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GIVE ME A PASS: FLEXIBLE CREDIT FOR ENTREPRENEURS IN COLOMBIA

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ABSTRACT

Microcredit promised business growth for small firms lacking access to banking loans. Yet while reaching millions, recent randomized evaluations suggest limited average business impacts. Critics often blame contract rigidity, specifically the fixed and frequent installments, for the lack of productive risk-taking. But such rigidity may instill borrower discipline. We partnered with a Colombian lender that offered first-time borrowers a flexible loan that permitted delaying up to three monthly repayments. We find null effects for revenue and profits but increases in loan defaults. The evidence thus aligns with established microlender practice of offering rigid contracts to first-time borrowers.

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1. Introduction

Most small firms the world over have large month-to-month fluctuations in their income stream (Fafchamps et al., 2014). Contributing to this volatility are anticipated shocks due to seasonality, as well as unanticipated shocks such as business opportunities, health shocks, etc.

In credit markets with full information, lenders would "match cash flows", i.e., provide firms with credit terms that tailors disbursals and repayments to cash needs and flows. A simple example of such an instrument is a line of credit. More complex structures in the same 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 whenever shocks are predicted and observable. 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 and because entrepreneurs would misreport actual revenues, full revenue-sharing contracts are nonexistent (del Mel et al. 2020, 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 (de Aghion and Morduch, 2007, Labie et al 2017). Borrowers may adjust to these terms by holding cash back or by passing on high (risk-adjusted) return investments (Fischer, 2013; Field et al., 2013; Karlan and Mullainathan, 2007). And perhaps due to this rigidity, microfinance loans have had limited impacts on the profitability and growth of firms (Banerjee et al., 2015; Crépon et al, 2015).

Recent attempts to introduce flexibility in repayment by allowing existing microfinance clients to choose between the standard (rigid) contract and one that delays repayment when faced with a shock or investment opportunity have shown that flexibility can improve business outcomes without deteriorating repayment rates (Barboni and Agarwal, 2022; Battaglia et al., 2021). Providing flexibility could however be detrimental to the lender if the rigid repayment structure fosters discipline in the face of temptations or procrastination. Committing to fixed, frequent repayments may create good repayment habits especially lacking in new clients (Bauer et al., 2012; Fischer and Ghatak, 2010, Labie et al., 2017).

This discussion suggests that flexibility may work better if only offered to borrowers that have successfully repaid multiple loans and thus have demonstrated financial discipline. But doing so may preclude a potentially profitable expansion of the client base: flexibility could attract new, (in expectation) profitable clients uninterested in the standard microcredit loan due to its rigidity. Indeed, those rejecting rigidity may be revealing a high personal cost of default (e.g., due to personal ethics or reputation) and such borrowers are quite desirable for the bank. If the share of such entrepreneurs is large, then flexibility should be offered to new borrowers.

We test these claims by introducing flexibility, in a two-stage offer-contract design, to potentially new clients of a microlender in urban Colombia. The flexible credit feature allows borrowers at any time during

the loan to use a "pass", 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 allows us to test both for selection effects as well as contract effects on choices and outcomes after borrowing. The experimental design employs three treatment arms: (1) Flex→Flex is offered and disbursed the flexible credit, (2) Std→Flex is offered the standard credit but then surprised with the flexible credit at disbursement, and (3) Std→Std is offered and disbursed the standard rigid credit.

We report two main findings. First, there are no difference 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 that the share of profitable entrepreneurs that reject the standard contract but would accept the flexible contract is small. Second, flexibility increases default among first-time borrowers. It also leads to more satisfaction with the product but not to higher retention among successful borrowers.

These results thus offer a cautionary tale about providing flexibility to inexperienced borrowers. Financial institutions offering flexibility would not increase their client base significantly and may experience higher defaults, perhaps explaining why only rigid contracts are typically offered to first-time borrowers. In our case, shortly after the start of the study the lender adopted a version of flexibility for all non-study loans. It viewed the use of passes as a simple way of handling repayment difficulties. Crucially, however, only credit officers (and not clients) decided when to use a pass and clients remained unaware of the feature. Thus pass use became more of a tool for credit officers to adjust default and pursue enforcement and refinancing when needed.

We contribute to the small but growing literature that investigates flexibility in microfinance contracts. 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 benefiting from the upside of the increased return. Barboni and Agarwal (2022) shows that a three-month block repayment holiday per 12 months loan duration, communicated in advance, 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 MFI by the borrower one month in advance, the product flexibility only targets income fluctuations or profit opportunities that are anticipated. The flexible loan that is closest to ours is studied in Battaglia et al. (2021). Borrowers are given two passes (instead of our three) on a 12-month loan that can be used at any point during the loan tenure, catering to both expected and unexpected shocks. 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 the sample: the above are all on *current* borrowers that have successfully repaid several loans, while we study first-time borrowers (to study both the selection effect explicitly as well as a population that has not yet demonstrated financial discipline).

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; Beaman et al., 2020; Jack et al., 2018; Ahlin et al., 2020).

2. Credit Product and Experimental Design

Setting

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 in 2015, when the study began. The experiment took place in the urban branches of Barranquilla (head office with 11-14 loan officers during the study period) and Cartagena (with 6-9 credit officers). 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 penalty. 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%.[1] Borrowers with one 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 more repayment flexibility. In particular, the flexible credit introduced "passes" that allowed borrowers to pay only the interest and fees of the monthly installment, postponing the payment of the principal, without penalties for missed payments (although the skipped principal amount accrued interest at the same rate as the original loan).[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.

When using a pass, borrowers had two options to repay the principal. The loan maturity could be extended by one month, without changing the amount of the remaining monthly installments, or alternatively, clients could pay the postponed principal (plus accruing interest) in one or more payments within the original loan term. Appendix Table 1 compares this flexible loan to others studied in the literature.

The product was piloted for several months on a small set of clients and the lender's IT systems were modified to allow for the use of passes. Except for the repayment flexibility, the new credit product was identical to the standard credit offered by the lender in terms of eligibility criteria, size, initial loan length and other loan characteristics.

[1] See Appendix B for details.

[2] Since the installment amount was fixed every month, the interest payment made up a larger portion of the installment in the early months compared to later months. As a result, early pass usage resulted in lower amounts of principal being skipped.

Experimental Design

Figure 1 provides an overview of the experimental design, which had two stages of randomization. In the first stage, potential first-time clients were offered either a standard loan or a flexible loan described above. 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 clients that received the standard loan offer were switched to a flexible loan by surprise (Karlan and Zinman, 2009). As a result, our design has three experimental groups: "Flex-Offer→Flex-Credit", "Standard-Offer→Flex-Credit", "Standard-Offer→Standard-Credit".

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

<u>Sample recruitment and randomization of first stage (initial offers)</u>

From 2015 to 2017, 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 2 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. We developed and subsidized this new recruitment strategy to increase new-client growth. Teams of door-to-door promoters were integrated into the traditional marketing process that had previously relied on credit officers working alone and walk-ins into the branches. The team of promoters accompanied credit officers in their assigned neighborhoods, helped approach potential clients and elicited basic interest for the specific product offered (see Appendix A for an English translation of the scripts used). In addition to the door-to-door visits by promoters, about 30% of potential clients were recruited during public "financial" events organized by the local mayor's office or directly by FMSD.[3] The remaining potential clients called up credit officers directly or visited the branch.

Once potential clients were registered, regardless of how they were recruited, credit officers followed-up with a visit where eligibility was assessed, and the randomized offer was made along with an explanation of the product. All prospective clients also received a leaflet with information about the loan when it was first described (see Appendix Figure 1 for a sample of the flex product flyer in Spanish). Loan applications

[3] 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 available 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.

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 if they did not visit the branch for the loan disbursement.

Recruitment into the study took place continuously over 18 months, from October 2015 to March 2017. Overall, 22.4% of potential clients were assigned to a flexible offer (see Appendix B for further details). Panel A of Appendix Table 2 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)

Half of approved standard loans were randomly switched to flexible loans at disbursement based on the observed distribution of the last three digits of the national identification document using the loan dataset of our partner MFI. There were 1,893 standard loan offers 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. Clients had the option to refuse the switch to the flexible loan but in practice this did not occur.[4]

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 administrative data from the bank, we compare takers of the standard offer who received a standard loan with those who were switched to a flexible loan. Appendix Table 3 shows means and standard deviation 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. We conclude that the randomization produced comparable groups.

3. Data

We draw on several data sources. First, we use self-reported data collected from prospective clients by credit officers at time of the loan application. These data include self-reports about household and business characteristics.

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 actual loan maturity

[4] During the first weeks of product field testing, only one participant noted that they would prefer a standard loan to avoid the temptation of using passes.

(and 99.3% until 12 months past maturity), with loan maturity accounting for extensions due to passes. These administrative data span 49 months from October 2015, when the first loans were disbursed, until October 2019, which is 30 months after the last set of loans were disbursed.

Third, we have data from client satisfaction phone surveys conducted by the lender on a subsample of study clients. The phone calls were made by staff from the lender to 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 from November 2015 through April 2017, stratified 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 5.7 months after loan disbursement.

Lastly, we conducted a follow-up survey targeting the sample of FMSD clients that were recruited as part of our experiment. This survey was brief (median survey duration was 34 minutes) and done in person at clients' businesses or homes around 10 months (standard deviation was two months) after the loan disbursement. Since loans were disbursed over time, the survey was conducted on a rolling basis to ensure that a similar time had elapsed since loan disbursement. Respondents were asked about loan repayment behavior and a set of business and household outcomes. We achieved a response rate of 69%, comparable across the different experimental arms in levels and composition (see Appendix Table 4).[6] Appendix Figure 2 shows the timeline of the experiment and related data collection.

Take-up and selection

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 2 shows that the difference in disbursement rates by type of credit offers is not statistically significant (p-value is 0.53). Among those who applied, the most common reason for a loan not being disbursed was a negative credit assessment. Overall, the outcome of the application and eligibility process was similar for both groups (p-value of joint test is 0.67).

Panel C of Appendix Table 2 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.

[5] The target sampling rate was initially set to 20% of clients for the first 3 months of the experiment and later lowered to 5% for the remainder, always subject to a minimum number two calls to be made 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.

This lack of differences in take-up *rates* between the offers of standard and flexible loans suggests that we are unlikely to see differential composition of clients across the two groups. This is supported by the data presented in Table 1 which 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 of Table 1 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 is 0.81), client characteristics (p-value is 0.37), business characteristics (p-value is 0.81) and all characteristics combined (p-value is 0.79). We thus conclude that there is no evidence of differential selection on observables using a wide range of observable characteristics.

We now examine selection on unobservable characteristics by focusing on the use of flexible passes described in Figure 1 and Appendix Table 5. About a third of flexible clients used a pass at any point during the loan (Appendix Table 5, column 1), compared with only 2% among clients of the standard loan (column 2).[7] Most clients who use a pass at all use only one pass but 40% of clients who use a pass, used more than one.

Flexible loan clients used 0.58 passes on average, roughly evenly split across extension-type passes that added to the maturity of the loan and no-extension type passes for which the skipped principal had to be paid within the original loan duration. This low pass use is consistent with only 6% of flexible credit clients using the maximum number passes.

Columns 5 and 6 of Appendix Table 5 compare pass use among clients initially offered the standard loan that was later switched to a flexible loan to clients offered initially the flexible loan. P-values of a test of equality of means in column 8 show only one difference out of 9 (number of no-extension passes used) that is statistically significant at the 5% level.

We thus conclude that there is no evidence of differential selection on unobservables, at least in pass use. In Section 4 we examine default rates and find similar results. As a result, we 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 exist many profitable entrepreneurs who reject the standard loan but would accept the flexible loan if offered. It contrasts, however, with Barboni and Agarwal (2022) that finds that individuals that accept a flexible loan are more financially sophisticated and have significantly 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 6 reports that almost all flexible credit clients (98%) understood the use of passes. Unlike Barboni and Agarwal (2022) that required a month-long lag between communication and actual use of the pass, in our study passes could be used immediately and thus borrowers were more subject to temptation or

[7] Since a small percentage of standard loan clients were given passes, the mean in column 2 is not zero.

procrastination in repaying the loan. In addition, unlike most other papers that introduce flexibility, our study sample consisted of first-time borrowers that perhaps were less financially disciplined.[8]

In addition, the low use of passes early in 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 unexpected negative shocks to business or household finances or to business opportunities as they arise. Clients could also simply be postponing the repayment into the future: given the fixed-installment repayment schedule, the principal portion that was skipped with the pass was relatively low in the beginning of the loan and increased over time and so clients may have decided to save their passes for later in the loan's duration. Anecdotal evidence also suggests that some loan officers may have advised clients not to use passes early on, perhaps because of the relatively lower skipped amount or due to portfolio risk concerns.

Appendix Figure 3 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 actual months. Pass use is lowest on average in the first quarter of the loan's duration, increasing until pass use reaches its highest point at around the halfway mark.

Panel A of Table 5 also reports the reasons for the use of the pass given by clients who had used them.[9] 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. We find that 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 use it to deal with a personal or family calamity and 19% used a pass to deal with business problems.

4. Empirical Strategy and results

Given the randomization of initial offers, we estimate the average treatment effect of assignment to a flexible contract relative to assignment to a standard contract. Since the probability of assignment to a flexible credit offer changed during the experiment, this introduces a potential source of bias in the standard estimation equation.[10] If clients recruited in the earlier part of the experiment differ from those in the later part, treatment assignment will be correlated with client characteristics. Moreover, simply adding an indicator for the early/late recruitment period as a control will not in general lead to an unbiased estimator of the average treatment effect unless treatment effects are the same in both periods

[8] Battaglia et al. (2021) studies the same pass as here and also finds positive selection of new clients, although these borrowers will not access flexibility until selected by credit officers after successfully repaying several loans.
[9] The rate of pass usage among this 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 relatively on average six months into the loan. When keeping the sample fix, the reported rates of pass usage match closely with those of the administrative data.
[10] In the beginning of the sample recruitment, the probability of receiving a flexible offer was 33% but about a third of into the recruitment period, it was lowered to 20%.

(Gibbons et al. 2019). Instead, we estimate treatment effects separately for the two periods and calculate a weighted average of the estimates based on the two periods' sample frequencies. Formally, we estimate the following regression equation for client *i*:

$$(1)\ Y_i = \alpha + \beta_1\left(T_i * R_{1,i}\right) + \beta_2\left(T_i * (1 - R_{1,i})\right) + \gamma R_{1,i} + Y_{0,i} + \epsilon_i,$$

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 and $Y_{0,i}$ denotes its baseline value, if 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 (ATE) by averaging the estimates for β_1 and β_2, using sample frequency weights:

$$(2)\ \hat{\beta}_{ATE} = \omega_1\hat{\beta}_1 + (1 - \omega_1)\hat{\beta}_2,$$

where ω_1 is the proportion of households who were assigned to treatment using the earlier treatment probability.

Results

We study the effect of assignment to a flexible contract on client satisfaction as well as repayment behavior, business, and household outcomes.

Panel B of Appendix Table 5 reports client satisfaction with the loan using data from the lender phone survey. To keep answers comparable across treatment arms, satisfaction was asked before pass use questions. 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, an increase of 8 percent relative to the satisfaction among standard loan borrowers. Among the reasons given for good service, the flexibility of the product was the only statistically significant one at conventional levels (p-value 0.00).

Columns 1 and 2 of Table 2 report default 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, controlling for treatment assignment probability. These regressions of default outcomes on observable characteristics have R-squared values ranging from 0.07 to 0.10.

Regardless of the panel used, the flexible contract group has 4 (3) percentage points higher proportion of the principal in default 3 (12) months after maturity. Column 3 of Table 2 reports the p-value of equality of means and shows that this increase in default is significant at conventional levels (p-value is 0.00). Columns 4 and 5 report the means of the default outcomes in column 2 separating by whether the initial

offer was the flexible contract (column 4) or the standard contract (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 very similar to column 3 as overall differences in outcomes are attributable solely to differences in the contract.

Tables 3 and 4 report the effects of flexibility on main business outcomes, financing and stress-related outcomes using data from the follow up survey. Column 1 reports the ATE described in Equation 2 above, column 2 reports its p-value, column 3 reports the mean of the dependent variable for the Standard Contract group while columns 4 and 5 report the sample sizes of the Flexible and Standard Contract groups, respectively.

According to Table 3, there are no impact on key outcomes such as sales, profits, or investment. 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 significant. Borrowers of the flexible loan appear to have slightly more businesses and to have diversified more into a secondary business.

Table 4 reports no changes in additional businesses or financing outcomes and no change in an overall loan-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 an overall stress index although flexible loan borrowers report being less nervous or stressed.

In sum, we find no changes in revenues or profits 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 (Chernozhukov et al. 2018), 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 that lenders would not grow its client base significantly if it offered flexibility to new clients. In addition, first-time borrowers of the flexible loan had higher default rates and limited downstream benefits. These results help explain why lenders offer rigid loans, particularly to first-time borrowers.

The epilogue to the study is indicative of a broader challenge. Encouraged by the higher customer and staff satisfaction with flexibility, the lender decided to introduce a modified version of the flex loan for non-study loans. Flexibility however was afforded to credit officers rather than to clients directly, contrary to theory recommendations. Indeed, clients were not informed of the flexibility. Instead, credit officers were allowed to use a pass when default occurred as a result of a negative shock (and not moral hazard). While such a policy may have its merits, it clearly deviates from the goal of designing a product that allows borrowers fearful of default 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 working to learn more about how products can better "match cash flows" both with respect to timing and risk.

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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

	(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							
Missed a payment	0.58	0.61	0.16	0.61	0.61	0.73	0.22
	(0.49)	(0.49)		(0.49)	(0.49)		
Proportion of principal in default at 3 months post maturity	0.13	0.17	0.00	0.16	0.17	0.75	0.00
	(0.21)	(0.24)		(0.23)	(0.24)		
Proportion of principal in default at 12 months post maturity	0.10	0.13	0.00	0.12	0.13	0.65	0.01
	(0.19)	(0.22)		(0.21)	(0.22)		
Number of observations	922	1,553	2,475	582	971	1,553	1,893
Panel B: Default, residuals after predicting default with observables							
Missed a payment	0.00	0.02	0.23	0.01	0.03	0.95	0.22
	(0.47)	(0.48)		(0.48)	(0.48)		
Proportion of principal in default at 3 months post maturity	0.00	0.04	0.00	0.04	0.04	0.91	0.00
	(0.20)	(0.23)		(0.23)	(0.23)		
Proportion of principal in default at 12 months post maturity	0.00	0.03	0.00	0.02	0.03	0.79	0.00
	(0.19)	(0.21)		(0.21)	(0.21)		
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.

Table3: 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

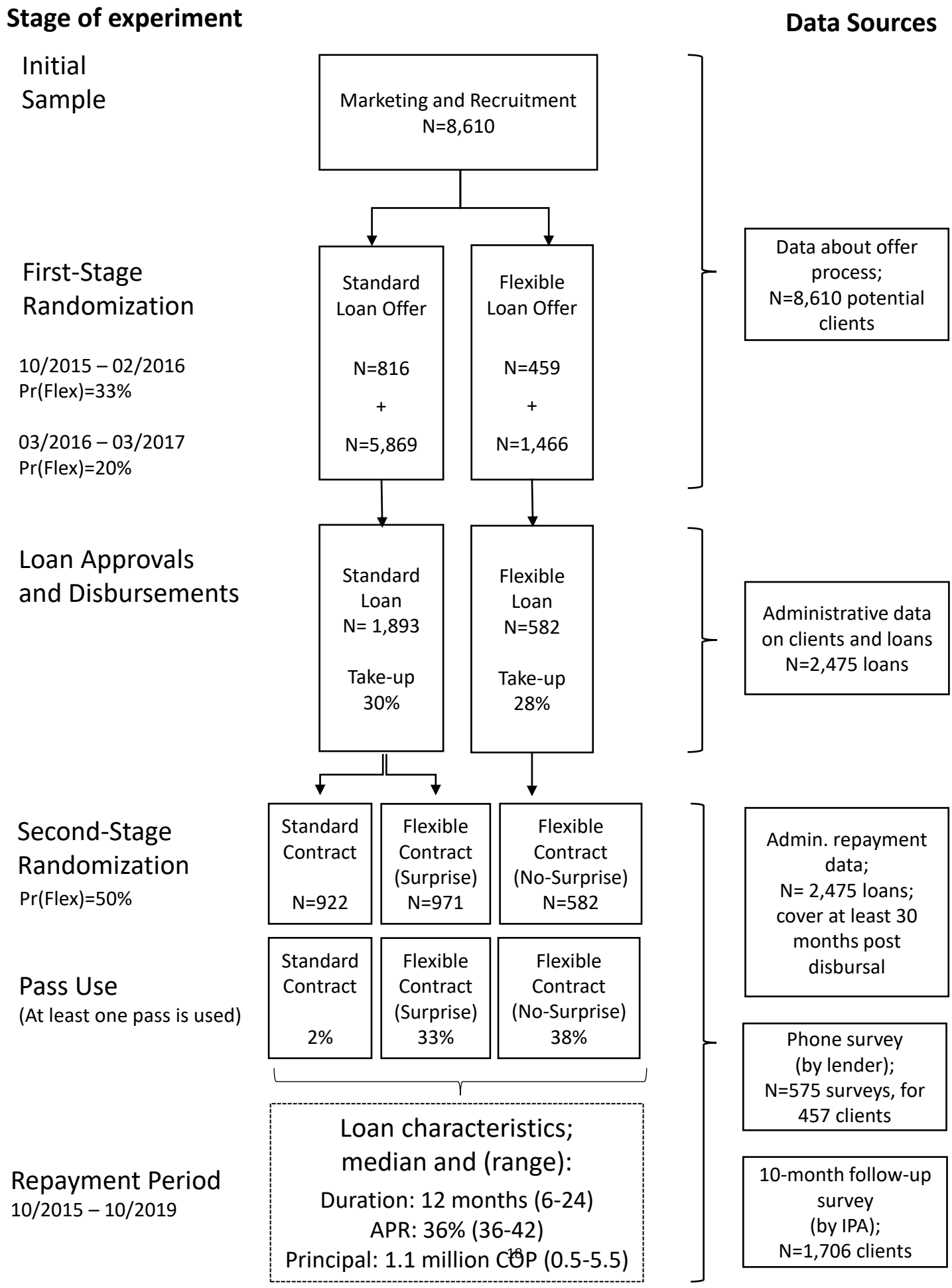
Notes: Regressions with sales, expenses, and profit as the outcomes (rows 1-3) control for the baseline value of the outcome. Outcomes are winsorized at the top and bottom 1 percent. Columns 1, 2, and 6 show results for regressions with Flexible Contracts (pooled Std-Flex and Flex-Flex) as the treatment 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 indeces 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 tests of equality of standard deviations (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 in column 6 indicates 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. P-values based on regressions that control for treatment assignment probability; for additional details, see Section 4.

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.

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



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

NOT FOR PRINT PUBLICATION

Contents:

Section A. Marketing Script

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.

Section B. Details of Experiment

Interest Rates

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.

Randomization

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.

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)	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	2	1 per year, anytime during loan	Yes	33%	yes	yes
BGM	Bangladesh	rural	F	old	1m extension per 12m	12	2	Anytime during loan	No	25% and 197%	yes	yes
BGK	***Colombia***	***urban***	***mixed***	***new***	***1m reshuffle or extension per 12m***	***12***	***3***	***Anytime during loan***	***No***	***8%***	***no***	***yes***
AKK	India	rural	F	mixed	line of credit		NA	Anytime during loan	No	10% or 21% (1)	no	no
FPPR	India	urban	F	old	2m extension per 12m	12	1	First 2 months (grace period)	NA	22%	no	no
SK	Bangladesh	rural	mixed	new	lean season extension		NA	NA	NA	5%	no	no

Notes:

1. 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). AAK: Aragon, F. M., A. Karaivanov, and K. Krishnaswamy (2020). "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: 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 3: 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
	Mean	SD	Mean	SD	(1)=(3) p-value	Mean	SD	(3)=(6) 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	1453	850	0.44	1452	840	0.94
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	9.43	8.12	0.08	8.85	7.49	0.07
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	0.4	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					0.37			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 4: 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.

Appendix Table 5: Flexible Pass Use

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Flexible Contract (Pooling Offer Types)	Standard Contract	Overall Comparison		No-Surprise Flexible Contract	Surprise Flexible Contract	Selection Effect	
	Std→Flex & Flex→Flex	Std→Std	Std Contract = Flex Contract (1) = (2)		Flex→Flex	Std→Flex	Std→Std = Std→Flex (1)=(5)	
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	0.00	0.33	0.38	-0.05	0.06
			(0.01)				(0.03)	
Used exactly 1 pass	0.21	0.02	0.19	0.00	0.20	0.22	-0.02	0.29
			(0.01)				(0.02)	
Used exactly 2 passes	0.08	0.00	0.08	0.00	0.08	0.09	-0.02	0.23
			(0.01)				(0.02)	
Used exactly 3 passes	0.05	0.00	0.05	0.00	0.05	0.05	-0.00	0.70
			(0.01)				(0.01)	
Used 4 or more passes	0.01	0.00	0.01	0.00	0.01	0.01	-0.00	0.62
			(0.00)				(0.01)	
Number of passes used	0.58	0.02	0.55	0.00	0.54	0.63	-0.09	0.08
			(0.02)				(0.05)	
Number of extension passes used	0.26	0.02	0.24	0.00	0.26	0.27	-0.00	0.88
			(0.02)				(0.03)	
Number of no extension passes used	0.31	0.01	0.31	0.00	0.28	0.36	-0.08	0.03
			(0.02)				(0.04)	
Used maximum number of passes alloted	0.06				0.06	0.07	-0.00	0.94
							(0.01)	
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 6: 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	0.51	0.92	575
	(0.02)			
[8] Good or very good service quality	0.07	0.00	0.89	575
	(0.02)			
Reasons for good service				
[9] Quickness	-0.08	0.07	0.39	575
	(0.04)			
[10] Personalized attention	0.01	0.76	0.24	575
	(0.04)			
[11] Flexible product	0.14	0.00	0.00	575
	(0.02)			
[12] Interest rate	0.00	0.73	0.01	575
	(0.01)			
[13] Kindness	-0.01	0.77	0.38	575
	(0.04)			
[14] Comfortable installments	0.00	1.00	0.04	575
	(0.02)			

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.

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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: _____

FUNDACIÓN
MARIO SANTO DOMINGO.
Por el Desarrollo Social de Colombia

CRÉDITO FLEXIBLE

Yo PRÓSPERO
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?

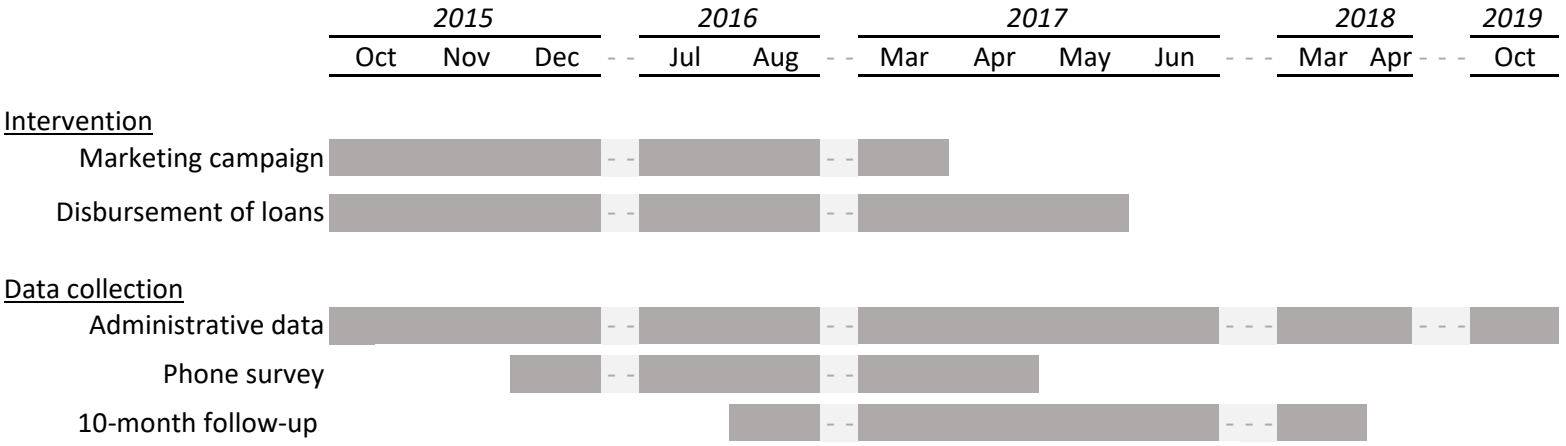
Para utilizar sus pases siga estos sencillos pasos:

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.

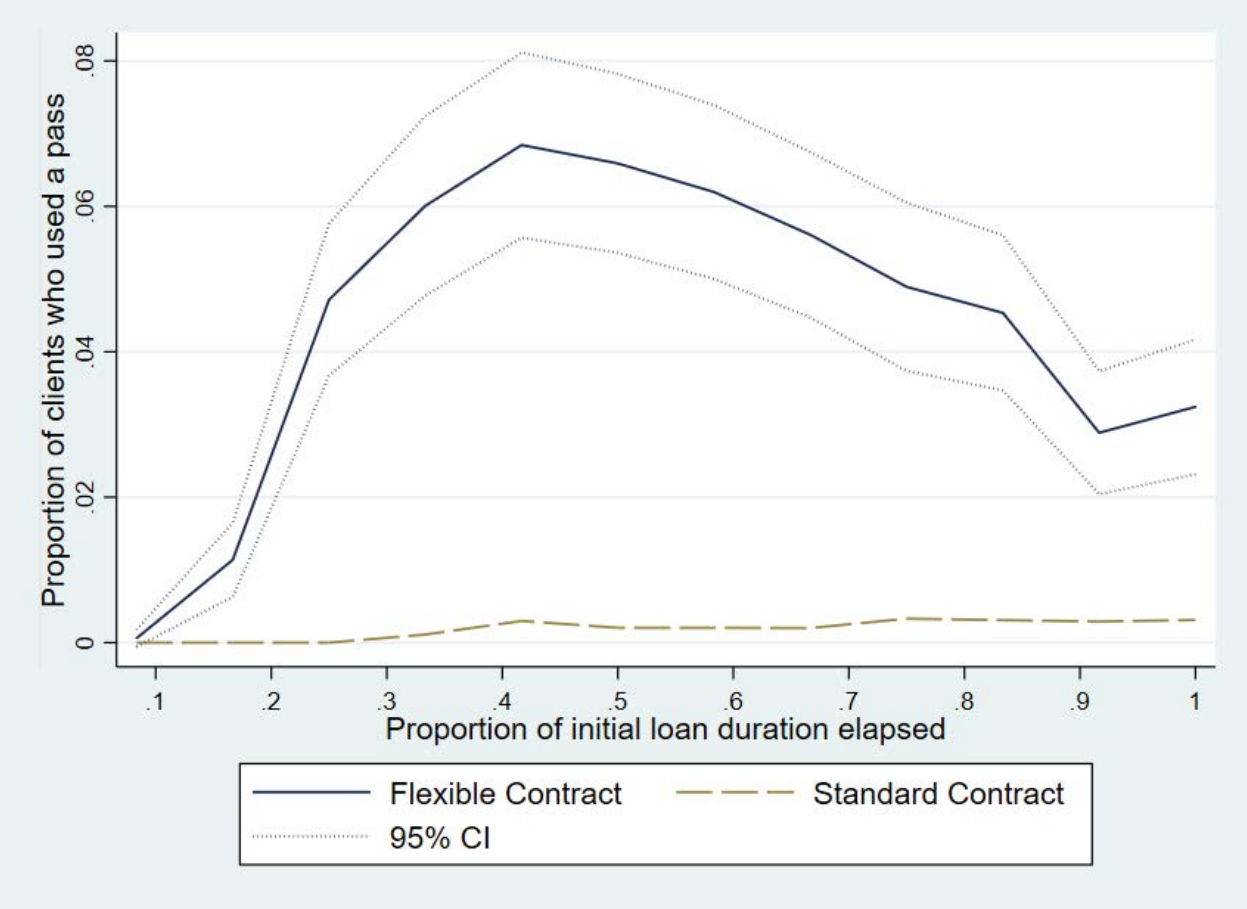
¡Es muy fácil aprovechar los beneficios de su crédito flexible!

Yo PROSPERO
microcréditos para grandes sueños

Appendix Figure 2: Intervention and data collection timeline



Appendix Figure 3: Pass use by proportion of loan duration elapsed



Notes: Sample: 2,475 clients with disbursed loans. Since not every loan has the same duration, we divide the months elapsed in the loan by the initial loan duration in order to get the proportion of the loan's duration that has elapsed at a given time. We then group duration proportions into roughly equally sized bins of 8.33% of loan duration each. For each of those bins we regress the pass use dummy (=1 if the client used a pass in that loan duration bin) on Flexible Contract assignment, controlling for treatment assignment probabilities. The "Standard Contract" line represents the proportion of Standard Contract participants who used a pass during each loan duration bin. The distance between the "Flexible Contract" and "Standard Contract" lines represents the estimated effect of a Flexible Contract on pass use from the regression we described.