

# DYNAMICS OF CONSUMERISM AND CREDIT CARD DEBT UNDER THE INFLUENCE OF ADVERTISING

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## **Abstract**

Consumerism and persistent personal debts as a result of extensive use of credit cards under the influence of advertising is addressed in this paper. A system dynamics simulation model related to consumption behavior of middle-income people in Turkey under the influence of advertising is constructed. Debt, excessive spending, and 'consumption satisfaction' dynamics are investigated via policy and scenario analysis. The results show that restricted maximum credit card limit can be an effective policy to prevent high debts but, in the long run, the policy may result in more 'unsatisfied' people. In order to provide considerable decrease in debt and increase in satisfaction, average advertising frequency should be reduced substantially. A hybrid scenario combining maximum credit card limit policy and reduced advertising frequency scenario is shown to be beneficial for individuals, lowering debts, without sacrificing consumption satisfaction.

**Keywords:** advertising, consumerism, comparison tendency, reference group, credit card debt

## **1. INTRODUCTION**

Consumerism is a phenomenon that happiness and well-being of individuals strongly depends on the level of personal consumption, especially consumption of material goods (Wright & Rogers, 2009). In a consumerist society, consumption activity is more about interpreting meaning of gratification in the lives of individuals than about satisfying a limited set of wants (Leiss, Kline, & Sut, 1986). Some economists and policy makers argue that spending of people in the market is substantial for the strength of capitalist economy (Wright & Rogers, 2009). They claim that consumerism helps economic growth, and contributes the profitability of firms. In addition, spending may help to raise the life standard of an individual. On the other hand, in the long run, it has some undesirable consequences like damaged interpersonal relationships, envy, dissatisfaction, excessive debt (Kiron, 1996; Richins, 1995), parent-child conflict (Pollay, 1986) and the like. Moreover, overconsumption paves the way for destruction of limited natural resources, and environment (Kiron, 1996; Lears, 1994; Pollay, 1986; Richins, 1995). Furthermore, when people cannot reach their materialistic goals, they

feel dissatisfaction and contribute to disturbances in social system, which can be exemplified as personal bankruptcy rates, crime rates, intolerance to people (Richins, 1995).

Advertising is one of the most powerful means to create a link between the happiness and consumerism since it causes people to think that possessions are substantial and especially, material possessions bring people some qualities like happiness, success, and beauty (Buijzen & Valkenburg, 2003). Advertising encourages people to believe availability of strong relation between consumption and self-development (Kubey & Csikszentmihalyi, 1990), happiness, adequacy (Kiron, 1996), and feeling about status, roles (Leiss et al., 1986). Images of a good life given by advertising to the subconscious of individuals make people more luxurious and comfortable lifestyles oriented. Unlimited desire is satisfied by goods for a short term (Kiron, 1996). Advertising is an effective tool in order to increase demand for products whether they are necessary or not, or affordable or not (MacDonald, 1990). Advertising raises awareness level of people about their sense of dissatisfactions. It also presents consumption as a solution for dealing with these negative feelings by promoting buying behavior (Pollay, 1986).

People are exposed to a great number of advertising, which gives them an idealized version of life. These idealized life images make people compare themselves with others that may lead dissatisfaction of consumers (Richins, 1995). Thus, *comparison tendency*<sup>1</sup> of people is increased through advertising. This comparison especially occurs with reference group, which has a broad research area in social psychology. According to Wright & Rogers, “reference group is the category of people to which one refers when trying to figure out how well one is doing or how one should behave” (2009). Reference group may affect individuals in different ways: It may influence people’s behaviors, evaluations, opinions (Park & Lessig, 1977). In this study, however, taking the model boundary into consideration, reference group will be regarded only as “consumption reference group”. It is basically the group of people with whom, individuals compares themselves, just considering consumption standards (Wright & Rogers, 2009). Besides, reference groups influence product and brand preferences of people. Thus, this concept is an effective tool of marketers for changing consumers’ decisions and convincing them to purchase specific products and brands (Bearden & Etzel, 1982).

As stated above, the exposure of the perfect happiness and idealized life idea through advertising images encourages people to purchase more possessions to realize this delusive life desires (Richins, 1995). Since people may not afford these excessive wants with their current income, credit cards can be seen as the bridging tool for reducing the discrepancy between excessive spending and payment capacity (Mathews & Slocum, 1969). In addition to being a secured instant payment mean, credit cards also provide consumers different payment opportunities such as installments, delayed payment and the like. As a result, credit cards have been widely used in the recent years (Chien & Devaney, 2001). Also, credit card is even perceived as an optional form of income (Bird, Hagstrom, & Wild, 1997; Norton, 1993), and a tool for borrowing. Using credit cards as a borrowing tool instead of as a payment tool leads to widespread personal debts due to accumulating interest debts. Kiron says that “Personal

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<sup>1</sup>For general explanation, see Leon Festinger, “A Theory of Social Comparison Processes,” Human Relations 7: 117 (1954).

debt would not have become as easy and appealing as it is today without the development of the credit card. And the rise of the consumer society, in particular, would not have been possible without a widespread willingness to take on personal debt” (1996). Even though demographic, and economic factors, and personal attitudes together affect the credit card usage (Chien & Devaney, 2001), income as an economic factor will be focused on in this research.<sup>2</sup>

Generating a reference group and conducting a comparison about consumption standards that are stimulated through advertising, and credit cards that enable individuals to buy things immediately, of course, are not the only causes of consumerism. Another key process bringing about consumerism is the very nature of “profit maximizing competition in a capitalist economy” (Wright & Rogers, 2009). An increase in productivity causes more goods and services, in turn, more consumption. “Decline in public goods and abandonment of public consumption by the private one” and “increasing inequality that ratchets up consumption demands” can be seen as major processes that drive individuals into consumerism trap (Wright & Rogers, 2009). In the knowledge that people’s buying decisions result in through different mechanisms, this paper focuses on advertising as an influential mechanism and credit cards as a motivation for instant spending and overconsumption.

The aim of this study is to investigate the fundamental dynamics of consumerism and credit card debts of people with middle income in Turkey under the influence of advertising and in the presence of extensive use of credit cards. A system dynamics model is built to provide a better understanding of credit card debts and its link to the advertising that has a social psychological effect on spending behavior. The reason why middle-income people are chosen is that this income group constitutes high percentage of population. Besides, people who have credit card debt, generally, belong to middle-income in Turkey. The paper organized as follows: Firstly, in the model description, a simplified version of stock-flow diagram will be introduced and the structure of the system will be explained through sub-sections. Afterwards, in the policy and scenario analyses, a policy about credit card limits and a scenario regarding advertising frequency will be analyzed. Lastly, conclusion and further research section will end our discussion.

## **2. MODEL DESCRIPTION**

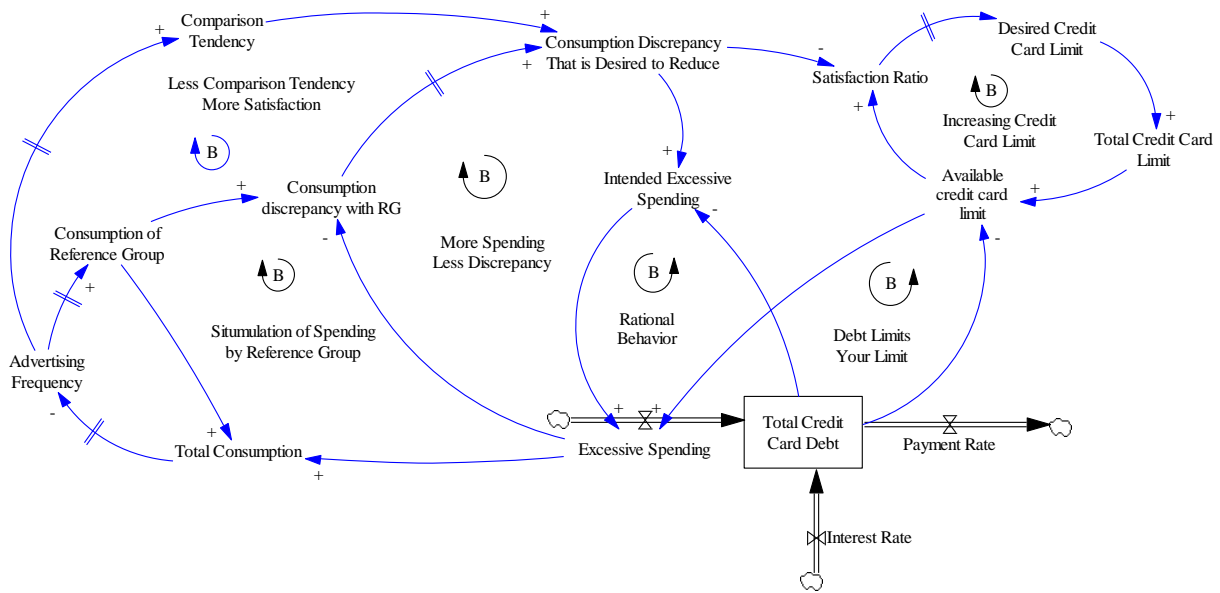
In this part of the study, firstly main components of model are described. After that, parameter estimation and critical assumptions are given.

### **2.1. Main Components of Model**

In Figure 2.1.1, simplified stock flow diagram is given. Moreover, major loops are entitled on the figure. The complete stock-flow diagram can be found in the Appendix.

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<sup>2</sup>In their research, Chien and Devaney (2001) take into account age, household size, ethnicity, marital status, professional status, education, home ownership, liquid assets and different attitudes towards credit card. But, these are beyond the scope of this study and also beyond the model boundary.



**Figure 2.1.1.** Simplified Stock-Flow Diagram

### 2.1.1. Comparison Tendency

Festinger (1954), perhaps best known for his *social comparison theory*, states that every person evaluates their abilities by comparison with the abilities of others when non-social means are not available. Not only abilities but also states such as beauty, intelligence, and fatness can be compared. In this model, this comparison by human beings' very nature called as "natural comparison tendency". *Comparison tendency* of people can become higher than natural tendency due to some exogenous factors (Festinger, 1954). In this study, advertising both stimulates people to compare themselves with others who called as reference group and compare with them more by increasing their comparison tendency. As well as content, number of advertising influences perception of people (Richins, 1995). In the model, it is assumed that *comparison tendency* is varied only through *advertising frequency*. However, consistent stimuli of advertising are needed in order to change expectation level of people (Richins, 1995). In other words, increases in advertising lead to increased *comparison tendency* after a delay. That is because expectation and attitude of people do not change just after an exposure to advertising.

### 2.1.2. Reference Group Consumption

Generally, discrepancy with comparison groups can be regarding any subject such as success, wealth level, or opinion. In this model, it is assumed that discrepancy with reference group is defined as only *consumption discrepancy*. In the case of comparing consumption standards, there is a "unidirectional drive upward" (Festinger, 1954). That is why, in the model, people with middle income consider only people with upper income level as reference group. Likewise, in the model, people with upper income do not compare themselves with middle-income people since the drive is unidirectional. If *consumption of reference group* increases via advertising, *ceteris paribus*, this means that actual consumption discrepancy between middle-income people and their reference group will be increased. In the model, there is a *delay for consumption perception* of people with middle income to perceive consumption

discrepancy. That is because in many instances, it is not possible to assess one's spending and consumption discrepancy immediately (Festinger, 1954).

Since the existence of a discrepancy results in a pressure to reduce the discrepancy (Festinger, 1954), increases in *perceived consumption discrepancy with reference group* lead to *increased consumption discrepancy that is desired to reduce*. Also, higher *comparison tendency* has a positive effect on the *consumption discrepancy that is desired to reduce*. In the model, it is assumed that if *comparison tendency* of people at the maximum level, they desire to reduce the whole discrepancy they perceived.

Another worthy of notice point is that the study focuses on people with middle income, not middle class. Since members of the middle class do not have to be in the middle of a society's income distribution, this distinction should be clearly stated.<sup>3</sup> Moreover, social class membership has a richer dimension (Martineau, 1958) like occupations, skills, educational levels and gratifications in favor of goals (Slocum & Mathews, 1970) and it is very hard to capture them with a few variables. In this research, considering only income level as an indicator of consumer behavior toward credit card use has an important reason: In the middle class, the patterns of attitudes toward credit card fundamentally change with income level (Slocum & Mathews, 1970).

### **2.1.3. Credit Card Limit**

*Available credit card limit* is equal to difference of *total credit card limit* and current credit card debt. Decreases in *available credit card limit* can result in dissatisfaction by people if they cannot afford spending as much as they desire. When individual's actual consumption level does not meet expectations of him/her, disappointment is inevitable for him/her (Kiron, 1996). Therefore, concern of not meeting expectations causes people to take an action against restricted spending. One of the ways for continuing spending is to increase *credit card limit*.

In the model, there is a *satisfaction ratio*, which equals to *available credit card limit* over *consumption discrepancy that is desired to reduce*. If the ratio is less than 1, after a decision delay people decide to increase their *credit card limit* because people, generally, do not try to increase their *credit card limit* immediately after they feel dissatisfaction. In the model, *desired credit card limit*, which is defined as *total credit card limit* which consumer want to have, is increased for the aim of resuming spending.

### **2.1.4. Payment and Saving**

Main stock of our model is *total credit card debt* stock. Total credit card debt is filled by *excessive spending* and *interest rate*, and drained by *payment rate*. Interest rate, simply, is

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<sup>3</sup>Among behavioral scientists there is a debate regarding "which is a better indicator of consumer behavior and credit card usage: social class or income level?" As variables influencing consumerism, social class and income virtually always used in consumer behavior models (Howard, 1963; Kotler, 1965; Mathews & Slocum, 1969; Nicosia, 1966). While Martineau (1958) claims that social class is often more important than income in affecting purchasing behavior (Martineau, 1958), Mathews and Slocum (1970) showed that income and social class provide an equal understanding of consumer attitudes toward purchasing goods with credit card (Slocum & Mathews, 1970).

multiplication of *total credit card debt* and *interest fraction*. *Excessive spending* is a multiplication of *intended excessive spending* and *effect of available credit card limit on excessive spending*. More precisely, there is a fuzzy-min function, which restricts the *excessive spending* with *available credit card limit* as a capacity.

Installment as a payment way is one of the opportunities of credit card system. However, because of the macro level perspective of the social-psychological-economic system of concern, it is assumed that people pay their debts without installment if they can afford. In the model, if current *credit card debt* is less than sum of *payment capacity* and *supporting for payment*, then *payment rate* becomes equal to *total credit card debt*. Otherwise, *payment rate* becomes equal to sum of *payment capacity* and *supporting for payment*. In the model, *payment capacity* is determined as remaining money after meeting all necessary expenses.

Moreover, if people can afford to pay their debt, there becomes the opportunity for saving their money and use it when they cannot afford to pay credit card debt with their current *payment capacity*. Therefore, another stock is total savings stock. It is accumulated by *saving rate* and is drained by *supporting for payment*. If difference of *payment capacity* and *total credit card debt* is positive, then *saving rate* equals to difference of *payment capacity* and *total credit card debt*. If *total credit card debt* is less than *payment capacity*, then there is no need for *supporting for payment*, so it becomes equal to zero. Otherwise, it becomes equal to minimum of all *savings* and difference of *total credit card debt* and *payment capacity*.

### **2.1.5. Excessive Spending**

It is assumed that *excessive spending* is mediated only by using credit card. *Excessive spending*, which is determined as money spent by average of people with middle income after they meet necessities of their life, is a multiplication of *intended excessive spending* and *effect of available credit card limit on excessive spending*.

*Intended excessive spending*: One of the ways for consumers to diminish *consumption discrepancy* is to increase their own *excessive spending*. On the other hand, debt concern causes people to limit their spending. Therefore, *intended excessive spending* of people is influenced by both *consumption discrepancy that is desired to reduce* and *total debt*. *Total debt* has a negative effect on *intended spending* because more debt means higher concern. Then, consumer begins to decrease his/her own spending.

*Effect of available credit card limit on excessive spending*: Consumer tries to realize his/her *intended excessive spending*. However, *available credit card limit* may restrict this spending behavior. Thus, *excessive spending* becomes equal to minimum value of *intended excessive spending* and *available credit card limit*. Nevertheless, minimum functions may cause sharp discontinuity, which may seem unrealistic. Hence, it is assumed that while *excessive spending* reaches the *available credit card limit*, people decrease their spending even if they have *intended spending* that is not met. In other words, instead of a min function, a fuzzy-min function is used via *effect of available credit card limit on excessive spending*.

### **2.1.6. Advertising Frequency**

Average consumption of people with middle income and their reference group has an effect on advertising frequency because main goal of advertising is to increase sales by informing people about products. Thus, *total consumption* is equal to average consumption of people with middle income and their reference group. Increases in *total consumption* lead to a decreased *advertising frequency* since there is no necessity for high amount of advertising. However, the model is constructed considering that the aim of advertising is not only informing people but also providing brand awareness, protecting brand image. Thus, *effect of total consumption on advertising frequency* is formulated such that even *total consumption* is too high, advertising becomes less but never goes zero.

## **2.2. Parameter Estimation and Critical Assumption**

In this part, how key parameters are estimated will be explained briefly. It will be followed by critical assumptions that are necessary to appreciate the model.

### **2.2.1. Parameter Estimation**

*Reference advertising frequency*, which is determined as 7500 advertising/month, is number of advertising that a person is exposed to on a monthly basis. According to Consumer Report published by Consumers Union, average American is exposed to 247 advertising every day (Consumer Union, 2001). There has been no similar data for Turkey; it is assumed that average Turkish is exposed to 250 advertising every day.

According to Card Monitor Report of Interbank Card Center in Turkey, average credit card number and limit per people are 2 and 2500 TL, respectively (Interbank Card Center, 2008). Thus, average credit card limit is assumed as sum of two credit card limit that is equal to 5000 TL in the model. Besides, in Turkey, there have been more than 12 banks, which provide credit cards to costumers. Therefore, highest value of credit card limit, which is estimated as multiplication of 2500 TL and 12, becomes equal to 30.000. In the study, each credit card limit is not represented separately. *Credit card limit* means total limit of whole credit cards.

Interest fraction, which is different but nearly same in every bank, is accepted 0.0283 as an average value in the study.

As stated in model description, people tend to compare themselves with others inherently which is captured in the model as natural comparison tendency. Value of natural *comparison tendency* is determined as 0.1. As for comparison tendency, this value change between 0.1 and 1. These values are estimated qualitatively.

### **2.2.2. Critical Assumptions**

Even though variables, interactions, and influences in the model sound like they are created just for an individual, they are formed considering the average of all middle-income people in Turkey. In the model, individuals are assumed to pay their necessary spending by cash, and

then all *excessive spending* is paid by credit card. Subsistence spending of people with middle income includes housing, eating, transportation spending. However, it should not be confused with minimum wage. Lastly, although credit card payments occur discretely in real life, from our macro perspective, which is necessary to build such a model, payments are assumed to be continuous.

### 3. POLICY AND SCENARIO ANALYSES

After constructing, verifying, and validating model, a policy, and a scenario are tried out and analyzed. Both policy and scenario are studied in isolation from each other to evaluate them correctly. Both policy and scenario are activated for five years, which seems enough to observe dynamic behaviors.

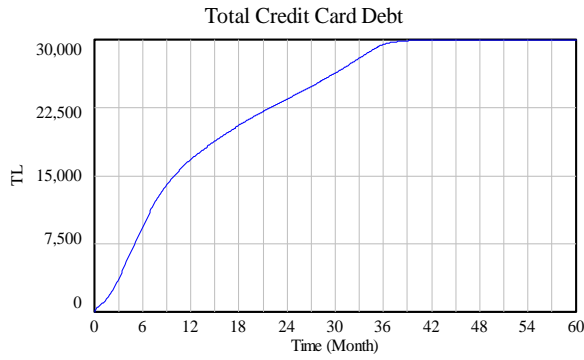
To have a benchmark, first, a base scenario will be presented. Then, Maximum Credit Card Limit Policy will be analyzed. After that, Restricted Advertising Frequency will be studied. Lastly, this followed by a hybrid scenario analyses.

#### 3.1.BASE SCENARIO

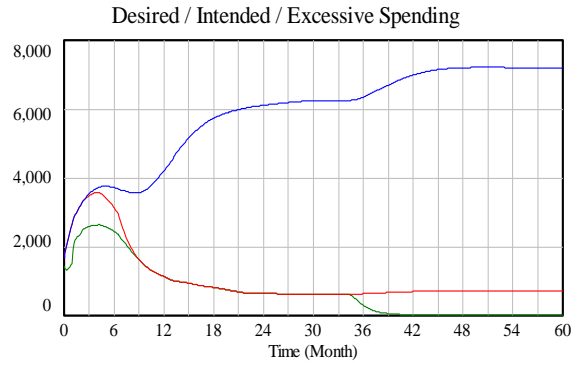
Credit card part of the base scenario is constructed considering old credit card limit policy of Turkey that had lasted until 2012 Debt Loyalty Law. According to old credit card limit policy, individuals had a possibility for taking credit card from any bank without regarding debt because there was no platform for banks to share customer information like debt, or credit card limit. Moreover, limit of each credit card were being determined independently. Thus, if individual had debt to any bank, other banks could not know this information.

In the view of the above information, the model described in Figure 2.1.1 is run to obtain a benchmark. The observed behaviors are presented in Figure 3.1.1 and Figure 3.1.2. As it can be seen in Figure 3.1.1, *total credit card debt* (TCCD) depicts an S-shaped growth and increases until it reaches 30.000 TL, which is the maximum credit card limit. In the base run, after a while *excessive spending* goes almost zero and interest rate approximates *payment capacity*. Thus, *payment capacity* becomes only sufficient to pay interests. In other words, it becomes impossible to pay the actual debt. Moreover, as it can be seen in Figure 3.1.2, *intended excessive spending* (IES), initially, is equal to *consumption discrepancy that is desired to reduce* (CDDR); but, after 3 months, is lower than it. Because, the negative effect of total debt on intended spending increases while debt increases. Although, *excessive spending* (ES) is mostly equal to *intended excessive spending*, it becomes lower due to *available credit card limit*, which restricts spending.





Total Credit Card Debt : Base Run



Consumption Discrepancy That is Desired to Reduce : Base Run  
 Intended Excessive Spending : Base Run  
 Excessive Spending : Base Run

**Figure 3.1.1.** TCCD under base run

**Figure 3.1.2.** CDDR, IES, ES under base run

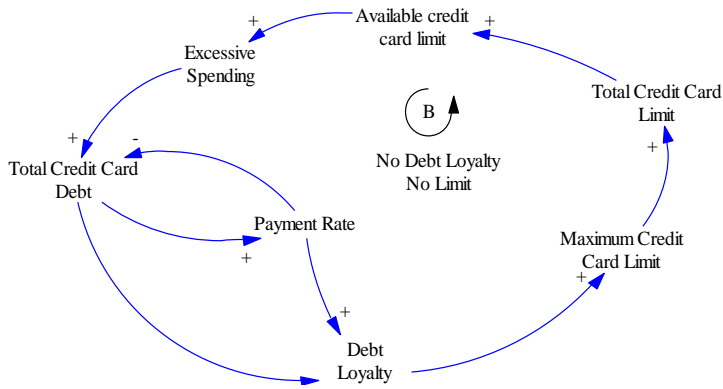
### 3.2. Maximum Credit Card Limit Policy

This policy is as follows: In 2012, law about credit card limit has changed and been regulated in Turkey. This new law requires that credit card users have a single and *total credit card limit* (TCCL). In other words, each individual can have one or more credit cards; but there is a *maximum credit card limit*, which is the sum of limits of all credit cards. In addition, this *maximum credit card limit* of individuals are determined by Debt Loyalty Law, which compares debt and payment rate (Banking Regulation and Supervision Agency, 2012). Thus, even individuals desire to increase *total credit card limits*, it is restricted by maximum limits due to Debt Loyalty Law. Figure 3.2.1 shows the related part of causal loop diagram.

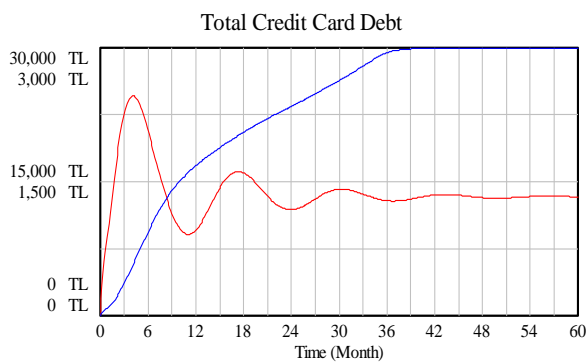
Activating this policy leads to behavior presented in Figure 3.2.2. As it is seen, *total credit card debt* in policy, which exhibits damping oscillation, is notably lower than *total credit card debt* in base run. That is because *total credit card limit* in policy is significantly lower compared to base run due to Debt Loyalty Law (Figure 3.2.3). On the other hand, *satisfaction ratio*<sup>4</sup> decreases until stabilizing around 0.14. This means that even people cannot spend excessively owing to new policy, they are still unsatisfied due to not achieving their intended spending. It can be seen from Figure 3.2.4 that people with middle income resume their *excessive spending* around some lower levels compared to their *payment capacity*. In other words, new regulations prevent people to get into debt with the cost of dissatisfied individuals.

<sup>4</sup> Even though “satisfaction” has a broad meaning, in this paper, it is defined for individuals that feel gratification when they can reduce the consumption discrepancy that is desired.

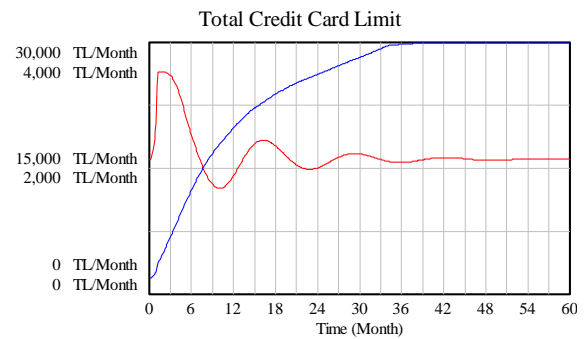
(Satisfaction ratio = Available credit card limit / Consumption discrepancy that is desired to reduce)



**Figure 3.2.1.** Related Causal Loop Diagram of Maximum Credit Card Limit Policy



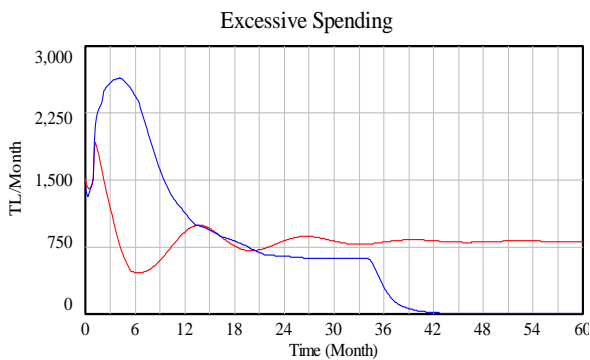
Total Credit Card Debt : Base Run ———  
 Total Credit Card Debt : Maximum Limit Policy ———



Total Credit Card Limit : Base Run ———  
 Total Credit Card Limit : Maximum Limit Policy ———

**Figure 3.2.2.** TCCD under Maximum Credit Card Limit Policy vs TCCD under Base run

**Figure 3.2.3.** TCCL under Maximum Credit Card Limit Policy vs TCCD under Base run



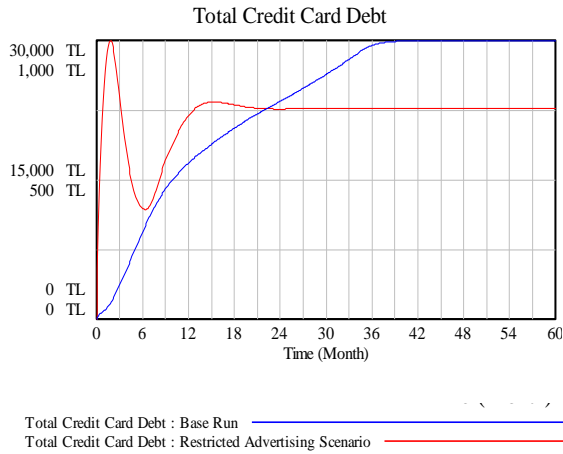
Excessive Spending : Base Run ———  
 Excessive Spending : Maximum Limit Policy ———

**Figure 3.2.4.** ES under Maximum Credit Card Limit Policy vs ES under Base run

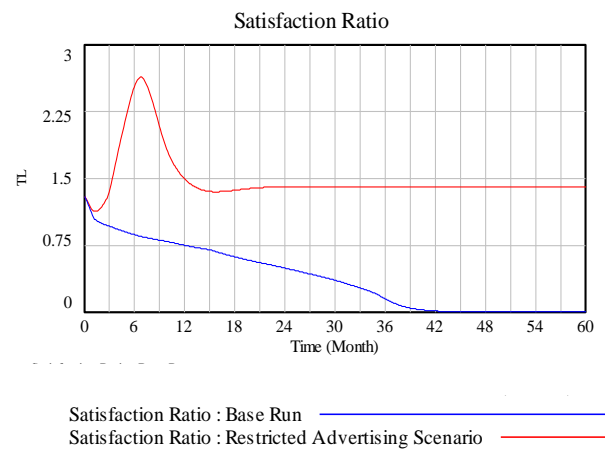
### 3.3. Restricted Advertising Frequency Scenario

Some countries like Belgium, Greece, and Norway implemented regulatory policies, or restrictions on advertisement (Buijzen & Valkenburg, 2003). Inspired by these examples, in this scenario, it is supposed that Turkish government decides to limit advertising frequency. To realize that, frequency is reduced for different percentages. After having extensive experiments, it is found that reductions less than 50% in advertising frequency do not affect debt behavior dramatically. Thus, advertising frequency is diminished nearly 50% of base run version. The results can be seen in Figure 3.3.1.

When *total credit card debt* is analyzed in Figure 3.3.1, it seems that debt, which initially oscillates then becomes nearly equal to 750 TL, is significantly lower than base scenario version. Besides, looking *satisfaction ratio* (SR), it is seen in Figure 3.3.2 that *satisfaction ratio* of this scenario is higher than base run because lower *advertising frequency* results in lower *comparison tendency*. Decreases in *comparison tendency* lead to a decreased *consumption discrepancy that is desired to reduce*. Therefore, meeting expectations becomes easier; and, ultimately *satisfaction ratio* becomes higher.



**Figure 3.3.1.**TCCD under Restricted Advertising Frequency Scenario vs TCCD under Base run



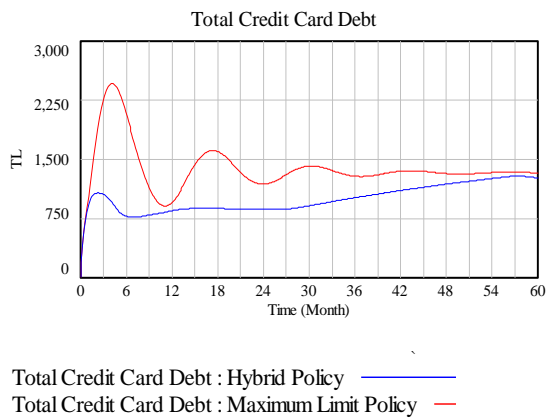
**Figure 3.3.2.**SR under Restricted Advertising Frequency Scenario vs SR under Base run

### 3.4. A Hybrid Policy

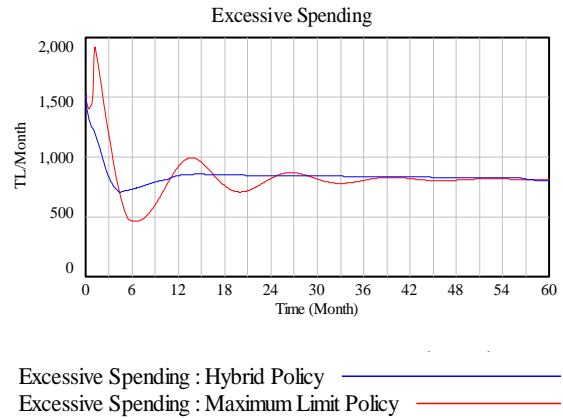
As discussed above, in Turkey, new regulations about credit card limit result in dissatisfied individuals even though it prevents people from getting into debt. That is because advertising resumes to promote the “cycle of dissatisfaction-satisfaction” (Kiron, 1996). Dissatisfaction of middle-income people, which constitute a significant percentage of Turkey population, is not a hopeful indicator for the society. In other words, it can be said that new law is beneficial concerning economy, but not regarding social psychology.

A new hybrid policy is proposed for improving the deficient side of Debt Loyalty Law. In this policy, the two beneficial parts of Maximum Credit Card Limit Policy and Restricted Advertising Frequency Scenario are combined. It is supposed that government also decides to

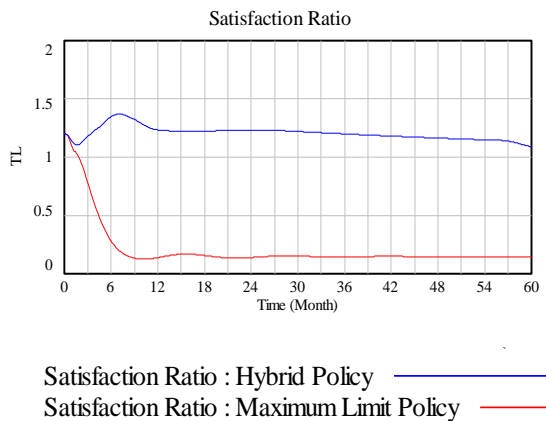
a limit for advertising frequency and it is reduced nearly 35% of base run version<sup>5</sup>. When *total credit card debt* and *excessive spending* are compared for this policy and Maximum Credit Card Limit Policy, it is observed that the convergence levels for these variables in this policy are slightly lower. However, the more important result is that the behaviors for both *total credit card debt* (Figure 3.4.1) and *excessive spending* (Figure 3.4.2) are less oscillatory than the behaviors in Maximum Credit Card Limit Policy. Furthermore, it can be seen from the Figure 3.4.3 *satisfaction ratio* is greater than 1, and the convergence point is also observed as 1.09.



**Figure 3.4.1.** TCCD under Hybrid Policy vs SR under Maximum Limit Policy



**Figure 3.4.2.** ES under Hybrid Policy vs SR under Maximum Limit Policy



**Figure 3.4.3.** SR under Hybrid Policy vs SR under Maximum Limit Policy

<sup>5</sup>The level of advertising frequency is equal each other in Maximum Credit Card Limit Policy and Base Run.

#### 4. CONCLUSION& FURTHER RESEARCH

The aim of this study is to investigate the fundamental dynamics of consumerism and credit card debts under the influence of advertising in the presence of extensive use of credit cards. To realize this aim, system dynamics methodology is utilized. Afterwards, excessive spending behavior of people with middle income in Turkey is investigated via a dynamic simulation model.

It is observed that advertising frequency has substantial effect on excessive spending. Moreover, some credit card systems may pave the way for huge amount of debt for middle-income consumers. It is seen that although advertising influences people to buy things, excessive spending, which may result in debt, can be inhibited through Debt Loyalty Law. However, limited spending causes people not meeting their expectations that ultimately result in dissatisfaction. Furthermore, it is observed that if advertising frequency is constrained and is reduced almost 50% by regulations, *comparison tendency* of people becomes significantly lower. This causes both lower debt and higher satisfaction. Lastly, a hybrid policy provides improvement for new regulations about credit card limit by sustaining less oscillatory spending behaviors, and higher and consistent satisfaction level.

The research described in the paper can be broadened and deepened. Presented model can serve as infrastructures to more sophisticated models. Distinct from advertising, media effect, which influences subconscious of consumers via different ways, can be included in the model. This may provide a more extensive and a more realistic model though, in the cost of increasing complexity and hence, possibly, less explanatory power.

Another alternative is to include installment system in the model. Installment system provides consumers to buy possessions easily with the delusive impact of longer payment period (Kiron,1996). This system is widespread for some other countries than Turkey, too. Thus, including installment may make model more realistic for those cases.

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