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Top of the Class: Assessing the Credit Performance of Graduates from Secured Credit Card Programs

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Abstract

Secured credit cards, whose limit is fully or partially collateralized by a bank deposit, serve as viable options for consumers seeking to build new credit or to repair a damaged credit history. Demonstrated repayment behavior over time can qualify secured cardholders for "graduation" to a standard unsecured credit card. This paper uses anonymized account-level data to examine how secured card borrowers perform after graduation by matching samples of graduates with similar groups of borrowers who open new unsecured cards without having graduated from a secured card program. Using a regression model, we compare the two groups' credit usage and repayment behavior over time and assess the success of secured card graduates in establishing or rebuilding credit. Overall, we find that many secured card graduates succeed in demonstrating long-term responsible credit usage and are generally not riskier in their credit use than their comparison group.

Keywords: credit cards, secured credit cards, account graduation

JEL Classification Numbers: D14, G21

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Secured credit cards (secured cards) serve as viable options for consumers seeking to build new credit or to repair a damaged credit history. To obtain a secured credit card, a borrower must provide a refundable security deposit that the card issuer holds as collateral and can use upon default or nonpayment to offset any outstanding balance. Demonstrated repayment behavior over time can qualify the cardholder for "graduation" to a standard unsecured credit card (unsecured card), after which they regain their security deposit and preserve the normal functioning of their card. Data from a selection of the largest U.S. financial institutions indicate a growing market for secured cards: As of September 2023, these financial institutions held 3.7 million secured cards, up from 2.1 million cards ten years before.[1] The current secured card market also features a mix of products offered by traditional banks and financial technology (fintech) companies that seek to innovate and meet continued demand for this type of credit card.[2]

In this paper, we build on existing research to explore how secured card borrowers perform after graduation and compare their credit usage and repayment behavior with those of a similar group of borrowers with unsecured cards at origination (hereafter referred to as new unsecured cardholders). We analyze the 48-month period after graduation (or after origination, for new unsecured cards) for a cohort of accounts from 2019 to measure the long-term success of secured cardholders in establishing or rebuilding credit. In addition, we apply a similar 24-month analysis to a more recent cohort of accounts from 2021. Our overall findings include the following:

- Secured card graduates are less likely to close their accounts (either at the borrower's request or for any closure reason) than new unsecured cardholders.
- Secured card graduates are more likely to receive a credit limit increase and are slightly less likely to receive a credit limit decrease than new unsecured cardholders.
- The maximum credit limit observed post-graduation for secured cards is higher on average than that of comparable new unsecured cards.
- While secured card graduates are more likely to revolve their monthly balances, they are no more likely to charge off than new unsecured cardholders.
- Secured card graduates incur more finance charges and overall higher cardholder costs (total fees and finance charges) on average than new unsecured cardholders.
- In our 2019 cohort, secured card graduates had higher credit utilization and delinquency rates than new unsecured cardholders. However, in our 2021 cohort, when both measures of credit risk were higher, secured card graduates had lower utilization and delinquency rates.

[1] See Santucci (2024).

[2] Although the market for secured cards has grown over time, it still represents a small percentage of all credit card originations: CFPB (2017) found that secured cards represented 5 percent of all general-purpose credit cards originated in 2016.

About Secured Cards

Previous research on secured card graduates has concentrated on the path to graduation and how borrowers' usage and repayment patterns affect graduation rates. Santucci (2019) found that more recent groups of secured cardholders have reached graduation faster than earlier groups.[3] In addition, Santucci found that certain borrower characteristics and usage behaviors influence the likelihood of graduation in contrasting ways: While higher credit scores at origination and paying the outstanding balance in full more frequently increase the likelihood of graduation, higher rates of inactivity or delinquency decrease the likelihood of graduation. In subsequent research, Santucci (2024) explored characteristics of the most recent secured card cohorts and found, as he did in Santucci (2019), that borrowers without a credit score at card origination are more likely to graduate than scored borrowers. One possible explanation for this finding is that the unscored population masks a significant proportion of low-risk borrowers who go on to establish a credit score of 720 or above.[4] At the same time, the scored population may have a higher proportion of borrowers who seek to rebuild credit and may continue to face challenges with repayment.

While previous work has shed light on the cardholder characteristics and behaviors that influence graduation from a secured card program, it has not focused on the experience after graduation regarding credit card usage and repayment rates. This open question motivates our research design, which explores to what extent secured card borrowers demonstrate longer-term responsible card usage and payment behavior after graduation. For the years 2019 and 2021, we build datasets combining credit cards from both secured card graduates and new unsecured cardholders. We apply a matching algorithm so that the selected card accounts in the two groups differ only marginally on a series of observable borrower and card characteristics. We follow these graduates and their corresponding comparison groups for either 48 months (for the 2019 cohort) or 24 months (for the 2021 cohort) and compare their credit performance and usage over these periods.

Methodology and Data

Data Collection and Cleaning

We use the credit card schedule from the FR Y-14M report, the monthly report from the Board of Governors of the Federal Reserve System's Capital Assessments and Stress Testing information collection. This report collects month-end loan portfolio data from bank holding

[3] Santucci (2019) compared cohorts of credit card originations from the years 2012 to 2018. More recent analysis into graduation rates shows a slight dip in graduation rates coinciding with the onset of the COVID-19 pandemic, but overall, secured cards from post-2018 cohorts reach graduation in fewer months on average than secured cards from earlier cohorts.

[4] CFPB (2017) and CFPB (2021) categorize a credit score of 720 or above as "superprime." Santucci (2019) found that 25 percent of secured card graduates without a score at card origination later establish an initial credit score of 728 or higher.

companies, savings and loan holding companies, and intermediate holding companies with at least $100 billion in total consolidated assets.[5] Y-14M reporting began in June 2012, although not all of the banks reporting into the Y-14M data were present from the first reporting period, and not all of them have offered secured cards consistently from June 2012 to the present day. We adjust for these features by selecting a panel of reporting banks that offer continuous reporting of secured cards from June 2012 until December 2023, the last available month at the time of data collection.

We begin constructing our 2019 cohort by considering all accounts in which secured card borrowers graduated to an unsecured card during 2019.[6] This is the most recent annual cohort from which we gather 48 months of credit performance history from cardholders who graduated before the onset of the COVID-19 pandemic in 2020. Our initial panel of selected banks accounts for 92 percent of all open secured cards reported in the Y-14M report in January 2019. We identify secured card graduates as borrowers with a card that switched from secured to unsecured status in 2019 with no balance past due and no return to secured status in the following 48 months.[7] Next, we collect an overall set of general-purpose cards *originating* in 2019 and never appearing in secured status in the following 48 months.

The data we collect on both groups consist of two parts. First, we collect a set of static borrower and card attributes captured at the time of either graduation (for our set of graduates) or origination (for our set of new unsecured cardholders). Included in this set of attributes are:

- borrower income, credit score, and ZIP code;
- credit card limit, promotional status (0-1 flag), and issuing bank; and
- month of graduation (or origination, for new unsecured cards).

Second, we summarize a set of observable credit usage and payment behaviors over the following 48 months for each card, or, if less than 48 months, for the number of months a card is observed until it is closed or charged off. Included in this set of performance indicators are:

- closure at the borrower's request or for any reason within 48 months (0-1 indicator);
- charged off within 48 months (0-1 indicator);
- share of months delinquent;

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[5] Additional information about the Y-14M report is available at www.federalreserve.gov/publications/fr-y-14-qas/fr-y-14-qas.htm.

[6] Our initial set of 2019 secured card graduates includes cardholders who originated their secured cards between 2012 and 2019. Most secured cards originating closer to 2012 will have graduated or closed before 2019. Conversely, a proportion of secured cards (increasing in size over each origination year) will not have graduated by the 2019 cutoff. We exclude these two additional groups of secured card accounts from our analysis.

[7] In our analysis, we identify graduates as cardholders whose secured cards are reclassified as unsecured by the issuer *within the same account*. It is possible that the issuer may replace the secured card account upon graduation with a new unsecured card account from the same lender; we exclude this channel from our analysis. Santucci (2019) similarly excludes these new unsecured accounts.

- share of months with the balance paid in full;
- share of months with a card utilization rate greater than 80 percent (of the reported limit);
- average monthly borrowing costs (either total fees and finance charges, finance charges only, or late fees only);
- credit limit increase or decrease within 48 months (0-1 indicator); and
- largest credit limit observed on the account within 48 months.

It should be noted that the observation window for our 2019 cohort includes the onset of the COVID-19 pandemic, a time of volatile swings in the economy affecting both secured card graduates and new unsecured cardholders. However, by starting our window in 2019, we can examine the most recent group of cardholders for whom the COVID-19 pandemic did not influence their path to graduation (or origination, for new unsecured cardholders). Overall, we collect 482,000 secured cards (graduates) and 21.6 million general-purpose unsecured cards at origination.[8] After applying additional cleaning steps in which we remove cards with either missing data or censored outcomes, we are left with 407,000 secured cards and almost 21 million unsecured cards at origination.

In addition to our 2019 cohort, we adapt our data collection methods to create a second cohort for the year 2021. Starting in this year avoids restrictions on credit during the COVID-19 recession and allows us to analyze a comparable (but shorter) window of credit usage and performance.[9] Based on data availability for this second cohort, we modify the performance indicators detailed above to account for 24 months of credit performance history and examine which outcomes are qualitatively similar to the 2019 cohort and which outcomes are different.

Overall Account Characteristics of Secured Card Graduates and New Unsecured Cardholders

Before we describe our final matched samples, we first show here that the overall groups of secured card graduates and new unsecured cardholders in 2019 differ along several observable borrower and card characteristics. As shown in Table 1, secured card graduates have lower average annual incomes (about $32,000 lower) than new unsecured cardholders. Additionally, graduates' credit cards have substantially lower initial credit limits (about $4,000 lower) and are less likely to be in promotional status (42 percent lower) on average. The credit scores of secured card graduates at the time of graduation are below those of new unsecured cardholders by around 20 points. All differences in means are statistically significant at the 1 percent level.

[8] We perform additional cleaning on the credit score and income variables provided in the Y-14M report. To standardize credit score, we identify cards not reported on a FICO scale and map the minimum and maximum values of their reported score version to those of the classic FICO range (300 and 850). We then re-scale the reported score linearly and round to the nearest integer to estimate the score on a standardized scale. After these adjustments, we filter out cards with a score outside of the classic FICO range or an outlier reported borrower income (above $5 million).

[9] NBER's list of business cycle contractions and expansions notes the COVID-19 recession as taking place from February to April 2020 (peak to trough).

Table 1. Accounts from 2019 Secured Card Graduates and New Unsecured Cardholders

Variable	Mean and Std. Dev.		Median	
	Graduates	New Unsecured Cardholders	Graduates	New Unsecured Cardholders
Borrower Income	$46,547 ($63,998)	$77,337 ($97,954)	$36,000	$60,000
Credit Limit	$1,266 ($1,046)	$5,608 ($6,006)	$900	$4,000
Credit Score	689 (48.6)	708 (80.2)	692	711
Card Promotion Flag (0-1 indicator)	0.05 (0.23)	0.47 (0.5)	0	0

Source: Author's calculations using Y-14M data. N = 407,138 for graduates, N = 20,996,469 for new unsecured cardholders.

Coarsened Exact Matching

It is evident from the preceding table that without additional refinements, these two populations of cardholders are quite different. These compositional differences motivate our use of a matching algorithm to create as direct a comparison as possible between their sets of cards when assessing their long-term credit performance. To do that, we employ a technique called coarsened exact matching (CEM) to match graduates' secured cards to a subset of accounts (which we hereafter refer to as the "comparison group") that have card and borrower attributes (such as those listed in Table 1) more similar to those found among the graduates group.[10] This matching process is performed at the level of each individual secured card for both of our annual cohorts.

Recall that we capture these attributes at the time of *graduation* for the secured card graduates and the time of *origination* for the comparison group. This approach ensures that our matching procedure aligns the starting times (i.e., event time) when both the secured cards and their comparison cards are in unsecured status, after which we can compare their performance. We match exactly on (1) the issuing bank for each card, (2) the cardholder's county of residence, and (3) the month of graduation/origination.[11] Since the proportion of secured card graduates with cards ever in promotional status is small (5 percent), we restrict our analysis to cards never in promotional status.

[10] See Iacus, King, and Porro (2012) for an overview of the CEM methodology.

[11] For our 2019 cohort, we use a ZIP code–to–county crosswalk file from December 2019 created by HUD. In cases when a single ZIP code maps to multiple counties, we select the county containing the highest percentage of residences within the respective ZIP code. We use a similar crosswalk file from December 2021 when constructing our matched sample of cards from the 2021 cohort.

Additionally, we combine both groups to create overall distributions of the continuous variables included in Table 1 and match coarsely on (1) the ventile of the borrower's credit score, (2) the ventile of the borrower's stated income, and (3) the decile of the card's credit limit.[12]

We apply one final filtering step that removes matches for which the difference in credit limit is greater than $500. This is because the credit limit bin widths vary greatly in size, such that higher deciles can match cards with credit limit differences of $2,000 or more. Making this restriction better aligns the distributions of the matched samples. We use the MatchIt package in R, which creates strata for each distinct set of covariates and matches observations in the same stratum (with replacement) from both sets of cards.[13] In our final sample, we consider all strata that match at least one graduated secured card and comparison account.

By construction, our CEM algorithm accounts for observable factors related not only to the cardholder and their associated card but also to local economic conditions, lender retention policies, and within-year business cycle forces in the credit market. Nevertheless, although we control for the main credit, income, and demographic covariates that influence credit behavior, we cannot account for all factors that might affect credit usage and performance.

In our 2019 cohort, applying our CEM algorithm returns 40,000 newly graduated secured cards matched with nearly 41,000 unsecured cards. While coarse matching alone on card and borrower characteristics would locate matches for most secured cards in our initial sample, our additional exact matching criteria on month and county significantly reduce our match yield.[14] Table 2 shows that the matched groups differ marginally on borrower income, credit score, and card credit limit. Table 3 shows summary statistics for selected credit performance variables in the matched groups. We then estimate differences between graduates and the comparison group in our Results section.

Results

After we have constructed our set of graduates and their comparison group using our matching criteria, we compare their credit usage behaviors and performance. We run a univariate weighted OLS regression with the following specification:

$$Y_i = \beta_0 + \beta_1 \times X_i + \epsilon$$

where Y_i is an outcome variable of credit usage or payment behavior (as listed in the previous section) and X_i is a 0-1 indicator variable for secured card graduates. Based on our regression

[12] A ventile denotes any of the groups that divide an ordered distribution into 20 parts of equal size.

[13] See Ho, Imai, King, and Stuart (2011) for an overview of the MatchIt package; a description of the package's CEM adaptations is available at https://kosukeimai.github.io/MatchIt/reference/method_cem.html.

[14] These results may not generalize to the full set of secured card graduates (including those unmatched), but we are confident in our match quality on the matched set of graduates.

Table 2. Matched 2019 Secured Card Graduates and Comparison Group[15]
Summary of Selected Borrower and Card Characteristics

Variable	Mean and Std. Dev.		Median	
	Graduates	Comparison Group	Graduates	Comparison Group
Borrower Income	$43,428 ($60,117)	$43,633 ($65,967)	$35,000	$35,000
Credit Limit	$1,764 ($1,027)	$1,853 ($1,063)	$1,900	$2,000
Credit Score	697 (41.6)	697 (41.4)	692	711

Source: Author's calculations using Y-14M data. N = 40,171 for graduates, N = 40,907 for the comparison group.

Table 3. Matched 2019 Secured Card Graduates and Comparison Group
Summary of Selected Outcome Variables

Variable	Mean and Std. Dev.		Median	
	Graduates	Comparison Group	Graduates	Comparison Group
Number of months observed	41.47 (12.85)	31.84 (16.05)	48	31
Share of months delinquent	0.06 (0.11)	0.06 (0.14)	0	0
Presence of charge-off (0-1)	0.003 (0.05)	0.003 (0.06)	0	0
Closed within 48 months (0-1)	0.27 (0.45)	0.60 (0.49)	0	1
Closed at borrower's request (0-1)	0.08 (0.28)	0.29 (0.45)	0	0
Avg. monthly finance charge	$12.57 ($17.29)	$7.48 ($13.77)	$4.76	$0.07
Avg. monthly late fee	$2.28 ($4.08)	$1.84 ($4.32)	$0.52	$0.00
Avg. total monthly fees and finance charges	$16.70 ($19.45)	$10.83 ($17.38)	$9.23	$0.91

Source: Author's calculations using Y-14M data. N = 40,171 for graduates, N = 40,907 for the comparison group.

[15] The summary statistics presented in Tables 2 and 3 are weighted through our specification of the MatchIt algorithm. In order to create a matched sample observably similar to our graduates, the algorithm assigns each secured card a weight of 1 and each unsecured card a weight of $\frac{T_C}{T} \times \frac{1-s_c}{(s_c)}$, where T_C is the total number of unsecured cards, T is the total number of all matched cards (secured and unsecured cards), and $\frac{1-s_c}{(s_c)}$ is the inverse probability weight, where s_c is the proportion of unsecured cards within the specific stratum.

specification, the intercept term β_0 may be considered a weighted average of the outcomes in the matched non-graduate sample, and the coefficient of interest β_1 therefore captures any differences in averages between graduates and the non-graduate sample.[16]

When interpreting our results below, it is important to state that while we are making comparisons between secured card graduates and observably similar cardholders obtaining a new unsecured credit card, we cannot assume the earlier decision of a consumer to seek and obtain a secured card was a random (exogenous) event. In that sense, we caution the reader against interpreting these results as causal. Based on data limitations, we cannot observe the ex post performance of cardholders who close their secured card accounts after receiving an unsecured card offer (either from their current lender or elsewhere). In addition, modeling why consumers obtained a secured card and how they performed well enough to graduate is outside the scope of this analysis. While we do our best to examine cards and cardholders that are observably similar, we cannot rule out the possibility of unobserved heterogeneity (e.g., selection).

2019 Cohort Results

Looking at the regression results in Table 4, we see evidence that, in most dimensions, secured card graduates fare better in their post-graduation months than their unsecured card comparison group.

First, we see within our observation window that secured card graduates retain their lines of credit for about 10 months longer on average than their comparison group. In alignment with this finding, secured card graduates also experience lower account closure rates than new unsecured cardholders. Overall, our model estimates that graduates are less likely to have their card closed within 48 months for any reason, by a difference of 32 percentage points. Additionally, voluntary attrition is 20 percentage points lower for secured card graduates. Charge-offs seldom occur in our sample of cards in this cohort. Secured card graduates appear to charge off at a lower rate than the comparison group, but the difference is not statistically significant.

Furthermore, secured card graduates are also more likely to receive a credit limit increase within 48 months (by 33 percentage points) and less likely (by 1 percentage point) to receive a credit limit decrease over the same time frame. Moreover, when considering the largest credit limit observed within each card account within 48 months, the average value for the secured card group is also $1,230 higher than that of the comparison group. These findings suggest secured card graduates can earn rewards more often for responsible credit usage in the form of credit limit increases.

However, some other results suggest a more nuanced picture. While secured card graduates on average have a longer account tenure than their comparison group, they also appear

[16] We also use match weights here for the comparison group, as described in the summary Tables 2 and 3.

to demonstrate more challenges with repayment over this time frame. Table 4 also shows that the share of months in which graduates pay their balance in full is 3 percentage points lower than the corresponding share in the unsecured comparison group. Moreover, graduates are delinquent for a 0.5 percentage point higher share of months than new unsecured cardholders and utilize over 80 percent of their card limit for a higher share of months (5.5 percentage points higher). These differences are all statistically significant.

Given their higher credit utilization and delinquency rates, it is notable that secured card graduates do not charge off at higher rates than new unsecured cardholders.

Cardholder costs for secured card graduates and new unsecured cardholders are also different. On a monthly basis, secured card graduates pay around $6 more in total fees and finance charges than their unsecured card comparison group. Most of this difference comes from finance charges, while a smaller but a significant portion (about 43 cents) comes from late fees assessed. These differences are also statistically significant.

Table 4. 2019 Cohort Regression Results

Variable	$\widehat{\beta_0}$ (Intercept)	$\widehat{\beta_1}$ (Coefficient)	Robust Std. Error	Signif.	N
Number of months observed	31.848	**9.621**	0.127	***	81078
Closed at borrower's request within 48 months (0-1)	0.286	**-0.203**	0.004	***	81078
Charged off within 48 months (0-1)	0.003	**-0.0007**	0.0005		81078
Closed for any reason within 48 months (0-1)	0.597	**-0.323**	0.004	***	81078
Share of months delinquent	0.055	**0.0053**	0.001	***	81078
Share of months balance paid in full	0.117	**-0.033**	0.0015	***	81078
Share of months with utilization rate above 80 percent	0.157	**0.055**	0.0024	***	81078
Average monthly cardholder costs (total fees and finance charges) ($)	10.839	**5.863**	0.15	***	81078
Average monthly finance charges ($)	7.488	**5.080**	0.13	***	81078
Average monthly late fees ($)	1.844	**0.433**	0.035	***	81078
Has a credit limit increase within 48 months	0.219	**0.332**	0.0037	***	81078
Has a credit limit decrease within 48 months	0.062	**-0.012**	0.0018	***	81078
Largest credit limit observed on account ($)	2553.85	**1230.63**	21.84	***	81078
Significance stars are * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$					

Overall, for the 2019 cohort, our results show that secured card graduates are stickier in terms of account retention and receive higher credit limit increases, despite displaying evidence

of higher credit utilization, delinquency rates, and cardholder costs. On the other hand, they do not charge off any more than new unsecured cardholders with similar initial characteristics.

2021 Cohort Results

Are the results we found for the 2019 cohort of cards typical? To evaluate this question, we apply the same methodology (collecting the overall groups of cards, then applying the CEM algorithm and linear regression framework) to secured card graduates and their general-purpose unsecured card comparison group from the year 2021. We choose this year because it both avoids restrictions on credit in 2020 during the onset of the COVID-19 pandemic as well as allows us to analyze a comparable window of credit usage and performance.[17] Based on the limited scope of the Y-14M data in the post-graduation period for this cohort, we look at a 24-month history of credit usage as opposed to the 48-month history observed in the 2019 cohort.

The credit quality of the 2021 cohort is lower than that of the 2019 cohort with respect to average income, credit limit, and credit score. As shown in Table 5, the average credit limits for both 2021 groups are less than one-half the average credit limits of their respective 2019 groups (see Table 2 for the comparison). Moreover, average income is around $5,000 lower for both 2021 groups compared with those in the 2019 cohort. When considering these differences across annual cohorts, it is important to recognize the effect of credit cycle forces and other pandemic-related factors on the composition of the different cohorts of cards. Therefore, when we compare the results from 2021 with those from 2019, we expect that some of our outcomes will be different.

Table 5. Matched 2021 Secured Card Graduates and Comparison Group

Summary of Selected Borrower and Card Characteristics

	Mean and Std. Dev.		Median	
Variable	Graduates	Comparison Group	Graduates	Comparison Group
Borrower Income	$38,161 ($36,387)	$38,237 ($35,163)	$31,200	$31,350
Credit Limit	$851 ($743)	$962 ($767)	$500	$500
Credit Score	686 (44.3)	685 (44.6)	684	684

Source: Author's calculations using Y-14M data. N = 207,510 for graduates, N=366,656 for the comparison group.

[17] CFPB (2021).

As shown in Table 6, the analysis of the 2021 cohort of cards has some results that are qualitatively similar to those reported for the 2019 cohort, while others are different. Consistent with what we found for the 2019 cohort, account closure rates are lower for secured card graduates than for their matched comparison group. The overall closure rate is estimated to be 11 percentage points lower for graduates, and voluntary attrition is also lower by around 1 percentage point. Among secured card graduates, the charge-off rate is 6 percentage points lower than that of the comparison group. Secured card graduates are also more likely than their comparison group to receive a credit limit increase, by a difference of 8 percentage points.

Table 6. 2021 Cohort Regression Results

Variable	$\widehat{\beta_0}$ (Intercept)	$\widehat{\beta_1}$ (Coefficient)	Robust Std. Error	Signif.	N
Number of months observed	21.66	**1.55**	0.015	***	574166
Closed at borrower's request within 24 months (0-1)	0.036	**-0.012**	0.0006	***	574166
Charged off within 24 months (0-1)	0.083	**-0.063**	0.0007	***	574166
Closed for any reason within 24 months (0-1)	0.206	**-0.117**	0.0012	***	574166
Share of months delinquent	0.109	**-0.0584**	0.0005	***	574166
Share of months balance paid in full	0.212	**-0.115**	0.0007	***	574166
Share of months with utilization rate above 80 percent	0.317	**-0.099**	0.0011	***	574166
Average monthly cardholder costs (total fees and finance charges) ($)	12.59	**1.20**	0.051	***	574166
Average monthly finance charges ($)	8.68	**2.56**	0.044	***	574166
Average monthly late fees ($)	3.24	**-1.12**	0.015	***	574166
Has a credit limit increase within 24 months	0.454	**0.087**	0.0017	***	574166
Has a credit limit decrease within 24 months	0.012	**-0.004**	0.0003	***	574166
Largest credit limit observed on account ($)	1730.16	**447.36**	5.94	***	574166
Significance stars are * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$					

At the same time, there are results for the 2021 cohort that are qualitatively different from those found in the 2019 cohort. In this more recent cohort, the share of months delinquent and the share of months with a utilization rate above 80 percent are *lower* for secured card graduates by 6 and 10 percentage points, respectively. The lower share of months delinquent also aligns with the result that secured cardholders pay fewer late fees than their comparison group, by an average of $1 less per month. Yet, in terms of total costs to the cardholder, secured card graduates are estimated to be charged an additional $1 per month. This difference mostly comes from finance charges, for which secured card graduates pay nearly $3 more per month than their

comparison group. And this is because it is still the case that secured card graduates pay their balance in full less frequently than comparable new unsecured cardholders.

Discussion

The above results highlight key differences in long-term credit usage and behaviors of secured card graduates in comparison to a similar group of new unsecured cardholders. It is important to reiterate that the results above hold for the specific cohorts captured in our analysis. Each cohort experienced a set of unique business cycle forces affecting lender strategies and consumer behaviors, and the results may not necessarily apply more generally over extended periods of time. In addition, the approach used in this paper cannot, in itself, demonstrate cause and effect arguments. Still, the results here are suggestive of how lenders, policymakers, and researchers might compare secured card graduates to a comparable population of new unsecured cardholders.

We first see that secured card graduates are less likely to close their unsecured cards than borrowers with newly originated unsecured cards. Based on both overall closure rates and voluntary attrition rates, secured card graduates appear to be stickier and hold on to their unsecured cards for longer periods of time.

In terms of delinquencies and charge-offs, secured card graduates do not appear to be materially riskier. Within the 2019 cohort, charge-offs were slightly lower for secured card graduates relative to the comparison group. Within the 2021 cohort, secured card graduates performed materially better than the comparison group at a time when measures of credit risk were higher. Over their post-graduation life, graduates are more likely to receive a credit limit increase and less likely to receive a credit limit decrease than their comparison group. Moreover, in both cohorts, the secured card graduates' maximum credit limit observed, relative to their initial limit, was higher on average than that of the comparison group. Taken at their face, these findings suggest that graduates retain their lines of credit for longer periods of time and, with demonstrated repayment behavior, receive more frequent rewards in the form of credit limit increases.

When we examine repayment behavior, we see that secured card graduates utilize more credit and tend to revolve balances more than an observably comparable group of new unsecured cardholders. In both the 2019 and 2021 cohorts, our matched secured card graduates paid off their credit card balances in full less frequently than their comparison group of new unsecured cardholders. The 2019 cohort of graduates had a higher share of months delinquent and share of months with a utilization rate of credit above 80 percent.[18] However, this was not true of the 2021 cohort. We cannot say for certain, but the regression results suggest a material change in

[18] Since we conduct our analysis at the level of accounts, we may find different overall utilization rates if we consider all credit cards used by the cardholders in our sample. See Santucci (2016) for differences in the number of open cards and total credit limit between borrowers opening secured cards and those opening unsecured cards.

unobservable credit quality occurred among new unsecured cardholders in the comparison group. The changes for secured card graduates appear to be smaller.

Lastly, secured card graduates are charged higher average monthly fees than their unsecured card comparison group. These results are mainly driven by higher finance charges, which are higher for graduates in both observed cohorts. In the 2019 cohort, graduates were also assessed more late fees than cardholders in the comparison group — a finding that correlates with graduates in that cohort having a higher share of months delinquent. The opposite was true for the 2021 cohort, in which secured card graduates had a smaller share of months delinquent and paid fewer late fees than the comparison group.

On net, secured card graduates appear to generate more revenues for lenders. Without data on costs, however, we cannot make statements about relative profitability. In addition, the ability to offer unsecured credit to a secured card customer is predicated on having a secured card program in the first place, which is, in itself, a cost. Perhaps the most we can infer from our analysis is that lenders who are willing to offer a secured card program and extend unsecured credit to their graduates appear to generate a positive return from these efforts.

Santucci (2024) found material differences in the performance of secured card customers before graduation or account closure depending on whether the cardholder had a credit score at the time of account opening. Do such differences persist after graduation? In other words, do secured card graduates initially without a credit score (when they first obtained their secured card) perform differently than secured card graduates who did have a credit score?

To investigate this question, we categorized our secured card graduates into two groups: credit "builders" who did not have a score when they opened their secured cards and credit "rebuilders" who did. We re-ran our analysis on our 2019 cohort with an interaction term allowing for differences between these two groups of graduates in terms of their subsequent credit usage and repayment behavior (not shown). With the exceptions of late fees and finance charges, which were slightly higher for the rebuilder group, we found no significant differences in outcomes between both types of secured card graduates.

Conclusion

In this paper, we explore the relative performance of secured card graduates in the post-graduation period compared with a similar group of new unsecured cardholders. We present several findings that are consistent across both the 2019 and 2021 cohorts. Based on these cohorts, secured card graduates are less likely to close their unsecured cards within 48 months of graduation. These results also hold for specific closure reasons, such as cards being charged off or cards being closed at a borrower's request. Furthermore, secured card graduates are more likely to receive credit limit increases over the same period. Graduates are less likely to pay their balances in full and therefore tend to pay more in finance charges than cardholders in the comparison group.

We qualify these results with additional findings that vary between our two cohorts. For example, in the 2019 cohort, secured card graduates utilized more of their credit limit than the comparison group; in the 2021 cohort, the opposite was true. Delinquencies and charge-offs were about the same for graduates and the comparison group in the 2019 cohort. In the 2021 cohort, where delinquencies and charge-offs were higher in general, secured card graduates performed relatively better than the comparison group.

When taken together, the above results show that many secured card graduates succeed in demonstrating long-term responsible credit usage. These graduates retain their lines of credit for longer periods of time and receive equivalent, if not greater, increases to credit limit than similar groups of new unsecured cardholders. When we decompose graduates into credit builders and rebuilders (i.e., borrowers lacking or having a credit score at the origination of the secured card, respectively), we see marginal differences in their post-graduation credit usage and payment behaviors, with the exception of somewhat higher borrowing costs among credit rebuilders (because they revolve somewhat more often). While we do not analyze the extent to which both previous and current financial circumstances shape secured cardholders' propensity to revolve credit balances, we see that the graduates in our cohorts appear to manage their credit and perform about as well as new unsecured cardholders.

From a lender perspective, secured card graduates from our selected cohorts were not generally riskier in their credit use than their comparison group. While secured card graduates tended to revolve their credit at higher rates, they charged off no more frequently (2019), and in some cases less frequently (2021), than a comparable group of new unsecured cardholders. Relative delinquency behavior was mixed: Secured card graduates had a somewhat higher share of months in delinquency than their comparison group in 2019 but a lower respective share in 2021. In addition, graduates' accounts tend to be stickier in terms of account retention, and our cohorts of graduates paid higher finance charges on average than their comparison group. Considering these results, we see evidence that secured card programs appear to select cardholders who, upon graduation, are capable of performing about as well as comparable new unsecured cardholders in terms of credit risk and may generate more in interest income.

This paper investigated one question about secured cards and the customers who use them. There remain many more important questions for future research.

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