CREDIT MARKET ADVERTISING EFFECTS

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By: Diana Gasparyan

Supervisor: Dr. Knar Khachatryan

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ABSTRACT

The study was aimed at observing the relationship between the credit market advertisings on consumers, particularly on the financially illiterate population of Armenia. To study the pattern, the participants of the online survey has been sequentially exposed to informative and aggressive advertising with follow up qualitative questions and whether they would take advertised credit or not. Ultimately, it was found that financial literacy is a determinant for loan taking when the target is exposed to aggressive advertising. However, it was also revealed that this is not the case with informative advertising, essentially due to the purpose of the informative advertising which is raising awareness among potential consumers as well as non-appealing nature of the informative commercials that is not attractive to the viewer.

Keywords: *financial literacy, credit, credit advertising, credit organization, bank, aggressive advertising, informative advertising*

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General Introduction to the Relevance of the Topic

Firms in all industries spend billions of dollars each year advertising consumer products to influence demand, and banks and credit organizations are no exception. Although laboratory studies in marketing have shown that creative content may affect demand, academic researchers have rarely used field experiments to study advertising content effects. Thus, although attempts to persuade consumers with non-informative advertising are common, little is known about how and how much such advertising influences consumer choice in natural settings.

On the top of this, the survey conducted by S & P[1] in 2014 has revealed that only 18% of Armenian residents are financially literate. Moving forward, research findings done by the Central Bank of Armenia[2] showed that struggling households had anywhere from 2 to 15 loans, who usually pay one loan with a new one, hence less likely to comparison shop for loans and in most cases take the first available loan which does not require collateral. Thus, these groups appear to be in a vulnerable position more susceptible towards aggressive advertisements of banks and credit organizations using tricks such as fake optimism bias, illusion of control and other marketing manipulations.

Knowledge and consciousness being the strongest tool to resist advertisers' manipulations, the study aims to observe the patterns between the financial literacy level and susceptibility towards informative and aggressive(persuasive) advertisements.

Research Question

With the general background of the topic being of immense importance for Armenian reality, the study aims to examine the correlation between susceptibility towards advertisements and the

[1] The study has been conducted by Standard & Poors rating agency jointly with Gallup, the World Bank and the Global Financial Literacy Excellence Center at the George Washington University.
[2] Discovery: Research findings, prepared by GRID Impact, January 9, 2017

level of the financial literacy of the individual. The specific topic of the study is "*The effect of credit market advertisings on the financially illiterate population of Armenia."* The study aims to examine the role of marketing, i.e., to what extent it influences those who are lacking enough financial knowledge to make a grounded decision. A number of variables influencing the loan purchase choice of the individual such as age, gender, education, previous exposure to the advertising, etc. have been taken into account to identify the most significant variable affecting the crucial decision.

The hypothesis of the study is*: The effect of marketing stimuli will increase as the level of financial literacy decreases and will be further tested.*

Main Findings

The main findings of the study have been identified as a result of meticulous qualitative and quantitative data gathering, through experiential and specific questions. The data has been gathered by a classroom video screening and follow up questionnaire as well as online data collection. The findings proved the main hypothesis that illiterate consumers indeed are more responsive towards aggressive credit advertising, however, added with a new revelation that financial literacy, in fact, is not a significant determinant of loan taking in case of informative advertising for several reasons discussed below.

Literature Review

To understand the full existing picture of the topic the initial literature review has been conducted around previous academic experiments aimed at understanding the effects of advertising in the credit market, also possibly assessing the case with vulnerable groups. Although laboratory studies in marketing have shown that non-informative content may affect demand, and sophisticated firms use randomized experiments to optimize their advertising content strategy (Stone and Jacobs 2001; Day 2003; Agarwal and Ambrose 2007), academic researchers have rarely used field experiments to study advertising content effects. Thus, there is a need to study the impact of advertising on credit market organizations on consumers in real life settings. To have a distinct plan of the following study, numerous papers have been reviewed, out of which four main field experiments have been identified, which, however, have gaps that this study aims to cover.

Bertrand et al. (2010) have conducted an email marketing campaign in South Africa to understand the effects of different contents of advertising on consumers' buying behavior. The study has identified that showing one example of a possible loan has the same estimated effect of getting customer's interest as a 200–basis point reduction in the interest rate. The evidence also suggests that advertising content persuades by appealing "peripherally" to intuition rather than reason. Two central assumptions can be driven from this study. Firstly, taking into account the nature of the industry, this type of advertising content would not play favorably on the target group of the study, meaning that the manipulation technique would prove to work better on financially illiterate population. The second assumption is that, if the advertising stimuli affects the average credit takers choice, further research is required to understand how the effect would alter depending on the financial literacy level. The preliminary hypothesis on this wo

Moving further to the most relevant literature, Elkins (2008) final report examined the role of advertising of credit cards to determine the impact it has on consumer attitudes and behavior. Two key themes or approaches used to promote credits has been identified, rational and informative approach with highlights on financial terms, and second more aspirational and emotional. The focus group study has also revealed that more responsible and informed credit card holders were less likely to be affected by the advertising compared to their less responsible counterparts who took the ad message more personally. The more informed and responsible credit cards users, the more likely they are able to discount irresponsible advertising messages and reject direct offers of credit cards. The methodology used for this study was exposing 10 focus groups to 3 different types of advertisements (TV, Radio, and email) and conducting a discussion on participants' experience. The study provides a solid ground to assume that financial responsibility can be an actual shield towards aggressive advertising, however as the financially responsible person is not defined, it is hard to make assumptions on the results of the experiment.

During another qualitative research, the participants expressed their concern about the advertising being explicitly targeted on vulnerable groups of people as they are more prevalent on daytime television, and are thought to be targeted at those out of work and short of money. (Ipsos MORI,2013). The study was conducted in four focus groups and six face-to-face interviews to understand the opinion of those who at least once has taken a payday loan about advertisements. Next noteworthy finding was that social stigma was an important issue underpinning decisions around payday lending. Payday lending customers interviewed in the research typically reported feeling ashamed of the need to use a payday loan. This was because they were uncomfortable about admitting to being in a position close to financial desperation. The underlying assumption for our study is that socially pressured financially illiterate person is more likely to hide their need and consideration of credit taking and hence avoid consulting a knowledgeable persona on this. This immensely worsens the situation with aggressive advertising leading to unthoughtful credit acquisition of the vulnerable group of people.

On the other hand, surprisingly less pushy and more explanatory advertising were more successful among participants. This theory is generally debatable, thus the study will try to measure the effectiveness of informative and aggressive(persuasive) advertisements.

The last two studies explore the perceptions of policy issues and proposals, but it is important to note that qualitative findings are not statistically representative of the views of the general public. Thus, besides qualitative data gathering our study will also be aimed at collecting quantitative data and driving some number driven statistics to represent the numerical picture of the population's responses.

The last study (Harris and Albin, 2006) discusses numerous techniques of customer persuasion by advertisers and emphasizes how the tricks used in the form of wording, framing and self-image models by credit organizations, utilize and enhance consumers' cognitive biases, particularly optimism bias and their illusion of control, that make the decision not completely rational. Optimism bias is considered one of the most robustly-confirmed biases in cognitive studies and social psychology. Studies have overwhelmingly confirmed the existence of optimism bias with respect to an array of events, social groups, and localities. In an experiment by Seaward & Kemp, students believed that they were likely to earn above the average college graduate's salary, not to suffer accidents or illnesses, and to be able to repay their loans in full before they were due. The bias was found to affect their decision making: "*Their financial optimism was significantly linked to borrowing behavior. These results suggest that over-optimism may be a factor in the accumulation of student debt*."[3] If we assume that optimism bias can be counter-weighted by rationality and knowledge, the strong effect of optimism bias on borrowing behavior of less financially knowledgeable person is highly likely. Further, Langer(1975) showed that people behave as though chance events were subject to control and that they do not distinguish chance from skill-determined events when engaged in behavior that involves some element of control, such as choice.[4] As just like

[3] Seaward & Kemp, supra note 8, at 19.

[4] Ellen J. Langer, The Illusion of Control, 32 J. Personality & Soc. Psychol. 311 (1975)

any purchase, credit taking also involves choice, it intensifies the feeling of control especially among the less literate, thus more vulnerable groups of consumers. If the credit organizations use these techniques in their advertising campaign to persuade consumer, the hypothesis is more likely to confirm.

After proceeding to data analysis part of the study, we got unplanned revelations about non-significant impact of financial literacy level when dealing with informative type of advertisements. Thus, another round of literature review has been conducted to identify similar findings in the previous studies. A study of consumer choice and behavior in the US retail banking industry (Honka, Hortacsu & Vitorino,2016) suggests that, the primary role of advertising is to inform consumers about the existence and availability of banks and their offerings. Taking into account the well-known consumer shopping processing stages (awareness, consideration and choice) before making the final decision of purchase, the informative advertising can be applied to the first stage without affecting the actual *choice* of the consumer.

Taking into account the important findings of the above-mentioned papers, as well as their drawbacks the conclusion from the literature review the hypothesis of the study is formed *"The effect of marketing stimuli will increase as the level of financial literacy decreases"* and is likely to be confirmed. To test the widely discussed hypothesis, and also to make the future research findings are representative and reliable, methodology of data gathering will be both quantitative and qualitative to describe the credit-takers experience and feelings, as well as have some numerical representation of financially literate and illiterate groups responses. A further research needs to be carried out to determine the effect of marketing on consumer, especially those lacking financial knowledge and hence becoming an easy target.

Methodology

In order for the paper to be representative, both qualitative and quantitative research have been conducted. As mentioned previously, the aim of the study is to gather data and drive out results that will speak about the feelings and associations on the selected commercials as well as observe some statistical relationship between financial literacy level and the decision to take the credit as a result of being exposed to the ad. For this, a *special questionnaire* was designed to collect data both qualitative and quantitative. Initially, the plan was to congregate the participants of the survey to a classroom setting and then consecutively expose to each commercial after which, the survey would have been completed. However, due to technical issues and non-willing behavior of general public to separate time for the experiment, the vast part of the study has been conducted through online survey shared on social media platforms.

The Questionnaire Design

The main data gathering tool for the experiment was the interactive survey. It consisted of four main parts; however, to exclude any bias related to the distinct separation of the sections, the survey was rather holistic to the participant. The survey was anonymous, taking into account the nature of the topic and participant's possible unwillingness to share information about their financial situation and knowledge. The first part was dedicated to the *personal data collection*, including age, gender, education level and the profession. Next, the first *commercial* has been shown after which follow up questions came that include experiential questions like whether they have previously seen the ad, what were their feelings after watching the commercial, whether it seemed credible for them and whether they would recall the ad in two months, along

with the measuring quantitative question if they would take the advertised credit or not. The same structure was implemented for the second ad. The order and content of the commercials is discussed below.

The last part of the questionnaire was the *financial literacy test* to identify the literate and illiterate groups for our study. The fact that the test is the last part of the survey is not coincidental, as initial exposure to the test would make the responses to ad questions more biased and would emerge the sense of being not smart for the participant from the very beginning, keeping in mind low rate of financial literacy in the population. Taking into account the fact that people generally do not like being tested especially on the topics they do not have firm expertise on, the transition from experiential part to test included personal questions about personal finance management, like whether they currently have a loan, have ever taken or plan to take, the source of the credit, how many options they have considered before taking one and what type of credit have they taken. This data was collected to examine consumers' general attitude towards credit taking as well as observe the behavior and the decision making process. After this, the questions to test financial literacy of the participant followed. The test consisted of five multiple choice questions and one open ended question that aimed to understand participant's feelings and confidence towards financial topics. The five-question-test was based on Standard & Poor's financial literacy test that was conducted in more than 130 countries to check the level of financial literacy worldwide. It was adapted a bit for the sake of making the process less stressful and more motivating for participants. However, the essence of the test did not change and it covered five basic topics that a knowledgeable person would know i.e. ri*sk diversification, savings, inflation numeracy(interest) and compound interest*. The questions correspond to the very basic knowledge of the financial terms, knowing of which would be sufficient to

differentiate between predatory lending and beneficial conditions of a loan. Thus, the financially literate person in our case is considered a person who has correctly responded to all five questions.

The *target audience* of the survey were mainly people who at least once in their lifetime has taken a loan, thus accordingly increasing the target age group from students to more middle aged population. This has been done to more vividly show the results of people who had actually taken a credit but lack financial knowledge and thus can be the victims of manipulations. Other than this, the rest of the factors has been absolutely randomized. The participants have been reached through actively sharing the social media platforms and was also emailed to the university professors. Due to the time-consuming and thought requiring nature of the survey (it takes around 10-15 minutes, unlike usual student surveys that are max 2-minute-long) it took longer than expected to collect sufficient data, however it also identifies that those who completed it took enough time and effort to respond, making the data more reliable and representative unlike the two-minute surveys. Overall the survey has been open for around a month and during this time was actively promoted.

The Choice of the Commercials

For the experiment to have measurement criteria, it was decided to test two commercials of different natures to see how the response to them changes depending on financial knowledgeability. One of the commercials was *aggressive in nature*, featuring well-known Armenian comedian who is loved by the general population. The commercial humoristic in nature where one actor playing roles of different people taking different credit types, with the ending having a strong message to communicate about zero percent interest rate for the first

month and that you can delay the paying day. The ad belongs to a Varks.am, a well-known local credit organization and is infamous for its predatory lending practices. Additionally, the ad is widely promoted by being played on big banners in the central part of Yerevan. However, despite it, half of the participants have not seen the ad previously. The next commercial, *informative in nature*, belonged to Ameriabank, one of the most respected and credible banks in Armenia. The ad was a fully animated movie with only infographics as visuals, with a huge overflow of information about credit processes. The bias that might have occurred because of the difference in the status of financial organizations has been eliminated through open questions were people expressed their opinion about the ad and the organization separately. The order of the commercials might have had an impact on the people's response regarding the ads, hence, to eliminate a possible bias, two separate surveys has been conducted for which the only changing factor was *the order* of aggressive and informative advertisings.

Data Analysis

The survey recorded a total number of 169 observations, with 99 observations for the order of the aggressive advertising coming first and 70 observations of informative advertising opening the survey. The quantity of the observations is sufficient to drive conclusions for further research.

Quantitative Findings

To see the relationship between probability of taking a loan and its explanatory variables and to check the significance of the effect of the financial literacy compared to other factors, 8

independent variables have been identified plus additional 2 independent, commercial specific variables. The values explanations are presented below

A: Aggressive commercial

I: Informative commercial

Variables of A

Dependent variable

Take: dummy variable, accounts if the person would (1) or would not (0) take the aggressively advertised loan.

Independent variables

SeenBefore: accounts if the participant has been exposed to the ad before (1) or not (0)

Recall: whether the person would remember the ad in two months (1) or not (0)

Variables of I

Dependent

Taking: dummy variable, accounts if the person would (0) or would not (1) take the loan of informative advertising

Independent variables

SeenPreviosuly: whether the participant has seen the ad previously (1) or not (0)

Remember: whether the person would recall the ad in two months (1) or not (0)

Independent variable of both A and I

Age: the age of the participant, taken mean of the chosen age group

Gender: Male (0) or Female (1)

Education: Primary (1), Secondary (2) and Higher (3)

TakenBefore: whether the participant has previously taken a loan (1) or not (0)

CurrentLoan: whether the participant holds a current loan (1) or not (0)

PlantoTake: whether the participant plans to take a loan in a near future (1) or not (0)

Fin_lit: the level of financial literacy of the person (literate (1) vs. illiterate (0))

Order: dummy variable that states which advertising has been shown first (informative first (1), aggressive first (0))

The financial literacy variable has been generated by using the five literacy test questions mentioned above. A person who has correctly answered to all five questions was identified as literate, due to the very basic level of the questions. A person who has made at least one mistake has been categorized as illiterate. As a result, the proportion of literate to illiterate people has been 0.31, which generally corresponds to the Armenian reality of only 18% financially literate population.

To observe the effect of the chosen independent variables on the likelihood of taking an advertised loan (A or I), two multiple regression models has been run, for the aggressive(A) and informative(I) loans respectively.

1. $\text{Take} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Gender} + \beta_3 \text{Education} + \beta_4 \text{SeenBefore} + \beta_5 \text{Recall} + \beta_6 \text{TakenBefore} + \beta_7 \text{CurrentLoan} + \beta_8 \text{PlantoTake} + \beta_9 \text{Fin\_lit} + \beta_{10} \text{Order} + u$
2. $\text{Taking} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Gender} + \beta_3 \text{Education} + \beta_4 \text{SeenPreviously} + \beta_5 \text{Remember} + \beta_6 \text{TakenBefore} + \beta_7 \text{CurrentLoan} + \beta_8 \text{PlantoTake} + \beta_9 \text{Fin\_lit} + \beta_{10} \text{Order} + u$

Source	SS	df	MS	Number of obs =	169
				F(10, 158) =	4.03
Model	8.58463197	10	.858463197	Prob > F =	0.0001
Residual	33.6283858	158	.212837885	R-squared =	0.2034
				Adj R-squared =	0.1529
Total	42.2130178	168	.251267963	Root MSE =	.46134

Take	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Fin_lit	-.2610059	.088061	-2.96	0.004	-.4349346	-.0870773
Gender	-.1954078	.0778321	-2.51	0.013	-.3491332	-.0416823
Age	-.0045608	.0042086	-1.08	0.280	-.0128732	.0037515
Education	-.0645699	.1131941	-0.57	0.569	-.2881386	.1589989
SeenBefore	-.0798388	.0769254	-1.04	0.301	-.2317735	.0720959
Recall	.1806927	.0471396	3.83	0.000	.0875877	.2737977
TakenBefore	.0237574	.0580264	0.41	0.683	-.0908502	.138365
CurrentLoan	-.0620867	.0976774	-0.64	0.526	-.2550086	.1308353
PlantoTake	.0814317	.0826182	0.99	0.326	-.0817467	.2446102
Order	.0885416	.0763118	1.16	0.248	-.0621813	.2392644
_cons	.5772853	.3690904	1.56	0.120	-.1517022	1.306273

The overall model is satisfactory with R-squared value 0.2034 meaning that independent variables explain 20% variation in dependent variable. This was predictable taking into account the omitted variables mentioned above. Further, from the P> | t | column, it can be seen that number of variables are not statistically significant, which means that their effect on Taking the advertised aggressive loan is not significant. For this, the insignificant variables are dropped consecutively, by checking for the gained significance after each dropping. At the end, the picture with only significant variables kept has the following.

Source	SS	df	MS	Number of obs =	169
				F(4, 164) =	9.23
Model	7.7582304	4	1.9395576	Prob > F =	0.0000
Residual	34.4547874	164	.210090167	R-squared =	0.1838
				Adj R-squared =	0.1639
Total	42.2130178	168	.251267963	Root MSE =	.45836

Take	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Fin_lit	-.2363262	.0841825	-2.81	0.006	-.4025475	-.0701049
Gender	-.1908374	.073801	-2.59	0.011	-.33656	-.0451149
Recall	.1866541	.0454141	4.11	0.000	.0969823	.2763258
Order	.1216579	.0728143	1.67	0.097	-.0221166	.2654323
_cons	.2194193	.1282471	1.71	0.089	-.033809	.4726476

When checking for the assumptions the model has improved to some extent. Further, we can see that just like predicted, *financial literacy* indeed has the most significant impact on the decision of taking a loan. With coefficient being -0.23632, it can be derived that if the Fin_lit value is one (the person is literate), the probability of taking a loan decreases by 0.236. Moving further, to the next variables, turns out that *the gender* of the person has a negative effect on loan taking. When the participant is female (1), it decreases the probability of taking a loan by 0.1908. Generally, gender seem to show no significant difference when reacting to advertisings, a study by Millward Brown (2011) shows. However, taking into account the financial content of the advertising as well as the overall aggressive atmosphere, it can be referred to another study by National Bureau of Economic Research (2009) that confirms the previous findings and once again emphasizes that women indeed are more risk averse than men. Next variable that has significant impact is *recall* of the advertising, which is quite logical: the better the advertising sticks in consumer's mind, more likely they are to be affected by it, i.e. to use the advertised product or service. The aggressive advertising further creates associations of brand and influences brand recall which is the ultimate goal of the companies using commercials. The last variable, that had its impact on credit taking decision, is *the order* of advertising. Oddly, this variable is significant for both advertisings, thus will be discussed below.

The second regression for Informative advertising had the following view:

Source	SS	df	MS	Number of obs =	169
				F(10, 158) =	2.91
Model	6.5437535	10	.65437535	Prob > F =	0.0023
Residual	35.5272524	158	.224856028	R-squared =	0.1555
				Adj R-squared =	0.1021
Total	42.0710059	168	.250422654	Root MSE =	.47419

Taking	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Fin_lit	.0396355	.0898222	0.44	0.660	-.1377716	.2170425
Gender	.0748605	.0801517	0.93	0.352	-.0834466	.2331675
Age	-.0033506	.0042478	-0.79	0.431	-.0117405	.0050393
Education	-.1815982	.1172094	-1.55	0.123	-.4130975	.0499011
SeenPreviously	-.0021733	.0893374	-0.02	0.981	-.178623	.1742764
Remember	.17162	.0470239	3.65	0.000	.0787434	.2644965
TakenBefore	.1074261	.0579899	1.85	0.066	-.0071092	.2219614
CurrentLoan	-.1106321	.1008493	-1.10	0.274	-.3098188	.0885546
PlantoTake	.1419943	.085264	1.67	0.098	-.02641	.3103985
Order	-.2206287	.0861226	-2.56	0.011	-.3907287	-.0505287
_cons	.6742355	.3741079	1.80	0.073	-.0646621	1.413133

The model is worse than the first one, with independent variable explaining only 15% variation in loan taking. After dropping insignificant variables one by one we end up with following results.

Source	SS	df	MS	Number of obs =	169
				F(3, 165) =	7.45
Model	5.01989267	3	1.67329756	Prob > F =	0.0001
Residual	37.0511132	165	.224552202	R-squared =	0.1193
				Adj R-squared =	0.1033
Total	42.0710059	168	.250422654	Root MSE =	.47387

Taking	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Remember	.1684926	.0455583	3.70	0.000	.0785402	.2584449
PlantoTake	.163446	.0807873	2.02	0.045	.0039359	.3229562
Order	-.2123167	.0774472	-2.74	0.007	-.3652319	-.0594015
_cons	.1880015	.0906642	2.07	0.040	.0089899	.3670131

Here we can see that only three independent variables are significant enough to explain the changes in the dependent variable. First of all, *the Remember* variable for this model is the same as Recall variable for the first model, i.e. the ability to recall the advertising in two months after the exposure. A positive correlation can be observed, when the person recalls the informative

advertising, it increases the probability of taking a loan by 0.1684. Next significant variable is *PlanToTake*, which implies that if a person plans to take a loan in the near future, it increases the probability of taking a loan by 0.163. *The order* of the exposure matters for advertising, the person who has seen the informative advertising first, in case of the first regression(A) is more likely to take the aggressively advertised loan, while in the second(I) case the person is less likely to take informatively advertised loan. This can be explained by the fact that in case of being exposed first to the informative advertising, it just seems unattractive and not interesting to the participant, while the situation with the opposite order worsens the situation as the contrast between the contents of the advertisements seems more vivid, making the aggressive ad to stand out and seem more appealing to the viewer in the background of more boring informative ad. Indeed, the results of an older experiment(Chan,1996) shown great differences in viewers' perceptions of advertisements: informative commercials were most frequently considered to be 'dull', 'uninteresting' and 'informative', while emotional commercials were described as 'appealing', 'interesting' and 'original'. Further, another study (Honka et al.,2015) found hat the primary role of advertising is to inform consumers about the existence and availability of retail banks and their offerings. Hence, essentially, the commercial is not supposed to affect the decision. This can also be a strong ground for the next assumption regarding the main hypothesis of the thesis. As it can be observed, *Fin_lit* is not a significant variable for the second model, thus is not a determinant for taking an informative loan. To check if the results are constant, two *two-sample t-tests* have been conducted for population proportions, which is discussed below.

Assumptions for the regressions

The models have been tested for the assumptions of Linear Regression, Normality, absence of Multicollinearity and Heteroscedasticity.

The plot of the residuals of the regression is not completely linear, however it does not significantly deviate from it. Further, to check for normality of distribution few tests have been used.

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
e	169	0.92174	10.089	5.273	0.00000

Shapiro-Francia W' test for normal data

Variable	Obs	W’	V’	z	Prob>z
e	169	0.92583	10.464	4.802	0.00001

If the distribution is normal, the 95% critical values of V (V’), depending on the sample size, are between 1.2 and 2.4 (2.0 and 2.8). As it can be seen our V and V’ are not falling in this range, thus we reject the null hypothesis that residuals are distributed normally. This might have occurred because of omitted variables bias, as some relevant variables like income level, family status, satisfaction with income has been replaced just by one variable(PlanToTake) due to the small size of the research. Thus, the model can be further improved by adding other relevant variables and increasing the number of observations or by trying to use variable transformations

(such as logarithm, square, etc) however, for doing which some non-dummy variables are needed.

To check whether there is an issue of multicollinearity of the models we tested using Variance Inflation Factor (VIF) values. The tolerance defined as 1/VIF is greater than 0.1(corresponding to less than 10 acceptable value for VIF), meaning that variables are not linear combination of other variables thus there is *no multicollinearity*.

After testing the results for heteroscedasticity we get p-value of 0.6489 and 0.7489, which are greater than 0.05, which implies that we do not reject the null hypothesis and *there is no problem of heteroscedasticity*. The assumptions are met for all four regressions.

Next, it can be observed that the mean value of the errors is close to 0, thus it can be concluded that the Expected Value of errors is 0, so the assumption is met.

Variable	Obs	Mean	Std. Dev	Min	Max
e	169	-2.46e-07	0	-2.46e-07	-2.46e-07

Two-sample t-tests for population proportions

- Hypothesis for two-sample population proportion test for aggressive advertising

Ho: *The probability of taking a loan for a literate person(population) is greater or equal to the probability of taking a loan for an illiterate person(population) as a result of aggressive ad exposure [Ho: $\pi 1 - \pi 2 \geq 0$]*

H1: *The probability of taking a loan for a literate person(population) is less than the probability of taking a loan for an illiterate person(population) as a result of aggressive ad exposure [H1: $\pi 1 - \pi 2 < 0$]*

With π1 and π2 being the population proportion of the literate and illiterate cohorts respectively.

- Hypothesis for two-sample population proportion test for informative advertising

Ho: *There is no significant difference in response towards informative advertising in financially literate and illiterate cohorts [Ho: $\pi 1 - \pi 2 = 0$]*

H1: *There is a significant difference in response towards informative advertising in financially literate and illiterate cohorts [H1: $\pi 1 - \pi 2 \neq 0$]*

After necessary calculation the results for the first test was Z statistic equal to -2.6826, which is less than Za=-2.32 for a 1% significance level (-2.86826<-.2.32), thus we reject the null hypothesis *The probability of taking a loan for a literate person(population) is greater or equal to the probability of taking a loan for an illiterate person(population) as a result of aggressive ad exposure [Ho: $\pi 1 - \pi 2 \geq 0$] ,* and by taking the alternative hypothesis conclude that indeed there is a significant evidence that in case of literate population there is probability of taking a credit as a result of the aggressive advertising. The results of hypothesis testing the regression model coincide making the statement more confident.

Further, after testing the second hypothesis we get Z statistic equal to -0.25, which less than Za=-1.29 for a=1% significance level (-0.25<1.29) thus we fail to reject the null hypothesis stating that *Ho: There is no significant difference in response towards informative advertising in financially literate and illiterate cohorts [Ho: $\pi 1 - \pi 2 = 0$],* confirming the conclusion that in case

of informative advertising financial literacy does not play a significant role. Further, larger scale research to determine the validity of this conclusion is required, however at this point, it can be explained by the study mentioned above, that general population is usually not attracted to informative advertising at all, despite of the level of financial literacy, also taking into account the raising awareness purpose of informative advertising rather than affecting the purchase choice. To support this statement, qualitative data where participants of the survey expressed their thoughts and feelings about the advertisings, is discussed below.

Qualitative findings

To start with the qualitative data gathered for the aggressive advertising, it is worth to mention that the highest 39% of participants despite the level of financial literacy, described the advertising as "Triggering an Interest." Another 29% described the commercial as "Appealing" while 24% of participants described it as "Convincing." The significant number of descriptions refer to mostly positive attributes of the advertising, while the only negative and significant variable was that 24% described it as "Lacking Information". Taking into account low financial literacy rate of participants, it is evident why only for 24% of participants the ad seemed not completely informed, while it clearly lacked crucial information about the whole system of repaying the loan.

To the questions of credibility of the advertising the opinions mostly divided, with participants tending to trust the ad mentioning several reasons such as trust towards the actor, framing of the information, beneficial conditions of the loan and the lifestyle of the regular person that ad shows. Particularly the celebrity endorsement technique of the advertisers gained the attention of the viewer, showing more trust towards misleading commercial as a credible persona appeared

there. The beneficial conditions of the credit as well as how the information was framed (highlighting 100% interest-free for the first month and delaying payday for free) appealed to the customer to seek for financial help from this organization particularly. However, more conscious part of the participants suggested that the commercial is misleading, lacks important information as well as the non-credible reputation of the institution and general mistrust towards credit organizations. However, these participants also emphasized that they notice pitfalls of the advertising because of their financial background or prior close experience, with their conclusion that they would not notice the drawbacks in case of different background. The most common feelings described for this commercial are “positive, “credible”, “giving a hope”, “interest”, “funny” and “willingness to go and take that credit. More self-aware respondents mention that they got more cautious as the conditions are “too good to be true”, or mentioning the feelings of neutrality and at times “feeling cheated”. It is noteworthy, that some significant part of this sort of respondents, in fact, chose to take the aggressive loan, making it clear that in spite of recognizing the manipulation techniques people still fall for them.

The most memorable part of the ad as mentioned by the majority of the participants was the actor, his different roles, “100% interest-free”, “payday can be extended for free”. It can be assumed that these were the exact points the advertiser wanted to plant in the consumer’s mind and trigger interest.

For the qualitative finding of the informative advertising had been quite the opposite of the above-mentioned ones. 61% of the participants described the advertising “informative”, indeed acknowledging the purpose of the commercial. Further, 26% describe it as “Clear content” emphasizing the fact that the information that was aimed to communicate was comprehensible for the audience without any sense of being misled. It is noteworthy that, 22% of the participants

described the advertising as “pressuring” and “boring”, referring to the overloaded information provided in the commercial that shaped the sense of dullness and being overwhelmed, with only 14% of the participants describing the commercial as “attractive”. These findings confirm the results of the study mentioned above regarding the participants' perception of informative commercials.

It was further revealed that the advertising does not inspire credibility; however, the majority of the participants mentioned the respectable reputation of the bank that made them consider the credit. The reasons for mistrust were commonly the overwhelming amount of information that makes it hard for the viewer to comprehend the information and drive conclusions.

When asked to describe their feelings connected with the advertising, the vast majority of the participants were not able to specify, commonly stating that they do not feel anything at all. Hence, this feeling of neutrality affects the results: significantly less recalls for the informative ad (14%) then for the aggressive (43%) one. On the top of this, there was a common challenge among the participants to specify a memorable moment which in most cases was “online credit processing” and “green color” of the background, which ironically also is part of the branding of the bank, hence the primary association. It is worth to mention that online credit was discussed right at the beginning of the commercial, while the rest of the information discussed throughout was rarely stated by the participants to be memorable. These findings support the quantitative results obtained from the models for both commercials, making the picture of general attitudes and numeric findings harmonized.

It is also important to mention that to avoid the possible bias created by the different reputations of the organizations that chosen commercials belonged to; the participants were asked to elaborate on their feelings about the commercial and the organization separately. It was revealed

that in case of the respectable bank, though the participants disliked the commercial, it was frequently mentioned that they would consider the credit because of the reputation of the bank and the trust that they had towards that specific institution. The situation was often the opposite in case of the credit organization who had a doubtful reputation and did not inspire trust to some of the participants.

Research Limitations

Research limitations were present in the study that lowered the quality and significance of the research findings. The core limitation was in the form of missing independent variables that could have had a possible effect on the dependent variable, which were not used due to the size of the study, as discussed above. Including these variables would most probably improve the models and make the finding more grounded. Further, the difference between the content of the advertisings, in spite of all the effort put into minimizing the effect of those, might have had its influence on the customer choices. Thus, in the future, when conducting similar studies, it is crucial to synchronize the product of both commercials, to eliminate possible bias. Next on, the unwillingness of individuals to physically attend the study presented a limitation on the way of designing the desired study setting. This became a barrier for conducting an interactive focus group to gain more insights about consumers' attitude and ideas about the commercials, as well as online survey presenting a possible hazard for falsifying the financial literacy test results by simply finding the answers on the internet. However, as there were only 40 financially literate participants identified, it can be assumed that this hazard majorly was avoided. Lastly, the small number of observations does not allow for major and grounded conclusions, requiring for larger

scale research. Hence, there is a strong need to continue this study in a larger setting to develop initiated conclusions and findings further.

Conclusion

In the competitive market, the companies and organizations are using all types of promotions to capture consumers' attention and ultimately affect their decision. The credit organizations and banks are no exception. Taking into account controversial essence of this sphere, an unthoughtful decision might lead to unrecoverable consequences, thus this study was conducted to understand whether advertising of financial products, such as credits affect the financially illiterate population of Armenia. Further, the goal was to understand whether advertising the same type of product differently, i.e., informative and aggressive advertisings, would influence consumers differently.

Through the collection of qualitative and quantitative data via specially designed online survey, few results have been gained. When examining the situation with aggressive advertising, indeed, the financially illiterate group was more susceptible towards the advertising, is more likely to take the credit, thus confirm the hypothesis of the study. Other significant variables affecting the choice in this decision were gender, ability to recall the advertising in two-month period, and the order in which the commercials have been shown. The last variable turned to have a significant role in case of both commercials, revealing that in spite of any order, people are always less likely to be influenced by informative advertising, due to a number of reasons connected with the uninteresting content of the commercial. Furthermore, it was discovered that financial literacy is not a determinant for the consumers to take the credit after being exposed to informative advertising. This finding contradicts the idea of the whole study; however, with more in-depth

literature review and reference towards previous studies, it was concluded that owing to the content of the informative advertising, people are generally less likely to be affected by it due to its inability to capture interest.

Further, keeping in mind consumer purchase decision making process, the informative advertisings are aimed at raising awareness about the existence of the specific product rather than directly affecting the choice. Thus, the commercial when the commercial has an informative role it primarily affects the awareness, while its role can be interpreted as persuasive if it primarily affects choice conditional on awareness. The qualitative findings fully support the statistical picture.

The study was the first step towards discovering the deeper insights of the advertising in the credit market and its influence on the financially illiterate population of Armenia. This study has established some ground for debates, new hypotheses and initial conclusions that would hopefully be further researched in a larger scale studies to get a deeper and strong understanding of the relationship of financial literacy and the decision of taking the advertised credit.

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Appendix

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of Take

chi2(1) = 0.21
Prob > chi2 = 0.6489
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of Taking
chi2(1) = 0.46
Prob > chi2 = 0.4974

Source	SS	df	MS	Number of obs =	169
				F(6, 162) =	4.58
Model	6.09603419	6	1.0160057	Prob > F =	0.0003
Residual	35.9749717	162	.222067727	R-squared =	0.1449
				Adj R-squared =	0.1132
Total	42.0710059	168	.250422654	Root MSE =	.47124

Taking	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Education	-.1706804	.1147045	-1.49	0.139	-.3971892	.0558284
Remember	.1621874	.0458783	3.54	0.001	.0715908	.2527841
TakenBefore	.0907693	.0556096	1.63	0.105	-.0190439	.2005824
CurrentLoan	-.1115793	.0989441	-1.13	0.261	-.3069658	.0838073
PlantoTake	.1334068	.0843	1.58	0.115	-.0330617	.2998754
Order	-.2036424	.0772727	-2.64	0.009	-.3562341	-.0510508
_cons	.6364199	.3559683	1.79	0.076	-.0665162	1.339356

Source	SS	df	MS	Number of obs =	169
				F(6, 162) =	6.51
Model	8.19769308	6	1.36628218	Prob > F =	0.0000
Residual	34.0153247	162	.20997114	R-squared =	0.1942
				Adj R-squared =	0.1644
Total	42.2130178	168	.251267963	Root MSE =	.45823

Take	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Fin_lit	-.2487751	.0850654	-2.92	0.004	-.416755	-.0807951
Gender	-.2012324	.0764349	-2.63	0.009	-.3521697	-.0502951
Age	-.0044392	.0040029	-1.11	0.269	-.0123438	.0034654
Recall	.1805116	.0457734	3.94	0.000	.0901223	.270901
PlantoTake	.0841068	.078868	1.07	0.288	-.0716351	.2398486
Order	.1033672	.0739147	1.40	0.164	-.0425933	.2493276
_cons	.3509106	.1929157	1.82	0.071	-.0300431	.7318644

I give my consent to post my study on the library database for an open access to the AUA community.