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How can we make consumer choose consumption credit tool

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Abstract:

This paper focus on how to encourage people to consume more and save less by choosing to use more consumption credit tool. In this paper I mainly test the prevailing strategy use by those super-sized company, which is simplifying the bill, giving consumer a discount and the mixed strategy with this both two strategies. Why I chose these two treatments is based on the information I collected from the comments of people about the current credit tools in the social media. I take the form of online questionnaire with the data from the Questionstar, and I use logistic to deal with it to measure which treatment works.

Keywords: Saving rate; Credit tool; Behavioral economic

1. Introduction

China's residential savings rate has been at a high level since 2000 and has continued to go up over the years. From 2000 to 2022 it grows from 21.69% to 33.47%. Compared to the United States out of a fairly high position, who's savings rate in is below 10% in most cases from 2000 to 2022 (above in 2012 and 2020). Excessive savings rates lead to reduced consumption, which is detrimental to the overall level of economic growth.

From a behavioral economics perspective, I can find a strategy based on intertemporal decision making, the pre-commitment strategy. From Duflo et al(2011)[1], in a Kenyan experiment, a time-limited discount was offered to farmers after a good harvest, when their budget constraints were relaxed, to enable them to buy fertilizer for the next cropping season without being subject to present bias. When farmers choose to take the deal, they are in effect making their intertemporal decision - to buy fertilizer - in the current period. This can avoid problems such as budget constraints that may be faced in the next period. On the issue of boosting consumption, can I also adopt a similar strategy, i.e., letting consumers take consumer loans to pay their bills in the current period. On the one hand this narrows the options available for future decisions: when they pay off the debt in the future it is equivalent to choosing to consume rather than save. On the other hands this also relaxes the current consumption constraint, and consumers do not have less cash on hand to spend.

But it seems to be that Chinese have a much a strong will to save more than many other countries as for the most of the government of them are trying to persuade people to save more especially in their pension accounts. There are some statistic evidences to prove the strategies mentioned above work in case of people trying to save more in the next period to offset the spending last period. Cai Hao Yi & Xu Zhong (2005)[2] used data from various provinces and cities in China from 2000 to 2003, they found that the growth of consumer credit has a negative impact

on the savings rate of the population, i.e., the more developed a province is in terms of consumer credit, the slower the growth of the savings rate is. In addition, their study suggests that government-provided loans have a negative impact on economic development at the level of SME loans: consumer loans to consumers can squeeze the credit allocation to SMEs. However, I find that many consumer loans are now provided to consumers by companies when consumer buy goods. An example is Jingdong Whitenote. If a consumer buys a product from Jingdong, he doesn't have to pay for it right away, he can pay the bill for a certain amount of money in the later months: it's actually a loan. Of course, there are many other apps like Jingdong's Whitenote, such as Alibaba's Huabei and Meituan's "Meituan Monthly Payment".

Tang Xiangjun & Ren Baoping (2011).[3], they successfully proved that the ratio of consumer loans to GDP has a positive effect on the ratio of consumption to GDP, and the consumer loans do increase consumption and reduce the savings rate. Li Jiangyi & Li Han[4] , according to the data of China Household Finance Survey, consumer credit is able to promote consumption in terms of easing liquidity constraints, and each credit card is able to increase urban residents' consumption by RMB 123.6 on average between 2010 and 2012.

Thinking about whether the demographic factors will have impact on the residential's choices. Chien & DeVaney (2005)[5] found that many demographic factors such as consumer marital status, social status, level of education, will affect his use of consumer credit. Ju Jinwen & Liu Xiaoxue (2017) [6] found that in addition to this, different products of purchase intention, high and low interest rates, urban development level, credit thresholds, and variety of repayment methods also have an impact on people's consumer credit preferences.

Zhang Hao (2024) [7] finds that in the case of the offers of interest rates for consumer loans provided by online e-commerce platforms, there are both positive and negative impacts on consumers. The negative impact is that this can lead to an increase in the price of goods as well as triggering consumers to speculate that the money from the offer ultimately comes from the interest they are paying or the price of the goods which have already risen. The positive impact is that interest rate cuts promote consumption. Ultimately, with the perspective of current interest rates that lowering interest rates can lead to lower prices for consumers, and the effects of both price and interest rate cuts are similar in terms of intensity.

It's able to be convinced that I can use consumption credit tool to nudge people to save less and spend more by the means of changing the intertemporal decision range. Moreover, it can directly have impact on the ratio of consumption to GDP, which means that there is no worry about the complement asked by the consumer to choose saving more in order to offset this payment. And I am glad to see those previous proof of the impact of demographic factor on people's consumption behavior, I will do these tests again in my experiment. Most importantly, for the loan made by the super-sized company, I don't need to worry about the squeezing out towards SME loans. With the perspectives form behavioral economic, I take the hint of the simplifying the bill of uncollectable debt and the classic method of lowering interest rate.

2. Experiment

2.1 . survey design

I took the form of an online questionnaire published on Questionstar to collect data, and based on the design of various consumer credits under the current Chinese Internet companies, I designed the control variables as (1) Simplifying billing: tell consumers straightforwardly the amount they need to pay back for each installment and for how many installments it lasts; (2) Discounts on bills: if consumers take consumer credits to pay their bills, they can first get a coupon for a fixed amount and then a discount on top of that (0-500: minus ¥13and 20% off; 500-1000: minus ¥60 and 15% off; over 1000: minus 200¥ and 15% off). The dependent variable was designed as a dummy variable, based on the fact that the consumer's payment method for the last purchase was non-consumer credit, 1 if the consumer indicated in the experiment that he/she was willing to switch to a consumer credit product for his/her last purchase, and 0 if he/she answered no.

In addition to this, I collected other relevant information, educational level (elementary school and below, junior high school, high school or equivalent level, bachelor's degree or equivalent level, graduate school and above), income range (0 to 2000; 2000 to 5000; 5000 to 10,000, and 10,000 and above), gender, and designed the above variables as dummy variables (1 for male in gender) , and some non-dummy variables, age per month, and online purchase amount as a percentage of income.

For those who answered that they had already used consumer credit for their last purchase, I drooped these data, but I asked for the reasons why they chose consumer credit. For those who answered that they were still reluctant to use consumer credit, I also collected the reasons.

2.2 Methodology

Our experimental design is primarily based on existing consumer credit services currently offered on major in-

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ternet consumer platforms, namely clarity of billing and discounting of prices. Holm et al.(2018) [8] find that the use of clarified bills increases the probability of repayment when the government promotes the repayment of debt or bills by residents, and they argue that residents have difficulty repaying their debts not only because they do not want to or cannot afford to do so. I also introduce a similar approach to behavioral economics as described above: simplifying billing. Its not just that it makes bills understandable to consumers and solves a similar problem, but more importantly it focuses on the issue of trust.

I use the unregistered TikTok account (because when it is about to be registered, a personal phone number will be needed, so you will be pushed with some video selected by your documented personal preference which allocated from some of your other media account using the same phone number) to search for "Jingdong Whitenote" and "Meituan monthly payment". According to the system I selected 50 pushed videos found that "Jingdong Whitenote " has negative evaluations of the two kinds: fraud and external risk. There are 16 articles of fraud, the problem is mainly focused on: not clear when to repay, repayment of the specific way, repayment amount changes, complain about the high interest rate after borrowing, not clear the circumstance of using the "Jingdong Whitenote". There are 13 articles of external risk: focusing on the risk of "telecom fraud" (there are unscrupulous elements to withdraw the balance of Jingdong Whitenote to cheat this part of the funds); There are also 19 neutral articles: focusing on the early repayment, social credit record policy, open and close the operation of the tutorials; Positive reports, excluding ads, only 2 articles, in order to praise the convenience of the life of the "Jingdong Whitenote". There were 27 negative reports on "Meituan Monthly Payment", mostly focusing on consumers choosing "Meituan Monthly Payment" unknowingly, unclear repayment methods and amounts, unclear ways to deal with overdue payments, and disputes over refunds. The 20 neutral reports focused on how to apply this service or how to cancel it, and social credit policies. 3 positive reports, with content similar to "Jingdong Whitenote".

I expect to take into consideration of the mentioned above social media trends such as "unspecified repayment method", "change in repayment amount", and "late treatment" on consumer preferences by clarifying the billing statement. consumer preferences.

2.3 Variables

Outcome variable is a dummy variable, when it is equal to 1, the consumer indicated in the experiment that he/she was willing to switch to a consumer credit product for his/her last purchase, is 0 when he/she answered no.

Treatment 1 means simplifying the bill, Treatment 2 is discount on the deal, while treatment 3 means receiving both treatments at the same time.

The "gender" is also a dummy variable while 1 means male. I divide the income range in to 4 scales, 0~2 thousand per month, 2~5 thousand per month, 5~10 thousand per month and beyond 10 thousand. I also introduce the education factor, the volunteer's education background can cluster between elementary school, junior high school, senior high school graduate school in college or who gets Master or PhD degree. By the way, the expenditure is also a important variable, so I also introduce it.

2.4 Summary of data

All sample

Variable	Obs	Mean	Std. dev.	Min	Max
age	230	36.98	11.52	18	65
gender:male=1	230	0.49	0.50	0	1
income:0~2k	230	0.07	0.26	0	1
income2k~5k	230	0.06	0.23	0	1
income:5k~10k	230	0.64	0.48	0	1
education:elmentray school	230	0.07	0.26	0	1
education:junior high school	230	0.05	0.21	0	1
education:senior high school	230	0.24	0.43	0	1
education:college	230	0.53	0.50	0	1
expenditure	230	43.27	27.45	1	99
outcome	230	0.73	0.44	0	1

In treatment group 1, I have 50 observations, and there are 74% of them have sign "yes", which mean that they agreed that they would choose consumption credit toll if they could have. I have 75 observations in my treatment group 2 which received discount on the bill without simplified bill. And the percentage is 76%. In treatment group 3 with both treatments, I have 47% usable observations and there were 82% of they said "yes". In my control

group, I have 58 members and the proportion is 62%.

I find that I have our sample to be 49% of male, and the average of expenditure to be 43.27%. The educational level of more than half of them to be college. And more than half of them earn more than 5 thousand of RMB per month. And I also collect the answer of why form who answer they wouldn't switch to use credit tool, 31.75%of they worry about fraud, 22.57% are unsatisfied with the variety of pay off method, and 21% didn't give a reason, while the rest were talking about our treatment.

3. Empirical Results

we further investigate the relationship between XXX and XXX using logistic model as Equation 1.

$$Y = \alpha + \beta_1 X + \gamma * Controls + \epsilon Eq.1$$

Where Y is outcome variable, X is treatments, controls is other demographic figures, including ε is error term.

The estimated result is shown in table 2. It can be seen that in the column (1), column (3) and column (5) that when those treatments alone, none of them will be statistically significant. It's the same in the column (2) and column (4) when offering a discount and simplifying the bill and they two together with other demographic factors. Except for the column (6) when putting the treatment which has offering a discount and simplified bill together without other demographic factors, which shows a statistically significantly positive association at 5% significant level. When I put only 3 treatments together I find both offering a discount and offering a discount with a simplified bill are significant (at 10% significant level and 5% significant level). And this is also the same in column (8) when I added other demographic factors.

I find that in the case of simplified billing alone, discounts, and mixed strategies where both are applied, they are all insignificant. After adding the other variables, only the hybrid strategy is significant. This may be due to the fact that consumer loans for online shopping are now offered as a hybrid strategy, making one of the two unattractive on its own in this environment. I find that when all three are used as independent variables, the effects of both discounts and mixed strategies are significant, although simplified billing remains insignificant. However, when all independent variables are included, only the mixed strategy is significant.

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Table 2: The effect of treatment on the likelihood to switch payment

Dependent variable:	Payment switch							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Simplied bill	0.0344	0.00830					0.553	0.483
	(0.364)	(0.390)					(0.421)	(0.457)
Discount			0.195	-0.0184			0.660*	0.462
			(0.324)	(0.345)			(0.383)	(0.411)
Simplified bill & Discount					0.687	0.905**	1.092**	1.195**
					(0.421)	(0.441)	(0.473)	(0.494)
Age		0.00252		0.00248		0.00160		0.00190
		(0.0187)		(0.0188)		(0.0189)		(0.0189)
Gender (male=1)		0.122		0.119		0.0533		0.124
		(0.327)		(0.325)		(0.328)		(0.334)
Low income		-0.767		-0.768		-0.688		-0.673
		(0.751)		(0.750)		(0.758)		(0.769)
Mid income		1.196		1.200		1.295		1.206
		(1.117)		(1.118)		(1.119)		(1.127)
High income		-0.660		-0.661		-0.714		-0.719
		(0.439)		(0.440)		(0.445)		(0.448)
Education: Elementa		-0.598		-0.599		-0.653		-0.628
		(0.775)		(0.775)		(0.790)		(0.790)
Education: Junior Hi		-1.070		-1.074		-1.187		-1.027
		(0.850)		(0.841)		(0.861)		(0.883)
Education: Senior H		-0.168		-0.170		-0.247		-0.194
		(0.577)		(0.575)		(0.585)		(0.590)
Education: College		0.231		0.230		0.203		0.251
		(0.507)		(0.506)		(0.512)		(0.515)
Share of expenditure		-0.0132**		-0.0132**		-0.0135**		-0.0132**
		(0.00605)		(0.00607)		(0.00615)		(0.00614)
Intercept	1.012**	1.969**	0.957**	1.983**	0.897**	1.957**	0.492*	1.549
	(0.169)	(0.990)	(0.179)	(1.011)	(0.163)	(0.988)	(0.271)	(1.041)
N	230	230	230	230	230	230	230	230

Notes: Standard errors in parentheses. ***, **, * indicate statistical significance at the 1%, 5%, 10% level, respectively.

4. Summarize

I conclude that in the current environment, where online shopping platforms are effective as marketing tools for consumer loans, measuring the impact of this mix of marketing tools in isolation is significant and is thwarted by consumers' knowledge of the prevailing strategy. The 230 observations in this paper were collected from the questionnaire of the "Questionnaire Star" platform, and the confidence level of this platform cannot be examined.

In our collection of consumer feedback on consumer credit, I found that in addition to the external risk of fraud, the

current resistance to the development of consumer credit is more importantly the consumer's aversion to the "default option" strategy of credit platforms: Consumers expressed their feelings and revealed a clear aversion to the behavior of the platforms that change their default payment option to use consumer credit. Consumers have shown a strong sentiment and a clear aversion to the idea of platforms changing their default payment options to the use of consumer credit.

5. Suggestion

I suggest that maybe the company should apply a strategy with a larger variety, because the consumers are now aware of the default option strategy and they have expressed aversion towards it, many pf thy even said in the answer sheet that they don't want to use the credit tool just because they don't' like it that there is no need to offer a reason.

In the meanwhile, I suggest that the company should have a plan to restore the confidence. Just because of the discount, people don't believe it, they think they will ultimately pay this coupon themselves, but in the same time, they hesitate to purchase as they suggest that the price will go down in the next period when there is a better discount.

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