Evaluating the Impact of an Automated Low-Cost Credit Building Program on Graduate Students' Financial Capabilities and Access to Credit

RESEARCH PROPOSAL BY

Jasmine Adams

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Introduction

Credit builder loans (CBL) are an opportunity for people with limited or poor credit to build a positive credit history through an accommodating payment structure. Traditional CBLs mitigate risks for lenders by requiring borrowers to complete monthly installment payments before they receive the loan. While this structure may encourage borrowers to save, it places unrealistic demands on low-income borrowers' liquidity. Conversely, the Georgetown University Alumni & Student Federal Credit Union (GUASFCU) offers alumni, current students, and their immediate families access to a risk-free Credit Building Program at little to no expense. After borrowers pay a one-time fee, the credit union deposits the loan in a restricted account and makes monthly loan payments on their behalf. The program thus represents the first credit-building loan product to guarantee borrowers a track record of consistent loan payments. The following research project will evaluate the impact of the GUASFCU Credit Building Program on Georgetown graduate students' access to credit and financial well-being. In so doing, it will acknowledge inequities among minorities and low-income populations and identify opportunities and challenges to improving the intervention's external validity.

Motivation

People's credit history can play a pivotal role in their approval for rental housing, car loans, or even important promotions. Unfortunately, low-risk credit-building opportunities are difficult to access, as retail banks have a perverse incentive to deemphasize credit-building opportunities among borrowers qualifying for higher interest rate loans. CBLs offered by other federal credit unions may pose significant short-term financial burdens that exclude borrowers with limited disposable income. These programs typically function as savings accounts by requiring individuals to make payments toward the loan prior to receiving the funds. Individuals who cannot consistently afford and manage monthly payments fail to establish a favorable credit history and improve their credit scores. GUASFCU addresses issues related to the cost and burden of making on-time payments by offering a significantly subsidized, low to no-cost service that freezes the loaned funds in a separate account and automatically draws from the account each month to make timely loan payments in the borrowers' name.

Intervention (Conceptual Framework)

The borrower pays a one-time sign-up fee of $30 to $180 to cover the interest of a $1000, $2000, or $3000 loan. The banking institution then freezes the loan in a separate account and uses the funds to pay off the loan over a period of 18-36 months. In short, borrowers are guaranteed a history of on-time payments and a higher credit score (all else equal) without having to monitor the loan account or manage monthly payments. A higher credit score provides program participants with increased access to more diverse and

affordable credit products, putting them in a better position to purchase property, invest in business ventures, and remain financially resilient in times of emergency.

Students who sign-up for the loan are primarily undergraduate students who typically go from having no credit score to having a score in the high 600s to low 700s by the end of the program. This study focuses on graduate students who (unlike undergraduate students) are generally unfamiliar with the student credit union and its loan offerings. The intervention encourages those in the treatment group to sign up for a $2000 credit builder loan with a 24-month repayment period and fully subsidized sign-up fee.

Methodology

Preliminary Research

We use a Financial Capabilities Survey to assess students' financial capabilities and access to credit. To support the internal validity of our survey design, we present a preliminary draft of the Financial Capabilities Survey to a small convenience sample of about 50 people prior to initiating the study and incorporate qualitative feedback about the survey experience into the final draft.

Furthermore, because credit builder loans are meant to have the most meaningful impact on people with thin or unfavorable credit profiles – and because Georgetown University (GU) graduate students are more financially capable on average than the general population – we use preliminary findings to gauge whether and how to filter for students who are more likely to have a lower credit score. We estimate the size of a reduced sampling frame using publicly available demographic data to ensure that eligibility criteria are not overly restrictive.

Sampling Design

Of the approximately 12,000 graduate students at Georgetown University, about 20% are international students who are ineligible to receive a US credit score. The remaining 9,600 graduate students are encouraged to participate in the study via email and posters with links to the study survey. Rather than disclose the purpose of the study, recruitment materials invite students with a U.S. bank account to complete a Financial Capabilities Survey that determines their eligibility to enroll in the study. Students who successfully complete the survey are financially compensated.

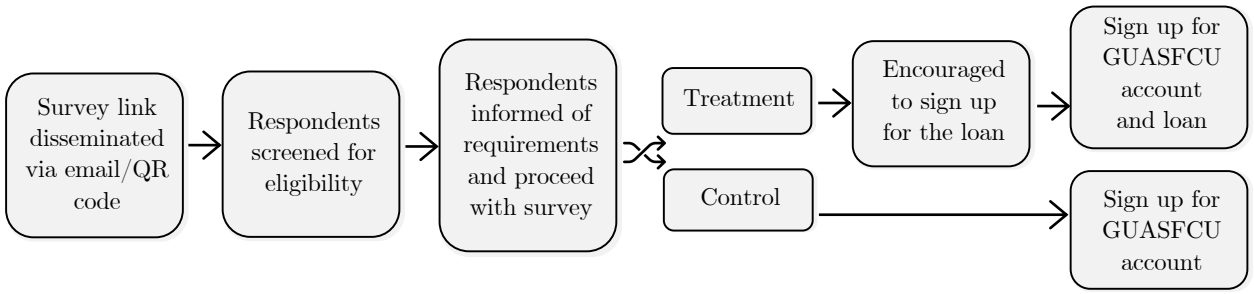
The first part of the survey includes questions that assess students' prior knowledge of GUASFCU's Credit Builder Program and whether they can receive a credit score. Questions about students' background and financial capacity are also included to add to/conceal screening criteria. After completing Part 1 of the survey, students who indicated prior knowledge of the CBL program or high access to credit are notified that they do not qualify

for the study. The remaining students are notified that they have been enrolled in the study and given additional information including instructions to complete Part 2. Upon completing the survey, students are randomly assigned to the treatment or control group and asked to open a GUASFCU account. Only participants in the treatment group are informed about the loan program and encouraged to sign up when creating an account. Students who oblige receive a fully subsidized $2000 loan repayed over 24-months.

Intent-to-Treat Design

We randomly assign students to the treatment group using an intent-to-treat (ITT) design such that the treatment group includes all participants encouraged to sign up for the loan regardless of whether they choose to sign up. Likewise, members in the control group may include participants who sign up for the CBL loan of their own volition. An ITT design mimics real-world conditions while preserving the internal validity of the study.

Figure 2. *Sampling Sequence of Events.*



Data Collection

Participants' FICO® scores and credit reports are collected through GUASFCU at the onset of the study period and every year after for three years such that the last round of data collection occurs one year after the loan period ends. Credit reports provide information such as participants' payment history, borrowing limit, outstanding debt, age of accounts, recent credit inquiries, and any delinquencies such as bankruptcies. We collect additional information on participants' financial perceptions and behaviors through the Financial Capabilities Survey issued through SurveyCTO at the beginning and end of the two-year loan period.

Figure 3. *Study Timeline.*

Outcomes

Primary quantitative outcomes of interest collected from students' official credit reports include credit score, lines of credit, borrowing limit, and number of delinquencies.

Quantitative Outcomes

- **FICO® Score 8 credit score.** The most common version of the standard credit scoring model adopted by the three major credit bureaus. Credit scores ranging from 300-850 are determined based on the following criteria:
    a. Payment history (35%). Whether account payments were paid on time.
    b. Amounts owed (30%). Percentage of available credit being used (i.e., credit utilization) and total outstanding debt.
    c. Length of credit history (15%). Age of open accounts and time since last account activity.
    d. New credit (10%). Number and timing of recently opened credit accounts and credit inquiries.
    e. Credit mix (10%). Balance of installment loans versus revolving credit accounts (e.g., credit cards).
- **Lines of credit.** The number of credit accounts reported to the major credit bureaus.
- **Borrowing limit.** The sum of the maximum balance permitted for each account.
- **Delinquencies.** Missed payments, payments that are more than 30 days late, and debts sent to collections are all reported as delinquencies.

Questions assessing students' financial capabilities are taken from the FINRA Foundation National Financial Capability Study (NFCS) questionnaire for comparability. Initiated every three years since 2009, the NFCS examines US adults' financial capabilities by covering topics including making ends meet, planning ahead, managing financial products, and financial knowledge (FINRA, 2023). Question response options represent a combination of Likert scales, multiple choice, and write-in responses (for additional context). We assess the validity of self-reported financial information by verifying responses with data from official credit reports.

Survey Topics

- **Screening.** Ability to obtain a credit score, awareness of the GUASFCU Credit Builder Program, and any additional criteria related to having less access to credit.
- **Demographic information.** Age, gender, race, ethnicity, occupation, graduate program, relationship status, etc.

- **Financial data.** Income, wages, consumption, expenditures, savings, investments, assets, debt, interest rates, checking accounts, savings accounts, credit accounts, borrowing limit, and account delinquencies.
- **Personal perceptions.** Perceptions of economic status, financial stability, liquidity, financial independence, financial literacy, fiscal responsibility, access to credit, credit impacts, and creditworthiness.
- **Money Habits.** Behaviors and decisions relating to budgeting, borrowing, investing, saving, spending, and managing credit.
- **Financial Goals.** Goals, motivation, strategies, resources, progress, challenges.
- **Secondary Impact.** Related outcomes (mood, work-life balance, housing and career choices, personal goals, leisure, etc.).

Limitations

Common pitfalls that may inversely affect our study include a low sign-up rate and a high or unbalanced attrition rate. We mitigate these risks by compensating students for completing the study requirements at the beginning and end of the loan period. We also collect participants' contact information in the first few questions of the survey to nudge those who do not finish completing the survey form. The demographic composition of our sampling frame poses more notable challenges. Because the program is marketed to undergraduate students, the study samples graduate students who are more likely than undergraduates to have established credit scores. As a result, the study is unlikely to capture the effect of the program on people without a credit score. Moreover, higher degree earners are even less representative of people of low socioeconomic backgrounds from historically disadvantaged communities who would benefit most from a passive, low-cost credit builder loan. Graduate students may have better-than-average credit profiles that underestimate the benefit of the loan on less financially capable populations outside of the credit union's network. On the other hand, a measurable positive effect on graduate students' credit scores and financial capabilities would represent strong evidence in favor of the loan's external validity.

Hypotheses

Given that graduate students are still likely to have relatively thin credit profiles that could benefit from a longer history of on-time monthly payments, we offer the following hypotheses:

- **Hypothesis 1.** The treatment group will experience a larger increase in their average credit score, lines of credit, borrowing limit, and number of delinquencies.

- **Hypothesis 2.** The treatment group will report a larger increase in their financial capability and access to credit.
- **Hypothesis 3.** The loan will have a larger, positive impact on students with thinner credit profiles.

Empirical Methodology

We begin analyzing the data by comparing baseline results for participants in the control group with results for students encouraged to sign up for the loan. Using an ITT design minimizes the risk of omitted variable bias by preserving randomization between participants assigned to the treatment and control groups. Any confounding variables related to both the probability of being assigned to the treatment group and one or more outcomes of interest despite randomization are included in applicable regressions so as not to bias results.

Quantitative outcomes from students' credit reports are independently regressed using ordinary least squares (OLS) regressions as notated below.

Equation 1. OLS. $$Y_{outcome} = \beta_0 + \beta_{treatment}\, x_{treatment} + \beta_n\, x_n + \varepsilon$$

Survey responses between the treatment and control groups are compared using ordinal logistic (OL) regressions, where effect sizes are reported as proportional odds ratios. That is if Y represents a parameter with ordinal values j (e.g., not likely, likely, very likely, etc.), and $Y > j$ is an event where the parameter value is greater than the jth category, then the estimated proportional odds ratio of $Y > j$ when $x = 1$ versus $x = 0$ may be expressed by the following equation.

Equation 2. Proportional Odds Ratio. $$exp(\beta_n) = \frac{odds\,(\hat{Y} > j \mid x_1)}{odds\,(\hat{Y} > j \mid x_0)}$$

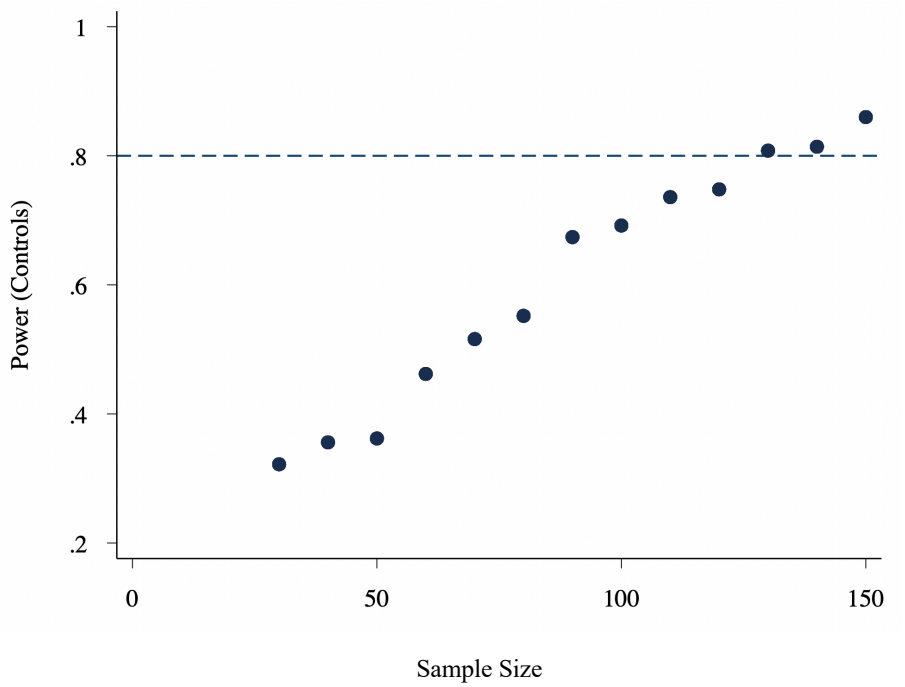
The coefficient $\beta_{treatment} = 2.0$ would indicate that, when comparing outcomes between any two ordered groups, the treatment group's odds of being in a higher category (e.g., very likely) rather than a lower category (e.g., not likely, likely, or either) would be two times that of the control group.

Statistical Power

Although we are interested in a number of outcomes, detecting a difference in mean credit scores between the treatment group and control group is most relevant to our study. Power calculations and simulated data thus assess minimum sample sizes and minimum detectable effects for changes in credit score at $\alpha = 0.05$, 80% of the time. Results indicate that a sample

of at least $n \approx 130$ is required to detect a 20pt change in credit score when including proper controls. Detecting a smaller change of 5pts would require a substantially larger sample size of $n \approx 1800$ (approximately 19% uptake). Estimates include students in the treatment group who forgo signing up for the loan, as well as any students in the control group who sign up for the loan of their own volition.

Figure 4. *Statistical Power.*



Research Implications

The intervention's novel CBL structure represents a potential low-risk alternative for people without access to consistent income or traditional lending products. At the time of writing this proposal, we are unaware of any regulatory barriers to offering comparable lending products at other banking institutions. While we concede that widespread adoption could undermine the effectiveness of credit scores in predicting creditworthiness among people with limited or no credit history, this shortcoming is present with other credit building mechanisms such as secured credit cards and joint credit accounts, which pose inequities for people that have limited liquidity and families with low access to credit. Promising results among the intervention's relatively capable borrowers could be evidence for expanding fully streamlined, end-user processes to other low-cost saving or investing products.