DETERMINANTS OF CUSTOMER SATISFACTION IN THE TURKISH CREDIT CARD MARKET

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Thesis Abstract

Serap Özçelik, "Determinants of Customer Satisfaction in the Turkish Credit Card Market"

This thesis investigates factors affecting the satisfaction levels of Turkish credit card holders using a recent nationwide credit card consumer survey. Ordered probit model estimations show that among other things, financial literacy is a major determinant of credit card satisfaction. This has important policy implications for regulators. The results also indicate that wealth, education and occupation are consumer characteristics that play a role in one's credit card satisfaction level. Card limits and non-price card benefits are which are important for consumer happiness. Being a convenience user or having been delinquent in card payments are payment behaviours which affect one's card satisfaction, too.

Tez Özeti

Serap Özçelik "Türkiye'deki Kredi Kartı Piyasasında Müşteri Memnuniyetini Belirleyen Faktörler"

Bu tez Türkiye'deki kredi kartı sahiplerinin kredi kartı memnuniyetini yeni anket verileri kullanarak analiz etmektedir. Bu tezde kullanılan ampirik modelde, finansal okur yazarlığın diğer değişkenlerin yanı sıra müşteri memnuniyetini etkileyen önemli bir faktör olduğu gösterilmektedir. Bu sonuç piyasayı düzenleme yetkisine sahip kurumlar açısından önemlidir. Sonuçlar ayrıca müşteri özelliklerinden zenginlik, eğitim durumu ve çalışılan sektörün memnuniyeti etkilediği göstermektedir. Kart limitleri ve kartların fiyata dair olmayan özellikleri müşteri memnuniyeti açısından önem arzetmektedir. Ayrıca, kart borçlusu olmak gibi ödeme davranışlarının da kredi kartı memnuniyetini etkilediği gösterilmektedir.

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I dedicate this thesis to each and every member of my family as way of articulating my deep appreciation for their endless support.

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CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

In the last decade the debates on whether the products of the financial system contribute to the welfare of the society increased. As the accessibility of credit, especially via the credit card market is increasing and society is becoming more involved in the financial system, the importance of creating overall satisfaction with financial products becomes more pronounced.

As the importance of creating overall satisfaction with financial products becomes more pronounced and as the credit cards constitute an important part of the financial products, the dissatisfaction issue among credit card users becomes more visible. Therefore, establishing the determinants of the consumer satisfaction with credit cards becomes important in understanding the basic reasons behind dissatisfaction. The explanation of the determinants of satisfaction will reveal the basic issues on credit card and credit card usage behavior which will help to explain the correct way of using credit cards and correct ways of designing the market. Also, finding the determinants will induce banks to design their credit card systems in order to create more satisfied customers. This issue has scantily been examined in the existing literature other than with descriptive statistics. This thesis attempts to fill this gap in the literature. In this study, the survey evidence gathered from Credit Card Consumer Survey (Akın et al,2009) with a sample size of 2,576 is used to investigate the determinants of credit card satisfaction via an ordered probit model. We categorize the determinants of consumer satisfaction into four groups: consumer's

characteristics, financial literacy, credit card usage behavior and the characteristics of the credit card. The evidence suggests that the problems associated with the market do not only stem from the supply side (the banks) but are also related to the problems associated with the card users themselves (the consumer side). Financial literacy is revealed to be important in credit card satisfaction. Especially, the results suggest that financial activeness and financial information contribute to credit card satisfaction scantily; however financial sophistication of the respondents is not seem to be affect overall credit card satisfaction of the respondents significantly. Therefore, only inducing the customer interaction between banks is not adequate to contribute overall satisfaction.

In the US, since their first appearance in the market, credit cards have reached a wide range of the society. This expansion is mainly due to the potential advantages that credit cards provide for both card issuers and consumers. From issuers' side credit cards attain high interest revenues on consumer borrowings, and from consumers' side credit cards provide an easy access to borrowing instruments. Federal Reserve Bank of Boston (2010) suggests that by 2008, there were 176.8 billion credit card users in the US market. According to FED the average credit card holder in the market has 3.5 credit cards. As May 2011 the overall revolving credit card debt was USD 777.24 according to FED. These tremendous numbers in both the volume of consumer spending and the number of cards that are in use caused an increasing public awareness about the problems associated with credit cards in the US. A lot of criticism concentrates on the high profits obtained in this sector. Accordingly, as the number revolvers increases in US, the visibility of the scope of the problems associated with credit cards expands. Many cases are placed in the media, showing the revolvers or delinquent users that suffer. Especially after the

crisis in 2008, the increasing numbers of card users that suffer from their credit card debts increased the pressure on the congress to implement some regulations on the market to reduce the problems associated with credit card usage in the US.[1]

In the aftermath of its liberalization era of 1980s, Turkey experienced a widespread deepening in its financial system. The accessibility of credit for consumers became easier due to the expansion of the banking system. Especially, after the crises that Turkey experienced in 2001, since the interest rates on government securities became less profitable,[2] the banking industry turned its attention to consumer credits.

During the new era which created liquidity for borrowing, borrowing instruments became more available among households. Credit cards took their share of this trend. The number of credit cards that are used by households increased during 2000s. The total number of cards in the sector, which was about 19.8 million in the year 2003, reached 47 million in the year 2010 (Table 1).

Table 1. Total Number of Credit Cards (Annual)

2003	19,863,167
2004	26,681,128
2005	29,978,243
2006	32,433,333
2007	37,335,179
2008	43,394,025
2009	44,392,614
2010	46,956,124

Source: Yearly Statistical Data; Interbank Card Centre (BKM).

[1] "Secret History of Credit Card", Lowell Bergman and David Rummel, FRONTLINE coproduction with The New York Times, 2004 and "The Card Game", Lowell Bergman and Oriana Zill de Granados FRONTLINE coproduction with The New York Times, 2009.

[2] Until the "Twin Crisis" in 2001 government securities offered high interest rates,and therefore banks concentrated on purchase of government securities rather than basic banking practises.

Since 2000s, as credit cards became more widespread and as the number of people using their credit cards as a debt instrument increased, the problems associated with card usage became more apparent in Turkey as well. The high interest rates drew attention to the credit card debt issue.

In the aftermath of the twin crisis in 2001, Turkey experienced financial stability. In this new era the rates for commercial and consumer loans decreased. However, credit card interest rates did not follow the same path. During the period until 2006 high interest rates on the credit card were criticized heavily as the number of people who defaulted on their debt increased. Especially, social problems associated with indebtedness seem to have increased as the number of people who did not pay their credit cards debt ascended as can be seen from Table 2. Specifically, as the news regarding the problems that credit card users experienced due to their high amounts of indebtedness became more visible on media, the benefits of credit card usage became more debatable. In March 2006, the sector was brought under regulation via the "Debit Cards and Credit Cards Law no. 5464",[3] authorizing the Central Bank of Turkey (TCMB) to set a maximum interest rate on credit cards, with a view to resolve the issue of high interest rates.

Table 2 shows the number of people whose debts have been transferred to the receivables of purification account. A credit card debt is transferred to receivables of purification account when the minimum amount is not collected for more than 3 months. However, even though this number decreased in 2007 relative to 2006 after implementing the ceiling rate on credit card interests, as can be seen from Table 2, it continued to increase in the following years, showing that credit card debt problems did not lessen. At this point, the problems associated with the credit card market are

[3] The law is available on the website: http://www.tbmm.gov.tr

not entirely finished. Now, there is an ongoing debate on implementing new regulations involving monthly usage limit on credit cards.[4]

Table 2. Number of People Who did not Pay the Minimum Balance on their Credit Cards for Three Consecutive Months (Annual)

2003	30,845
2004	49,611
2005	159,808
2006	211,565
2007	117,752
2008	275,157
2009	397,824
2010	353,479

Source: The Details of Non-Performing Consumer Loans and Credit Card Holders Provided by Banks to The Central Bank; Central Bank (TCMB) , "Financial Stability Report", Central Bank(TCMB), 2006, "Financial Stability Report", Central Bank(TCMB), 2006
Note: A person is counted only once even if she fails to pay the minimum balance for three consecutive months multiple times in a year.

There is not a broad literature on the credit card satisfaction. Ratha (1997), using system dynamics modeling, finds that the quality of life of credit card users improve for a short period of time after the acquisition of the card. However, she claims that over a longer period of time span, the overall quality of life reduces if she only pays the interest on her debt.

Mittal, Katrichis and Kumar (2001) present a study on customer satisfaction for credit cards. They conduct a survey on credit card satisfaction to 573 people. They ask respondents to scale their satisfaction level on a five scale basis. Consequently they analyze the relation between the satisfaction levels of respondents and various variables. Their results suggest that credit card customer satisfaction for

[4] "Monthly Usage Limit" will apply a ceiling on monthly expenditures of the card user even she has higher total credit card limit. The Draft Copy of the communiqué on Credit Risk Management is available on the website:
http://www.bddk.gov.tr/WebSitesi/turkce/Mevzuat/Duzenleme_Taslaklari/9722kredi_riski_yonetimi.pdf

card users who have had their cards for less than 1 year is mainly affected by interest rates, performance of customer service representatives and non monetary benefits that the card offers. For card users who have had their card for more than 1 year they find that interest rates, credit card limits, monthly credit card statements and non monetary benefits were important on the satisfaction level.

As from the year 2007 each year J.D. Power and Associates conducts "Credit Card Satisfaction Study". In 2007 and 2008 studies which are conducted by 7665 card users, it is confirmed that the customers who are more aware of the card benefits are more satisfied with their credit cards than others. In 2009 study which is conducted by more than 9000 credit card holders it is found that the customers, who manage their interactions with credit card issuers, are more satisfied. In 2010 survey conducted to more than 8500 credit card customers one-third of the respondents declared that they "completely" understand the terms regarding their credit cards. The results for 2010 study suggested that as the respondents' understanding of credit card terms increases their satisfaction level also increases.

The outline of this study is as follows: the next section discusses financial literacy. Section 1.3 explains the data and the variables. Section 1.4 discusses the model and estimation results. The last section concludes.

CHAPTER 2

WHAT IS FINANCIAL LITERACY?

In 2005 the Organisation for Economic Co-operation and Development (OECD) defined financial literacy 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). OECD definition highlights the key issues of financial literacy as being informed and as using the information when making choices. The literature mainly focuses on the effect of financial information as defining the financial literacy and as investigating its effects on individual behavior. One of the main contributions of this study is to investigate financial literacy as it is a combination of financial information, financial sophistication and financial activeness.

In 1998, Chen and Volpe designed a survey among 1800 college students in US in order to measure overall financial literacy level. The results showed that college students have inadequate knowledge on personal finances. Vitt, Reichbach, Kent and Siegenthaler (2005) suggest that as the private-public sector partnership supports financial education, the population becomes more skilled in "managing, saving and investing money".

Lusardi and Mitchell (2007) investigate the effects of financial literacy on saving for retirement purposes. They use the Health and Retirement Study (HRS) in 2004 and 1992. The questionnaire includes the questions designed for revealing

financial literacy level and saving behavior of the respondents. In their study Lusardi and Mitchell find that financially illiterate people are less eager to save for their retirement purposes.

Lusardi and Mitchell (2007) documented that many households lacked the basic concepts which can be used in investment decisions. They state that for households financial information is important in order to make correct financial decisions. They add consumers need financial literacy in order to make correct saving decisions. By their 2008 study they provide further evidence on the effect of the financial literacy on the decision making process. They reveal that woman who lack financial literacy have difficulty in financial planning.

Hastings and Tejeda-Ashton (2008) conducted a survey and field experiment in Mexico City in 2007 to see the effect of financial literacy on the price elasticity sensitivity of financial products. They covered people from all economic backgrounds. Their results revealed that financial literate respondents place more importance on the fees of the financial products than the brand name of the product. The results imply that more financial literate accumulate more wealth in the system.

Bayer, Bernheim and Scholz (2008) used the survey data coming from 1993 and 1994 versions of KPMG Peat Marwick Retirement Benefit surveys in order to explain participation and contribution to voluntary saving plans among employers. Their results suggested that when employers are offered retirement seminars, they participate and contribute to voluntary saving plans more. Their results revealed that financial literacy efforts in the form of financial education will enhance decision making skills and therefore there will be an important economic return to financial education.

Lusardi and Tufano (2009) designed a set of questions in order study financial knowledge relating to debt and debtedness in 2007. They interviewed by a sample of 1,000 US residents. The results of their multinomial logit regressions show that there is a strong relation between the debt literacy and borrowing behavior. Findings reveal that the more financially literate are more likely to pay their credit card balances fully.

Gerrans, Clark-Murphy and Truscott (2009) suggest that indigenous Australians lack financial literacy. They suggest that there is a need of high level of financial education and information for indigenous Australians.

In 2009 OECD and The World Bank issued a report namely the Case for Financial Literacy in Developing Countries. Their survey evidence supports the claim that financial illiteracy is high among both in developed countries and developing countries. In the report the importance of financial literacy in promoting desirable financial behavior like using credits rationally is highlighted. Accordingly, in the face of economic difficulties experienced in 2008, the OECD report claims that greater financial knowledge promotes efficiency in economy.

Even if the credit card market is designed efficiently, the mistakes on usage of credit cards are likely to have large effects on households. Because the mistakes on usage of credit cards are more likely to occur if the households are not sufficiently financially literate, which means they do not have sufficient information and do not use the information on the market activities, the financially illiterate individuals are more prone to suffer from their irrational behaviors in the market. An objective in this study is to reveal that financial literacy is an important determinant of credit card satisfaction and to show that by increasing financial literacy among the population

the problems associated with the credit card market on the consumer's side can be reduced significantly.

CHAPTER 3

DATA AND VARIABLES

Survey

The data that is used in this study is gathered from Credit Card Consumer Survey (Akın et al,2009). The respondents were selected on a random basis among credit card users. The total number of the randomly selected responders was 2,576.

The usage of credit cards in the rural areas is limited due to the technological requirements. Point of sales machines (POS) are needed to make payments with credit cards. Since the number of POS machines is very limited in the rural areas, the survey was conducted among urban population where credit cards are accepted mostly. The sample of the survey is incorporated from urban voters registered in the local elections of 2007 which is a proxy of the adult urban population.

Nomenclature of Territorial Units for Statistics (NUTS) which is a regional statistical unit system is used in the distribution of the sample. NUTS is the system that was developed by the European Union that divides the country into sub regions for to use for statistical purposes. The system was adapted to Turkey by Turkish Statistical Institute (TUIK) and State Planning Organization (DPT) by considering the geographical and cultural features of Turkey. Turkey is assessed by three different NUTS level. Turkey was divided into 12 regions regarding to NUTS 1. According to NUTS 2 Turkey was partitioned into 26 regions. And regarding to most detailed NUTS level, NUTS 3, the division was among 81 provinces. Among this study NUTS 2 was used in sampling the population.

Although, the credit card market is relatively developed in Turkey, there is no statistical information about the distribution of credit card users among NUTS 2 region. Thus, in order to project number of credit card users among NUTS 2 region two proxies were used. The first one is the percentage of POS machines in each region, which is expected to be positively correlated with the number of credit card users in each province. However, the problem about using the number of POS machines is that the number of POS machines in touristic area is not directly correlated with the native credit card users but correlated with the total card users including tourists. The second proxy that is used is the number of bank branches in each province. Generally, since the credit card services are directly related with banks, the number of banks in the region is expected to be directly correlated with number of credit card users in the same region. Because in some regions state owned banks were located due to non profit purposes the number of branches may not be positively correlated with the number of card users. Since the arithmetic mean of the two proxies (share of the number of the POS machines and number of bank branches) is expected to eliminate the provincial biases, it shall be used as the proxy for the distribution of the number of cardholders. The average of the two proxies is calculated for 26 regions of the NUTS2. The numbers for each region is multiplied by 2500 in order to calculate the total number of surveys that are to be conducted in each region.

During the process, number of surveys that are calculated for some regions are found to be less than 30 would create inefficiency. Therefore, the surveys for these regions were attached to other regions in the same NUTS 1 level. The provinces for which the weights were represented were less than 25 percent were

eliminated in order to not to choose misrepresentative provinces. After the elimination process one province from each NUTS 2 region was randomly selected.

The survey was conducted among the interviewees who have at least one credit card and who pay the credit card balances themselves and take the decisions concerning the selection of credit cards. The amount of people who were eligible to be conducted the survey was 65 percent.

Variables

Dependent Variable

The respondents were asked to scale their satisfaction level from their main credit card on a five scale basis in which 1 means extremely unsatisfied and 5 means extremely satisfied. Card satisfaction level increases from one to five. Hence, positive coefficients of explanatory variables means that the variable that has the positive coefficient affects the credit card satisfaction level positively.

Table 3. Summary of Satisfaction Levels of the Respondents

	Percentage	Frequency
Extremely unsatisfied	3.44	68
Unsatisfied	3.82	98
Neither satisfied nor unsatisfied	13.01	334
Satisfied	66.63	1,711
Extremely satisfied	13.90	357

2,568 of the respondents answered this question. The distribution of the number of credit card users according to their satisfaction levels is presented in the Table 3 and a graphical representation can be seen in Figure D.1 in the Appendix. Accordingly, only 3.44 percent of the sample is extremely unsatisfied. 3.82 percent of the

responders are unsatisfied whereas, 13.01 percent of the card users are satisfied with their credit cards. It can be seen that 66.63 percent of the consumers declared that they are satisfied with their credit cards. Moreover, 13.90 percent responded as extremely satisfied with their master credit cards. 80.53 percent of the responders stated that they are satisfied or extremely satisfied. Accordingly, it can be seen that generally respondents affirm that they are satisfied with their main credit cards. Also, the portion which is extremely unsatisfied or unsatisfied amount to only 7.25 of the total number of respondents. The high percentage of the card users that declare their satisfaction with credit cards may reveal the difference of actual data from generally perceived one.

Explanatory Variables

Explanatory variables were investigated in four different categories; consumer characteristics variables, financial literacy variables, variables reflecting the consumer's credit card usage behavior and the variables showing the characteristics of the credit card.

Consumer's Characteristics Variables

Variables that are explained under the consumer's characteristics variables include socioeconomic variables and demographic variables. Socioeconomic variables cover income, wealth, gender, marital status, age, schooling and, occupation. Regional consumer characteristics are captured though regional dummies and a town dummy variable.

The *Income* variable is obtained by dividing household income to household size. Since personal income may not reflect the actual financial situation of a person, this measure is used instead. The average income in our sample is found to be TL 723.37. The square of *Income* is also added to the variables in order to capture any nonlinear relation between satisfaction level and income.

Since the approximate value of the real estates and the motor vehicles that a card user has may be reflective of the card user's wealth, the total value of the two is summed up and the variable *Wealth* is constructed. The average value of *Wealth* for our respondents is calculated as TL 58,178.45.

The gender of the interviewees is reflected by the variable *Female*. If the card user is female the variable takes the value 1. Otherwise, it takes the value 0. According to summary statistics 28 percent of the responders were female in the sample.

Marital status of card users is controlled by the variable *Married* which takes the value 1 if the respondent is married and zero if not. Accordingly, 70 percent of our sample is found to be married.

The age of the respondents in the year 2009 (as the survey is done in 2009) is reflected by the variable *Age*. The average age of the sample is 38.01 in 2009. The square of *Age* is also used as an explanatory variable in order to reveal the non linear relation between age and card satisfaction.

To capture the schooling of the card users, the variables named *Primary, Secondary, High schoo*l and *University* are used. *Primary* is constructed such that if the card user is a primary school graduate or has no schooling it takes the value 1, otherwise 0. *Secondary* takes the value 1 if the respondent is a secondary school graduate and 0 otherwise. *High school* takes the value 1 if the interviewee is a high

school graduate and 0 if she is not. *University* is constructed as the other variables in the same category, that is, 1 if the respondent is a university graduate or has a graduate degree and 0 otherwise. The variable *University* is excluded in our regression. As can be noted from the sample data 21.93 percent of our sample is categorized under *Primary*, 11.02 percent is categorized under *Secondary*, 35.83 percent is under *High school* and 31.21 percent is under *University*.

To account for occupation, seven dummy variables are created for the categories *Private sector worker, Civil servant, Self employed, Seasonal farm worker, Unemployed, Not retired out of labor force* and *Retired out of labor force. Not retired out of labor force* is a dummy for respondents who are out of the labor force and not retired at the same time, and *Retired out of labor force* is for the retired who are out of the labor force. Here the excluded category is selected as *Private sector worker*. 38.39 percent of the respondents are private sector workers, 18.97 percent of the sample is made up of civil servants, 16.09 percent are self employed, 3.38 percent are seasonal farm workers, 3.46 percent are unemployed, 3.38 percent are not retired and out of the labor force, and 15.93 percent are retired and out of the labor force.

Town takes the value 1 if the card user lives in a town and takes the value 0 if the card user lives in a province center. *Coast* takes the value 1 if the respondent lives in Aegean, Mediterranean or Marmara region. *Black Sea* is a dummy variable for the respondents that live in Black Sea region. *Middle Anatolia* indicates the card users that live in West or Middle Anatolia. *East,* which is the excluded category, is a dummy for the North East, Middle East and South East Anatolia regions. According to data, 10.52 percent of the sample lives in towns, 89.57 percent lives in provinces, 68.40 percent lives in coastal areas, 8.51 percent lives in the Black Sea region, 15.57

percent lives in West or Middle Anatolia, and 7.43 percent lives in the North East, Middle East and South East Anatolia regions.

Financial Literacy Variables

Variables reflecting financial literacy are classified into *Financial information variables*, *Financial activeness variables* and *Financial sophistication variables*. From each of these categories a single variable is created by using the method of Principal Component Analysis (PCA), which is used to reduce the dimension of the data into smaller number of variables by securing the variability in the data set. By the methodology used, each of the variables created is defined as a weighted linear combination of underlying variables. It is stated that linear functions of binary variables which are created by PCA are interpreting the original data less than the linear functions of continuous variables. However, regardless of the discrete/continuous nature of the original variables, PCA briefly explains the 'variation' in the original data set using a smaller number of created variables (Joliffe, 2002).

The *Financial information* variable tries to capture the overall financial information of a respondent. In this categorization *Interest rate knowledge, Annual fee knowledge* and *Deposit guarantee knowledge* variables, the explanations for which are below, were used to measure financial information. The distribution of this variable can be seen in Figure D.2 in the Appendix.

Interest rate knowledge is based on the survey question "What is the conventional interest rate on your main credit card?" The cards are classified according to their conventional interest rates. Eight groups of credit cards in which

conventional interest rates in each group are close are created. For each category the interest rate knowledge takes the value 1 if the respondent's answer is within 0.3 points of the correct rate in each direction; otherwise or if the respondent does not know the rate it takes the value 0. Only 7.41 percent of the answers were close to the actual rates. Other respondents either declared that they do not know the interest rate or their answers were not close to the actual rate.

Annual fee knowledge takes the value 1 if a card user declares that they know the amount of annual fee that they paid for their main credit card in the last year and takes the value 0 if the card user says that they do not know this amount. 56.21 percent of the card users claimed that they know the annual fee that they paid within the last year.

One of the questions that were used to capture the financial knowledge of the consumers was "How much of a person's bank deposits are under the guarantee of the state?" Card users were asked to choose the correct amount under state guarantee from several values during the survey. The variable *Deposit guarantee knowledge* was created in order to reflect the information on state guarantee. It takes the value 1 if the card user knows the correct amount, and takes the value 0 if not. 15.22 percent of the sample is found to know the correct amount.

Financial activeness is constructed using the variables *Acquisition of card, Attempt to avoid fees* and *Research card.* The level of a card user's active engagement on the credit card market is captured with the *financial activeness* variable. The distribution of this variable can be seen in Figure D.3 in the Appendix.

Acquisition of card denotes how the card user acquired the credit card. The variable takes the value 1 if the interviewee obtained the credit card from a bank at which she did not have an account and 0 otherwise. The sample data suggests that

56.73 percent of the credit card users obtained their cards from a bank at which they had accounts. Getting one's main card from a bank at which one does not have an account is evaluated as a sign of financial activeness, as these individuals seem to have sought qualities which their bank did not offer instead of simply using their bank's offered card.

Attempt to avoid fees is a dummy variable for card users who attempted to reduce or cancel their annual credit card usage fees. If the user attempted to reduce or cancel the annual card usage fee the variable takes the value 1 and 0 otherwise. 21.09 percent of the sample did such an attempt.

How much a card user did research on the market before acquiring her credit card is introduced through the variable named *Research card.* The respondents were asked to assess their research level during the acquisition of their main credit card on 5 scale basis in which 1 meant no research and 5 meant a very detailed research. Interestingly, 52.17 percent of the sample declared that they did no research at all during the acquisition process of their card.

There are several questions that try to capture the usage of an individual's more complex financial services. *Financial sophistication* of the card users is constructed through the variables named *Automatic payment, Tax/insurance payment* and *Internet banking*. The distribution of this variable can be seen in Figure D.4 in the Appendix.

Automatic payment is a variable that takes the value 1 if the card user uses automatic payment order in her bank and 0 otherwise. 67.34 percent of the credit card customers do not use automatic payment service of their banks whereas, 32.66 percent do.

Card users were asked if they make insurance or tax payments from their banks. *Tax/insurance payment* variable was created such that it takes the value 1 if the respondent declared that she makes insurance or tax payments from her bank and 0 otherwise. 88.54 percent of the card holders answered that they do not make tax or insurance payments from their banks.

In the survey, the respondents were asked how often they use internet banking services on a 1 to 5 basis scale. For the respondents that use internet banking sometimes, frequently and very frequently (scaled 3, 4, 5) the variable *Internet banking* takes the value 1, and for the card users that never or seldom use internet banking (scaled 1, 2) *Internet banking* takes the value 0. The variable took the value 1 for 24.84 percent of the customers, and took the value 0 for 75.16 percent of the card holders. That means that only the 24.84 percent of the credit card customers are using internet banking actively.

Variables Reflecting Consumer Credit Card Usage Behavior

The card user's credit card usage behavior is controlled in the regressions. This is done through the variables *Convenience user*, *Stable revolver*, *Delinquent* and *Unnecessary shopping*.

Revolvers are defined as the card holders who pay less than their monthly balance of credit card. In this study, revolvers were identified by their answers to four separate questions. Those who responded with a number greater than 0 to the question "In how many months out of the last 12 did you make a less-than-minimum payment?" and did not mark "I forgot the date of payment" as the only reason were categorized as revolvers. Also, those who gave a non-zero answer to the question "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?" were marked as revolvers. Respondents who responded with a "No" to the question "Did you pay all of your last credit card bills completely?" made up another part of the entire revolver sample. Last, any non-zero answer given to the question "If you haven't paid any one of your credit card bills completely in last twelve months, what is the highest amount that you did not pay?" made the respondent a revolver. *Convenience user* takes the value 1 if the respondent is not a revolver. 69.18 percent of the sample turned out to be convenience users. The distribution of card satisfaction among convenience users can be seen in Figure D.5 in the Appendix.

Revolvers were categorized into two types: stable revolvers and unstable revolvers. Stable revolvers were defined as revolvers that never paid less than the minimum amount last year. The distribution of this card satisfaction among stable revolvers can be seen in Figure D.6 in the Appendix. *Unstable revolver* is the variable which encompasses the remaining users that are classified under the definition of the revolvers. 20.26 percent of the sample is composed of unstable revolvers and 10.56 percent is made up of stable revolvers. The variable *Stable revolver* is excluded from the regression. The distribution of card satisfaction among unstable revolvers can be seen in Figure D.7 in the Appendix.

In the survey, the interviewees were asked if they had ever become delinquent. If the answer is yes, the *Delinquent* variable takes the value 1. 5.43 percent of the respondents confirmed that they had previously become delinquent. The distribution of this card satisfaction among delinquent users can be seen in Figure D.8 in the Appendix.

The individuals that believe they make unnecessary purchases due to card ownership are marked by the *Unnecessary shopping* variable. Accordingly, 40.57 percent of the respondents declared that sometimes they made unnecessary purchases because they have a credit card.

Variables Showing the Characteristics of the Credit Card

The variable which reflects the price characteristics of the main credit card of the consumer is *Low interest rate*. When the survey was conducted, three cards offered considerably lower interest rates than the others. *Low interest rate* is a dummy variable that takes the value 1 for these cards.[5] *Credit card limit* is a variable which shows the credit limit of the respondent's main card. The average credit card limit of the respondents was found to be TL 2,435.55. The other non-price characteristics of the credit cards are controlled by the bank dummies. Bank dummies are created such that if the card user uses the credit card of the related bank it takes the value 1, otherwise it takes the value of 0. Table A.1 in the Appendix shows card ownership in the sample by banks. Under a different regression specification, the non-price characteristics of credit cards are controlled by the bank type dummies. These bank types are state banks, participation banks, large banks and small banks.[6]

In the survey the respondents were asked how often they read the newspaper on a 1 to 5 basis scale. The variable *Read newspaper* captures this answer. This

[5] These credit cards are Al Baraka Türk card, Garanti Bankası Flexi card and Ziraat Bankası Ziraat card.

[6] State banks are Halk Bankası, Vakıfbank and Ziraat Bankası; participation banks are Albaraka Türk, BankAsya, Kuveyt Türk and Türkiye Finans; large banks are Akbank, Garanti Bankası, İşbankası and Yapı ve Kredi Bankası; and small banks are Anadolubank, Citibank, Denizbank, Eurobank Tekfen, Finansbank, Fortisbank, HSBC Bank, ING Bank, Millennium Bank, Şekerbank, Tekstilbank, Turkish Bank, Turkland Bank and Türk Ekonomi Bankası.

variable was added with the intent to identify people who have more access to information, including financial information. The summary statistics of the main variables can be seen in the Table 4. Table B.1 in the Appendix presents a brief overview of these variables.

Table 4. Summary Statistics

Variable	Number of Observations	Mean	Std. Dev.
Income	2413	723.368	926.324
Wealth	2444	58178.450	193101.400
Female	2576	0.285	0.452
Married	2575	0.710	0.454
Age	2571	38.010	12.022
Primary	2576	0.219	0.414
Secondary	2576	0.110	0.313
High School	2576	0.358	0.480
Civil Servant	2573	0.190	0.392
Self-employed	2573	0.161	0.368
Seasonal farm worker	2573	0.034	0.181
Not retired out of labor force	2573	0.034	0.181
Retired out of labor force	2573	0.159	0.366
Unemployed	2573	0.035	0.183
Town	2576	0.105	0.307
Coast	2576	0.684	0.465
Black Sea	2576	0.085	0.280
Middle Anatolia	2576	0.156	0.363
Interest rate knowledge	2576	0.074	0.262
Annual fee knowledge	2576	0.562	0.496
Deposit guarantee knowledge	2576	0.152	0.359
Acquisition of the card	2563	0.433	0.496
Attempt to avoid fees	2541	0.211	0.408
Research card	2490	2.063	1.275
Automatic payment	2572	0.327	0.469
Tax/insurance payment	2575	0.115	0.319
Internet banking	2576	0.248	0.432
Read newspaper	2575	3.641	1.114
Convenience user	2576	0.692	0.462
Stable revolver	2576	0.106	0.307
Delinquent	2576	0.054	0.227
Unnecessary shopping	2576	0.406	0.491

Low interest rate	2576	0.021	0.143
Credit card limit	2528	2435.549	2929.127

Note: Numbers of observations differ due to missing values.

CHAPTER 4

MODEL AND RESULTS

Model

In order to detect the variables that affect the satisfaction level which takes the values from 1 to 5 the ordered probit model is used. The underlying relation is characterized by;

$$Y_i^* = \beta_i \Sigma_{i=1}^{n} X_i + \varepsilon_i$$

for which,

$$Y_i = \begin{cases} 1 \text{ if, } Y_i^* \leq \mu_1, \\ 2 \text{ if, } \mu_1 \leq Y_i^* \leq \mu_2, \\ 3 \text{ if, } \mu_2 \leq Y_i^* \leq \mu_3, \\ 4 \text{ if, } \mu_3 \leq Y_i^* \leq \mu_4, \\ 5 \text{ if, } \mu_4 \leq Y_i^*, \end{cases}$$

where Y_i^* are assumed to reflect the actual value of the respondent's satisfaction level, X_i s are the independent variables, β_i 's are the regression coefficients, μ 's are the threshold parameters, ε_i 's are the error terms and Y_i are the observed values of the dependent variable. The model assumes that underlying exact values of the dependent variable are continuous variable whereas only the discrete values are observed (Greene, 2003).

Estimation Results

The estimation results for credit card satisfaction are presented in Table 5. There are two specifications. The first specification uses bank dummies, whereas the second specification uses bank type dummies instead of these. Both specifications use consumer characteristics variables, financial literacy variables and variables reflecting consumer credit card usage behavior. Significance levels of explanatory variables do not vary much across the two specifications. Also, the differences in coefficients of explanatory variables for each regression are negligible. Hence, the results of the first regression are interpreted and can be used for the second one as well. The columns named coefficient show the marginal effect of each variable on credit card satisfaction. The Z statistics are presented in the columns titled "Z". The estimation results for the breakdown of the variables *Financial information, Financial activeness* and *Financial sophistication* are presented in Table C.1 in the Appendix.

Income is not statistically significant for either of the specifications. Therefore, a change in the *Income* is found to not have any important effect on credit card satisfaction level. *Wealth*, on the other hand, is positive and statistically significant. Wealthier people are more pleased with their credit cards, which may be because they experience fewer problems with cards due to their better financial situation. Gender is found not to have a significant effect on satisfaction. Also, marital status and age are found to be insignificant.

Education level is statistically significant. The estimation results suggest that all primary, secondary and high school graduates are significantly less satisfied with their credit cards than university or upper level of school graduates. The coefficient

on *Primary*, identifying the least educated group, is smaller than the others. The reason for the overall picture on education may be that better educated people earn more, but given that we control for income and wealth, this result seems to be our first piece of evidence supporting the idea that financially literate people are more likely to be happier with their cards.

Civil servants are found to be less satisfied with their credit cards than private sector workers. It is possible that since civil servants have stable salaries credit card usage does not contribute as much to their consumption smoothing. The coefficient for seasonal farm workers is found to be positive and statistically significant. Since the income that farmers earn is not stable across seasons, card usage may be quite beneficial for them in smoothing their consumption. Unemployed people are significantly more dissatisfied with their credit cards than private sector workers. This may happen because the unemployed may experience financial difficulties which may cause them to have more trouble with card payments.

Living in town increases the credit card satisfaction by 13.3 percent regarding to living in province centers. The coefficients on the dummy variables for regions are found to be not statistically significant. Therefore the credit card satisfaction levels in the coast, Black Sea and Middle Anatolia regions do not differ significantly from the Eastern regions.

The financial literacy variables are *Financial Information*, *Financial Activeness* and *Financial sophistication*. Out of these, two turn out to be significant and positive presenting evidence that financial literacy increases consumers' satisfaction with credit cards. The significance of *Financial information* and *Financial activeness* suggests that being more knowledgeable about financial services and actively using this information in financial decisions prevent one from

situations which cause dissatisfaction with the card. It is possible that not being knowledgeable about financial matters or not taking an active role to achieve the best financial outcome causes a consumer to make irrational decisions and as a result experience unpleasant situations, ultimately causing dissatisfaction. It is also possible that in the face of credit card trouble those who are more financially illiterate tend to put the blame on the financial product more than the financially literate do.

Examining the coefficients of the credit card usage behavior variables, it is seen that convenience users are more satisfied with their cards than unstable revolvers. It is possible that since convenience users do not use the credit option of their cards, they have less dealings with credit cards and hence less about which to be unhappy. Likewise, it is also possible that the credit services (not used by convenience users) cause more dissatisfaction. Those who have been delinquent in credit card payments at some point are less satisfied with their current card. Again, delinquent users experience some dealings with card issuers which non-delinquent ones do not, and these particular dealings may be more unpleasant. The penalties they face in the form of high late interest charges other fees may reduce their income in the long run. It is also possible that the nature of these dealings leaves negative impressions about the card in delinquent people. Another explanation is that delinquent people are likely to be people who have made irrational financial decisions by their lack of use of information in their choices and hence are more dissatisfied. *Unnecessary shopping* has a negative and significant coefficient, suggesting that consumers who think that they make unnecessary purchases because they have a credit card are less happy with their cards. This also supports the argument that making financially unsound decisions causes more dissatisfaction with the product.

Moreover, the people who have higher credit card limits seem to be more satisfied with their cards than the people with lower credit card limits. This result is intuitive, as people with higher limits can do more consumption smoothing and hence they derive more benefit and satisfaction from their cards.

As the newspaper reading frequency increases credit card satisfaction also increases. Newspaper reading is a proxy for access to information, and may also reflect the financial literacy of the individuals. Those who have more access to information, and consequently financial information are more satisfied with their credit cards.

Lastly, the data for our second regression reveals that the credit card users of participation banks are happier than the card users that use cards from bigger banks. Small bank customers, on the other hand, are less satisfied with their cards compared to large bank customers. These dummy variables are intended to capture non-price benefits' effects on customer satisfaction. Smaller banks offer less non-price benefits. Many benefits such as bonus points depend on passing the card through the issuer's POS machine and smaller banks have smaller POS networks. Hence the coefficient of the small bank dummy is as expected. Participation banks offer the non-price benefit of interest-free banking to a certain customer profile.

When we examine the bank coefficients in the first regression, we see that most results are in parallel with the second regression's bank type dummy variables' coefficients. In the second regression Akbank is the bank that is left out and it is the basis of comparison. The only difference is that Ziraat Bankası, which is a state bank, has a positive coefficient significant at 10%. The majority of the cards in the sample issued by this bank are joint-name credit cards with İş Bankası, which is one of the largest banks in the industry.

As the bank variables are intended to capture non-price benefits' effects on customer satisfaction, the results suggest that the contribution of bank level benefits is relatively low on customer satisfaction. Therefore, the various products that, banks provide to their customers does not contribute to overall satisfaction level of the respondents as the other variables captured through this study.

Table 5. Results For The Ordered Probit Regression

	Coefficient	Z	Coefficient	Z
Income	-0.00003	-0.38	-0.00001	-0.20
Income squared	-0.000000001	-0.09	-0.000000003	-0.22
Wealth	0.000000327**	2.49	0.000000275**	2.12
Female	0.06684	1.11	0.07348	1.24
Married	0.06050	0.89	0.06730	0.99
Age	0,00916	0.62	0.00911	0.62
Age squared	-0.00011	-0.66	-0.00011	-0.63
Primary	-0.21989***	-2.56	-0.21809***	-2.57
Secondary	-0.17594*	-1.86	-0.16753*	-1.79
High school	-0.17685***	-2.63	-0.18045***	-2.71
Civil servant	-0.13179*	-1.71	-0.14222*	-1.87
Self-employed	-0.04183	-0.53	-0.04632	-0.59
Seasonal farm worker	0.48985***	3.33	0.47302***	3.24
Unemployed	-0.40896***	-3.05	-0.42408***	-3.17
Not retired out of labor force	-0.09366	-0.61	-0.09803	-0.65
Retired out of labor force	-0.09118	-0.87	-0.09295	-0.89
Town	0.15259*	1.84	0.14322*	1.74
Coast	0.06473	0.63	0.03312	0.33
Black Sea	-0.16560	-1.28	-0.18894	-1.47
Middle Anatolia	0.12876	1.13	0.10427	0.92
Financial information	0.07605*	1.79	0.07321*	1.73
Financial activeness	0.12502***	2.79	0.12751***	2.88
Financial sophistication	0.03902	0.93	0.03847	0.92
Read newspaper	0.04616*	1.91	0.04364*	1.82
Convenience user	0.22880***	3.48	0.22719***	3.47
Stable revolver	0.07900	0.85	0.06752	0.73
Delinquent	-0.42112***	-3.87	-0.43436***	-4.02
Unnecessary shopping	-0.15249***	-2.89	-0.15519***	-2.96
Low interest rate	0.13390	0.65	0.27139	1.44
Credit card limit	0.00002**	2.16	0.00002**	2.42

State bank			0.09154	0.97
Small bank			-0.19669***	-3.00
Participation bank			0.34414**	1.99
Bank Asya	0.35836*	1.75		
Citibank	0.39585	1.23		
Denizbank	0.01797	0.07		
Finansbank	-0.10013	-0.87		
Fortisbank	-0.58735***	-3.03		
Garanti Bankası	0.00498	0.06		
Halk Bankası	-0.03590	-0.18		
HSBC Bank	-0.33324***	-2.59		
ING Bank	-0.08005	-0.31		
İş Bankası	0.01188	0.13		
Kuveyt Türk	-0.63306	-1.21		
Şekerbank	0.64584	0.94		
Tekstilbank	0.09176	0.08		
Türk Ekonomi Bankası	-0.01667	-0.06		
Türkiye Finans Katılım Bankası	1.49583***	2.6		
Vakıfbank	0.00293	0.02		
Yapı ve Kredi Bankası	0.04752	0.52		
Ziraat Bankası	0.30586*	1.88		
Threshold 1	-1,695	0,328	-1.713	0.320
Threshold 2	-1,257	0,325	-1.281	0.318
Threshold 3	-0,515	0,324	-0.547	0.316
Threshold 4	1,533	0,325	1.488	0.317
Number of obs = 2147			Number of obs = 2147	
Log pseudolikelihood = -2098.2936			Log pseudolikelihood = -2110.8571	
Pseudo R2 = 0,0429			Pseudo R2 = 0.0372	

***, **, and * highlight significance at 1 percent, 5 percent, and 10 percent, respectively.

The regression results with the breakdown of the financial literacy variables are shown in the Appendix Table C.1. The results for the second set of regressions reveal that the effect for each variable remains the same when using the breakdown for each coefficient used in creating the financial literacy variables.

CHAPTER 5

CONCLUSION

The Turkish credit card market expanded tremendously since the first introduction of the cards to the market. As the market got larger, the more risky segments of the society attained credit cards. The problems associated with the cards became more visible. A considerable amount of people defaulted on their debts, and a range fell into the 'debt trap', which means that they started to pay one credit card debt by borrowing from another credit card. At this point the card user's dissatisfaction became an obvious problem to be solved both by the state, banks and the society itself.

Since the 2000s credit cards have been criticized for charging high interest rates on revolving and late balances. Steps towards the solution of the credit card problems were taken with the introduction of the interchange fee regulation in 2005 and a series of credit card regulations including a price ceiling on interest rates in 2006. The issues associated with credit cards, however, may not be resolved if some of the problem lies elsewhere.

This paper tries to determine the determinants of satisfaction- and hence dissatisfaction- with credit cards using the results of a nationwide credit card user survey from Turkey. The analysis reveals that financial literacy is a major determinant of consumer satisfaction. As the consumers become more financially literate they take more rational actions on the market and hence, they suffer less with the credit card debt related problems. Our data suggests that to make the customers in

the credit card market happier financial literacy should be increased by increasing the individuals' information level and by supporting the individuals to use their information actively in the market.

The results captured here will be useful for regulators to understand the building blocks under the concept of card satisfaction. Also, banks can use the results suggested here in order to create more satisfied customers by providing information and supporting the active involvement of the customers in the financial markets.

APPENDICES

Appendix A

Credit Card Ownership

Table A.1: Credit Card Ownership

Credit card bank	Number of card holders	Percentage of card holders
Akbank	333	12.93
Al Baraka Türk	1	0.04
Bank Asya	45	1.75
Citibank	15	0.58
Denizbank	26	1.01
Finansbank	185	7.18
Fortisbank	43	1.67
Garanti Bankası	602	23.37
Halk Bankası	45	1.75
HSBC Bank	137	5.32
ING Bank	27	1.05
İş Bankası	420	16.3
Kuveyt Türk	4	0.16
Şekerbank	4	0.16
Tekstilbank	1	0.04
Türk Ekonomi Bankası	21	0.82
Türkiye Finans Katılım Bankası	6	0.23
Vakıfbank	94	3.65
Yapı ve Kredi Bankası	457	17.74
Ziraat Bankası	110	4.27
Total	2,576	100

Appendix B

Definition of Variables

Table B.1: Definition of Variables

Variable	Definition
Income	Household Income/Household Size
Income squared	Square of the Income
Wealth	Total Value of Real Estate and motor vehicles that an individual owns
Female	1 if female respondent, 0 if male
Married	1 if married respondent, 0 otherwise
Age	Age in years
Age squared	Age squared
Primary	1 if primary school graduate or did not get any schooling, 0 otherwise
Secondary	1 if secondary school graduate, 0 otherwise
High school	1 if high school graduate, 0 otherwise
Civil servant	1 if the respondent is a civil servant
Self-employed	1 if the respondent is self employed
Seasonal farm worker	1 if the respondent is a farmer or a seasonal worker
Unemployed	1 if the respondent currently unemployed
Not retired out of labor	1 if the respondent is not retired and out of labor force
Retired out of labor	1 if the respondent is retired and not looking for a job
Town	1 if the card user lives in a town
Coast	1 if respondent lives in Aegean, Mediterranean, East Marmara and West Marmara
Black Sea	Includes East and West Black Sea
Middle Anatolia	1 respondent lives in West Anatolia and Middle Anatolia
Read newspaper	Scale newspaper reading level on 5 scale basis
Interest rate knowledge	1 if the respondent tells that she knows the interest rate on her credit card
Annual fee knowledge	1 if the respondent tells that she knows the annual fee that she paid last year
Deposit guarantee knowledge	1 if the respondent knows the amount under state warranty
Acquisition of the card	1 if the respondent take the card from a non deposit bank
Attempt to avoid fees	1 if previously attempted to reduce or cancel the card usage fee
Research card	Scale the research level on 5 scale basis
Automatic payment	1 if card user have automatic payment order on bank
Tax/insurance payment	1 if respondent make tax or insurance payment through bank

Internet banking	Scale the internet banking usage level on 5 scale basis
Convenience user	1 if the respondent pays full balance monthly
Stable revolver	1 if the respondent pays less than full amount at least once a year, and never paid less than minimum last year
Delinquent	1 if the respondent is delinquent
Unnecessary shopping	1 if the respondent thinks that she makes unnecessary purchases due to card holding
Low interest rate	1 if the bank has considerably low interest rate*
Credit card limit	Credit limit of the respondent's main card

* 1 for Albaraka Türk Card, Garanti Bankası Flexi Card and Ziraat Bankası Ziraat Card

Appendix C

Results for the Ordered Probit Regression

Table C.1: Results for the Ordered Probit Regression with Individual Financial Literacy Variables

	Coefficient	Z	Coefficient	Z
Income	-0.00008	-1.04	-0.00006	-0.83
Income squared	0.000000003	0.25	0.000000001	0.11
Wealth	0.000000333**	2.52	0.000000281**	2.15
Female	0.06185	1.02	0.07057	1.18
Married	0.04310	0.63	0.05137	0.75
Age	0.01096	0.73	0.01123	0.75
Age squared	-0.00013	-0.77	-0.00013	-0.76
Primary	-0.17881**	-2.04	-0.17482**	-2.01
Secondary	-0.15432	-1.61	-0.14561	-1.53
High school	-0.15851**	-2.33	-0.16176**	-2.40
Civil servant	-0.14321*	-1.85	-0.16041**	-2.10
Self-employed	-0.02990	-0.38	-0.03738	-0.48
Seasonal farm worker	0.53883***	3.64	0.51286***	3.49
Unemployed	-0.38590***	-2.87	-0.39984***	-2.98
Not retired out of labor force	-0.06473	-0.42	-0.07732	-0.51
Retired out of labor force	-0.11202	-1.06	-0.11578	-1.11
Town	0.14368*	1.71	0.12765	1.53
Coast	0.07477	0.73	0.05406	0.53
Black Sea	-0.13289	-1.02	-0.15301	-1.18
Middle Anatolia	0.13136	1.15	0.11359	1
Interest rate knowledge	0.01821	0.19	0.02053	0.21
Annual fee knowledge	-0.05921	-1.10	-0.05708	-1.07
Deposit guarantee knowledge	0.22296***	3.02	0.20844***	2.84
Acquisition of the card	-0.06090	-1.12	-0.05597	-1.06
Attempt to avoid fees	-0.02524	-0.39	-0.02267	-0.35
Research card	0.10028***	4.84	0.10292***	4.98
Automatic payment	0.15063**	2.49	0.14090**	2.35
Tax/insurance payment	-0.01011	-0.12	-0.00202	-0.02
Internet banking	0.01934	0.29	0.01223	0.19
Read newspaper	0.04367*	1.80	0.04043*	1.68
Convenience	0.20780***	3.14	0.20605***	3.13
Stable revolver	0.08186	0.88	0.06960	0.75
Delinquent	-0.41710***	-3.81	-0.43056***	-3.96
Unnecessary shopping	-0.15011***	-2.82	-0.15143***	-2.87

Low interest rate	0.12685	0.61	0.26543	1.40
Credit card limit	0.00001*	1.88	0.00002**	2.23
State bank			0.06327	0.66
Small bank			-0.15673**	-2.36
Participation bank			-0.33475*	1.93
Bank Asya	0.34857*	1.70		
Citibank	0.48574	1.50		
Denizbank	-0.00606	-0.02		
Finansbank	-0.06312	-0.54		
Fortisbank	-0.57701***	-2.95		
Garanti Bankası	0.00565	0.06		
Halk Bankası	-0.08234	-0.41		
HSBC Bank	-0.27588**	-2.13		
ING Bank	-0.13502	-0.52		
İş Bankası	-0.04453	-0.47		
Kuveyt Türk	-0.68551	-1.31		
Şekerbank	0.59989	0.86		
Tekstilbank	0.25812	0.21		
Türk Ekonomi Bankası	-0.02510	-0.09		
Türkiye Finans Katılım Bankası	1.45375**	2.48		
Vakıfbank	-0.03221	-0.21		
Yapı ve Kredi Bankası	0.06088	0.66		
Ziraat Bankası	0.26405	1.61		
Threshold 1	-1.501	0.339	-1.489	0.332
Threshold 2	-1.059	0.337	-1.053	0.330
Threshold 3	-0.307	0.335	-0.310	0.328
Threshold 4	1.760	0.337	1.743	0.330
Number of obs = 2147			Number of obs = 2147	
Log pseudolikelihood = -2083.3215			Log pseudolikelihood = -2096.23	
Pseudo R2 = 0.0497			Pseudo R2 = 0,0439	

***, **, and * highlight significance at 1 percent, 5 percent, and 10 percent, respectively.

Appendix D

Distribution among Data

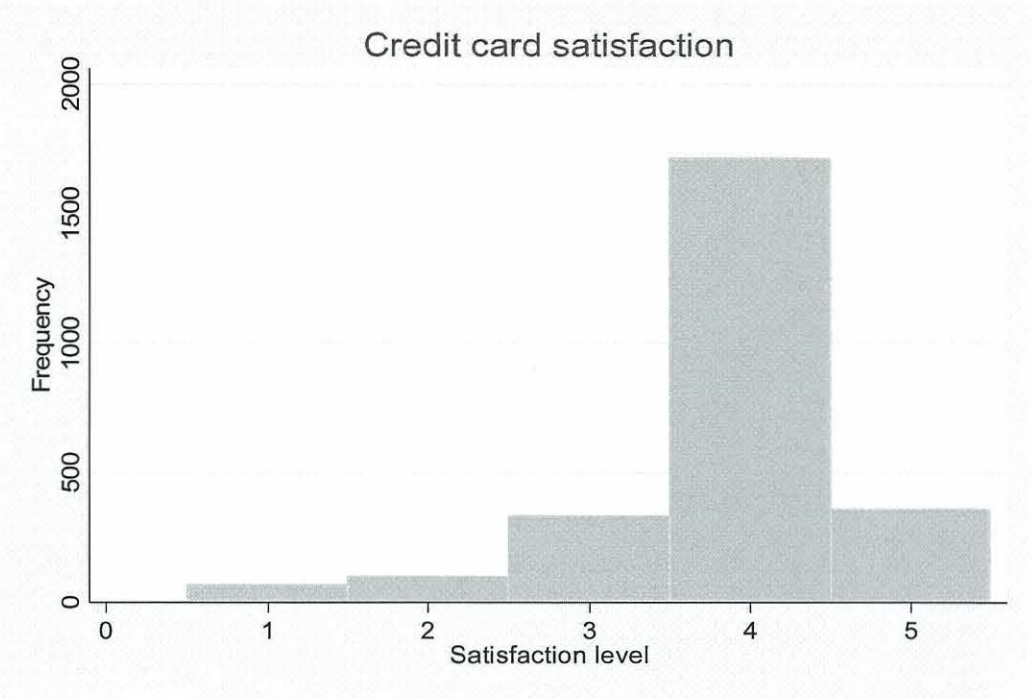

Figure D.1: Credit card satisfaction among all respondents

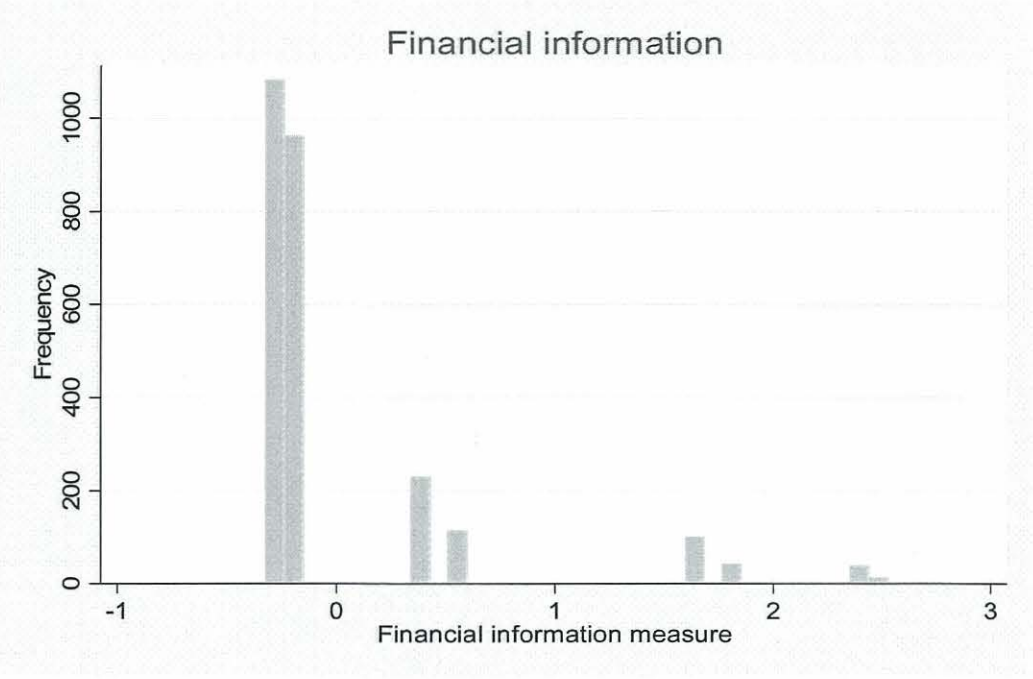

Figure D.2: Financial information among all respondents

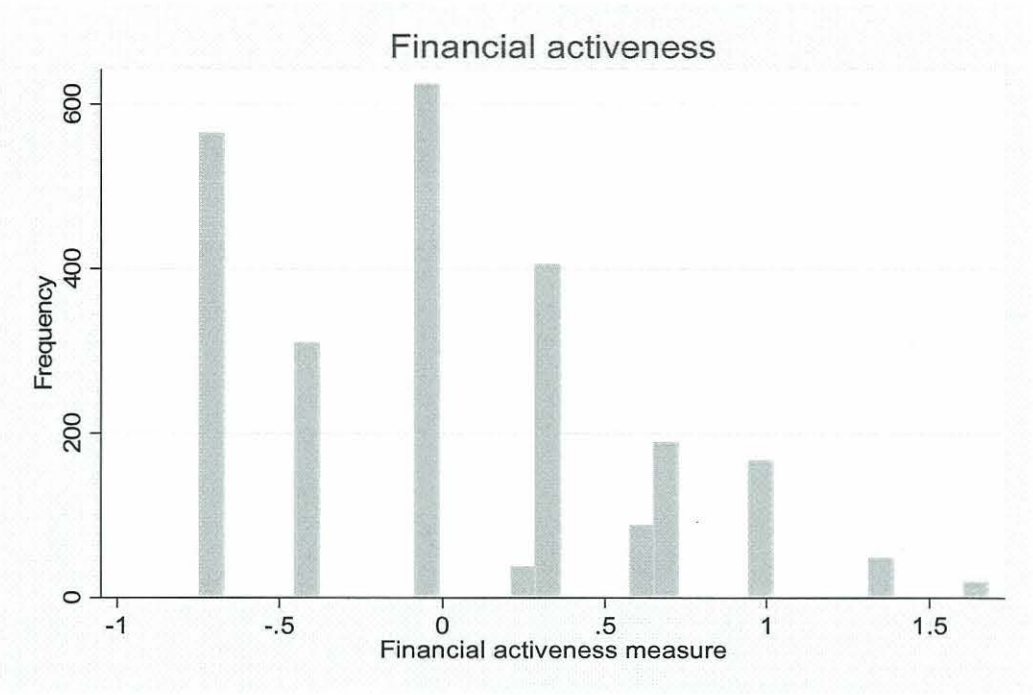

Figure D.3: Financial activeness among all respondents

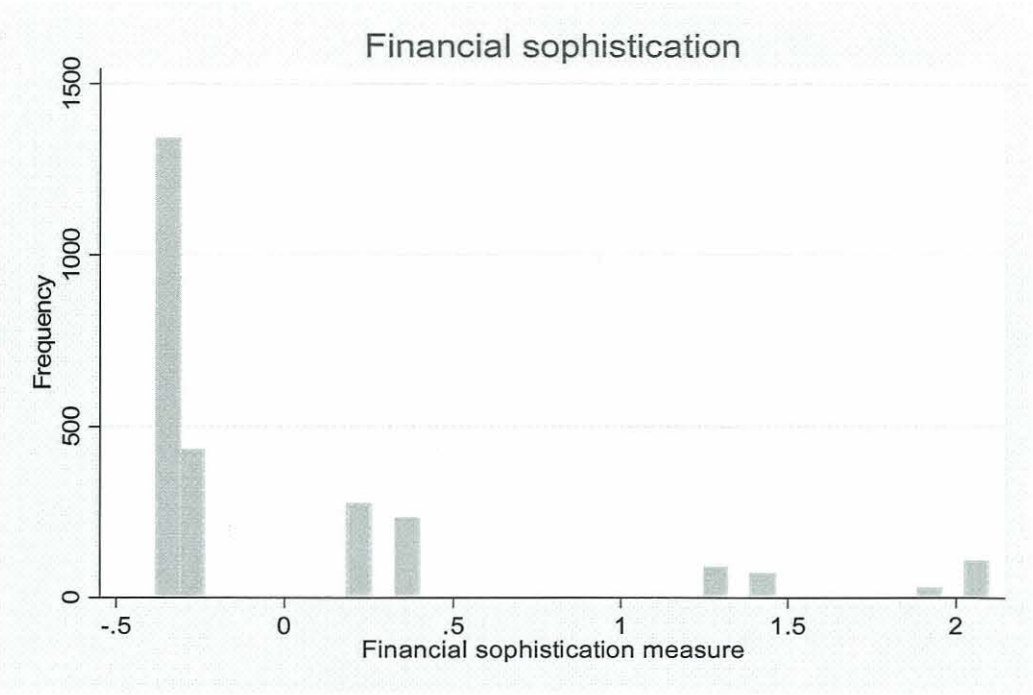

Figure D.4: Financial sophistication among all respondents

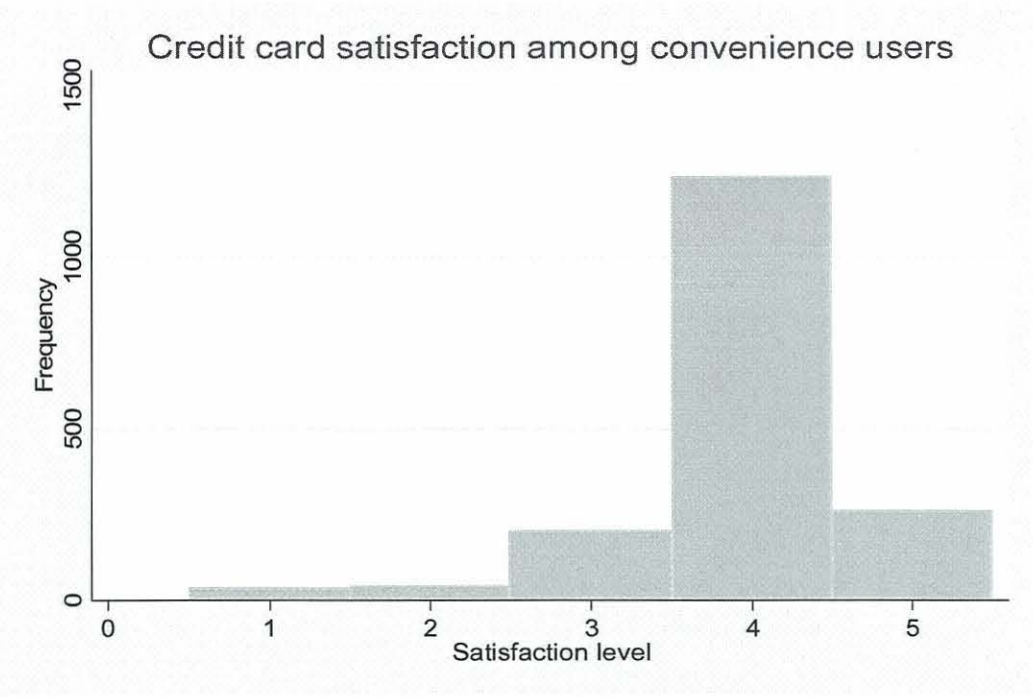

Figure D.5: Credit card satisfaction among convenience users

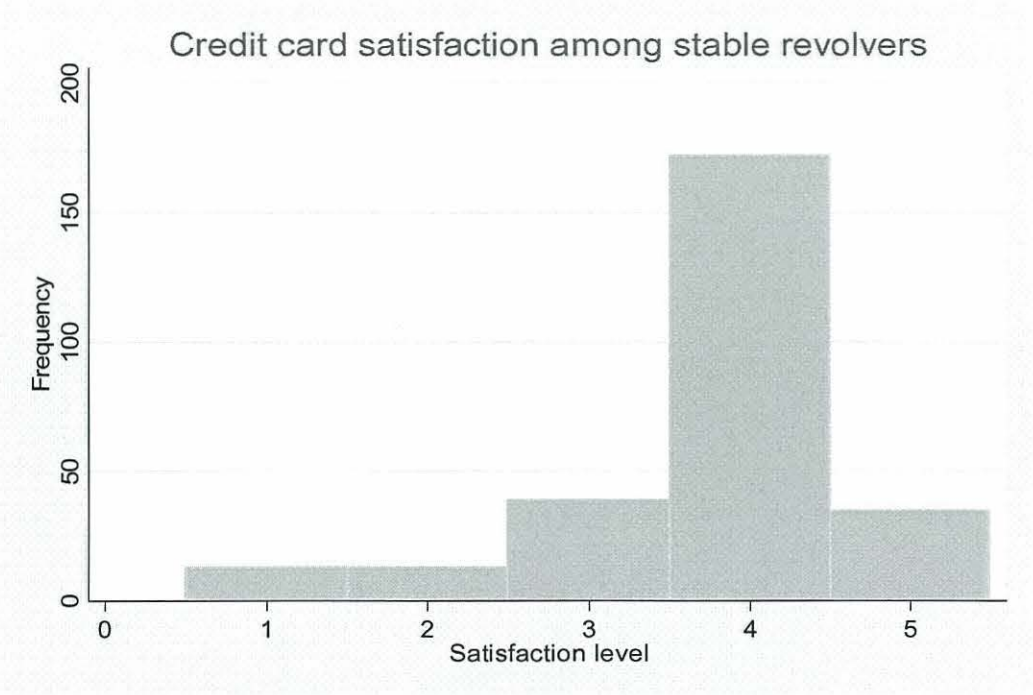

Figure D.6: Credit card satisfaction among stable revolvers

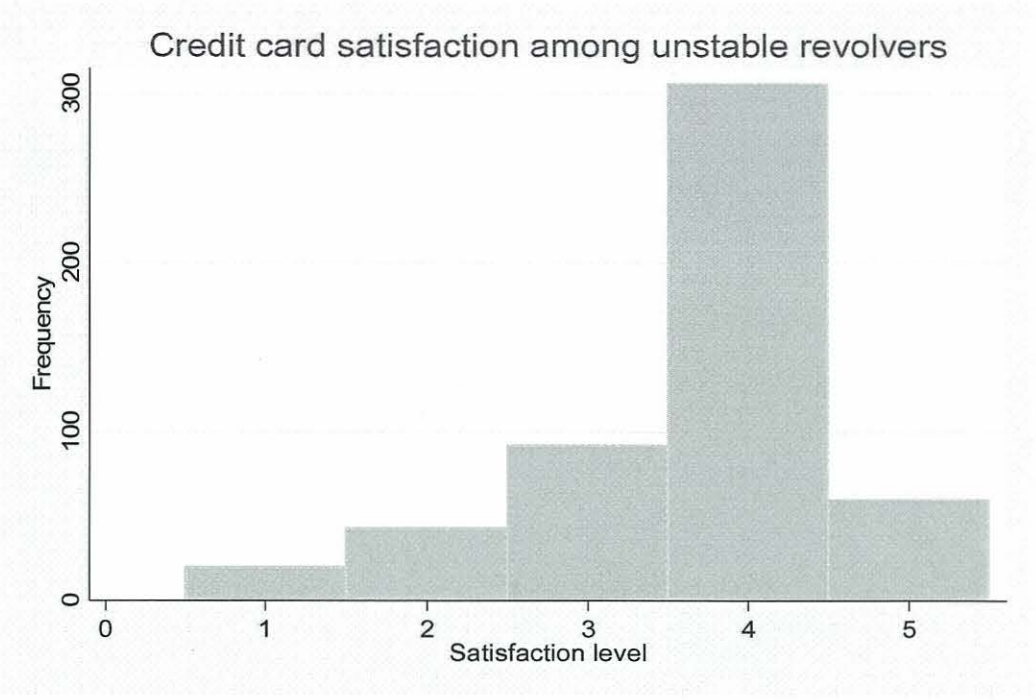

Figure D.7: Credit card satisfaction among unstable revolvers

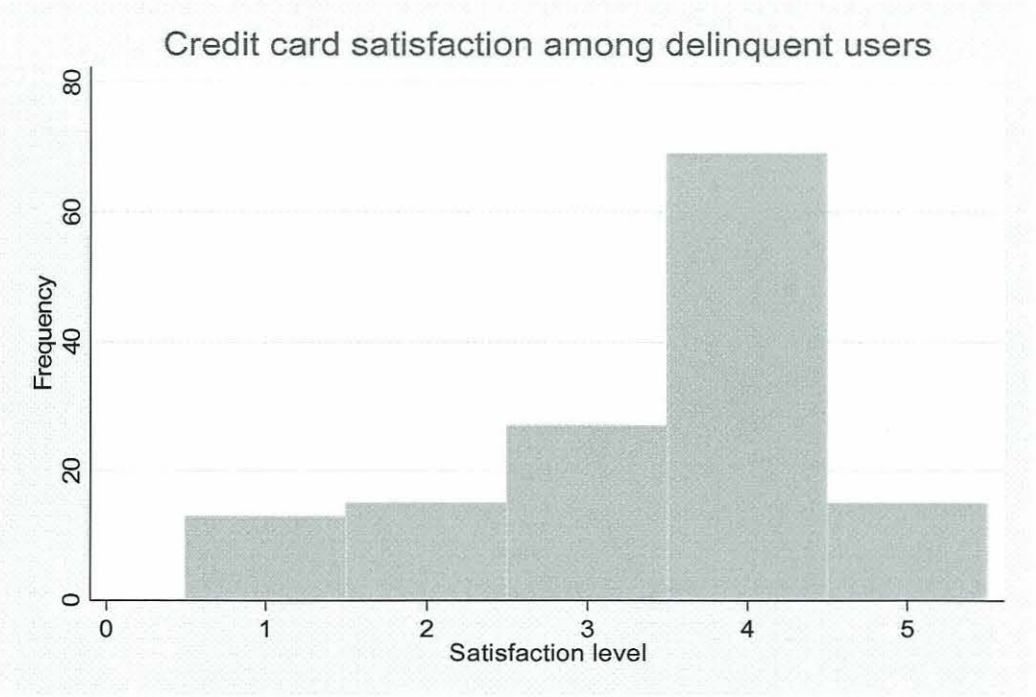

Figure D.8: Credit card satisfaction among delinquent users

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