C-10)	c56.
C-9	**If yes, what was the reason?**	1>The interest rates and prices of the new bank are better 2>The availability of more diverse and better services at the new bank 3> The bank where some household income is deposited changed 4> People I am in touch with are working with the new bank 5>The branch of the new bank is closer Other…	c57.
C-10	**Do you remember how much of the bank deposits are under the guarantee of the state for every single depositor?**	1> All of the deposits 2> up to 100,000TL of the deposited amount 3> up to 50,000TL of the deposited amount 4> up to 25,000TL of the deposited amount 5> There is no state guarantee for deposits 99> I don't remember/ I don't know	c58.
	D- CREDİT CARD SELECTION		
	Now, I will ask you some questions about your credit cards. Please think of the credit cards that you selected and about which you make the payment decisions.		

D-1	**Please rate the effectiveness of the listed factors in your decision to use a credit card.** **Please assign 5 to the most important reasons and 1 the least important reasons.** **(Note to surveyor: SHOW CARD)**	Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	Not wanting to carry cash	1	2	3	4	5	c59.
	Borrowing	1	2	3	4	5	c60.
	Being able to make purchases when short of cash	1	2	3	4	5	c61.
	Being able to take cash advances when short of cash	1	2	3	4	5	c62.
	Wanting to take advantage of installments	1	2	3	4	5	c63.
	Wanting to take advantage of discounts and fuel campaigns	1	2	3	4	5	c64.

	Internet shopping	1	2	3	4	5	c65.
	Convenience in shopping abroad	1	2	3	4	5	c66.
	Convenience in making reservations (tickets, hotel, etc.)	1	2	3	4	5	c67.
	Being able to keep track of my expenditures	1	2	3	4	5	c68.
	Other …..	1	2	3	4	5	c69.

D-2	**Which cards of which banks do you own, and how often do you use them?** **What brand is/ are your card/s?** **How often do you use these cards?** **NOTE: If the subject does not remember the type of the card, write both bank and card information under "other".**	**Tick if have**	Never	Seldom	Sometimes	Frequently	Very Frequently	
	Akbank –Axess	**1**	1	2	3	4	5	c70.
	Akbank –Wings	**2**	1	2	3	4	5	c71.
	Akbank- Fish	**3**	1	2	3	4	5	c72.
	Al Baraka Türk	**4**	1	2	3	4	5	c73.
	Anadolubank	**5**	1	2	3	4	5	c74.
	Bank Asya	**6**	1	2	3	4	5	c75.
	Citibank	**7**	1	2	3	4	5	c76.
	Citibank –Citiaxess	**8**	1	2	3	4	5	c77.
	Denizbank	**9**	1	2	3	4	5	c78.
	Denizbank-Bonus	**10**	1	2	3	4	5	c79.
	Eurobank Tekfen	**11**	1	2	3	4	5	c80.
	Finansbank (CardFinans)	**12**	1	2	3	4	5	c81.
	Fortisbank	**13**	1	2	3	4	5	c82.
	Fortisbank -World	**14**	1	2	3	4	5	c83.
	Garanti Bankası –Bonus	**15**	1	2	3	4	5	c84.
	Garanti Bankası –Flexi	**16**	1	2	3	4	5	c85.
	Garanti Bankası -Shop&Miles	**17**	1	2	3	4	5	c86.

	Garanti Bankası -American Express	**18**	1	2	3	4	5	c87.
	Halk Bankası – Advantage	**19**	1	2	3	4	5	c88.
	Halk Bankası – Halkcard	**20**	1	2	3	4	5	c89.
	HSBC Bank- Advantage	**21**	1	2	3	4	5	c90.
	ING Bank - Maximum	**23**	1	2	3	4	5	c91.
	ING Bank – Bonus	**24**	1	2	3	4	5	c92.
	İş Bankası (Maximum)	**25**	1	2	3	4	5	c93.
	Kuveyt Türk	**26**	1	2	3	4	5	c94.
	Millenium Bank	**27**	1	2	3	4	5	c95.
	Şekerbank	**28**	1	2	3	4	5	c96.
	Şekerbank –Bonus	**29**	1	2	3	4	5	c97.
	Tekstilbank	**30**	1	2	3	4	5	c98.
	Tekstilbank –Advantage	**31**	1	2	3	4	5	c99.
	Turkish Bank	**32**	1	2	3	4	5	c 100.
	Turkland Bank	**33**	1	2	3	4	5	c 101.
	Türk Ekonomi Bankası (TEB)	**34**	1	2	3	4	5	c 102.
	Türk Ekonomi Bankası (TEB)-Bonus	**35**	1	2	3	4	5	c 103.
	Türkiye Finans	**36**	1	2	3	4	5	c 104.
	Vakıfbank – Vakıf	**37**	1	2	3	4	5	c 105.
	Vakıfbank – World	**38**	1	2	3	4	5	c 106.
	Vakıfbank - Rail&Miles	**39**	1	2	3	4	5	c 107.
	Yapı ve Kredi (World)	**40**	1	2	3	4	5	c 108.
	Ziraat Bankası –Ziraat	**41**	1	2	3	4	5	c 109.
	Ziraat Bankası –Maximum	**42**	1	2	3	4	5	c 110.

	Other ……	**43**	1	2	3	4	5	c 111.
D-3a	**[IF THE SUBJECT HAS ONLY ONE CARD]** **[Skip D-6 after D-3a]** **Please rate the effectiveness of the listed factors in your decision to have only one credit card.** **Please assign 5 to the most important reasons and 1 the least important reasons.** **(Note to surveyor: SHOW CARD)**		Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	Not wanting to pay more than one annual fee.		1	2	3	4	5	c 112.
	The difficulty of making an application for a new card		1	2	3	4	5	c 113.
	Not wanting to deal with more than one card's transactions		1	2	3	4	5	c 114.
	Concern of spending more with more than one card		1	2	3	4	5	c 115.
	Belief that new card applications will be turned down		1	2	3	4	5	c 116.
D-3b	**[IF MORE THAN ONE CARD]** **Please rate the effectiveness of the listed factors in your decision to have more than one credit card.** **Please assign 5 to the most important reasons and 1 to the least important reasons.** **(Note to surveyor: SHOW CARD)**		Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	Benefiting from different installment opportunities		1	2	3	4	5	c 117.
	Benefiting from different features like bonus points, money points, traveler miles, etc.		1	2	3	4	5	c 118.
	Benefiting from different discounts and fuel campaigns		1	2	3	4	5	c 119.
	Benefiting from different billing dates		1	2	3	4	5	c 120.

	Prestige	1	2	3	4	5	c 121.
	One card's limit is not sufficient	1	2	3	4	5	c 122.
	Some of my cards have lower interest rates	1	2	3	4	5	c 123.
	Precaution in case of problems with other cards	1	2	3	4	5	c 124.

D-4	**[IF MORE THAN ONE CARD]** **If we call the credit card you use most often your "main" card, which one would that be?** **(One of the ones chosen in D-2)** **(If the subject has only one card, call it the main card.)**	Name of bank ..... Name of credit card	c125.
D-5	**[IF MORE THAN ONE CARD]** **What percentage of your total credit card spending do you do with your main card**?	% _ _ _	c126.
D-6	**ASK ALL** **How did obtain your main card?**	1> by making a credit card application to my bank 2> by making a credit card application to other banks 3> offered to me from my bank 4> offered to me from other banks	c127.
D-7	**Approximately for how many years have you been using the credit card of same bank <u>as your main card</u>?**	..... year(s) 96> Less than one year	c128.
D-8	**Before you made the decision to get this (main) card, how thoroughly did you investigate the credit cards in the market?** **Please assign 5 if your investigation was very detailed and 1 if you did not do any research.**	I did not do any research (1) (2) (3) (4) (5) I did a very detailed research	c129.

D-9	**How effective are the following reasons in your decision to use this credit card as your main card?** **Please assign 5 to the most important reasons and 1 the least important reasons.** **(Note to surveyor: SHOW CARD)**	Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	The issuer being the bank the subject already works with	1	2	3	4	5	c130.
	Low interest rates	1	2	3	4	5	c131.
	Low (or nil) annual fees	1	2	3	4	5	c132.
	High credit limit	1	2	3	4	5	c133.
	More bonus points/money points/traveler miles etc.	1	2	3	4	5	c134.
	More installments opportunities	1	2	3	4	5	c135.
	Promotions in fuel purchases	1	2	3	4	5	c136.
	Extra opportunities like insurance, promotions, valet parking etc.	1	2	3	4	5	c137.
	Virtual card service	1	2	3	4	5	c138.
	More extensive discount campaigns	1	2	3	4	5	c139.
	Widespread branch and ATM network	1	2	3	4	5	c140.
	Good credit card services via internet and phone	1	2	3	4	5	c141.
	Informative and effective credit card advertising	1	2	3	4	5	c142.
	Its being a prestigious card	1	2	3	4	5	c143.
	Its being an affinity card for a sports team, school etc.	1	2	3	4	5	c144.
	Its being the first card that the subject owned	1	2	3	4	5	c145.
	Recommendation of my acquaintances	1	2	3	4	5	c146.
	Its being the card used by family members	1	2	3	4	5	c147.
	Other.....		2	3	4	5	c148.

D-9a	**How would you rate your degree of satisfaction with your main card?** **(as mentioned D-4)**	1 Very Dissatisfied 2 Dissatisfied 3 Neither satisfied nor dissatisfied 4 Satisfied 5 Very satisfied			c149.
D-10	**What percentage of your expenditures do you make (within one month) by credit card in general?**	%.....			c150.
D-10a	**How much do you spend per month with all your credit cards?**	..... TL			c151.
D-11	**Thinking of all your credit cards , in how many months out of the last 12 did you make a less-than –minimum payment?**	0> Never, I always pay at least the minimum amount (Skip D-13) .....month(s)			c152.
D-12	**What were the reasons?** **MULTICODING ALLOWED**		Yes	No	
		I forgot the date of payment	1	2	c153.
		I did not have the opportunity to make payment	1	2	c154.
		An unexpected situation that negatively affected my income occurred, such as job loss,late salary payment, etc.	1	2	c155.
		An unexpected necessary spending came up, such as for an illness or an accident	1	2	c156.
		I spent more than I intended	1	2	c157.
		I decided to spread some credit card spendings over time	1	2	c158.
		My income is not enough to cover my expenses in general	1	2	c159.
		Other			c160.
D-13	**In how many months out of the last 12 did you pay less than the total amount of your credit card bills but above the minimum amount?**	0>Never, I always pay the total amount (Skip to D-15) ..... month(s)			c161.
D-14	**What were the reasons?**		Yes	No	

	MULTICODING ALLOWED	An unexpected situation that negatively affected my income occurred, such as job loss, late salary payment, etc.	1	2	c162.
		An unexpected necessary spending came up, such as for an illness or an accident	1	2	c163.
		I spent more than I intended	1	2	c164.
		I decided to spread some credit card spendings over time	1	2	c165.
		My income is not enough to cover my expenses in general	1	2	c166.
		Other	1	2	c167.
D-15	**Retail interest rate applies to the portion of one's credit card bill which is not paid when the minimum amount paid** **Do you know your mostly used card's retail interest rate?**	Yes Retail interest rate % _ _ , _ 99>No, I don't know			c168.
D-16	**Late interest rate applies to the minimum payment portion of one's credit card bill which is not paid when the minimum amount is paid** **Do you know your most frequently used card's late interest rate?**	Yes Late interest rate % _ _ , _ _ 99> No, I don't know			c169.
D-17	**As far as you know, is there any credit card that has a lower retail interest rate than your credit card in the market?**	1>Yes, there is 2>No, there is not 99>No idea			c170.
D-18	**Credit cards' monthly retail interest rates are currently around 4%.** **If you find out a credit card applying lower interest rates than yours, would you switch to this card?**	1>Yes (Continue) 2>No (Skip D-19)			c171.
D-18a	**For example, if there is a credit card applying 3% retail interest rate, would you switch to this card?**	1>Yes (Skip D-19) 2>No (Continue)			c172.

D-18b	**If there is a credit card applying 2% retail interest rate, would you switch to this card?**	1>Yes (Skip D-19) 2>No (Skip D-19)				c173.	
D-19	**Now, I will list some reasons to <u>make switching to</u> another card with lower interest rates difficult.** **Please rate the effectiveness of the listed factors.** **Please assign 5 to the most important reasons and 1 to the least important reasons.** **(Note to surveyor: SHOW CARD)**	Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	Not wanting to research	1	2	3	4	5	c174.
	Not wanting to deal with application and cancelling procedures	1	2	3	4	5	c175.
	Not wanting to change my bank	1	2	3	4	5	c176.
	Lower interest rate credit cards have higher annual fees.	1	2	3	4	5	c177.
	My belief that my application to other banks will be turned down due to my current high debt	1	2	3	4	5	c178.
	My belief that my application to other banks will be turned down due to other reasons	1	2	3	4	5	c179.
	My belief that a new card would have a lower limit	1	2	3	4	5	c180.
	I do not care about a lower interest rate because I do not borrow or I borrow in small amounts and for short duration	1	2	3	4	5	c181.
	My belief that there is no much difference between credit cards' interest rates	1	2	3	4	5	c182.
	Not wanting to give up my credit card's other features such as installment, bonus point / money point or travel miles	1	2	3	4	5	c183.
	Other:.....		2	3	4	5	c184.

D-20	**Please rate the effectiveness of the listed methods in finding out about the features of credit cards on the market** **Please assign 5 to the most important methods and 1 to the least important methods.** **(Note to surveyor: SHOW CARD)**	Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	I get information from my acquaintance	1	2	3	4	5	c185.
	I get information by telephone or by going to a bank branch	1	2	3	4	5	c186.
	I research on the internet	1	2	3	4	5	c187.
	I get information from ads	1	2	3	4	5	c188.
	Other:.....		2	3	4	5	c189.
D-21	**Now, I will list some reasons to <u>make researching</u> about credit card features difficult.** **Please rate the effectiveness of the listed factors.** **Please assign 5 to the most important reasons and 1 the least important reasons.** **(Note to surveyor: SHOW CARD)**	Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	Not wanting to deal with research	1	2	3	4	5	c190.
	Not knowing how to research	1	2	3	4	5	c191.
	My belief that there is no difference between credit cards	1	2	3	4	5	c192.

D-22	**Suppose you do not have any credit cards.** **How much would you investigate the features of the credit cards in the market before you obtain a new credit card?** **Please rate between1 and 5, with 5 meaning you would research very deeply and 1 that you would not do any research.**	I do not do any research (1) (2) (3) (4) (5) I research very deeply	c193.
D-23	**Suppose you want to switch to another credit card.** **Please sort the listed factors in order od importance (<u>only the important ones according to you</u>) while switching to another credit card** **(writing the most important factor is in the first place)** **(Note to surveyor: SHOW CARD)**	1>Interest rates 2>Annual fee 3>Limit 4>Other features such as bonus point, installments, discounts or travel miles. 5>The issuer of the card	c194. 1.important c195. 2.important c196. 3.important c197. 4.important c198. 5.important
D-24	**Do you think you sometimes do unnecessary shopping because you have a credit card?**	1> Yes 2> No (Skip D-26)	c199.

D-25	**If yes, please rate the effectiveness of the listed factors herein** **Please assign 5 to the most important reasons and 1 the least important reasons.** **(Note to surveyor: SHOW CARD)**	Not effective at all	Effective to a small degree	Somewhat effective	Effective	Very effective	
	The low monthly payments due to installments	1	2	3	4	5	c200.
	Inability to track spending since not paying with cash	1	2	3	4	5	c201.
	Psychological comfort of paying later rather than at that moment	1	2	3	4	5	c202.
	Effect of discounts and promotions of credit cards	1	2	3	4	5	c203.
	I benefit from some advantages when I spend over a certain amount	1	2	3	4	5	c204.
	Other…	1	2	3	4	5	c205.
D-26	**Have a credit card application you made been rejected in the past five years?**	1>Yes 2>No					c206.
D-27	**Have you changed your main card before?**	1>Yes 2>No (Skip D-29)					c207.
D-28	**If yes, what is the main reason?**	1>The lower interest rates (of the new card) 2>The lower annual fee 3>The higher limit 4>The better features such as bonus points, installments and discounts 5>I changed my bank Other…					c208.
D-29	**Suppose you are going to start a new job.** **Which one do you choose (if you were forced to choose): a job with social security benefits or a job without them but the insurance payments given in cash to you?**	1>Insured job 2>Uninsured job					c209.

D-30	**Did you pay all of your last credit card bills completely?** **(If using one card, did you pay your last credit card bill completely?)**	1>Yes (Skip D-31) 2>No (Continue)			c210.
D-30a	**If no, what is the amount you did not pay?**	.....TL			c211.
D-31	**Did you make any purchases with installments in the last twelve months despite a lower cash price?**	1>Yes 2>No			c212.
D-32	**Would the decline of credit card interest rates lead to an increase in your debt by increasing the amount of your statement that you do not pay?**	1>Yes 2>No			c213.
D-33	**If there were any credit card bills you did not fully pay in the last twelve months, what was the maximum amount you did not pay?**	.....TL 0> I paid my all credit card bills completely in last twelve months.			c214.
D-35	**Do you pay your main card's bill by direct debit?**	1>Yes, I pay the full amount of my main card's bill by direct debit 2>Yes, I pay the minimum amount of my main card's bill by direct debit 3>No			c215.
D-36	**It is possible to borrow on credit cards by drawing a cash advance, with the cost of cash advance interest rates and commissions.** **Did you draw a cash advance in this way using your credit card in the last year?**	1>Yes 2>No (Skip D-38)			c216.
D-37	**If yes, what were the reasons to draw a cash advance?** **MULTICODING ALLOWED**		Yes	No	
		An unexpected situation that negatively affected my income occurred, such as job loss, late salary payment, etc.	1	2	c217.
		An unexpected necessary spending came up, such as for an illness or an accident	1	2	c218.
		My income is not enough to cover my expenses in general	1	2	c219.
		To pay off other credit card bills.	1	2	c220.
		Lack of cash in my hand to cover daily needs	1	2	c221.

		Occurring cash needs while abroad	1	2	c222.
		Other….....			c223.
D-38	**ASK ALL** **If you draw a 100 TL cash advance with your main card, do you know approximately how much you need to pay back after a month?**	I pay back ..... TL 99> I don't know			c224.
D-39	**Have you used installment credits to close your credit card debt in the last two years?** **How much did you use?**	Yes, _ _ _ _ _ TL 0>No, I haven't			c225.
D-40	**Were you ever delinquent in your credit card payments?**	1>Yes 2>No (Skip D-42)			c226.
D-41	**If yes, what year did it happen? (The last time if more than once)**	_ _ _ _ (Example: 1998, 2006)			c227.
D-42	**How much total credit card annual fees did you pay in the last year?**	0>I paid nothing I paid..... TL 999> I don't know			c228.
D-43	**Did you attempt to reduce these annual fees or avoid paying them?**	1>Yes 2>No			c229.
D-44	**What is your main credit card's limit?**	..... TL			c230.
D-45	**What is the total of all your credit cards' limits?** **(Same answer as D-44 if using only one card)**	..... TL			c231.
D-46	**How effective were the incidents that you heard about or went through concerning credit cards in making you showing to be more careful in your credit card spending?** **Please rate between 1 and 5, 5 showing it was very effective and 1 not effective at all**	Not effective at all (1) (2) (3) (4) (5) Very effective			c232.
D-47	**Have you cancelled any credit cards in the last two years?**	1>Yes 2>No (Skip E1)			c233.

D-48	**Which banks' credit cards did you cancel?**	....	c234. c235. c236.
D-49	**How many minutes did you spend to cancel these cards on the phone or in a bank branch?**	.....	c237.

E-FİNANCIAL CONDITION

	Please think of those with whom you share your income and expenditures as members of your household. I will now ask you questions about how you spend your household income.		
E-1	**What is your average monthly food expenditure?**	....TL	c238.
E-2	**How much do you spend on fixed expenditures including rent, heating, water, electricity and telephone bills?**	....TL	c239.
E-3	**Apart from the expenses above, how much do you regularly spend on fixed payments, like for insurance, health and education expenses?**	....TL	c240.
E-4	**If any, how much is your monthly bank debt payment, excluding your credit card debt?**	....TL	c241.
E-5	**What is your average total monthly expense, including the items above?**	....TL	c242.
E-6	**If any, what is your total bank debt, excluding any credit card debts?**	....TL	c243.

E-7	**If any, what is your total debt to your family, friends, firms and other people?**	....TL	c244.
	Now, I will ask you questions about your income		
E-8	**When you consider all income sources like wages, pension, rent income and allowance, what is your total household income?**	....TL	c245.
E-9	**What is your personal monthly income from your main job and your other income sources?**	....TL	c246.
E-11	**Do you have any motor vehicles like automobiles, trucks or tractors? If yes, what is the total value of these motor vehicles?**	Yes, ...TL 0> No	c247.
E-12	**Do you have any property like houses, summerhouses and land? If yes, what is their total value?**	Yes, ...TL 0> No	c248.

F-DEMOGRAPHY

F-1	**Gender**	1> Female 2> Male	c249.
F-2	**Birth year**	.....	c250.
F-3	**Marital status**	1>Bachelor 2>Married 3>Widowed 4>Divorced 5> Living separately	c251.
F-4	**How many people are there in your household? (including you)**	.....	c252.
F-5	**How many of them are older than 15?**	.....	c253.
F-6	**How many of the people in your household have income? (including you)**	.....	c254.
F-7	**What level of school did you finish?**	0> No schooling / quit primary school 1> Primary school 2> Secondary school 3> High school 4> University 5> Graduate degree	c255.
F-8	**What is your current job status?**	**Employed**, 1>Manager or specialist in the public sector 2>Civil servant 3>Worker in the public sector 4>Manager or specialist in the private sector 5>Worker or office worker in the private sector 6>Big trader, industrialist 7>Small trader, craftsman 8>Highly educated self employed (lawyer, doctor…) 9>Farmer 10>Seasonal or irregular worker **Unemployed**, 11>Left a job recently (less than six months ago) 12>Been looking for a job for more than six months 13>Not employed and not looking for a job	c256.
F-9	**Are you retired?**	1> Yes 2> No	c257.
F-10	**Are you a student?**	1> Yes 2> No	c258.

F-11	**How often do you do the activities below?**	Never	Seldom	Sometimes	Frequently	Very frequently	
	Reading the newspaper	1	2	3	4	5	c259.
	Traveling	1	2	3	4	5	c260.
	Going out for dinner	1	2	3	4	5	c261.
	Using the internet	1	2	3	4	5	c262.

Thank you for answering the questions.

NAME/ SURNAME		c263.
DISTRICT		c264.
STREET		c265.
GATE NO		c266.
TOWN		c267.
TELEPHONE NO -1		c268.
TELEPHONE NO -2		c269.

[Attention to surveyor! The following questions MUST be answered after leaving the subjects]

Building type	1> Squat housing	2> Legal housing (Medium condition) 3> Legal housing (Luxury)	c270.
Location type	1> Province center	2> Town	c271.
General observations about the conditions of the quarter	1> Very poor 5> Very good	2> Poor 3> Medium condition 4> Good	c272.
General observations about the conditions of the house	1> Very poor 5> Very good	2> Poor 3> Medium condition 4> Good	c273.
How sincere were the responses of subject during the interview?	1> Not sincere at all Sincere 5> Very sincere	2>Sincere to a small degree 3>Somewhat sincere 4>	c274.
Survey date:			c275.
Surveyor name:			c276.

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