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

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FINAL PROPOSAL

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. This research project will evaluate the impact of the GUASFCU Credit Building Program on participants' access to credit and financial well-being. In so doing, it will acknowledge potential 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. Nonetheless, low-risk credit-building opportunities are difficult to access given that 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 addressed 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.

Background

There have been few studies on whether credit builder loans meaningfully improve recipients' financial capabilities. Building on research conducted so far, this project unravels the importance of automation and liquidity in designing an effective credit-builder product. In a systematic review of 24 financial capacity interventions, Birkenmaier, and colleagues noted "the need to develop a more definitive evidence base for financial capability interventions."

Nonetheless, using an "intent-to-treat" design, Burke, et al. (2022) studied over 1500 credit union members to evaluate whether a stand-alone CBL improved low-income adults' financial standing. Borrowers made a preemptive payment toward the loan, and the loaning institution immediately deposited the amount paid toward the principal into the borrowers' savings account. Participants' payment history at baseline significantly predicted whether their credit scores improved. Among those without existing debt, CBL borrowers were 24% more likely to have a credit score that increased by an average of 8 points. Conversely, scores for CBL takers with existing loans declined by an average of 5 points. Scaling observed effects up by a factor of 5 to account for the differential take rate between the study's two arms yielded an implied difference of 65 points in post-treatment effects between the two groups. The authors suggest that this difference may be partly attributed to the increased rate of payment delinquency among CBL takers with existing loans.

People without an account at a Federal Credit Union or Community Bank may use a handful of other strategies to build or improve their credit. Experian's Credit Boost is a broadly targeted credit building service that adds preexisting monthly payment obligations such as rent and utilities to a user's credit report. A secured credit card may also be a viable solution for people looking to diversify their credit report or maintain liquidity down the line (Martin, 2020). Unlike traditional CBLs where consumers receive the sum of their monthly payments at the end of the program, credit card owners typically pay a deposit equivalent to the total credit card limit as collateral to protect the credit lender in instances of default (Santucci, 2016). People who keep their accounts open experience an improvement of around 25 points in their credit score on average over the course of two years (Santucci, 2016). Secured credit cards offer more flexibility than traditional CBLs by providing purchasing power to low-income borrowers when they urgently need it. While secured credit cards can insure against the negative effects of low liquidity under the appropriate circumstances, they may have a relatively negative long-term impact on liquidity for some borrowers. Most secured credit card holders maintain a revolving balance that grows if they routinely pay less than they utilize every month (Santucci, 2019). This behavior would increase their monthly payment obligation over time, reducing any insurance against low liquidity offered by the line of credit. Borrowers also sacrifice liquidity during the period ranging from 6 months to multiple years that it would take for them to graduate from a secured to an unsecured account holder. To receive their deposit back sooner, cardholders would need to close their account, likely incurring an additional hit to their credit score (Santucci, 2016).

Lending circles are a credit-building intervention targeted toward immigrants with limited credit histories (Reyes et al., 2013a). Mission Asset Fund's implementation of this credit intervention formalizes the small personal loans that are common in many close-knit, lower-income communities (Reyes et al., 2013a). In 2011, Mission Asset Fund piloted a program in five Bay Area communities in partnership with charities that had a presence in these communities and Citi (Reyes et al., 2013b). The intervention was associated with a nearly 600-point improvement in credit scores among program participants who had no credit history and a 168-point improvement in credit scores for low-income participants. The effect was smaller for people with higher incomes and an established credit history. There are several websites that offer peer-to-peer lending services that function similarly to MAF's lending circles, but they tend to be targeted toward people who own or intend to start a business.

Intervention

The Georgetown University Alumni and Student Federal Credit Union started the Credit Building Program in 2012. The structure of the loan has remained the same since its inception. GUASFCU began partnering with Georgetown University (GU) in 2020 to subsidize the $30 sign-up fee for the 18-month, $1000 loan options for current GU students. Although the subsidy extends to graduate students, students who sign-up for the loan are primarily undergraduate students who go from having no credit score to a score in the high 600s – low 700s at the end of the program. A GUASFCU representative conceded that the loans are unlikely to have a large effect on people with significant debt or outstanding payments. To that end, they do not significantly undermine loaners' ability to discern borrowers' creditworthiness. To increase the potential impact of receiving the loan on participants' credit scores, this study evaluates the impact of the $2000 loan with a 24-month repayment period.

Table 1. *GUASFCU Credit Building Program Loan*

Type	18 Months	24 Months	36 Months
Basic $1,000 Loan	$30	$40	$60
Preferred $2,000 Loan	$60	$80	$120
Plus $3,000 Loan	$90	$120	$180

Conceptual Framework

The borrower (or Georgetown University) pays the sum of the loan's interest when they sign up to receive the 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.

Figure 1. *GUASFCU Credit Building Loan Offerings and Sign-Up Fee.*

Implications for outcomes of interest

Whether participants' credit scores rise and remain in good standing has implications for the effectiveness and sustainability of the program insofar as it indicates whether the program achieves the desired outcomes and whether those outcomes are likely to persist. Other outcomes pointing to the program's effectiveness include increases in participants' borrowing limits and approved credit options. Moreover, greater utilization of credit product features (e.g., reward points) or increased peace of mind from additional financial liquidity underscore the program's impact, or whether the intervention makes a meaningful difference in participants' lives. Null results along these parameters would suggest that the program has a minimal impact on participants' finances, or that those effects are delayed. It could also indicate the need to address an important confounding or mediating factor, such as race or financial literacy.

Relevance

The intervention's novel credit-building strategy represents a low-risk alternative for people without access to a cosigner or consistent income. Although the program is scalable to other institutions, an oversaturated market would reduce the effectiveness of credit scores in predicting creditworthiness. Still, promising results could provide evidence for streamlining additional end-user processes to promote saving and investing.

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.

Moreover, because credit builder loans are meant to have the most meaningful impact on people with thin or unfavorable credit profiles, and because Georgetown graduate students are most likely 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 additional eligibility criteria are not overly restrictive.

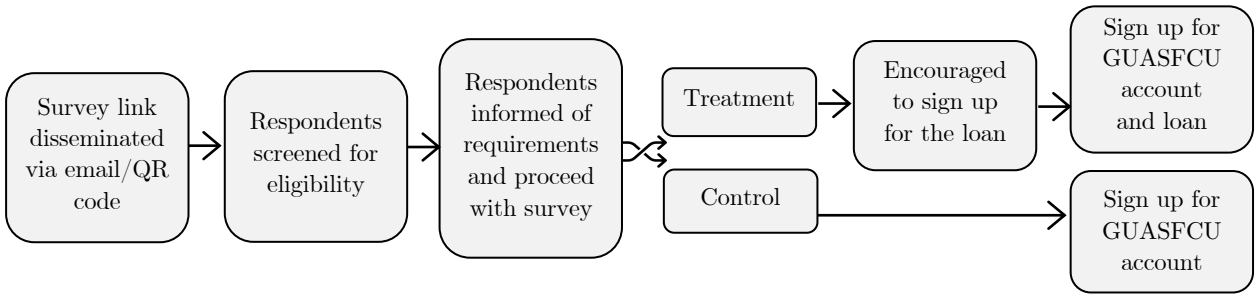
Sampling Design

Of the approximately 12,000 graduate students at Georgetown University, about 20% are international students who ineligible to receive a US credit score. Considering evidence that graduate students are largely unaware of the CBL program, the final sampling frame includes around 9,600 GU graduate students. Students are encouraged to participate in the study via email and posters with links to the study survey. The recruitment materials do not disclose the purpose of the study. Instead, students with a U.S. bank account are asked to complete a Financial Capabilities Survey that determines their eligibility to enroll in the study. Students who complete the study requirements are compensated via Venmo or CashApp. The first part of the survey includes questions that assess students' prior knowledge of GUASFCU's Credit Builder Program and whether students can receive a credit score. Questions about students' background and financial capacity are also included 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 create an account with GUASFCU. Only participants in the treatment group are informed about the loan and encouraged to sign up when creating an account. To increase the potential impact of receiving the loan on participants' credit scores, the treatment group is encouraged to sign-up for the $2000 loan with a 24-month repayment period subsidized by the study and GU.

Intent-to-Treat Design

By randomly assigning students to the treatment group using an intent-to-treat (ITT) design, the treatment group includes all participants encouraged to sign up for the loan regardless of whether they chose to sign up. Likewise, members in the control group may include participants who sign up for a 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.*

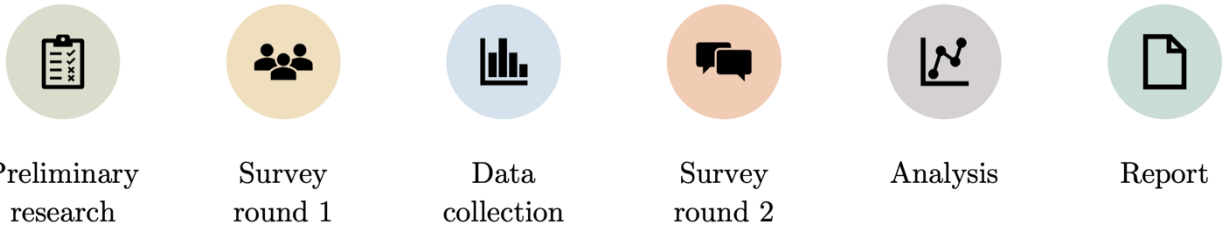


Data Collection

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

1. *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).
2. *Lines of credit*. Credit accounts reported to the three major credit bureaus.
3. *Borrowing limit*. Sum of the maximum balance permitted for each account.
4. *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, additional criteria settled on after preliminary period.
- *Demographic information.* Age, gender, race, 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 group 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 $x = 0$ is expressed by the following equation.

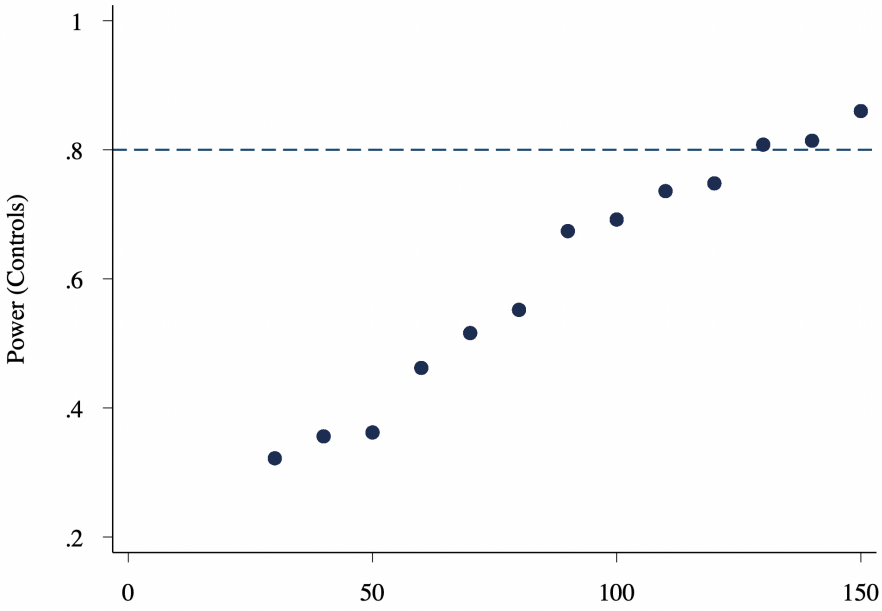
Equation 2. Proportional Odds Ratio. $$exp(\beta_n) = \frac{\text{odds}(\hat{Y} > j \mid x_1)}{\text{odds}(\hat{Y} > j \mid x_0)}$$

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 2 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 about $n \approx 1800$, approximately 19% uptake. Effect sizes include effects from students in the treatment group who forgo signing up for the loan and students in the control group do.

Figure 4. *Statistical Power*



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