

Use of Credit Cards Before and After Bank and Credit Cards Law No. 5464 in Turkey¹

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Abstract

Turkey ranks second after England in Europe with 57 million credit cards in the market in 2014. This paper investigates the effects of new regulations in credit card market implemented by the Central Bank of the Republic of Turkey (CBRT) after 2005. Bank Cards and Credit Cards Law No. 5464 was enacted in February 2006. New legislations changed the rules on how banks issue credit cards, how they set credit card total limits, minimum monthly payment ratios and interest rate on credit card balances. The aim is to review the developments in the credit card market and to determine whether new regulations have changed the average credit card spending and the ratio of credits used by credit cards to the total credits from 2001-2005 to 2006-2014. The results indicate that controlling the interest rate did not lower the total use of credit cards; there is not any statistically significant change in the ratio of credit card credits to total credit but use of consumer credits in total credits increased after 2005. Annual data for the period of 2001 to 2014 is used in this study. The independent t-test is employed in comparing the mean values of chosen variables for the two periods.

Keywords: credit cards, interest rates, banking regulations, Turkish Central Bank

JEL: D12, D14, C12 and G28

I. Introduction

There is a positive correlation between financial and economic development. There are many studies in the literature claiming that the direction of causality goes from financial development towards economic growth and development. Regardless of the direction of causality, the importance of a well-developed financial system and its stability in economic development is well understood. Turkey took important steps in developing a well-functioning financial system especially after 2000. The financial system in Turkey is largely dominated by its banking sector. For example, total assets of banking system constituted %90 of total assets of financial system in general and about 75% of GDP (BAT, March 2005). The share of total assets of banking system in the financial system is declined slightly to about %87 by the end of 2012.

Central Bank of the Republic of Turkey (CBRT), the Capital Markets Board of Turkey (CMBT), and the Banking Regulation and Supervision Agency (BRSA) are the three main regulatory authorities aiming at establishing and maintaining financial stability in Turkey. While CMBT is established back in 1981, BRSA is established in 2000. In order to show the seriousness of low savings and/or high borrowings in Turkey, it is convenient to start with current account deficit figures. The current account deficit was \$64.7 billion in 2013 and decreased to \$46.5 billion in 2014. Declining oil prices played a critical role in this decline as energy import is a big item for Turkey (www.tcmb.gov.tr). On the financial stability side, low saving rates by both private and public sector constitutes a potential threat.

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As a result of low savings, households increasingly borrow more loans to finance their expenditures and they end up with huge unpaid balances. The long term foreign debt of Turkish private sector reached to \$166.5 billion in June 2014. The short term foreign debt on the other hand is \$43.7 billion.³ There is a similar picture on the household side too. The ratio of household debt to disposable income reached to %55 at the end of 2013. About 1 million people could not pay off their personal loan or credit card debt in 2013. This number meant a 49% relative to situation in 2012. There is another figure showing the seriousness of credit card debt: more than 200 people have committed suicide because of credit card debt between 2004 and 2012.⁴

The number of people who could not pay their personal loan or credit card balances climbed to almost 3 million in the first months of 2015. The rate of increase in personal loans was 74% in 2014 and the borrowed amount was 86.7 billion Turkish Liras. This amount increased to 151.3 billion Turkish Liras by the end of January 2015.⁵ The most important move against the threat against soaring personal indebtedness came in 2006 in the form of a new law: Bank Cards and Credits Cards Law No 5464. It was enacted on 23rd February 2006. CBRT intervened in credit card market many times especially since 2013. The main objective was to protect credit card holders from relatively high credit card interest rates and unfair business practices of credit card issuers as well as creating healthier financial conditions by lowering excess borrowings of the households. Following the global financial crisis of 2008, financial authorities in Turkey implemented macroprudential measures to control the growth rate of consumer and credit card loans in an effort aimed at financial stability. The idea behind the measures was to increase savings and to direct these savings into productive economic investments while lowering the growth rate of personal credits. This was made by an amendment dated December 17th, 2010 in the Regulation on Bank Cards and Credit Cards. Some of the changes related to credit cards are: minimum payment ratios of credit cards were increased; credit card limits are restricted in parallel with income levels; credit cards are closed to usage under certain circumstances; installment period of credit card debts is limited to nine months. (TCMB, 2014)

The following table presents the summary information regarding new regulations put into action after 2002.

Table 1: Changes in Credit Cards Market Regulations by the CBRT

| Date | Change in regulation |
|---------------|---|
| March 2003 | Act No. 4077 on Consumer Protection as Amended by Act No. 4822. Credit card agreement, periodic statement, and change in interest rate in 30 days advance |
| February 2006 | Bank Cards and Credits Cards Law 5464 Imposing personal expenditure limits on credit cards with a new law |
| June 2006 | April 02, 2006 No: 2006-17: The max interest rates on credit card transactions |
| December 2010 | Change of credit card interest rates in favor of the user and adjustments on minimum payments according to card limits |
| June 2011 | New limits imposed on cash advance and limit increases |
| June 2013 | Law No. 6493, 20/6/2013: Law on Payment and Security Settlement Systems, Payment Services and Electronic Money Institutions |
| August 2013 | Restrictions on commercial credit card interests |
| October 2013 | Adjustments to minimum payment ratios and restricting credit card limits with four times the income of the user |
| November 2013 | Card issuer has to offer credit cards without card fee |
| February 2014 | Limiting monthly installment on credit card expenditures with 9 months |

Source: KartMonitor 2014, pp. 54. http://www.bkm.com.tr/basin/kart_monitor_2014.pdf

There are 57 million credit cards, 105.5 million debit cards, about 2.4 million POS terminals, and 45,576 ATMs in Turkey at the end of 2014. Domestic transactions (i.e. purchases and cash advances) with domestic and international credit cards were 44,540 Million TL and domestic transactions with domestic and international debit cards were 37,604 Million TL at the end of 2014.⁶

³<http://www.hurriyetdailynews.com/turkish-private-sector-foreign-debt-rises-by-89-billion-----.aspx?pageID=238&nid=70682>

⁴<http://www.ft.com/intl/cms/s/0/0b9b66bc-cc98-11e3-ab99-00144feabdc0.html#axzz3kKAWI549>

⁵<http://herdem.av.tr/increasing-demand-personal-loans-turkey/>

⁶ http://www.bkm.com.tr/bkm-en/istatistik/secilen_aya_ait_genel_istatistik.asp?Year=2014&Month=12&List=List

Turkey ranks second after England in Europe in terms of credit and bank debit card figures. There are 151.6 million debit cards and 56.4 million credit cards in England. Corresponding figures in Turkey were reported as 145.6 million bank cards and 54.3 million credit cards. There were 145.6 million bank cards and 54.3 million credit cards in 2012.⁷ The paper is organized as follows. The next section provides a brief overview of the related literature. Section three is about the data, methodology, and hypothesis used in the paper. The fourth and the last section present conclusions of the study.

2. Literature Review

There are many advantages of credit cards: provides liquidity and the need to carry cash is less with credits cards; allows the cardholder to obtain cash advance; provides a credit line when the card holder choose to pay the minimum required amount only; allows for installments; allows for e-commerce shopping; second card could be issued on relatives; provides prestige and insurance against loss and theft(Kaya, 2009).

Credit cards are used for various reasons; however, two of them capture more attention. Firstly, credit cards are used for the ease they offer. People use credit cards rather than carry cash and pay their balances in full to avoid interest charge and late fees etc. Secondly, some other people, like most of the credit card holders, use them as a source of loans. Most of the credit card related problems appear when credit cards are used as a source of loan. The minimum payment, the interest rate, the late fee, increasing unpaid balances and other issues come into picture when credit card is used to finance excess spending. The banks are located on the opposite side of this story. Their profits arise from the misuse of credit cards. The high interest rate on credit cards and various sorts of fees for late payers are the main source of profits on credit card business.

Ausubel (1991) determined that the credit card market in the US during 1983-1988 was not competitive in the absence of regulation and in the presence of a large number of firms and a huge number of customers. The very high rate of credit card interest rates resulted mainly due to customers' ignorance about the unpaid balances. Brito and Hartley (1995) argued that low transactions costs relative to bank loans and also liquidity services of credit cards make the use of credit cards a rational behavior. Moreover, he argued that the inflexible nature of credit cards relative to cost of funds does not make the credit card market equilibrium inconsistent with a competitive equilibrium. It has been observed that credit card interest rates are quite above other interest rates on various types of loans. Credit card interest rates do not decline even when there is serious interest rate decline in the economy. This situation is called the stickiness of rates and indicates a market power on the side of the card issuers/banks. Calem and Mester (1995) determined the market power of banks in the US explaining the stickiness of credit card interest rates in the US based on the Federal Reserve's 1989 Survey of Consumer Finances. Calem and Mester (1995) found evidence supporting arguments outlined by Ausubel (1991) that the sector does not provide competitive equilibrium results. Some of the reasons of this outcome are listed as existence of search and switch costs for the customers and the adverse selection effect for the credit card issuer.

Marginal propensity to consume (MPC) out of liquidity and interest rate elasticities are calculated by Gross and Souleless (2001) in order to understand how liquidity constraint and interest rates affect consumer behavior in use of credit cards. The data is obtained from anonymous credit card issuers in the US with monthly data for the period of 1995-1998. In contrary to the implication of Permanent Income Hypothesis (PIH), study concluded that increase in credit limits immediately results with significant increase in debt. They also found a strong effect from changes in account specific interest rates.

Various studies dealing with credit cards analyze the issue from the perspectives of customers, issuers, regulatory authorities, and their effects on the economy in general. There exists a discussion on related literature on the "rationality" of the credit card users as people continue to use credit cards rather than using cheaper alternative available form of loans. Telyukova and Wright (2008) take this problem as credit card puzzle and concluded that this situation alone does not make the users irrational. One of the explanations they made is that these people prefer credit cards since they might think that they might not reach liquidity later when needed.

⁷<http://www.dailysabah.com/markets/2014/05/11/turkey-second-largest-credit-card-user-in-europe>

The competitive nature of credit card market in Turkey is investigated by Akin et al. (2013) and the paper concluded that banks enjoyed collusive oligopoly power before 2005 and 2005 regulations in Turkey. Aysan and Yıldız (2006) presents the regulations took place during 2000s for the credit card market in Turkey. Legal issues about credit cards first resolved based on 2003 consumer Protection law and a more comprehensive law put into effect in 2006. This paper analyzed the effects of new regulations on credit card users, banks and also the government.

3. Methodology

The data on credit card purchases, cash advances and total credit card use is obtained from Interbank Card Center (BKM) for the period of 2001 to 2014. Percentage share of credit cards and consumer credits in total credits are obtained from annual reports of BDDK and TCMB. The figures of POS, ATMs, credit cards and bank cards obtained from BKM and BDDK reports. STATA 13 statistical software package was used in analysis of the data.

Table 2: Credit Card Purchases, Cash Advances and Total, Number of POS, ATM, Credit Cards and Bank Cards

| Years | Purchase Million TL | Cash Advance Million TL | Total Million TL | POS | ATM | # of Credit Cards | # of Bank Cards |
|-------|---------------------|-------------------------|------------------|---------|-------|-------------------|-----------------|
| 2001 | 12161 | 2137 | 14298 | 400000 | 12017 | 13,996,806 | 30,017,600 |
| 2002 | 21965 | 2543 | 24508 | 489213 | 12035 | 15,705,370 | 35,057,300 |
| 2003 | 35672 | 3743 | 39415 | 651559 | 12726 | 19,863,167 | 39,563,500 |
| 2004 | 58509 | 6119 | 64628 | 892886 | 13819 | 26,681,128 | 42,207,000 |
| 2005 | 77418 | 7864 | 85282 | 1130408 | 14836 | 29,978,243 | 48,192,600 |
| 2006 | 98779 | 9624 | 108403 | 1269550 | 16513 | 32,433,333 | 53,464,100 |
| 2007 | 128018 | 13450 | 141468 | 1439165 | 18815 | 37,335,179 | 55,510,100 |
| 2008 | 166000 | 19000 | 185000 | 1568975 | 21953 | 43,394,025 | 60,551,500 |
| 2009 | 183000 | 19500 | 202500 | 1731397 | 23952 | 44,392,614 | 64,661,900 |
| 2010 | 212522 | 21970 | 234492 | 1816680 | 27649 | 46,956,124 | 69,916,462 |
| 2011 | 263500 | 27356 | 290856 | 1976843 | 32462 | 51,360,809 | 81,879,926 |
| 2012 | 329751 | 31578 | 361329 | 2134444 | 36334 | 54,342,148 | 91,263,042 |
| 2013 | 386565 | 37333 | 423898 | 2293695 | 42011 | 56,835,221 | 100,164,954 |
| 2014 | 429840 | 44377 | 474217 | 2389303 | 45576 | 57,005,902 | 105,513,424 |

Credit card sales, credit card cash advance, total credit card use, number of point of sale (POS) terminals, ATMs, number of credit cards, and number of bank cards are presented on Table 2 above. Similarly, percentage share of credits used by credit cards in total credits and percentage share of consumer credits in total sales are given in Table 3 below.

Table 3: %Share of Credit Card and Consumer Credits in Total Credits

| Years | % (Credit Cards/ Total Credits) | %(Consumer Credits/Total Credits) |
|-------|---------------------------------|-----------------------------------|
| 2001 | 5,5 | 6,1 |
| 2002 | 9,1 | 6,6 |
| 2003 | 10,9 | 14,0 |
| 2004 | 11,4 | 12,5 |
| 2005 | 11,8 | 19,3 |
| 2006 | 10,4 | 21,9 |
| 2007 | 10,1 | 24,3 |
| 2008 | 9,3 | 22,6 |
| 2009 | 9,3 | 23,8 |
| 2010 | 8,3 | 24,5 |
| 2011 | 8,1 | 24,7 |
| 2012 | 9,0 | 24,5 |
| 2013 | 8,0 | 23,7 |
| 2014 | 7,3 | 30,6 |

There are total of five variables analyzed in this study:

- 1) Annual credit card expenditures (CCE),
- 2) Annual credit card cash advances (CCCA),
- 3) Annual credit card total use (CCTU),
- 4) Percentage share of credit card credits in total credits (%CCC), and
- 5) Percentage share of consumer credits in total credits (%CnsC).

The hypotheses of this study are:

H0: There is no statistically significant difference in annual average values of five variables outlined above between periods of 2001-2005 and 2006-2014.

H1: There is statistically significant difference in annual average values of five variables outlined above between periods of 2001-2005 and 2006-2014.

H0: difference = 0 means that "annual average value of the variable during the period of 2001-2004 (M1) and annual average value of the same variable during the period of 2006-2014 (M2) are not different from each other". Therefore, null hypothesis is stated as H0: $M1-M2=0$.

There are three possibilities for the alternative hypothesis: 1) the difference is negative meaning the average value of the second period is bigger (H1: $M1-M2<0$); 2) the difference is not equal to zero (H1: $M1-M2\neq 0$); 3) the difference is positive, meaning the average value of the second period is lower (H1: $M1-M2>0$). It is assumed that the population variance does not change.

4. Main Findings

Main findings of independent t-test for the five variables are presented as summary findings as Table 4 below.

Table 4: Summary Results of t-test Analysis

| Variable | H0:dif = 0 | H1: dif < 0 | H1: dif != 0 | H1: dif > 0 |
|----------|------------|-------------|--------------|-------------|
| | t-stat | p-value | p-value | p-value |
| CCE | -3.7892 | 0.0013 | 0.0026 | 0.9987 |
| CCCA | -3.9238 | 0.0010 | 0.0020 | 0.9990 |
| CCTU | -3.8028 | 0.0013 | 0.0025 | 0.9987 |
| %CCC | 0.9153 | 0.8110 | 0.3780 | 0.1890 |
| %CnsC | -6.1050 | 0.0000 | 0.0001 | 1.00 |

The null hypothesis for "credit card expenditures" states that the average annual credit card spending did not change between 2001-2005 and 2006-2014. There are three alternative hypothesis test results are provided on the same table. The first alternative hypothesis claims that the difference in means is negative, meaning annual average spending declined during the second period. The p-value is 0.0013 and therefore we can conclude that we reject the null hypothesis at 1% significance level. The second alternative hypothesis states that the mean values of the two periods do not equal to each other. The p-value of 0.0026 is again smaller than 0.01 and therefore we conclude that there is statistically significant difference between the mean values of the two periods. The third formulation of the alternative hypothesis claims that the difference in means is positive. The p-value is 0.9987 and therefore we can conclude that we do not reject the null hypothesis at 1% significance level.

The results for "credit card cash advances" and "credit card total use" are exactly the same with the t-test results of the first variable. These results suggest that the mean values of these variables during the second period show a statistically significant change during the second period and these values got bigger. The t-test result for the fourth variable "percentage share of credits used by credit cards to total credits" is quite different. The p-values for all three alternative hypothesis are bigger than 0.10 and therefore we cannot reject the null hypothesis in this case.

There is not any statistically significant difference between the ratio of credits used by credit cards to total credits between 2001-2005 and 2006-2010. It could indicate that people's behavior in terms of financing short term needs with credit cards on average did not show a statistically significant change between 2001-2005 and 2006-2010. Finally, the t-test result for the fifth variable "percentage share of consumer credits in total credits" shows a statistically significant increase in this ratio during the second period of 2006-2014.

5. Conclusions

Turkish private sector has experienced a boost in borrowings especially in recent years. Consumers as well as firms were borrowing at very high levels and this situation was noticed by financial authorities. CBRT intervened many times since 2013 to curb borrowings of consumers especially via credit cards. Credit card limits are capped, interest on credit card unpaid balances is controlled, minimum payment rates are increased and use of credit cards in installment based purchases are restricted to lower the use of credit cards as a tool of borrowing.

The independent t-test analysis showed that use of credit cards as short term financing tool does not look like affected by CBRT's decision to control interest rates on credit cards in 2005. The ratio of credit card credits to total credits did not show any significant change between 2001-2005 and 2006-2014. On the other hand, use of consumer credits is on the rise during 2006-2014. The ratio of consumer credits to total credits showed a statistically significant increase during the period of 2006-2014. This is probably partially due to strict rules imposed on credit cards use by the private sector of Turkish economy.

References

- Akin, GG; Aysan, AF; Borici, D; Yildiran, L 2013, Regulate one service, tame the entire market: credit cards in Turkey, *Journal of Banking & Finance*, April 2013, Vol. 37 Issue4, pp1195-1205.
- Aysan, AF and Yıldız, L 2006, The Regulation of Credit Card Market in Turkey, www.econ.boun.edu.tr/.../ISS_EC_06_21.pdf
- Ausubel, LM 1991, The Failure of Competition in the Credit Card Market, *The American Economic Review*, Volume 81, Number 1, pp. 50-81.
- Banks Association of Turkey (BAT)2005, Financial Sector and Banking System of Turkey, March 2005.
- Brito, DL and Hartley, PR 1995, Consumer Rationality and the Credit Cards, *The Journal of Political Economy*, Volume 103, Issue 2 (Apr., 1995), pp. 400-433.
- Calem, PS and Mester, LJ 1995, Consumer behavior and the stickiness of credit-card interest rates. *The American Economic Review*, Vol. 85 No. 5 (Dec., 1995), pp. 1327-1336.
- Gross DB and Souleles, NS 2002, Do Liquidity Constraints and Interest Rates Matter for Consumer Behavior? *The Quarterly Journal of Economics*, February 2002, pp. 149-185.
- KartMonitor 2014, Card regulations: what brought? What took? pp. 52-55. http://www.bkm.com.tr/basin/kart_monitor_2014.pdf
- Kaya, F 2009, Credit Card Use in Turkey, The Banks Association of Turkey (TBB), Publication No. 263.
- TCMB 2014, Financial Stability Report, November 2014, Volume 19.
- Telyukova, I.A and Wright, R 2008, A model of money and credit, with application to the credit card debt puzzle. *The Review of Economic Studies*, 75(2), pp. 629-647.
- <http://www.hurriyetdailynews.com/turkish-private-sector-foreign-debt-rises-by-89-billion-----aspx?pageID=238&nid=70682> (August 20, 2015)
- <http://www.dailysabah.com/markets/2014/05/11/turkey-second-largest-credit-card-user-in-europe> (August 18, 2015)
- <http://www.ft.com/intl/cms/s/0/0b9b66bc-cc98-11e3-ab99-00144feabdc0.html#axzz3kKAWI549> (August 20, 2015)
- <http://herdem.av.tr/increasing-demand-personal-loans-turkey/> (August 20, 2015)
- www.tcmb.gov.tr (August 20, 2015)