Give Me a Pass: Flexible Credit for Entrepreneurs in Colombia

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Abstract

Although microcredit has reached millions, recent randomized evaluations find limited average business impacts. Contract rigidity, specifically the fixed and frequent installments, may limit productive risk-taking and thus diminish impact on average profits but risk triggering moral hazard. We test this with a Colombian lender that experimentally compared, for a sample of new borrowers, rigid lending to a loan product that included three "passes" to push off a monthly payment to the future. The flexible loan did lead to some shifts in investment behavior but no average impact on revenue or profits level or variance, and did lead to higher default.

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1. **Introduction**

Most small firms in developing countries have large month-to-month fluctuations in their income stream and thus cash flow. Anticipated cash shortfalls due to seasonality, as well as unanticipated positive and negative shocks such as business opportunities, health shocks, etc., contribute to this volatility.

In credit markets with full information, lenders would "match cash flows", i.e., provide credit terms that tailor disbursals and repayments to a firm's cash fluctuations. A working capital line of credit is a simple example. More complex structures in this spirit are offered by venture capitalists or revenue-sharing contracts with repayments linked to firm performance (Gompers and Lerner 2001). In credit markets with information asymmetries, such as those in developing countries, lenders still try to match repayment to cash-flows accounting for seasonality or observable shocks. For example, most agricultural loans are offered with a single installment due at harvest as farmers typically receive income only after the crops are sold. Idiosyncratic, unanticipated shocks, however, are harder to verify; perhaps because entrepreneurs could misreport actual revenues, full revenue-sharing contracts seem nonexistent (de Mel, McKenzie, and Woodruff 2019; Cordaro et al. 2022).

Many microentrepreneurs seeking formal credit in developing countries rely on microcredit loans with fixed, frequent repayments that start immediately after the loan is disbursed (Armendariz de Aghion and Morduch 2010; Labie, Laureti, and Szafarz 2017). Borrowers may adjust to these terms by holding cash back or by passing on high (risk-adjusted) return investments (Karlan and Mullainathan 2007; Field et al. 2013; Fischer 2013). And, perhaps due to this rigidity, microcredit loans have had limited impacts on the profitability and growth of firms (Banerjee, Karlan, and Zinman 2015; Crépon et al. 2015) although impacts at scale for the full industry (versus marginal shifts by one lender) have been shown to generate larger impacts (Breza and Kinnan 2021).

Recent attempts to introduce repayment flexibility to existing clients have shown that flexibility can improve business outcomes without deteriorating repayment rates (Battaglia, Gulesci, and Madestam 2023; Barboni and Agarwal 2023). This may not be true for first-time borrowers: providing flexibility could backfire for the lender if some initial fixed and frequent repayment loans are needed to screen or teach discipline in repayment. On the other hand, flexibility could attract new, (in expectation) profitable clients uninterested in the standard microcredit loan due to its rigidity. Indeed, those rejecting rigidity may reveal a high personal cost of default (e.g., due to personal ethics or reputation) and such clients are quite desirable for the bank. If the share of such entrepreneurs is large, flexibility should be offered to new borrowers. We thus seek to assess the validity of these theories on new borrowers by evaluating experimentally the impact of repayment flexibility on selection, client welfare, and loan performance.

We collaborate with a microlender in urban Colombia to introduce repayment flexibility in a two-stage offer-contract design to new clients. The flexible credit feature allows borrowers to use a "pass" at any time during the loan, allowing them to only pay the interest amount of an installment, postponing the payment of the principal amount, up to three times on a 12-month loan. The experimental design employs three treatment arms: (1) Flex→Flex is offered and disbursed the flexible credit, (2) Standard→Flex is

offered the standard credit but then surprised with the flexible credit at disbursement, and (3) Standard→Standard is offered and disbursed the standard rigid credit. This allows us to test both for selection effects as well as contract effects on choices and outcomes after borrowing.

We report three main findings. First, there are no selection differences in the take-up rates, characteristics, or outcomes of the Flex→Flex group compared to the Standard→Flex group. The lack of selection effects suggests only a small share of profitable entrepreneurs would reject the standard contract but accept the flexible contract. Second, flexibility increases default --- and the effect is driven by borrowers who used the flexibility to extend loan maturity and had already missed payments at the time of default. Comparable borrowers in the control group had better repayment performance without resorting to more expensive sources (i.e. informal loans). Third, flexibility leads to more self-reported client satisfaction but not to higher retention of successful borrowers.

We contribute to the small but growing literature investigating flexibility in microcredit contracts (see Appendix Table 1 for a summary of the features of five similar studies). Field et al. (2013) finds that providing borrowers with an initial two-month grace period leads to higher-return (and higher-risk) investments. While the grace period leads to higher long-run profits for the borrower, it is not profitable to the lender, which suffers the downside of the increased risk without the upside benefit of increased returns. This mechanism of higher-risk investments leading to increased defaults likely does not apply in our setting as we find no difference in the variance of sales or profits between borrowers of flexible and standard loans. In addition, clients in Field et al. (2013) could not choose whether or not to use the grace period, and thus the paper is less applicable to assess the impact of flexibility *per se* on borrower discipline and repayment norms.

Barboni and Agarwal (2023) shows that a three-month block repayment holiday, communicated in advance and available upon successful repayment of three monthly installments of a 24 months loan, attracts financially disciplined clients and leads to higher sales and repayment rates. Since the intended use of the repayment delay had to be communicated to the microcredit institution by the borrower one month in advance, the product flexibility only targets anticipated income fluctuations or profit opportunities. The flexible loan product that is closest to ours is studied in Battaglia et al. (2023). Borrowers who were deemed eligible by loan officers based on their repayment histories were given two passes (versus three in our setting) on a 12-month loan that could be used at any point during the loan tenure, catering to both unexpected shocks and predicted downturns. The flexibility led to improvements in business and socioeconomic status and *lower* default rates, especially for borrowers operating smaller businesses. A critical difference between the literature cited above and our study is whether the sample were new or experienced clients: we study new clients in order thus allowing us to better study both the selection effect explicitly as well as a population that has not yet demonstrated financial discipline, whereas the above literature studies current (and previously successful with respect to repayment)

borrowers at each of the partner lenders. Field et al. (2013) is the exception and studies both new and existing borrowers.[1]

By showing no evidence of selection effects from introducing flexibility to new clients, we also contribute to the literature assessing the extent of selection in low-income country credit markets (see e.g., Karlan and Zinman 2009; Ahlin et al. 2020; Beaman et al. 2020; Gertler, Green, and Wolfram 2023; Jack et al. 2023).

2. Credit Product and Experimental Design

Setting and the Standard Credit Product

We partnered with the microcredit unit of Fundación Mario Santo Domingo ("FMSD"), a small not-for-profit lender. FMSD operates in northern Colombia and had around 6,000 clients. The experiment took place in the urban branches of Barranquilla and Cartagena. FMSD gave individual liability loans to both male and female entrepreneurs for either working capital or the purchase of business fixed assets. Eligible borrowers had to own an existing business for at least six months, had to be in good standing with the credit bureau, and could have at most one other loan with another institution. Loans given by FMSD required fixed monthly installments and had no early repayment penalties. The median and modal loan length was 12 months but varied from six to 24 months. The nominal interest rate ranged from 36% p.a. to 42% (see Appendix A: Details of Experiment for details) plus various fees amounting to 14% of the principal for a typical loan (see Appendix Table 2 for details). Borrowers with a past due balance at the end of the month lost access to a lower interest rate reserved for successful repeat borrowers and were reported to the credit bureau. Borrowers with two or more months with a past due balance were denied future loans.

The Flexible Credit Product

In collaboration with the lender, we developed a new credit product with repayment flexibility. Specifically, the flexible credit introduced "passes" that allowed borrowers to pay only the interest and fees of the monthly installment, postponing the principal portion without penalties for missed payments. The delayed principal amount accrued interest at the same rate as the original loan and was subsequently due either at the end of the loan (thus extending the term) or earlier, as the borrower chose.[2]

Borrowers were allocated one pass for every four months of the initial loan duration. A borrower with the typical 12-month loan, for example, would be given three passes that could be used at any point in the loan cycle, including sequentially. To use a pass, borrowers had to contact their credit officer via phone or in person by visiting the branch before the payment was due that month.

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[1] All borrowers in our study were new clients for our partner lender. Unfortunately, we do not have loan history data, and thus cannot distinguish between first-time-ever-from-anyone borrowers and first-time-merely-from-our-partner borrowers.

[2] As a result of the fixed-installment mortgage-style repayment schedule, the principal proportion increases over time and thus passes used earlier generate smaller delayed principal payments.

Each time a borrower used a pass, he or she chose between two different types depending on how the principal was repaid. If the client used an "extension" pass, the loan maturity was extended by one month without changing the amount of the remaining monthly installments. Alternatively, under the "no-extension" pass, clients paid the postponed principal (plus accruing interest) in one or more payments within the original loan term. Appendix Table 2shows example repayment schedules for extension and no-extension type passes. Given that the installment amount was fixed during the repayment schedule, the share of installment due to the principal payment increased over time and so did the amount that was skipped with the pass.

Except for the repayment flexibility, the new credit product was identical to the standard credit offered by the lender.

Experimental Design

Figure 1 provides an overview of the two-stage experimental design. In the first stage, potential first-time clients were offered either a standard loan or a flexible loan. All offers were subject to the lender's standard loan approval process. In the second stage, conditional on completing the application and subsequent approval, a share of standard loan clients were switched to a flexible loan by surprise (Karlan and Zinman 2009). As a result, our design has three experimental groups: "Flex→Flex", "Standard→Flex", and "Standard→Standard".

We chose this two-stage design to disentangle selection effects from contract effects. To study selection effects, we analyze outcomes for borrowers that end up with a flexible contract and compare "Standard→Flex" clients --who received the standard loan offer but were later switched to a flexible loan---with "Flex→Flex" clients who were offered the flexible loan from the beginning. To study contract effects, we analyze outcomes for borrowers offered the standard loan and compare credit outcomes of "Standard→Flex" clients with "Standard→Standard" clients.

Sample recruitment and randomization of first stage (initial offers)

We worked with FMSD to integrate the randomization of initial flexible offers in their recruitment of first-time clients. In total, 8,610 potential clients were approached for initial offers. Panel A of Appendix Table 3 reports the share of potential clients recruited through the different channels used by the lender. About half of the offers were made by "door-to-door" promoters.[3] In total across promoters, credit officers and front desk staff, about 30% of potential clients were recruited during public "financial" events organized

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[3] We developed and subsidized this new recruitment strategy to increase new-client growth. A team of promoters accompanied credit officers, helped approach potential clients and elicited basic interest for the specific product offered (see Appendix B for an English translation of the scripts used).

by the local mayor's office or directly by FMSD.[4] The remaining pool of potential clients, about 20%, were called up by credit officers directly or visited the branch.

Once potential clients were registered, credit officers followed-up with a visit to assess eligibility, and to make randomized offer. All prospective clients also received a leaflet with information about the loan (see Appendix B for a sample of the flex product flyer in Spanish). Loan applications were collected by credit officers and reviewed by the credit committee. Clients with approved loans received additional explanations from a dedicated staff when the loan was disbursed either during the branch visit or over the phone.

Recruitment into the study took place continuously over 18 months. Overall, 22.4% of potential clients were assigned to a flexible offer (see Appendix A for further details). Panel A of Appendix Table 3 confirms that the randomized assignment of offer types was balanced overall with respect to the recruitment process and branch location (the p-value of a joint test of equality of means is 0.23).

Randomization of second stage (switch to flexible loans)

Approved standard loans were randomly switched to flexible loans at disbursement, with a target probability of 50%, based on the observed distribution of the last three digits of the national identification document using the loan data set of our partner microcredit institution. In total, 1,893 standard loan offers were accepted and 971 (51%) of them were converted to flexible contracts as part of the second stage randomization.

Clients learned about the switch when their credit officer called them about the approval of their application and gave a short explanation of the new flexible loan. All clients in the Std→Flex group accepted the switch to the flexible loan.

We test for balance in the second stage randomization by looking at the sample of new clients that initially received a standard offer. Using a combination of data from the recruitment process, data collected by credit officers during the application process as well as the bank's administrative data, we compare those who received a standard loan with those who were switched to a flexible loan. Appendix Table 4 shows means and standard deviations for the two groups and p-values of the tests of equal means. Out of the 18 variables including loan characteristics (Panel A), socioeconomic characteristics of clients (Panel B) and business characteristics (Panel C), only one difference is significant at the 10% level. The p-value of a joint test of differences across all variables is 0.90.

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[4] Sixty-two percent of the recruits from financial events came from those organized by the mayor's office, which partnered with private partners to visit different neighborhoods to advertise the availability of existing services such health and education programs, conditional transfers, and microfinance. At an event, prospective borrowers received a "financial inclusion" briefing that included eligibility criteria to apply for a loan.

3. Data

We draw on several data sources. First, we use self-reported data (on household and business characteristics) collected by credit officers at the time of the loan application. Second, we use administrative data with loan characteristics and client repayment histories for all study loans. The data cover 100% of clients from loan disbursement until three months past loan maturity (and 99.3% until 12 months past maturity), with loan maturity accounting for extensions due to passes. The data span 49 months from when the first loans were disbursed until 30 months after the last set of loans were disbursed.

Third, the lender conducted client satisfaction phone surveys on a subsample of study clients. The lender's staff called both standard and flexible loan clients to assess client attitudes towards their loan product, their level of knowledge about the product's features, and the reasons for pass use among clients who had used them. Respondents were chosen randomly from the pool of clients every month over 18 months, stratifying each month by credit officer and loan type.[5] In total, 575 phone surveys were completed for 457 different clients, representing 18% of all clients in the study sample. Phone surveys were made on average six months after loan disbursement.

Lastly, we conducted an in-person follow-up survey. This survey was brief (median survey duration was 34 minutes) and took place at clients' businesses or homes around ten months (sd=2 months) after the loan disbursement. Since loans were disbursed over time, the survey was conducted on a rolling basis to ensure comparable duration post loan disbursement. Respondents were asked about loan repayment behavior and a set of business and household outcomes. We achieved a response rate of only 69%, we fail to reject a difference in levels across experimental arms (69% response rate for both treatment and control groups) and we fail to reject compositional differences in who is reached (p-value of 0.67 for the pooled treatment and 0.65 and 0.14 for a specification that separately tests compositional selection by the two treatment arms Flex→Flex and Standard→Flex; see Appendix Table 5 for full results).[6] Appendix Figure 1 summarizes the timeline of the experiment and related data collection.

4. Results

Take-up

Figure 1 reports that the 6,685 standard loan offers led to 1,893 disbursed loans (28%) while the 1,925 flexible loan offers led to 582 disbursements (30%). Panel B of Appendix Table 3 shows that the difference in disbursement rates by type of credit offers is not statistically significant (p-value is 0.53). Among applicants, a negative credit assessment was the most common reason for a loan not being disbursed.

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[5] The target sampling rate was initially set to 20% of clients for the first three months of the experiment and later lowered to 5%, subject to a minimum of two calls in each offer-loan type combination in a given month.

[6] Locating clients in the urban setting of this study was difficult. Clients frequently move the location of the business or place of residence and immediate neighbors are not always willing to provide information about clients' whereabouts. A team of enumerators continually rotated through the different neighborhoods with a list of target respondents and attempted phone contacts to schedule interviews.

Overall, the application outcome and eligibility process was similar for both groups (p-value of joint test is 0.67).

Panel C of Appendix Table 3 shows the take-up rates by recruitment modality. Door-to-door promotions and financial events had similar take-up rates of just over 20% of interested potential clients while over half of potential clients who came to the branch ended up with a loan. In all three recruitment modalities take-up rates were similar for standard and flexible offers.

Selection Effects on Observables
This lack of differences in take-up *rates* between the offers of standard and flexible loans suggests we are unlikely to see differential composition of clients across the two groups (if one assumes that the addition of flexibility is a free-disposal feature, and hence does not lower take-up rates for any set of individuals). Table 1 compares loan characteristics (from the administrative data) and client and business characteristics (collected by credit officers at the time of the loan application) between borrowers that accepted flexible and standard loan offers. Column 5 reports the p-values of a test of equality of means in columns 1 and 3 and shows that only one difference out of 18 is statistically significant at the 5% level (client's age). It also reports the p-value of an F-test of joint equality for loan characteristics (p-value= 0.81), client characteristics (p-value= 0.37), business characteristics (p-value=0.81) and all characteristics combined (p-value=0.79). We conclude there is no evidence of differential selection on observables using a wide range of observable characteristics.

Selection Effects on Unobservables

We next examine selection on unobservable characteristics by focusing on the use of flexible passes described in Figure 1 and Appendix Table 6. About a third of flexible clients used a pass at any point during the loan (Appendix Table 6, column 1), compared with only 2% among standard loan clients (column 2).[7] This take-up rate compares to a 31% flexible contract take-up among clients with standard contracts who were offered a flexible contract in Barboni and Agrawal (2023), with 56% of takers exercising their flexibility option. Our take up rate is lower than the 63% of flexible credit borrowers who used a "voucher" to postpone payments in Battaglia et al. (2023).

While most clients who used a pass at all used only one pass, 40% of such clients used a pass more than once. Flexible loan clients used 0.60 passes on average, roughly evenly split across extension-type passes that added to the maturity of the loan and no-extension type passes where the skipped principal had to be paid within the original loan duration. The limited pass use is consistent with only 8% of flexible credit clients using the maximum allowed number of passes.

Columns 5 and 6 of Appendix Table 6 compare pass use among clients initially offered the standard loan which later switched to a flexible loan to clients offered initially the flexible loan. P-values of a test of

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[7] Done for unknown reasons, i.e., unknown whether strategic by credit officers or mere administrative error. Regardless, all analysis follows the randomization employing intent-to-treat specifications.

equality of means in column 8 show only one difference out of 9 (number of no-extension passes used) is statistically significant at the 5% level.

We conclude that there is no evidence of substantial differential selection on unobservables, at least in pass use. Below we will show similar null results for default rates. We thus pool across initial offers and focus henceforth on the effect of the contract, comparing borrowers of the standard loan and flexible loan (irrespective of the initial offer).

This lack of selection refutes the idea that there are many profitable entrepreneurs who reject the standard loan but would accept the flexible loan.[8] This result contrasts, however, with the finding of Barboni and Agarwal (2023) that individuals who accept a flexible loan are more financially sophisticated and have considerably more income volatility. Why is there no selection in our case? Data from the lender phone survey of clients indicate that lack of information cannot be an explanation. Panel A of Appendix Table 7 reports almost all flexible credit clients (98%) understood the use of passes. Unlike Barboni and Agarwal (2023) that required a month-long lag between communication and actual use of the pass, our lender's passes could be used immediately and thus borrowers maybe were more subject to temptation or procrastination in repaying the loan. In addition, unlike most other studies that introduce flexibility, our sample consisted exclusively of new clients who were perhaps less financially disciplined or had on average weaker internalized repayment norms (both because they have not had as much experience learning to repay loans, and because the lending process has not yet filtered out borrowers who are predilected to default).

In addition, the limited use of passes at the start of the loan is not consistent with the idea that flexible credit clients want to use the product to make larger initial investments. Instead, clients might be reacting to business opportunities as they arise or to unexpected negative shocks to business or household finances.

Appendix Figure 2 shows pass use over time. Since not all loans have the same duration, we graph pass use against the proportion of time elapsed in the loan instead of the number of months elapsed. Pass use is lowest on average in the very first months of the loan's duration, increasing until about a quarter of the loan's duration when it reaches its highest point. While anecdotal evidence suggests that some loan officers may have advised clients not to use passes early on, perhaps because of the lower skipped amount

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[8] One could argue that no selection effects would be detected if the sample excluded applicants interested in the flexible loan but not the standard loan, that is, it only included applicants interested in the standard loan, and if take-up conditional on initial interest was only determined by borrower eligibility (leaving no room for increased demand for the flexible credit). While part of our sample is recruited from branch visits (19% of initial flexible credit applications were made during branch visits) and from financial events (25% of initial applications), where perhaps prospective borrowers approached the lender only knowing about the standard loan, we still find no selection effects when we focus on the sample recruited during door-to-door promotions for which no loan information was provided before revealing the randomized offer type (see Appendix Table 8). In addition, overall take-up conditional on initial interest was only 28% and only about a third of initial applications were rejected because of a negative credit assessment, leaving plenty of room for take-up effects due to the flexibility features.

or due to portfolio risk concerns, pass use still peaks at the first quarter of the loan duration.[9] The proportion of extension passes increases over time as clients have less remaining time to repay the skipped balance within the original loan duration.

We report the reasons for pass use given by clients in Panel A of Appendix Table 7.[10] Forty-one percent report using the pass to make an investment in the business and separate qualitative data indicates that these business investments include making use of an opportunity for discounted bulk buying of inputs, financing inputs for a large customer order and covering lost revenue from temporarily closing the business for renovations. Dealing with shocks is another important reason why clients use passes --- 44% of flexible clients in the phone survey sample who used a pass did so to deal with a personal or family calamity while 19% used a pass to deal with business problems.

Appendix Table 7 Panel B reports client satisfaction using data from the lender phone survey. To keep answers comparable across treatment arms, questions about satisfaction were asked *before* questions about pass use. While most borrowers feel confident about repaying their loan five months after disbursement (p-value of t-test of equality between flexible and standard loan borrowers is 0.51), borrowers of the flexible loan are 7 percentage points more likely to report higher quality of service from FMSD. Among the reasons given for good service, the flexibility of the product was the only one that was statistically significantly different at conventional levels (p-value 0.00).

Default, Business, and Stress-Related Treatment Effects

We estimate the average treatment effect of a flexible contract relative to a standard contract, pooling across initial offers as discussed above. Since the probability of assignment to a flexible credit offer changed during the experiment (see Figure 1 and Appendix A), we adjust the standard estimation equation to avoid potential bias from correlation of client characteristics with the assignment probability. Following Gibbons, Suarez Serrato, and Urbancic, (2019), we estimate treatment effects separately for the two periods and calculate a weighted average based on the two periods' sample frequencies. Formally, we estimate the following regression equation for client *i*:

$$(1)\ Y_i = \alpha + \beta_1\big(T_i * R_{1,i}\big) + \beta_2\big(T_i * (1 - R_{1,i})\big) + \gamma R_{1,i} + \epsilon_i,$$

where T_i is an indicator for assignment to a flexible contract and R_1 is an indicator for receiving an offer in the initial period, Y_i is the dependent variable. We include as additional controls the pre-intervention

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[9] We note that portfolio risk concerns raised by some credit officers in our study would be consistent with the lenders policy in Battaglia, et al. (2023), in which loan officers screened applicants for flexible loans based on their repayment histories and that of Barboni and Agarwal (2023) in which the "repayment vacations" could not be taken in the first three months of the loan.

[10] The rate of pass use among the sample of clients interviewed in the phone survey is only 18%. This is lower than the final rate from the administrative data since phone surveys were carried out, on average, six months into the loan. When controlling for time elapsed since loan disbursement, the reported rates of pass usage match closely with those of the administrative data.

value of the dependent variable when available. β_1 and β_2 capture the effects of receiving a flexible contract for clients who received offers in the early and late recruitment periods respectively. We then estimate the average treatment effect by averaging the estimates for β_1 and β_2, proportionally to each period's sample size.

First, we examine repayment behavior, default rates and loan renewal. Table 2 Columns 1 and 2 report outcomes from the administrative data for borrowers of the standard and flexible contract respectively. Panel A reports the raw outcomes while Panel B reports the residuals after regressing default outcomes on the 18 observable characteristics from Table 1 for the standard contract group (with first-stage R^2 values ranging from 0.07 to 0.10).

Regardless of the panel used, the flexible contract group has 3 and 2 percentage points higher proportion of the principal in default 3 and 12 months after maturity, respectively. Column 3 of Table 2 reports the p-value of equality of means and shows this increase in default is statistically significant (p-value<0.01). Despite these default results, we see no statistically significant differences in the share of borrowers who have missed a due payment (i.e., not counting skipped payments from a pass as missed) or the rate of loan renewal. We return below to this pattern of results when exploring the repayment behavior over the course of the loan.

Columns 4 and 5 report the means of the default outcomes in column 2, separating by whether the initial offer was flexible (column 4) or standard (column 5). Column 6 assesses the selection effect by reporting the p-value of the difference in means between columns 4 and 5. As with the comparison using observable characteristics in Table 1 or the use of passes in Appendix Table 5, none of the differences in either Panel A or B is statistically significant. Finally, column 7 reports the difference between borrowers of the standard contract in column 1 and borrowers of the flexible contract in column 5, all initially offered the standard contract. Since we find no selection (column 6), column 7 is similar to column 3 as overall differences in outcomes are attributable solely to differences in the contract.

Next, we examine repayment behavior over the course of the loan to shed additional light on the mechanisms for the results in Table 2. In each graph of Figure 2 we plot the outcome mean among standard borrowers (dashed line), the same mean plus the flexible credit coefficient based on regressions at each point in time (solid line) and the associated pointwise confidence intervals (dotted line). For reference, we also show the rate of pass use over time in a bar chart as in Appendix Figure 2. Again, we use the share of the loan maturity elapsed to account for the variation in loan lengths across the sample and we use the original loan maturity at loan issue to keep flexible and standard contract groups comparable. For additional technical details, see the notes at the bottom of Figure 2.

We document the following repayment patterns. The differential default between flexible and standard loans only appears after the end of the original maturity (Figure 2a). Flexible credit borrowers miss scheduled payments at the same rate as standard credit borrowers during the original loan period (when pass use does not count as a missed payment) but are significantly more likely to miss payments thereafter (Figure 2b). The cumulative rate of ever missing a payment is slightly higher for flexible borrowers, but

the difference is not statistically significant at any point during or after the end of the original loan maturity (Figure 2c). Flexible borrowers repay a lower fraction of the principal amount throughout the original maturity, as both extension and no-extension passes are used, and this gap does not close after the end of the original loan period (Figure 2d).

We can draw the following conclusions: First, since default only appears *after* the end of the *original* loan period (Fig. 2a and b), only extension passes (rather than no-extension passes) are associated with negative repayment behavior. Second, because the share of flexible borrowers that *ever* missed a payment is *not* different compared to that of standard borrowers (Fig. 2c), but the share of flexible borrowers who miss a payment after the end of the original period increases (Fig. 2b), we conclude that the flexible borrowers driving the difference in default rates by missing scheduled payments after the original loan period also missed payments during the original loan period. Third, the lack of treatment effects on loan renewal is consistent with the repayment behavior above as the set of borrowers driving the additional default (only statistically significant at the end of the loan cycle) were already behind on their loans and likely to be ineligible for a follow-on loan.

Next, we examine business, financing and stress-related outcomes using the follow-up survey (Table 3 and 4). Column 1 reports the ATE described in Equation 2. There are no impacts on key outcomes such as sales, profits, or investment (Table 3). Column 6 reports the p-value of a difference in volatility (std. deviation) in sales and profits between the Flexible and Standard Contract groups, but none of the differences is statistically significant. Borrowers of the flexible loan appear to have slightly more businesses and to have started a secondary business. A new enterprise typically is an indication of risk-taking, but of course could also be a diversification strategy, and thus we are not able to infer whether the increase in secondary businesses is indicative of flexible lending making risk-taking more palatable for the entrepreneurs.

Table 4 reports no changes in additional business or financing outcomes and no change in an overall loan-related stress index, although borrowers of the flexible loan report thinking less about loan repayments and a decrease in anxiety in the days prior to loan payment deadlines. Table 4 also reports no change in a general stress index, though flexible loan borrowers report being less nervous or stressed.

In sum, we find no changes in revenues or profits in follow-up data collected about 10 months after loan disbursal but an increase in defaults among the Flexible Contract group. This group also reports lower stress and higher client satisfaction. Using Causal Forests to test for heterogenous treatment effects (Athey, Tibshirani, and Wager 2019; Chernozhukov et al. 2020), we do not find evidence that effects vary systematically as a function of important client or business characteristics pre-loan disbursement, such as gender, sales or household expenses.

5. Conclusion

We study a flexible lending contract for first-time microcredit borrowers. We find that while flexibility was used by clients, there are no differences in the characteristics or take-up rates between flexible loan

borrowers originally offered the flexible loan (Flex→Flex group) and those offered the standard loan (Std→Flex group). This lack of selection effects suggests the lender would not grow its client base much if it offered flexibility to new clients (although longer-term results, particularly given positive customer feedback, may indicate that more time and spreading of information would lead to stronger client acquisition). In addition, first-time borrowers of the flexible loan had higher default rates and limited downstream benefits. These results can help explain why lenders offer rigid loans, particularly to new clients.

Our sample includes *only* new clients. This is both a feature and a wart. Studying new clients is important for a more complete understanding of credit markets for small-scale entrepreneurs as they may lack experience with managing simultaneous cash flows and repayments. On the other hand, we cannot compare our results to those of more veteran borrowers studied in the literature discussed above, and our study's context differs from that of prior work in more than one way (see Appendix Table 1 for an overview of some salient features). We believe the comparison of new versus veteran clients is an important line of inquiry for future research on loan contract flexibility.

The epilogue to the study is indicative of a broader challenge. The lender viewed the use of passes as a simple way of handling repayment difficulties and introduced a modified version of the flexible loan for non-study loans. Crucially, however, only credit officers (and not clients) decided when to use a pass and clients were not made aware of the feature ahead of time. Pass use thus became merely a tool for credit officers to adjust default and pursue enforcement and refinancing when needed.

While such a policy may have its merits, it deviates from the goal of a product that allows borrowers, fearful of default, to take on higher-risk higher-return investments with the comfort of knowing they have some flexibility to repay. We see these results as motivating, for both lenders and researchers, to continue to learn more about how products can better "match cash flows" both with respect to timing and risk.

References

Ahlin, Christian, Selim Gulesci, Andreas Madestam, and Miri Stryjan. 2020. "Loan Contract Structure and Adverse Selection: Survey Evidence from Uganda." *Journal of Economic Behavior & Organization* 172 (C): 180–95.

Armendariz de Aghion, Beatriz, and Jonathan Morduch. 2010. *The Economics of Microfinance*. 2nd ed. Cambridge, MA: MIT Press.

Athey, Susan, Julie Tibshirani, and Stefan Wager. 2019. "Generalized Random Forests." *The Annals of Statistics* 47 (2): 1148–78.

Banerjee, Abhijit, Dean Karlan, and Jonathan Zinman. 2015. "Six Randomized Evaluations of Microcredit: Introduction and Further Steps." *American Economic Journal: Applied Economics* 7 (1): 1–21. https://doi.org/10.1257/app.20140287.

Barboni, Giorgia, and Parul Agarwal. 2023. "How Do Flexible Microfinance Contracts Improve Repayment Rates and Business Outcomes? Experimental Evidence from India." *Working Paper*, February. https://papers.ssrn.com/abstract=4358795.
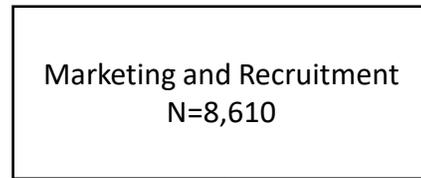
Battaglia, Marianna, Selim Gulesci, and Andreas Madestam. 2023. "Repayment Flexibility and Risk Taking: Experimental Evidence from Credit Contracts." *The Review of Economic Studies*, November, rdad107. https://doi.org/10.1093/restud/rdad107.

Beaman, Lori, Dean Karlan, Bram Thuysbaert, and Christopher Udry. 2020. "Self-Selection into Credit Markets: Evidence from Agriculture in Mali." *Working Paper*.

Breza, Emily, and Cynthia Kinnan. 2021. "Measuring the Equilibrium Impacts of Credit: Evidence from the Indian Microfinance Crisis." *The Quarterly Journal of Economics* 136 (3): 1447–97. https://doi.org/10.1093/qje/qjab016.

Chernozhukov, Victor, Mert Demirer, Esther Duflo, and Iván Fernández-Val. 2020. "Generic Machine Learning Inference on Heterogenous Treatment Effects in Randomized Experiments." *arXiv:1712.04802*, December. http://arxiv.org/abs/1712.04802.

Cordaro, Francesco, Marcel Fafchamps, Colin Mayer, Muhammad Meki, Simon Quinn, and Kate Roll. 2022. "Microequity and Mutuality: Experimental Evidence on Credit with Performance-Contingent Repayment." *National Bureau of Economic Research* 30411 (September). https://doi.org/10.3386/w30411.

Crépon, Bruno, Florencia Devoto, Esther Duflo, and William Pariente. 2015. "Estimating the Impact of Microcredit on Those Who Take It Up: Evidence from a Randomized Experiment in Morocco." *American Economic Journal: Applied Economics* 7 (1): 123–50. https://doi.org/10.1257/app.20130535.

Field, Erica, Rohini Pande, John Papp, and Natalia Rigol. 2013. "Does the Classic Microfinance Model Discourage Entrepreneurship Among the Poor? Experimental Evidence from India." *American Economic Review* 103 (6): 2196–2226. https://doi.org/10.1257/aer.103.6.2196.

Fischer, Greg. 2013. "Contract Structure, Risk-Sharing, and Investment Choice." *Econometrica* 81 (3): 883–939. https://doi.org/10.3982/ECTA9100.

Gertler, Paul, Brett Green, and Catherine Wolfram. 2023. "Digital Collateral." Working Paper. National Bureau of Economic Research. https://doi.org/10.3386/w28724.

Gibbons, Charles E., Juan Carlos Suárez Serrato, and Michael B. Urbancic. 2019. "Broken or Fixed Effects?" *Journal of Econometric Methods* 8 (1): 1–12.

Gompers, Paul, and Josh Lerner. 2001. "The Venture Capital Revolution." *Journal of Economic Perspectives* 15 (2): 145–68. https://doi.org/10.1257/jep.15.2.145.

Jack, William, Michael Kremer, Joost de Laat, and Tavneet Suri. 2023. "Credit Access, Selection, and Incentives in a Market for Asset-Collateralized Loans: Evidence From Kenya." *The Review of Economic Studies* 90 (6): 3153–85. https://doi.org/10.1093/restud/rdad026.

Karlan, Dean, and Sendhil Mullainathan. 2007. "Rigidity in Microfinancing: Can One Size Fit All?" *QFinance*, December.

Karlan, Dean, and Jonathan Zinman. 2009. "Observing Unobservables: Identifying Information Asymmetries with a Consumer Credit Field Experiment." *Econometrica* 77 (6): 1993–2008.

Labie, Marc, Carolina Laureti, and Ariane Szafarz. 2017. "Discipline and Flexibility: A Behavioural Perspective on Microfinance Product Design." *Oxford Development Studies* 45 (3): 321–37. https://doi.org/10.1080/13600818.2016.1239701.

Mel, Suresh de, David McKenzie, and Christopher Woodruff. 2019. "Micro-Equity for Microenterprises." *World Bank Policy Research Paper WPS8799*, April.

Figure 1: Experimental design, take-up and data sources

| Stage of experiment | | Data Sources |

Initial Sample

Marketing and Recruitment
N=8,610

First-Stage Randomization

10/2015 – 02/2016
Pr(Flex)=33%

03/2016 – 03/2017
Pr(Flex)=20%

Standard Loan Offer	Flexible Loan Offer
N=816	N=459
+	+
N=5,869	N=1,466

Data about offer process;
N=8,610 potential clients
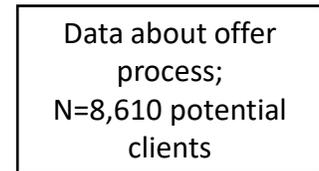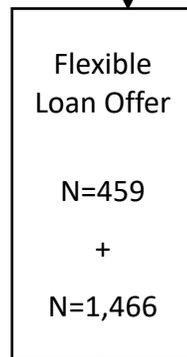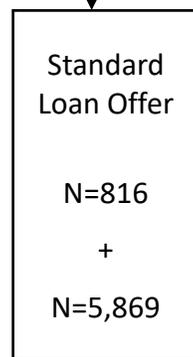
Loan Approvals and Disbursements

Standard Loan N=1,893 Take-up 28%	Flexible Loan N=582 Take-up 30%

Administrative data on clients and loans
N=2,475 loans
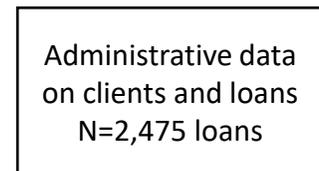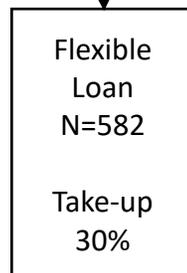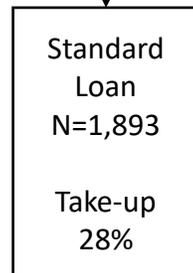
Second-Stage Randomization

Pr(Flex)=50% among standard loans

Standard Contract N=922	Flexible Contract (Surprise) N=971	Flexible Contract (No-Surprise) N=582

Admin. repayment data;
N= 2,475 loans;
cover at least 30 months post disbursal
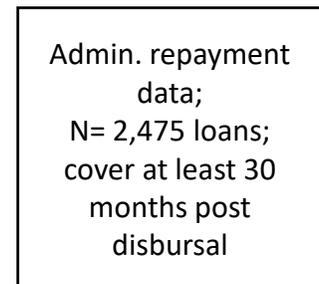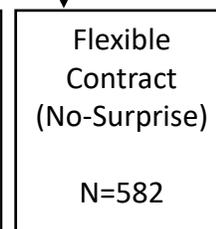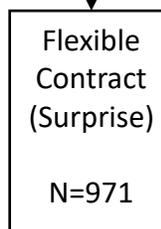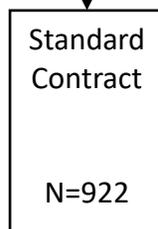
Pass Use
(At least one pass is used)

Standard Contract 2%	Flexible Contract (Surprise) 33%	Flexible Contract (No-Surprise) 38%

Phone survey (by lender);
N=575 surveys, for 457 clients
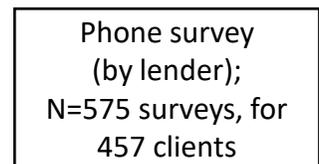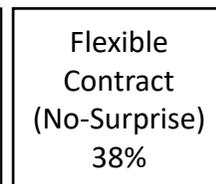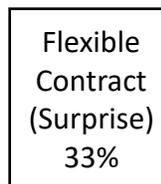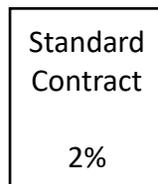
Repayment Period
10/2015 – 10/2019

Loan characteristics; median and (range):
Duration: 12 months (6-24)
APR: 36% (36-42)
Principal: 1.1 million COP (0.5-5.5)

10-month follow-up survey (by IPA);
N=1,706 clients

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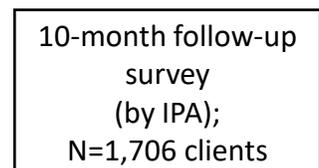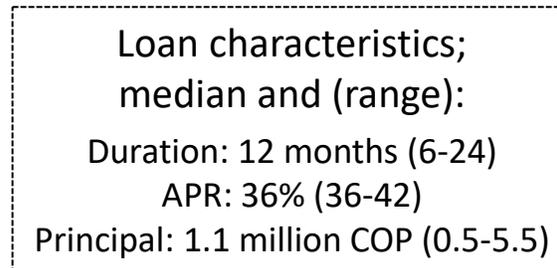
Figure 2: Contract Effects on Default Outcomes Over Time

a) Share of Principal In Default

Proportion of initial loan duration elapsed

b) Share Who Miss Scheduled Payment

Proportion of initial loan duration elapsed

c) Cumulative Share Who Miss a Scheduled Payment

Proportion of initial loan duration elapsed

d) Share of Principal Repaid

Proportion of initial loan duration elapsed

Legend:
- Flex Contract Mean
- Std. Contract Mean
- 95% CI
- Extension Pass
- No-Extension Pass

Notes: The graphs use FMSD's monthly administrative data to show treatment effects over the course of the loan. Graphs show the mean in the standard loan group at a given point in time (dashed yellow lines), mean of the standard loan group plus flexible contract treatment effect (solid blue lines) including 95% confidence intervals (dotted blue lines). Regressions are based on monthly data. Since loans in our sample differ in length, we show the share of loan duration elapsed on the horizontal axis rather than months. We use a loan's original length to make flexible loans and standard loans comparable. We round the share of the loan elapsed to the nearest increment of 0.025 with linear interpolation for values in bins between data points for each loan. We use a similar process for the pass-use bar graph. Pass-use bar graphs are based on bins of 0.0833 (1/12) that match the modal 12-month loan length.

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Table 1: Observable Selection Effects Induced by Flexible vs Standard Offers

	(1)	(2)	(3)	(4)	(5)
	Flexible Contract Offers: Disbursed Loans		Standard Contract Offers: Disbursed Loans		p-value (1)=(3)
	Mean	SD	Mean	SD	
Panel A: Loan characteristics					
Principal (1000s COP)	1437	1008	1403	969	0.42
Term (months)	12.65	3.25	12.58	3.27	0.45
Interest rate (APR)	37	2	37	2	0.90
P-value of joint test					0.81
Panel B: Socioeconomic status (SES) of clients					
Client is female	0.66	0.47	0.64	0.48	0.64
Age of the client (years)	39.2	13.45	40.79	14.01	0.03
Married or in a common-law marriage	0.69	0.46	0.68	0.47	0.59
Some higher education	0.37	0.48	0.34	0.47	0.23
Client is head of household	0.19	0.4	0.23	0.42	0.07
Lives in a house (omitted: apartment or room)	0.87	0.33	0.88	0.33	0.95
Owns home	0.32	0.47	0.33	0.47	0.37
Household income (1000s COP)	1502	911	1437	821	0.24
Household expenses (1000s COP)	825	405	809	390	0.40
P-value of joint test					0.37
Panel C: Business characteristics					
Age of primary business (years)	8.95	7.36	9.10	7.84	0.57
Retail sector	0.64	0.48	0.62	0.48	0.90
Productive sector	0.17	0.37	0.16	0.36	0.49
Services sector	0.20	0.40	0.22	0.41	0.45
Sales (1000s COP)	3353	3143	3185	3112	0.31
Profits (1000s COP)	528	485	503	444	0.39
P-value of joint test					0.81
Number of observations	582		1,893		
P-value of joint test: loan, SES, and business characteristics					0.79

Notes: P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4.

Table 2: Contract and Selection Effects in Default

Dependent variable	Standard Contract	Flexible Contract (Pooling Offer Types)	Overall Comparison	No-Surprise Flexible Contract	Surprise Flexible Contract	Selection Effect	Contract Effect
	Std→Std	Std→Flex & Flex→Flex	Std Contract = Flex Contract	Flex→Flex	Std→Flex	Flex→Flex = Std→Flex	Std→Std = Std→Flex
			(1)=(2)			(4)=(5)	(1)=(5)
	Mean (SD)	Mean (SD)	p-value	Mean (SD)	Mean (SD)	p-value	p-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Default, unadjusted							
Proportion of principal in default at 3 months post maturity	0.13 (0.21)	0.16 (0.23)	0.00	0.15 (0.23)	0.16 (0.23)	0.67	0.00
Proportion of principal in default at 12 months post maturity	0.10 (0.19)	0.13 (0.22)	0.00	0.12 (0.21)	0.13 (0.22)	0.62	0.01
Missed a due payment (=1)	0.58 (0.49)	0.61 (0.49)	0.14	0.61 (0.49)	0.62 (0.49)	0.78	0.18
Got a new loan (=1)	0.33 (0.47)	0.33 (0.47)	0.69	0.33 (0.47)	0.33	0.72	0.83
Number of observations	922	1,553	2,475	582	971	1,553	1,893
Panel B: Default, residuals after predicting default with observables							
Proportion of principal in default at 3 months post maturity	0.00 (0.20)	0.03 (0.23)	0.00	0.03 (0.22)	0.03 (0.23)	0.83	0.00
Proportion of principal in default at 12 months post maturity	0.00 (0.19)	0.02 (0.21)	0.00	0.02 (0.20)	0.03 (0.21)	0.76	0.01
Missed a due payment (=1)	0.00 (0.47)	0.02 (0.48)	0.20	0.01 (0.48)	0.03 (0.48)	0.89	0.18
Got a new loan (=1)	0.00 (0.45)	-0.01 (0.46)	0.70	-0.01 (0.46)	-0.01 (0.46)	0.90	0.76
Number of observations	922	1,553	2,475	582	971	1,553	1,893

Notes: In Panel B, we obtain residuals after regressing default outcomes on the 18 observable characteristics from Table 1 for the Standard Contract group, controlling for treatment assignment probability. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4. Note on outstanding principal: 238 borrowers have a slightly incorrect version of the outcome variable "remaining outstanding principal." Outstanding principal comes from FMSD administrative data. FMSD also provide us with the loan's repayment status over time. We see exactly when the lender classifies a loan as delinquent and subsequently "cancels" the loan. The initial administrative data did not report payments after the loan was "canceled." The bank offered these delinquent borrowers an opportunity to restructure their remaining debt after their loan got "canceled." These borrowers had the opportunity to continue paying outstanding principal with reduced interest and fees. Since these payments occur after the bank cancels the loan, we do not observe whether delinquent borrowers continue paying their loans. Furthermore, we do not observe the reduction in interest and fees that the bank offers to customers as a part of the re-structuring. In order to properly record payments that delinquent borrowers make, we obtain lender administrative data on every payment that our sample borrowers make from 2015 to 2019. By merging the payment records with the rest of the administrative data, we observe payments that delinquent borrowers make after the bank canceled their loan and reaches out with a restructured proposal. We subtract the payments that borrowers make after their loan gets canceled from their last outstanding principal before the bank "canceled" their loan. The payment data do not distinguish between principal, interest, and fees. We only observe the payment that each borrower makes in a given month. Since our outcome variable is outstanding principal, subtracting a payment that includes interest and fees gives us an incorrect calculation of a borrower's outstanding principal. This means that the 238 borrowers who repay after the borrower cancels their loan have an incorrect measure of outstanding principal for the time after their loan gets canceled.

Table 3: Effects on Main Business Outcomes (Survey Evidence 10 Months After Disbursement)

	(1)	(2)	(3)	(4)	(5)	(6)
			Comparing Flexible Contract (Flex→Flex & Std→Flex) to Standard Contract (Std→Std)			
Dependent variable	Treat effect (SE)	p-value	Std Contract mean	Flex Contract N	Std Contract N	p-value SD test
Sum of primary and non-primary businesses (000s COP)						
[1] Sales in the last month	15.73 (228.32)	0.95	3082	1073	631	1.00
[2] Expenses in the last month	148.68 (162.13)	0.36	1781	1074	632	
[3] Profit in the last month	46.24 (54.36)	0.40	884	1058	627	0.77
[4] Investment in fixed assets in last six months	-14.2 (50.3)	0.78	353	1074	632	
[5] Number of businesses	0.07 (0.03)	0.02	1.14	1074	632	
[6] Index of business activities (rows 1-5)	0.04 (0.04)	0.38	-0.02	1058	626	
[7] Index of primary business activities	-0.00 (0.04)	0.97	-0.02	1041	609	
[8] Index of non-primary business activities	0.12 (0.05)	0.02	-0.01	1063	627	
[9] Difference: primary minus non-primary business activity indices	-0.12 (0.06)	0.04	-0.01	1033	606	
[10] Absolute value of difference: profit at application minus profit at 10 month follow-up	16.9 (47.4)	0.72	680	1058	627	0.88

Notes: Regressions with sales, expenses, and profit as the outcomes (rows 1-3) control for the baseline value of the outcome. Outcomes are winsorized at the top and bottom 1 percent. Columns 1, 2, and 6 show results for regressions with Flexible Contracts (pooled Std-Flex and Flex-Flex) as the treatment group and Standard Contracts as the control group. Index of Business Activities (row 6) was constructed by calculating a primary component analysis (PCA) score of the outcomes in rows 1-5. The same process was done to constuct the indices in rows 7 and 8, one for activities for the client's primary business and the other for activities for the client's non-primary business(es). P-values of the tests of equality of means in column 2 are based on regressions that control for treatment assignment probability; for additional details, see Section 4. P-values of tests of equality of standard deviations in column 6 were calculated using a randomization inference procedure in which we ran 2,000 independent iterations of randomization into flexible or standard contracts and calculated the difference in standard deviations of an outcome between the flexible and standard contract groups in each iteration. The p-value indicate the proportion of simulations in which the absolute value of the difference in standard deviations was smaller than the difference in standard deviations in our actual experimental assignment.

Table 4: Effects on Additional Outcomes (Survey Evidence 10 Months After Disbursement)

	(1)	(2)	(3)	(4)	(5)
	Comparing Flexible Contract (Flex→Flex & Std→Flex) to Standard Contract (Std→Std)				
Dependent variable	Treat effect (SE)	p-value	Std Contract mean	Flex Contract N	Std Contract N
Panel A: Additional business and financing outcomes					
[1] Has any informal loan	0.01 (0.02)	0.71	0.23	1,074	632
[2] Has any formal loan from institution other than FMSD	0.01 (0.02)	0.68	0.29	1,074	632
[3] Number of business improvement activites (out of 12)	0.15 (0.11)	0.15	1.40	1,074	632
[4] Hours worked per day	-0.02 (0.22)	0.94	6.53	1,074	632
Panel B: Loan-related stress outcomes					
[5] Loan-related stress index (average of rows [6]-[9])	-0.01 (0.01)	0.33	0.35	1,073	632
[6] Thinks about loan repayments at least once per week	-0.04 (0.02)	0.06	0.27	1,071	631
[7] Anxiety rises in the days prior to loan payment deadlines	-0.05 (0.02)	0.06	0.59	1,070	631
[8] Had problems with loan payments in last year	0.01 (0.03)	0.63	0.50	1,073	632
[9] Not confident that loan will be repaid	0.02 (0.01)	0.08	0.04	1,069	630
Panel C: General stress outcomes					
[10] General stress index (average of rows [11]-[17])	-0.01 (0.01)	0.17	0.14	1,073	632
At least once per week felt:					
[11] Nervous or stressed	-0.06 (0.02)	0.01	0.26	1,071	632
[12] Upset about unexpected events	0.00 (0.02)	0.81	0.11	1,073	632
[13] Unable to control the important things in life	0.00 (0.01)	0.83	0.05	1,072	632
[14] Not confident about the ability to handle personal problems	-0.01 (0.01)	0.57	0.05	1,072	632
[15] Stressed by job	0.00 (0.02)	0.94	0.15	1,073	632
[16] Job prevented from giving time to partner/family	0.00 (0.02)	0.87	0.10	1,073	632
[17] Too tired after work to enjoy things at home	-0.02 (0.02)	0.30	0.23	1,073	632

Notes: Columns 1 and 2 show results for regressions with Flexible Contracts (pooled Std-Flex and Flex-Flex) as the treatment group and Standard Contracts as the control group. Outcomes in rows [3] and [4] are winsorized at the top and bottom 1 percent. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4.

Appendix for
Give Me a Pass: Flexible Credit for Entrepreneurs in Colombia

NOT FOR PRINT PUBLICATION

Contents:

Section A. Details of Experiment

<u>Interest Rates</u>

At the start of the study in October 2015, FMSD charged between 36% and 42% interest rate with a 70-30 split, respectively. Over time, the share of loans with 42% increased so that by the end of the study in March 2017 all loans were charged 42% interest rate.

<u>Randomization</u>

During the first five months of the intake process (corresponding 15% of offers) the randomization procedure assigned one third of potential clients to a flexible credit offer and the remaining two thirds to a standard credit offer. From month six onward the proportion assigned to receive a flexible offer was reduced to 20% to increase the sample allocated to the standard-standard treatment group (i.e., those who both were offered and received the standard loan). The initial treatment assignment probability was set to balance the selection and impact hypotheses, but after initial analysis and feedback from the bank and observing the process, we decided to increase power for the impact research question relative to the selection question.

For the first-stage randomization, in the beginning of the experiment, until May 2016, we carried out the randomization by using a combination of potential clients' initials, day of offer and time of offer. Quasi-random, traceable characteristics of the interaction with the prospective client were used to prevent the possibility of promoters or credit officers gaming the system and adjusting offers based on client characteristics. We subsequently changed the randomization procedure to both make compliance monitoring easier logistically, given the large number of offers that were being made, and to allow for stratification of offers. The revised first-stage randomization procedure worked as follows: We assigned a fixed set of offers to each staff member that participated in promoting loans, either promoters, credit officers or front office staff, with the number of assigned offers depending on their role in the process (e.g. more offers to promoters, who had more promotion contacts). The offer sets were divided into blocks of offers. For each staff member, the size of the blocks was calibrated to approximately match the expected number of offers made during a two-week period. Randomization was then stratified by staff-member and block. The offer sequences were pre-loaded into the phones used for prospective client registration and the order of offers as registered was periodically checked by project staff against the pre-defined order of offers.

Section B. Marketing Script and Promotional Brochure

Good morning Sir/Madam. I am visiting you from Fundacion Mario Santo Domingo.

Today we are offering loans to people who wish to strengthen or expand their business.

Any type or size of business can access our offer.

Note for the enumerator: Before continuing make sure the person passes the following filter questions.
- *OWNS THE BUSINESS*
- *BUSINESS HAS BEEN FUNCTIONING FOR 6 MONTHS*
- *DOES NOT HAVE A BAD REPORT IN DATACREDITO*
- *IS NOT OVERINDEBTED*
- *ALSO: **make sure the client does not have an active loan application.***

Did the person pass the filter?
> *No → The person does not qualify for our loans. Move on to the next client.*
>
> *Yes → Continue.*

Are you interested in hearing about the offer that we have available today?
> *No → The person is not interested. Move on to the next house.*
>
> *Yes → Continue.*

If the offer is for a NON-FLEXIBLE loan:

ORANGE KIVA: Kiva NON-FLEXIBLE loan offer

Type of interest:
3% monthly. (36% annually.)
WITHOUT the right to postpone installments

If the offer is for a FLEXIBLE loan:

RED KIVA: Kiva FLEXIBLE loan offer

Type of interest:
3% monthly. (36% annually.)
WITH the right to postpone installments

Is the interviewee interested in the offered product?

Not interested → Thank you very much for your time. We are leaving all the information in this flyer. If you have any questions you can call us on the phone numbers listed there. Have a good day.

Wants to proceed with the application → Thank you very much for your interest. To continue with the loan process I need you to give me some personal information. With these, the loan officer can get in touch with you over the course of the week, and if everything goes well, in 2 or 3 days you will have your loan.

Will think about it → I will leave this flyer with all the information. If you do decide to access our loan, you can call the loan officer whose number is on the flyer. However, to access the offer we gave you today I would need to take some personal information.

Para que lleve control de su crédito flexible:

Plazo de su crédito: _____ meses

Pases disponibles: _____ pases

Pases utilizados: __1 __2 __3 __4 __5 __6

Nombre asesor: _____

Teléfono asesor: _____

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**FUNDACIÓN
MARIO SANTO DOMINGO.**
Por el Desarrollo Social de Colombia

CRÉDITO FLEXIBLE

Yo PROSPERO
microcréditos para grandes sueños

Fundación Mario Santo Domingo
Guía explicativa

CRÉDITO FLEXIBLE

Estimado usuario: **¡Usted es beneficiario de un crédito flexible de la Fundación Mario Santo Domingo!**

¿Qué es?

Un **crédito flexible** le permite aplazar su cuota de capital mensual en cualquier momento durante su crédito.

- Durante el transcurso de su crédito, usted tiene la posibilidad de **aplazar hasta 3 cuotas de capital cada 12 meses.**

- Al aplazar la cuota, **pagará únicamente los intereses** y otros conceptos, pero no el capital.

- El monto de capital que decida aplazar lo pagará escogiendo una de las siguientes **tres opciones**:

  - **Añadiendo una cuota adicional al final del crédito.**
  - **Añadiendo el monto a una cuota específica.**
  - **Repartiendo el monto entre las cuotas restantes.**

- **¡IMPORTANTE!** Al aplazar la cuota de capital:

  - **NO está entrando en mora,** siempre y cuando usted pague la cuota reducida en la fecha especificada en su plan de pagos.
  - **NO afectará su credibilidad crediticia** ante la FMSD.
  - **NO afectará su probabilidad de recibir otro crédito** en el futuro.
  - **NO impedirá** que reciba un crédito de mayor valor en el futuro.

Cada oportunidad de aplazar su cuota de capital se conocerá como **pase.** Aplazar el pago del capital de su cuota mensual ayuda al crecimiento de su negocio y mejora su capacidad de pago. Este producto está diseñado para fortalecer su negocio y así aumentar sus beneficios.

¿Cuándo usar el pase?

Aplace el pago de capital de su cuota mensual haciendo uso de un **pase** cuando:

- Se le presente una **oportunidad de inversión** interesante para su negocio.

- Se le presente una inversión de **ganancias altas pero no inmediatas**.

- Quiera **aprovechar ofertas** en la compra de productos para incrementar sus ganancias.

- Necesite hacer frente a **ingresos bajos** en su negocio.

- Tenga una **calamidad familiar** que le impida cancelar la cuota completa**.**

¡No dude en aprovechar las ventajas de su crédito flexible!

¿Cómo usar el pase?

Para utilizar sus pases siga estos sencillos pasos:

1. **Identifique el evento** por el que le convendría aplazar la parte de capital de su cuota mensual.

2. **Llame al asesor de la FMSD** con anticipación al pago de su cuota del mes y explíquele las razones por las que va a utilizar el pase. Él le indicará el monto a pagar.

3. Realice el pago del **valor indicado por el asesor**, siguiendo su calendario de pagos habitual.

4. **Aproveche el valor del capital** de la cuota para responder a la situación por la cual solicitó el pase.

5. Contacte a su asesor para conseguir su nuevo calendario de pagos y sus **nuevos recibos.**

6. **Pague su crédito cómodamente** según la opción que haya decidido utilizar y disfrute de las ventajas de su crédito flexible.

¡Es muy fácil aprovechar los beneficios de su crédito flexible!

yo PROSPERO
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Appendix Figure 1: Intervention and data collection timeline

	2015				2016			2017					2018			2019
	Oct	Nov	Dec	- -	Jul	Aug	- -	Mar	Apr	May	Jun	- - -	Mar	Apr	- -	Oct

Intervention
   Marketing campaign

   Disbursement of loans

Data collection
   Administrative data

   Phone survey

   10-month follow-up
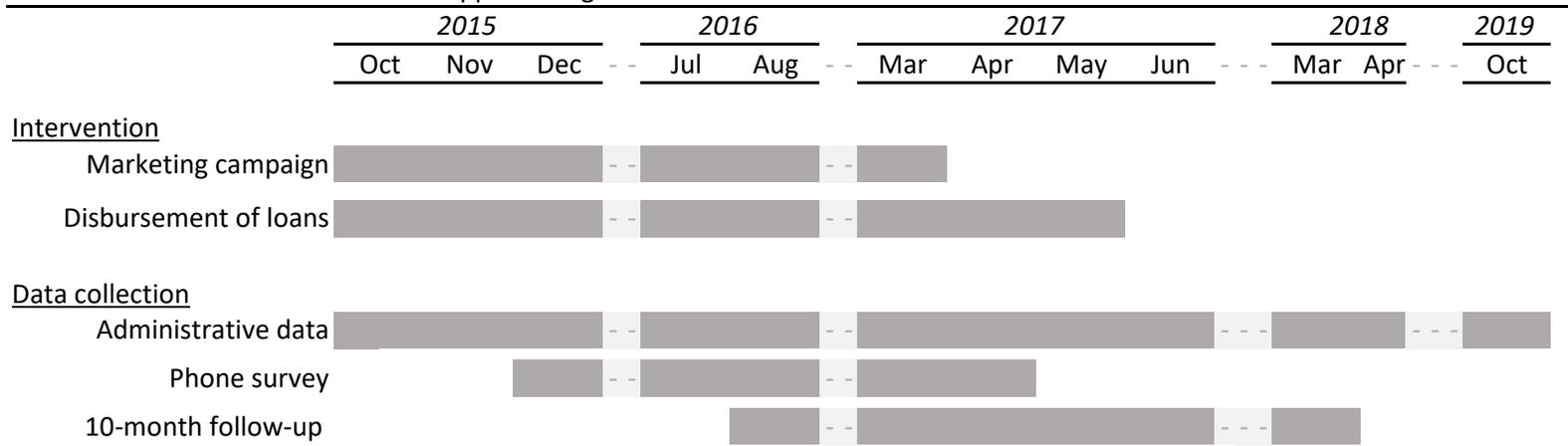
Appendix Figure 2: Pass Use By Proportion of Loan Duration Elapsed

Proportion of initial loan duration elapsed

Extension Pass · No-Extension Pass
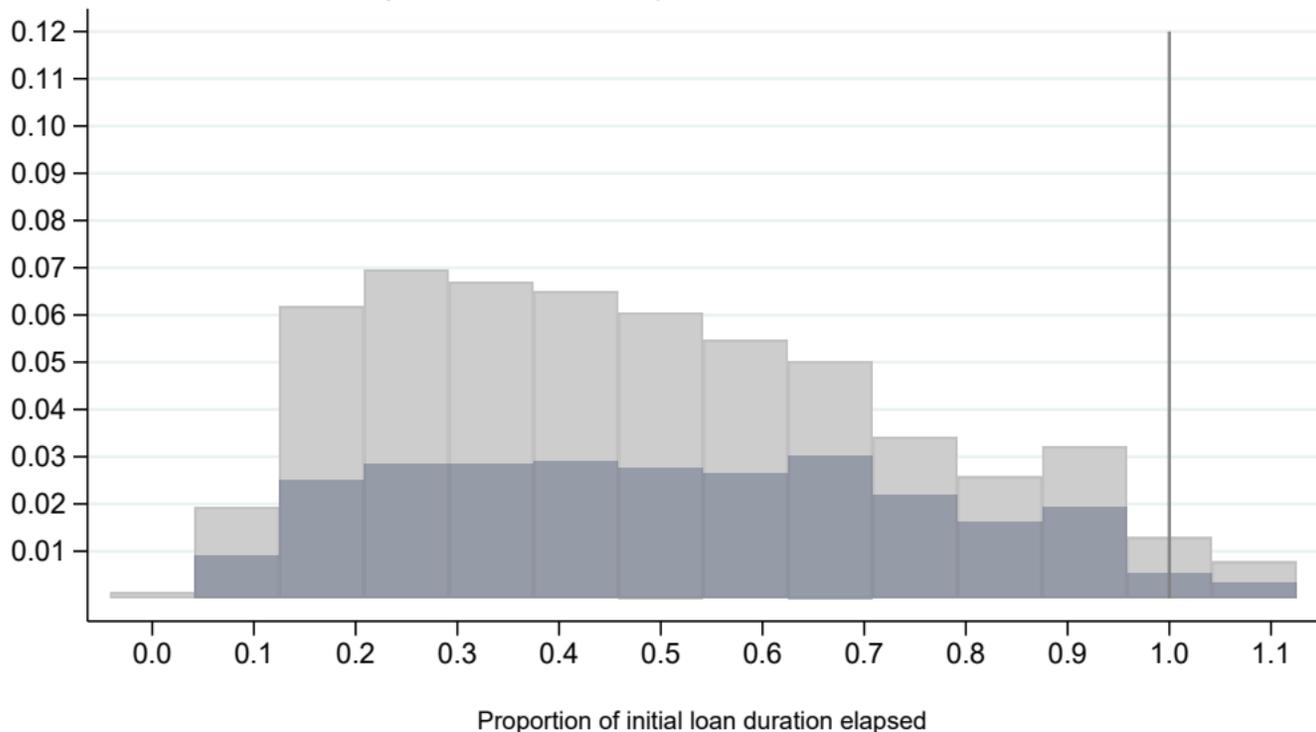
Note: There are two pass uses that are not shown which occurred beyond the end of the graph's range for the horizontal axis (1 in bin 1.333-1.417 and 1 in bin 1.750-1.833).

Appendix Table 1: Flexibility in loan repayment in the literature

Paper	Country	Rural/ urban	Gender	Old or new clients	Type of pass	Length of loan (month)	Liability	Meeting	Number of passes	When can passes be used?	Lag to use it?	Loan size relative to GDP per capita	Selection into flex contract?	Test of selection on observables
BA	India	urban	M	old	3m-block reshuffle per 12m	24	IL	No	2	1 per year, anytime during loan	Yes	33%	yes	yes
BGM	Bangladesh	rural	F[1]	old	1m extension per 12m	12	IL	Yes[1]	2	Anytime during loan	No	25% and 197%	yes	yes
BGK	*Colombia*	*urban*	*mixed*	*new*	*1m reshuffle or extension per 12m*	*12*	*IL*	*No*	*3*	*Anytime during loan*	*No*	*8%*	*no*	*yes*
AKK	India	rural	F	mixed	line of credit	12-36[2]	JL	Yes	NA	Anytime during loan	No	10% or 21% [3]	no	no
FPPR	India	urban	F	old	2m extension per 12m	12	IL	Yes	1	First 2 months (grace period)	NA	22%	no	no
SK	Bangladesh	rural	mixed	new	3m reshuffle per 12m	12	IL	Yes	NA	Lean season	NA	5%	no	no

Notes:

1. The study includes collateral-free loans provided to women with monthly group meetings (Dabi), and larger collateral-backed debt loans to both female and male borrowers without group meetings (Progoti).

2. The loan period was set to 3 years for credit line clients and 1, 1.5 or 2 years for term loan clients.

3. Line of credit size decided by loan officers depending on characteristics of the borrower and their business.

Papers featured: BA: Barbosi and agarwal (2022); BGM: Battaglia, M., S. Gulesci, and A. Madestam (2021); BGK (in **bold italics**): Brune, L, X. Giné and D. Karlan (this paper); FPPR: Field, E., R. Pande, J. Papp, and N. Rigol (2013); SK: Shonchoy, A. and T. Kurosaki (2014) "Impact of Seasonality-adjusted Flexible Microcredit on Repayment and Food Consumption: Experimental Evidence from Rural Bangladesh" IDE Discussion Paper No. 460. AAK: Aragon, F. M., A. Karaivanov, and K. Krishnaswamy (2020). "Credit lines in microfinance: Short-term evidence from a randomized controlled trial in India." Journal of Development Economics, 102497. "Liability" refers to the liability structure. IL refers to individual liability where the borrower is resposible for the repayment of the loan. JL refers to joint liability "Lag to use it?" refers to whether the use of the pass had to be communicated to the lender with a lag of an instalment period or more. "Selection into flex contract?" refers to whether a choice between the Flexible and Standard Contract was given to the borrower.

Appendix Table 2: Sample Repayment Schedule

Loan information

Amount	1,000,000
Duration in months	12
Interest rate p.a.	36%

Repayment schedule

	A. Without pass use				B. With extension pass use in month 4				C. With no-extension pass use in month 4			
	Payments				Payments				Payments			
Month	Total	Principal	Interest	Fees	Total	Principal	Interest	Fees	Total	Principal	Interest	Fees
1	116,858	70,462	30,000	16,396	116,859	70,462	30,000	16,397	116,858	70,462	30,000	16,396
2	116,858	72,576	27,886	16,396	116,859	72,576	27,886	16,397	116,858	72,576	27,886	16,396
3	116,858	74,753	25,709	16,396	116,859	74,753	25,709	16,397	116,858	74,753	25,709	16,396
4	116,858	76,996	23,466	16,396	36,998	0	23,466	13,532	36,998	0	23,466	13,531
5	116,858	79,306	21,156	16,396	116,271	76,996	23,466	15,809	127,951	87,964	23,466	16,521
6	116,858	81,685	18,777	16,396	116,271	79,306	21,156	15,809	133,783	90,603	26,659	16,521
7	116,858	84,135	16,327	16,396	116,271	81,685	18,777	15,809	133,022	93,321	23,180	16,521
8	116,858	86,659	13,803	16,396	116,271	84,135	16,327	15,809	132,238	96,121	19,596	16,521
9	116,858	89,259	11,203	16,396	116,271	86,659	13,803	15,809	131,430	99,005	15,905	16,521
10	116,858	91,937	8,525	16,396	116,271	89,259	11,203	15,809	130,599	101,975	12,103	16,521
11	116,858	94,695	5,767	16,396	116,271	91,937	8,525	15,809	129,742	105,034	8,187	16,521
12	116,858	97,536	2,926	16,396	116,271	94,695	5,767	15,809	128,860	108,185	4,154	16,521
13	0	0	0	0	109,021	97,536	2,926	8,559	0	0	0	0
Sum	1,402,301	1,000,000	205,545	196,756	1,426,764	1,000,000	229,011	197,752	1,435,197	1,000,000	240,312	194,886

Note: Borrowers pay loan insurance fees, sales comission, and administrative fees. Additionally, borrowers who use a pass incur fees when using a pass. Total fees displayed approximate actual fees that borrowers pay. Timing of these fees may have varied in practice, which we omit for simplicity. Total fees spreads pass use fees evenly over remaining post-pass installments -- timing in practice also may vary. The nominal interest rate is 36% per year. Including Fees, Borrowers repay between 1.40 and 1.45 of what they initially borrow. Blue bars represent installment size.

Appendix Table 3: Recruitment Process Balance Tests and Take-up

	(1) Flexible Contract Offers: All Offers Mean	(2) Standard Contract Offers: All Offers Mean	(3) p-value (1)=(2)
Panel A: Recruitment Process			
1. Proportion by recruiter & recruitment location:			
Promoter			
Via door-to-door promotion	0.54	0.51	0.62
At financial event	0.11	0.15	0.02
Credit officer			
At financial event	0.07	0.08	0.91
At branch	0.10	0.08	0.17
Front desk staff			
At financial event	0.07	0.08	0.72
At branch	0.09	0.09	0.95
Other or missing	0.02	0.01	0.03
Total	1.00	1.00	
2. Proportion by branch location:			
Barranquilla	0.70	0.68	0.04
Cartagena	0.30	0.31	0.12
Total	1.00	1.00	
Number of observations	1,925	6,685	
P-value of joint test			0.23
Panel B: Eligibility & Take-up (Proportions)			
Client did not finish filling out initial application	0.25	0.23	0.42
Client's application did not proceed because:			
Negative credit assessment	0.31	0.35	0.04
No co-signer provided	0.10	0.10	0.46
Address not found or not covered	0.02	0.02	0.84
Application withdrawn	0.01	0.01	0.74
No follow-up by credit officers	0.01	0.00	0.25
Loan disbursed (application proceeded)	0.30	0.28	0.53
Total	1.00	1.00	
Number of observations	1,925	6,685	
P-value of joint test			0.67
Panel C: Proportion of offers that led to disbursed loan,			
by recruitment location			
Door-to-door promotion *(N=4,490)*	0.24	0.23	0.49
Financial event *(N=2,518)*	0.23	0.21	0.54
Branch *(N=1,602)*	0.57	0.57	0.69

Notes: Eligibility and take-up regressions control for stratification offer block code. 51 observations (0.59% of the sample) have missing data for the branch location variables in the Recruitment Process section. For the joint test in Column 3, we include an indicator variable for missing for branch location. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4.

Appendix Table 4: Balance for Surprise Flexible Credit Randomization

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Standard-Offer-Flexible-Contract: Disbursed loans		Standard-Offer-Standard-Contract: Disbursed loans		Surprised into Flex Comparison	Flexible Contract (Any Offer): Disbursed loans		Overall Contract Comparison
	Std→Flex		Std→Std		Std→Flex = Std→Std	Std→Flex & Flex→Flex		Std Contract = Flex Contract
					(1)=(3)			(3)=(6)
	Mean	SD	Mean	SD	p-value	Mean	SD	p-value
Panel A: Loan characteristics								
Principal (1000s COP)	1405	974	1401	964	0.90	1417	987	0.74
Term (months)	12.54	3.19	12.63	3.35	0.51	12.58	3.21	0.79
Interest rate (APR)	37	2	37	2	0.22	37	2	0.25
P-value of joint test					0.83			0.87
Panel B: Socioeconomic status (SES) of clients								
Client is female	0.64	0.48	0.65	0.48	0.87	0.65	0.48	0.92
Age of the client (years)	40.57	14.14	41.01	13.87	0.46	40.06	13.9	0.11
Married or in a common-law marriage	0.67	0.47	0.69	0.46	0.31	0.68	0.47	0.50
Some higher education	0.34	0.47	0.34	0.47	0.79	0.35	0.48	0.40
Client is head of household	0.23	0.42	0.24	0.43	0.80	0.22	0.41	0.29
Lives in a house (omitted: apartment or room)	0.88	0.33	0.88	0.33	0.92	0.87	0.33	0.93
Owns home	0.32	0.47	0.34	0.47	0.36	0.32	0.47	0.25
Household income (1000s COP)	1423	793	1450	852	0.49	1450	841	0.98
Household expenses (1000s COP)	807	394	811	386	0.78	814	398	0.83
P-value of joint test					0.97			0.85
Panel C: Business characteristics								
Age of primary business (years)	8.79	7.56	9.41	8.12	0.09	8.84	7.49	0.08
Retail sector	0.64	0.48	0.61	0.49	0.17	0.64	0.48	0.16
Productive sector	0.15	0.36	0.17	0.37	0.31	0.16	0.36	0.44
Services sector	0.21	0.41	0.22	0.42	0.44	0.21	0.40	0.33
Sales (1000s COP)	3155	2998	3216	3229	0.66	3229	3054	0.92
Profits (1000s COP)	502	435	504	452	0.96	512	455	0.78
P-value of joint test					0.38			0.49
Number of observations	971		922		1893	1553		2475
P-value of joint test: loan, SES, and business characteristics					0.90			0.92

Notes: P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4.

Appendix Table 5: Attrition: 10-Month Post-Disbursement Survey

	Dependent Variable: Surveyed at 10-Month Follow-up (=1)				
	Regression with Pooling of Flexible Contracts		Regression Split by Offer for Flexible Contracts		
	(1)	(2)	(3)	(4)	(5)
		Flex Contract interacted with:		Flex→Flex interacted with:	Standard→Flex interacted with:
Flexible Contract (Any Offer)	0.00				
	(0.14)				
Flex-Flex			0.02		
			(0.19)		
Standard-Flex			-0.02		
			(0.16)		
Barranquilla (=1)	0.13***	0.03	0.13***	0.05	0.07
	(0.04)	(0.06)	(0.04)	(0.07)	(0.06)
Female (=1)	0.06*	0.02	0.06*	0.06	-0.02
	(0.03)	(0.04)	(0.03)	(0.05)	(0.05)
Age of the client (10 years)	0.05***	-0.01	0.05***	0.00	-0.02
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Commercial sector (=1)	0.03	-0.06	0.03	-0.04	-0.07
	(0.04)	(0.05)	(0.04)	(0.07)	(0.06)
Services sector (=1)	0.08	-0.08	0.08	-0.08	-0.09
	(0.05)	(0.06)	(0.05)	(0.08)	(0.07)
Household income (millions COP)	0.02	0.01	0.02	0.04	0.01
	(0.03)	(0.04)	(0.03)	(0.05)	(0.04)
Household expenses (millions COP)	-0.12**	0.09	-0.12**	0.06	0.09
	(0.05)	(0.06)	(0.05)	(0.08)	(0.07)
Sales (millions COP)	0.01**	-0.01	0.01**	-0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Profits (millions COP)	0.00	-0.05	0.00	-0.19**	0.01
	(0.05)	(0.07)	(0.05)	(0.08)	(0.07)
Term (months)	0.00	-0.01	0.00	-0.01	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Principal (millions COP)	-0.07**	0.05	-0.07**	0.10**	0.02
	(0.03)	(0.04)	(0.03)	(0.04)	(0.04)
Mean of Dependent Variable	0.69		0.69		
Observations	2,475		2,475		
R-Squared	0.06		0.07		
P-value of F-Tests:					
Treatment = 0	0.98		0.97		
Treatment & Interacted Covariates = 0		0.67		0.17	
Interacted Covariates = 0		0.59		0.26	
Interacted Covariates = 0 (Standard→Flex)				0.65	
Interacted Covariates = 0 (Flex→Flex)					0.14

Notes: Columns 1 and 2 present results for a single regression and columns 3-5 present results for another regression. Regressions control for treatment assignment probability. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

	(1) Flexible Contract (Pooling Offer Types)	(2) Standard Contract	(3) (4) Overall Comparison Std Contract = Flex Contract (1) = (2)		(5) Surprise Flexible Contract	(6) No-Surprise Flexible Contract	(7) (8) Selection Effect Flex→Flex = Std→Flex (5)=(6)	
	Std→Flex & Flex→Flex	Std→Std	Std Contract = Flex Contract (1) = (2)		Std→Flex	Flex→Flex	Flex→Flex = Std→Flex (5)=(6)	
Dependent variable	Mean	Mean	Treat effect (SE)	p-value	Mean	Mean	Treat effect (SE)	p-value
Used at least one pass	0.35	0.02	0.33 (0.01)	0.00	0.34	0.38	-0.04 (0.03)	0.12
Used exactly 1 pass	0.20	0.02	0.18 (0.01)	0.00	0.20	0.21	-0.01 (0.02)	0.56
Used exactly 2 passes	0.09	0.00	0.09 (0.01)	0.00	0.07	0.09	-0.02 (0.02)	0.10
Used exactly 3 passes	0.06	0.00	0.06 (0.01)	0.00	0.05	0.06	0.00 (0.01)	0.86
Used 4 or more passes	0.02	0.00	0.02 (0.00)	0.00	0.02	0.02	-0.00 (0.01)	0.88
Number of passes used	0.60	0.02	0.57 (0.03)	0.00	0.57	0.64	0.07 (0.05)	0.17
Number of extension passes used	0.28	0.02	0.26 (0.02)	0.00	0.28	0.27	0.01 (0.03)	0.69
Number of no extension passes used	0.32	0.01	0.31 (0.02)	0.00	0.29	0.37	0.07 (0.04)	0.02
Used maximum number of passes alloted	0.08	0.00	0.08 (0.00)	0.00	0.08	0.08	-0.00 (0.01)	0.78
Has used pass in the first 20 percent of loan	0.07	0.00	0.01 (0.01)	0.00	0.07	0.07	0.00 (0.01)	0.91
Has used pass in the first half of loan	0.26	0.01	0.25 (0.01)	0.00	0.25	0.28	0.03 (0.02)	0.22
Number of observations	1,553	922	2,475	2,475	971	582	1,553	1,553

Notes: Columns 3 and 4 show results for regressions with Flexible Contracts (pooled Std-Flex and Flex-Flex) as the treatment group and Standard Contracts as the control group. Columns 7 and 8 show results for regressions with Surprise Flexible Contracts (Std-Flex) as the treatment group and No-Surprise Flexible Contracts (Flex-Flex) as the control group. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4.

Appendix Table 7: Client Feedback (from Lender Phone Surveys)

	(1)	(2)	(3)	(4)
	Flexible Contract (Flex→Flex & Std→Flex)			
Panel A: Pass use	Mean	N		
[1] Client knows what a pass is	0.98	345		
[2] Used a pass	0.18	345		
Reasons for pass use				
[3] Personal or family calamity	0.44	62		
[4] Business investment	0.41	62		
[5] Business problems	0.19	62		
[6] Other	0.01	62		
	Comparing Flexible Contract (Flex→Flex & Std→Flex) to Standard Contract (Std→Std)			
Panel B: Client satisfation	Treat effect (SE)	p- value	Std Contract mean	N
[7] Confident or very confident that client will repay	0.02 (0.02)	0.51	0.92	575
[8] Good or very good service quality	0.07 (0.02)	0.00	0.89	575
Reasons for good service				
[9] Quickness	-0.08 (0.04)	0.07	0.39	575
[10] Personalized attention	0.01 (0.04)	0.76	0.24	575
[11] Flexible product	0.14 (0.02)	0.00	0.00	575
[12] Interest rate	0.00 (0.01)	0.73	0.01	575
[13] Kindness	-0.01 (0.04)	0.77	0.38	575
[14] Comfortable installments	0.00 (0.02)	1.00	0.04	575

Notes: Data based on phone survey conducted by the lender. From December 2015 to April 2017 the lender called a random 5% sample of clients in the study at that time per month (stratified additionally by loan officer and credit type, with one client minimum per credit officer, month and credit type). Questions about reasons for pass use were open-ended with both pre-coding of answers by enumerators and free text detail explanation. The knowledge and pass use questions from Panel A were only asked to clients with a flexible loan. A total of 285 flexible loan clients were surveyed, for a total of 345 survey responses (clients could be selected in more than one month's sample). Mean pass use for the December 2015 to April 2017 period was 0.187 for all flexible loan clients according to lender administrative data. This is similar to the self-reported pass use mean reported in row 2. Out of the 345 survey responses, 320 (93%) had pass use recall that was congruent with the lender administrative data. An additional 3% of the 345 survey responses had discrepancies between self-reported pass use and pass use from administrative data that were likely due to minor lags in the reporting of pass use in the administrative records. In these instances, clients claimed to have used a pass already and the administrative records indicated they had not. The following month the adminsitrative records indicated the clients had indeed used a pass, which is an indication that these discrepancies were due to minor lags in recording pass use. Panel B: Columns 1 and 2 show results for regressions with Flexible Contracts (pooled Std-Flex and Flex-Flex) as the treatment group and Standard Contracts as the control group. For the outcome in row 7 clients were asked how confident they were that they would be able to repay their loan, on a 1-5 scale from very unconfident to very confident. The outcome is a dummy equal to 1 if the client gave an answer of either confident or very confident. For the outcome in row 8 clients were asked how the lender's service quality had been so far, on a 1-5 scale from very bad to very good. The outcome is a dummy equal to 1 if the client gave an answer of either good or very good. For the outcomes in rows 9-14 the clients were asked what in particular they had liked about the lender's service. Respondents were not provided with options, but were asked to name everything they liked about the service, and the enumerator would select the reasons mentioned from a list of pre-coded answers. These questions were asked before the questions on pass use asked for flexible clients shown in Panel A. A total of 457 clients were surveyed, for a total of 575 survey responses (clients could be selected in more than one month's sample). P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4. Standarrd errors are clustered at the client level and shown in parentheses.

Appendix Table 8: Contract and Selection Effects in Default for Borrowers Who Got Loans From Door-to-Door Salespeople

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Standard Contract	Flexible Contract (Pooling Offer Types)	Overall Comparison	No-Surprise Flexible Contract	Surprise Flexible Contract	Selection Effect	Contract Effect
	Std→Std	Std→Flex & Flex→Flex	Std Contract = Flex Contract	Flex→Flex	Std→Flex	Flex→Flex = Std→Flex	Std→Std = Std→Flex
			(1)=(2)			(4)=(5)	(1)=(5)
Dependent variable	Mean (SD)	Mean (SD)	p-value	Mean (SD)	Mean (SD)	p-value	p-value
Panel A: Default, unadjusted							
Proportion of principal in default at 3 months post maturity	0.15 (0.22)	0.16 (0.23)	0.45	0.15 (0.23)	0.16 (0.24)	0.98	0.43
Proportion of principal in default at 12 months post maturity	0.12 (0.20)	0.13 (0.22)	0.23	0.12 (0.22)	0.14 (0.22)	0.95	0.24
Missed a due payment (=1)	0.61 (0.49)	0.62 (0.49)	0.95	0.58 (0.49)	0.64 (0.49)	0.27	0.53
Got a new loan (=1)	0.33 (0.47)	0.33 (0.47)	0.98	0.35 (0.48)	0.32 (0.47)	0.44	0.72
Number of observations	387	648	1,035	248	400	648	787
Panel B: Default, residuals after predicting default with observables							
Proportion of principal in default at 3 months post maturity	0.01 (0.21)	0.02 (0.22)	0.48	0.02 (0.22)	0.02 (0.23)	1.00	0.46
Proportion of principal in default at 12 months post maturity	0.01 (0.20)	0.03 (0.21)	0.21	0.02 (0.21)	0.03 (0.21)	0.90	0.24
Missed a due payment (=1)	0.01 (0.46)	0.01 (0.48)	0.89	-0.02 (0.49)	0.04 (0.47)	0.22	0.44
Got a new loan (=1)	0.01 (0.45)	0.01 (0.47)	0.92	0.03 (0.48)	0.00 (0.46)	0.45	0.81
Number of observations	387	648	1,035	248	400	648	787

Notes: In Panel B, we obtain residuals after regressing default outcomes on the 18 observable characteristics from Table 1 for the Standard Contract group, controlling for treatment assignment probability. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4. Note on outstanding principal: 238 borrowers have a slightly incorrect version of the outcome variable "remaining outstanding principal." Outstanding principal comes from FMSD administrative data. FMSD also provide us with the loan's repayment status over time. We see exactly when the lender classifies a loan as delinquent and subsequently "cancels" the loan. The initial administrative data did not report payments after the loan was "canceled." The bank offered these delinquent borrowers an opportunity to restructure their remaining debt after their loan got "canceled." These borrowers had the opportunity to continue paying outstanding principal with reduced interest and fees. Since these payments occur after the bank cancels the loan, we do not observe whether delinquent borrowers continue paying their loans. Furthermore, we do not observe the reduction in interest and fees that the bank offers to customers as a part of the re-structuring. In order to properly record payments that delinquent borrowers make, we obtain lender administrative data on every payment that our sample borrowers make from 2015 to 2019. By merging the payment records with the rest of the administrative data, we observe payments that delinquent borrowers make after the bank canceled their loan and reaches out with a restructured proposal. We subtract the payments that borrowers make after their loan gets canceled from their last outstanding principal before the bank "canceled" their loan. The payment data do not distinguish between principal, interest, and fees. We only observe the payment that each borrower makes in a given month. Since our outcome variable is outstanding principal, subtracting a payment that includes interest and fees gives us an incorrect calculation of a borrower's outstanding principal. This means that the 238 borrowers who repay after the borrower cancels their loan have an incorrect measure of outstanding principal for the time after their loan gets canceled.

Appendix Table 9: Contract and Selection Effects in Default for Borrowers Who Got Loans At FMSD Promotional Events

Dependent variable	(1) Standard Contract	(2) Flexible Contract (Pooling Offer Types)	(3) Overall Comparison	(4) No-Surprise Flexible Contract	(5) Surprise Flexible Contract	(6) Selection Effect	(7) Contract Effect
	Std→Std	Std→Flex & Flex→Flex	Std Contract = Flex Contract	Flex→Flex	Std→Flex	Flex→Flex = Std→Flex	Std→Std = Std→Flex
			(1)=(2)			(4)=(5)	(1)=(5)
	Mean (SD)	Mean (SD)	p-value	Mean (SD)	Mean (SD)	p-value	p-value
Panel A: Default, unadjusted							
Proportion of principal in default at 3 months post maturity	0.10 (0.18)	0.14 (0.22)	0.01	0.15 (0.23)	0.14 (0.23)	0.61	0.03
Proportion of principal in default at 12 months post maturity	0.08 (0.17)	0.11 (0.21)	0.04	0.11 (0.19)	0.11 (0.22)	0.82	0.05
Missed a due payment (=1)	0.53 (0.50)	0.56 (0.50)	0.51	0.60 (0.49)	0.54 (0.50)	0.28	0.86
Got a new loan (=1)	0.36 (0.48)	0.35 (0.48)	0.73	0.35 (0.48)	0.25 (0.48)	0.97	0.72
Number of observations	204	327	531	106	211	327	425
Panel B: Default, residuals after predicting default with observables							
Proportion of principal in default at 3 months post maturity	0.00 (0.18)	0.05 (0.22)	0.01	0.05 (0.21)	0.04 (0.22)	0.70	0.04
Proportion of principal in default at 12 months post maturity	0.00 (0.16)	0.03 (0.20)	0.06	0.03 (0.19)	0.04 (0.21)	0.70	0.07
Missed a due payment (=1)	0.04 (0.49)	0.05 (0.49)	0.83	0.08 (0.48)	0.04 (0.49)	0.40	0.92
Got a new loan (=1)	-0.03 (0.48)	-0.04 (0.47)	0.83	-0.04 (0.47)	-0.04 (0.47)	0.98	0.85
Number of observations	204	327	531	106	211	327	425

Notes: In Panel B, we obtain residuals after regressing default outcomes on the 18 observable characteristics from Table 1 for the Standard Contract group, controlling for treatment assignment probability. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4. Note on outstanding principal: 238 borrowers have a slightly incorrect version of the outcome variable "remaining outstanding principal." Outstanding principal comes from FMSD administrative data. FMSD also provide us with the loan's repayment status over time. We see exactly when the lender classifies a loan as delinquent and subsequently "cancels" the loan. The initial administrative data did not report payments after the loan was "canceled." The bank offered these delinquent borrowers an opportunity to restructure their remaining debt after their loan got "canceled." These borrowers had the opportunity to continue paying outstanding principal with reduced interest and fees. Since these payments occur after the bank cancels the loan, we do not observe whether delinquent borrowers continue paying their loans. Furthermore, we do not observe the reduction in interest and fees that the bank offers to customers as a part of the re-structuring. In order to properly record payments that delinquent borrowers make, we obtain lender administrative data on every payment that our sample borrowers make from 2015 to 2019. By merging the payment records with the rest of the administrative data, we observe payments that delinquent borrowers make after the bank canceled their loan and reaches out with a restructured proposal. We subtract the payments that borrowers make after their loan gets canceled from their last outstanding principal before the bank "canceled" their loan. The payment data do not distinguish between principal, interest, and fees. We only observe the payment that each borrower makes in a given month. Since our outcome variable is outstanding principal, subtracting a payment that includes interest and fees gives us an incorrect calculation of a borrower's outstanding principal. This means that the 238 borrowers who repay after the borrower cancels their loan have an incorrect measure of outstanding principal for the time after their loan gets canceled.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Standard Contract	Flexible Contract (Pooling Offer Types)	Overall Comparison	No-Surprise Flexible Contract	Surprise Flexible Contract	Selection Effect	Contract Effect
	Std→Std	Std→Flex & Flex→Flex	Std Contract = Flex Contract	Flex→Flex	Std→Flex	Flex→Flex = Std→Flex	Std→Std = Std→Flex
			(1)=(2)			(4)=(5)	(1)=(5)
Dependent variable	Mean (SD)	Mean (SD)	p-value	Mean (SD)	Mean (SD)	p-value	p-value
Panel A: Default, unadjusted							
Proportion of principal in default at 3 months post maturity	0.12 (0.21)	0.16 (0.24)	0.01	0.16 (0.24)	0.16 (0.24)	0.71	0.03
Proportion of principal in default at 12 months post maturity	0.10 (0.20)	0.12 (0.22)	0.03	0.13 (0.22)	0.12 (0.21)	0.40	0.13
Missed a due payment (=1)	0.58 (0.49)	0.64 (0.48)	0.06	0.64 (0.48)	0.64 (0.48)	0.42	0.16
Got a new loan (=1)	0.32 (0.47)	0.31 (0.46)	0.72	0.29 (0.45)	0.32 (0.47)	0.13	0.76
Number of observations	331	578	909	228	350	578	681
Panel B: Default, residuals after predicting default with observables							
Proportion of principal in default at 3 months post maturity	-0.02 (0.20)	0.03 (0.23)	0.00	0.02 (0.23)	0.03 (0.23)	0.86	0.01
Proportion of principal in default at 12 months post maturity	-0.01 (0.19)	0.02 (0.21)	0.01	0.02 (0.21)	0.02 (0.21)	0.51	0.05
Missed a due payment (=1)	-0.04 (0.47)	0.01 (0.48)	0.07	0.02 (0.49)	0.02 (0.48)	0.55	0.14
Got a new loan (=1)	0.01 (0.44)	-0.01 (0.46)	0.54	-0.03 (0.45)	0.00 (0.47)	0.25	0.94
Number of observations	331	578	909	228	350	578	681

Notes: In Panel B, we obtain residuals after regressing default outcomes on the 18 observable characteristics from Table 1 for the Standard Contract group, controlling for treatment assignment probability. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4. Note on outstanding principal: 238 borrowers have a slightly incorrect version of the outcome variable "remaining outstanding principal." Outstanding principal comes from FMSD administrative data. FMSD also provide us with the loan's repayment status over time. We see exactly when the lender classifies a loan as delinquent and subsequently "cancels" the loan. The initial administrative data did not report payments after the loan was "canceled." The bank offered these delinquent borrowers an opportunity to restructure their remaining debt after their loan got "canceled." These borrowers had the opportunity to continue paying outstanding principal with reduced interest and fees. Since these payments occur after the bank cancels the loan, we do not observe whether delinquent borrowers continue paying their loans. Furthermore, we do not observe the reduction in interest and fees that the bank offers to customers as a part of the re-structuring. In order to properly record payments that delinquent borrowers make, we obtain lender administrative data on every payment that our sample borrowers make from 2015 to 2019. By merging the payment records with the rest of the administrative data, we observe payments that delinquent borrowers make after the bank canceled their loan and reaches out with a restructured proposal. We subtract the payments that borrowers make after their loan gets canceled from their last outstanding principal before the bank "canceled" their loan. The payment data do not distinguish between principal, interest, and fees. We only observe the payment that each borrower makes in a given month. Since our outcome variable is outstanding principal, subtracting a payment that includes interest and fees gives us an incorrect calculation of a borrower's outstanding principal. This means that the 238 borrowers who repay after the borrower cancels their loan have an incorrect measure of outstanding principal for the time after their loan gets canceled.