Can Flexible Microcredit Substitute For Informal Finance? Experimental Evidence from Market Vendors in South India

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Abstract

Informal moneylender credit remains common even where formal microfinance is widely available. We evaluate a flexible working-capital loan for market vendors in Tamil Nadu, India, in a randomized trial. The product offers formal-sector interest rates but is structured to mirror informal credit, with short tenures and borrower-chosen repayment schedules. Access substantially reduces reliance on moneylenders: treated vendors are 10 percentage points less likely to have an outstanding moneylender loan, hold nearly half as many such loans overall, and owe significantly less to moneylenders in total. They also report improved mental health and lower financial worry, and 24% higher household income, though we interpret the magnitude of the income gain with caution.

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1 Introduction

Informal borrowing at very high interest rates is pervasive across the developing world. In low- and middle-income countries, roughly 60 percent of adults borrow, but fewer than a quarter do so from formal institutions; the majority rely on family, moneylenders, or other informal sources (World Bank 2025). In India, 63 percent of adults borrowed in 2024, yet only 15 percent borrowed formally—and among the poorest 40 percent of households, formal borrowing drops below 10 percent (World Bank 2025). In Tamil Nadu, India—the same state in which our present study takes place—Karlan et al. (2019) document particularly steep borrowing costs among market vendors, who pay average daily interest rates of approximately 4.7 percent to moneylenders.

Why does such costly borrowing persist? A common explanation is that formal lenders do not reach these borrowers. But in many settings, including ours, that explanation is incomplete. Microfinance institutions and banks are present, and many borrowers simultaneously hold formal and informal loans (Collins et al. 2009). The puzzle is therefore not simply one of financial exclusion. Rather, it is that formal and informal credit products appear to serve different functions. Informal lenders offer borrowers something that standard formal products often do not: credit whose timing better matches the rhythms of small-business cash flow. Repayment can be aligned with daily or weekly sales, loan tenures are short, and the contract is often more adaptable when income is volatile. For borrowers operating with thin margins and frequent working-capital needs, those features may justify paying much higher interest rates.

This paper studies whether informal debt persists in part because formal credit products are poorly matched to borrowers' cash-flow needs. We evaluate Tatkal-M, a formal microcredit product developed for market vendors in Tamil Nadu, India and designed to compete directly with informal finance along the contractual margins on which informal lenders may have an advantage.[1] Tatkal-M provides short-term working-capital loans at formal-sector interest rates, but with features that more closely resemble informal credit: short tenures, borrower-chosen repayment cadence, and the ability to change repayment structure across loan cycles. We ask whether a formal lender that matches the timing flexibility of informal debt can displace high-cost borrowing and improve borrower welfare.

We address this question in a randomized controlled trial with 675 market vendors in Coimbatore, Tamil Nadu, conducted between May 2024 and February 2026. Markets were grouped into 303 hubs and randomized to treatment or control. Treatment vendors received access to Tatkal-M; control vendors were told they could re-apply in one year. The product offered loans of INR 10,000 to INR 50,000, maturities of one to three months, and an annual percentage rate of 26 percent—well below the cost of the informal alternatives commonly used in this setting. Borrowers could choose daily, weekly, monthly, or bullet repayment, and could revise that choice when renewing.

We find that access to this product generates meaningful improvements in borrower welfare. The clearest credit-market effect is displacement of moneylender borrowing. At

[1] The word *Tatkal* means "urgent" or "immediate" in Tamil, and M stands for market. The name was meant to indicate the loan's purpose for financing working capital and other frequent or urgent needs for market vendors.

fifteen months, treated vendors are 10 percentage points less likely to have an outstanding moneylender loan, relative to a control group mean of 40 percentage points, and hold nearly half as many moneylender loans overall. This pattern is consistent with substitution away from expensive informal debt rather than a general expansion of total credit. Treated vendors also report significantly better mental health and lower financial worry: we estimate a 0.21 standard deviation improvement in the PHQ-4, a widely utilized four-item screening instrument that captures anxiety and depression, and a statistically significant reduction in a standalone measure of financial stress.

Finally, treated vendors report household incomes that are INR 11,638 higher than those of controls, a 24 percent increase relative to the control group mean, though we interpret the magnitude of the income gain with caution. Although the endline estimate implies large gains, the confidence interval also includes more modest effects (95% confidence interval: INR 3,803 – INR 19,474), and we do not wish to overemphasize the point estimate in isolation. Instead, we view the income finding in the context of the broader pattern of results: treated vendors reduce their reliance on moneylenders, report lower financial distress, and show positive though imprecisely estimated improvements in business outcomes. Taken together, the evidence suggests that access to a better-matched formal credit product improves borrower welfare, even if the precise magnitude of the income effect remains uncertain.

Our paper relates to two main literatures. First, we contribute to work on microfinance contract design and repayment flexibility. Evaluations of standard microcredit generally find modest or heterogeneous impacts on business outcomes and household welfare (eg Banerjee et al. 2015). A growing body of work shows that modifying the standard contract can improve outcomes: relaxing repayment rigidity increases investment (Field and Pande 2008; Field et al. 2013), offering the option to defer repayments raises profits and lowers default (Battaglia et al. 2024), offering a menu of rigid and flexible contracts improves business outcomes without worsening repayment (Barboni and Agarwal 2023), and providing a flexible credit line to market vendors in India raises profits by 7–15 percent (Czura 2020). Our paper extends this logic by evaluating a product designed to compete directly with informal lenders on the margins that may explain their persistence—short tenor, borrower-chosen repayment cadence, and rapid renewal.

Second, we contribute to the literature on moneylenders, informal debt, and debt traps. A classic theoretical literature emphasizes that moneylenders persist because they possess informational and enforcement advantages that formal lenders lack (Aleem 1990; Hoff and Stiglitz 1990; Madestam 2014), or because borrowers sort between formal and informal credit depending on project size and risk (Karaivanov and Kessler 2018). More recent work shows that informal debt can be persistent and self-reinforcing: Karlan et al. (2019) find that debt relief does not durably reduce moneylender dependence, and Liu and Roth (2022) show theoretically that informal lenders may constrain borrowers' investment through contractual restrictions, generating endogenous debt traps. Our results suggest that a formal product designed to replicate the useful contractual features of informal credit can partially displace moneylender borrowing, even in a setting where formal microfinance is already present.

The rest of the paper proceeds as follows. Section 2 describes the Tatkal-M product,

experimental design, and data. Section 3 presents the empirical framework, balance tests, and attrition analysis. Section 4 reports impacts on moneylender borrowing, mental health, and household income and business outcomes. Section 5 discusses interpretation, financial sustainability, and policy implications.

2 Intervention Description, Evaluation Design, and Data Collection

2.1 The Tatkal-M Loan Product

We evaluate the impact of a short-term working-capital loan product designed specifically for market vendors, called Tatkal-M. The product was co-developed with our implementing partner, Sanghamithra Rural Financial Services (SRFS), a microfinance institution operating throughout South India. Tatkal-M was designed to compete directly with informal credit—particularly moneylender loans and supplier credit—by offering the flexibility associated with informal lending at substantially lower interest rates.

The product targets vendors whose businesses generate frequent, short-horizon working-capital needs. In our setting, 61 percent of vendors sell through their inventory within a week, and 81 percent restock at least weekly. This cash-flow profile creates demand for credit over days or weeks rather than months—precisely the mismatch between vendor needs and the repayment structure of standard MFI loans that Tatkal-M was designed to address.

The key product features are as follows (Appendix Table B1). Loan amounts range from INR 10,000 to INR 50,000. Borrowers typically started with a credit limit below INR 50,000 and had the potential to take larger loans after several successful credit cycles. The median loan size in the study is INR 30,000. Loan tenures range from 4 to 12 weeks, with two-thirds of loans issued at 10 weeks (Appendix Figure A1). Borrowers choose their repayment cadence—daily, weekly, monthly, or bullet—at each cycle, allowing them to match repayment to expected cash flows.[2] In practice, the vast majority chose weekly repayment, with roughly 10 percent opting for bullet. The modal contract—10 weeks with weekly repayment—closely mirrors the standard structure of a moneylender loan in South India, which typically has a tenure of approximately 2.5 months with weekly installments. The interest rate is 26% APR on a declining balance, comparable to standard microfinance rates in India (22–26% APR) but substantially below the approximately 50% APR charged by local moneylenders and far below the cost of trade credit embedded in supplier payment terms, which we estimate at roughly 200% APR. Unlike most traditional microfinance products, Tatkal-M is entirely individual liability with no group lending. Initial approval required an in-person visit to the vendor's business, but subsequent borrowing and repayment occurred digitally.

Administrative data confirm that the product operated as a recurring source of working capital rather than a one-time liquidity infusion. Take-up was high: 80 percent of

[2]If they chose the bullet repayment option, they still had to pay interest on the loan every week.

treatment-group vendors borrowed at least once. Among the 292 who borrowed, three-quarters took multiple loans, and nearly half took at least four (Appendix Figure A2). Renewal was rapid—60 percent of borrowers who renewed did so within one day of repaying the previous loan—and continuation rates across early cycles were consistently high, ranging from 75 to 82 percent. Loan sizes increased with borrowing history, consistent with the intended loan-ladder design: the average first loan was INR 25,580, rising to INR 39,531 by the eighth cycle (Appendix Figure A3). In total, 101 borrowers reached the INR 50,000 maximum.

2.2 Evaluation Design and Sampling

To evaluate the impact of Tatkal-M, we conducted a randomized controlled trial among market vendors in Coimbatore, Tamil Nadu. Prior to launching the product, SRFS mapped markets across the city and grouped businesses into 303 market hubs, typically consisting of a small cluster of contiguous blocks. Market hubs were modest in size: the median hub contained 30 businesses and the mean contained 50. Randomization was conducted at the market-hub level, rather than at the level of the individual borrower, in order to reduce both spillovers across nearby vendors and operational contamination in product marketing and implementation. Of the 303 hubs in the study, 149 were assigned to treatment and 154 to control.

SRFS advertised the product in local markets and invited interested business owners to apply. The application process proceeded in a fixed sequence. First, vendors expressed interest in the product during the marketing phase. The product was advertised to approximately 20,000 vendors and 10% applied. Second, applicants underwent a credit check. Third, SRFS loan officers conducted an in-person visit to the applicant's business. This visit served both as part of the underwriting process and as the baseline survey for the study. Only after all interested and credit-eligible borrowers within a given market hub had completed screening was the hub's randomization status revealed to the operations team. Vendors in treatment hubs were then offered access to Tatkal-M immediately, while vendors in control hubs were told that they could re-apply for the product after one year.[3] Treatment vendors expected (correctly) that they could continue to reborrow beyond the duration of the study.

The final study sample consists of 675 vendors: 367 assigned to treatment and 308 assigned to control. The only substantive noncompliance is incomplete take-up of the Tatkal-M offer among treated vendors; as discussed above, 80 percent of treatment-group vendors borrowed from the product at least once.

2.3 Data Collection

Our analysis draws on four main sources of data.

[3]In practice, control vendors were only recontacted to assess their continued interest for a Tatkal-M loan after the survey team attempted to reach them for the endline survey—the median endline survey occurred 15 months after randomization.

1. **Baseline survey:** Baseline data were collected during the application and underwriting process, prior to the revelation of treatment assignment. These data were collected by SRFS loan officers during the in-person business visit. The baseline survey includes information on household demographics, business characteristics, and other pre-treatment covariates.

2. **CRIF credit reports:** Credit bureau reports were collected for all eligible applicants. These reports provide information on applicants' credit scores, outstanding formal-sector loans (microfinance and commercial), balances, and markers of non-repayment.

3. **Midline survey:** The midline survey was conducted by independent J-PAL surveyors, rather than by SRFS staff, with the median interview occurring three months after baseline. The survey focuses on short-run impacts on business outcomes, household income and assets, borrowing patterns, and credit-seeking behavior. It includes a module on psychological well-being. Mental health is measured using the PHQ-4 (Patient Health Questionnaire-4), a four-item screening instrument that combines two anxiety items from the GAD-2 and two depression items from the PHQ-2. Each item is rated on a 0–3 frequency scale over the previous two weeks, yielding a total score ranging from 0 to 12. We also include a separate question on financial worry related to household finances.

4. **Endline survey:** The endline survey was also conducted by independent J-PAL surveyors, with the median interview occurring 15 months after baseline. It remeasures the core outcomes collected at midline and adds a module to elicit the occupations and earnings of every household member.

5. **Administrative loan performance data:** SRFS administrative records provide detailed information on loan disbursement, loan terms, repayment activity, delinquency, and renewal behavior for borrowers offered the product.

Across survey waves, respondents were asked to report business profits, revenues, and costs over the previous month. They were also asked to estimate the value of durable assets, the current value of inventories, and the number of employees in the business. The measurement of household income differs across waves. At baseline, no summary household income question was asked; instead, respondents reported their own income and the income of each household member separately, and we construct total household income as the sum of these individual reports. At midline and endline, respondents were asked directly for total household income over the previous 30 days. At endline, respondents additionally reported the earnings of each household member, allowing us to construct household income using either method. The exact wording of key outcome variables is reported in Appendix Table B2.

There is one important measurement change at endline. Respondents were given an additional instruction to exclude new business investment from their reported personal income—in effect reporting "take-home pay" rather than gross business receipts.

As a result, average control-group household income is substantially lower at endline (INR 47,313) than at baseline (INR 68,955) or midline (INR 91,762).[4]

To corroborate that this measurement change largely explains the lower endline income levels, we conduct the following exercise. At endline, we observe both the respondent's self-reported personal income (which nets out investment) and their reported business profit (which does not). If the netting-out instruction is the primary reason endline income appears lower, then replacing the respondent's personal income with their business profit—while retaining other household members' reported incomes—should recover income levels closer to baseline. It does: the resulting mean is INR 65,890 for the full sample, close to the baseline level of INR 68,955. The match is even tighter among households with exactly one active business, where the netting-out instruction affects only the respondent's own income and the substitution is therefore cleanest; for these households, the recovered mean is INR 70,056, compared to a baseline of INR 67,415. See Appendix Table A1 for details.

3 Empirical Specification, Randomization Balance, and Attrition

3.1 Empirical Specification

We estimate intention-to-treat effects of access to Tatkal-M using the following specification:

$$y_{it} = \alpha + \beta T_i + \epsilon_{it}, \tag{1}$$

where y_{it} is the outcome of interest for respondent i measured at survey wave t, and T_i is an indicator equal to one if respondent i was assigned to treatment. The coefficient of interest, β, captures the average causal effect of being offered access to the Tatkal-M product. Because randomization was conducted at the market-hub level, all standard errors are clustered at that level.

For specifications that pool observations from the midline and endline surveys (Panel C in all tables), we additionally include survey-wave fixed effects. Monetary outcomes are topcoded at the 98th percentile in order to limit the influence of extreme outliers.

3.2 Sample Characteristics and Randomization Balance

Table A2 presents baseline characteristics and tests of randomization balance. The treatment and control groups are similar across the full set of observed pre-treatment characteristics, and a joint F-test fails to reject equality of baseline covariates across arms (F-statistic = 0.86, $p = 0.635$). Of the individual covariates, one—the share of vendors in food preparation—is significantly different across arms at the 5 percent level, consistent

[4]The average of household income at midline is brought up by several extreme values—median household income at midline was INR 65,000, compared to INR 60,000 for the corresponding value at baseline.

with chance given the number of comparisons. These results suggest that randomization was implemented successfully.

Because randomization achieved balance, we describe pooled baseline characteristics across all applicants. On average, vendors are approximately 43 years old, and 28 percent of the sample is female. Households contain about 3.7 members on average and roughly 1.9 income earners. Average total monthly household income at baseline is approximately INR 67,700 (USD 815).

The sample includes a diverse range of businesses spanning retail, food preparation, and services. The most common business types are prepared food stalls—including biryani and rice hotels, tea and snack stalls, and bakeries (17 percent of the sample combined)—grocery and spice shops (9 percent), garments and textile retailers and manufacturers (9 percent), tailors (9 percent), and fresh produce and protein vendors selling vegetables, fruit, and meat or fish (9 percent). Despite this sectoral diversity, vendors share a common operating profile: most run small, high-turnover businesses with frequent restocking needs. Average monthly revenue is approximately INR 183,360 (USD 2,210), monthly operating costs average INR 122,980 (USD 1,480), and average monthly profits are approximately INR 58,140 (USD 700).

We do not observe informal borrowing at baseline, but we measure it at midline and endline. At midline, 47 percent of control-group respondents report at least one outstanding moneylender loan. Supplier credit is also common: at midline, 22 percent of control-group vendors both take inventory on credit and report that their suppliers offer a cash discount for paying upfront, implying that these vendors are implicitly borrowing from suppliers at a cost (see Table 1). These figures underscore that informal borrowing remains common in this population despite the availability of formal-sector credit.

We observe formal borrowing at baseline through CRIF credit reports. These reports suggest substantial outstanding formal debt, but they must be interpreted with caution because the underlying records contain considerable error. In a separate experiment in the same city and with similar borrowers, SRFS determined that 73 percent of CRIF reports reviewed contained at least one erroneously recorded loan, typically a loan that had already been repaid but had not yet been updated in the credit bureau's records. We therefore use the CRIF data primarily to characterize exposure to formal borrowing rather than to measure precise debt levels. Subject to that caveat, the reports indicate total outstanding balances of approximately INR 320,000 and outstanding business-loan balances of approximately INR 78,000 at baseline (see Table A2). 89% of our sample had a credit report (meaning that they had taken at least one formal loan at some point) and 81% had at least one active loan.

3.3 Attrition

Table A3 reports survey completion rates overall and by survey wave. Overall follow-up rates are high: 96.1 percent of control-group respondents and 98.1 percent of treatment-group respondents completed at least one follow-up survey. At midline, response rates were 92.2 percent in the control group and 96.5 percent in the treatment group, implying modest differential attrition: treatment-group respondents were 4.3 percentage points

more likely than controls to complete the midline survey (p = 0.020). At endline, response rates were 79.5 percent in the control group and 83.9 percent in the treatment group, and the treatment-control difference is no longer statistically detectable ($p = 0.191$). We also find no significant treatment-control difference in the probability of completing at least one follow-up survey ($p = 0.143$).

4 Results

Across all tables, Panel A reports endline results, Panel B reports midline results, and Panel C reports results pooling both survey waves.

4.1 Displacement of Informal Credit

The primary objective of Tatkal-M was to offer market vendors a formal alternative to moneylender borrowing. Table 1 reports effects on borrowing from sources other than Tatkal-M. Columns 1–3 examine moneylender loans, Column 4 examines supplier credit, and Columns 5–6 examine new borrowing from banks and MFIs. The clearest pattern is a substantial reduction in moneylender borrowing at endline.

At endline (Panel A), access to Tatkal-M substantially reduces reliance on moneylenders. The probability of having any outstanding moneylender loan falls by 10 percentage points ($p < 0.05$), relative to a control-group mean of 40 percent, implying a 25 percent relative reduction. The number of outstanding moneylender loans falls by 0.42 ($p < 0.01$), relative to a control mean of 0.90, or roughly a halving of the typical loan count. The total outstanding amount borrowed from moneylenders also declines by INR 10,962 ($p < 0.10$), relative to a control-group mean of INR 33,539. Together, these estimates suggest that Tatkal-M displaced moneylender borrowing on both the extensive and intensive margins.

By contrast, effects at midline are small and statistically insignificant. One interpretation is that exiting moneylender relationships takes time—recall, the midline survey occurred roughly three months after randomization. Qualitative feedback from the implementation team suggests that borrowers were often reluctant to sever existing relationships with moneylenders until they had accumulated enough experience with Tatkal-M to understand how reliably the new product would meet their liquidity needs. Existing moneylender loans may also have needed to run their course before borrowers could fully disengage. This interpretation is consistent with the broader pattern in the paper: the strongest effects on borrowing, income, and mental health all emerge more clearly at endline than at midline.

Column 4 examines supplier credit. Vendors are first asked whether they currently take inventory on credit; those who say yes are then asked whether their suppliers offer a cash discount for paying upfront. The outcome variable equals one for vendors who take inventory on credit and whose suppliers offer a cash discount, and zero otherwise. This identifies vendors who are implicitly borrowing from suppliers at a cost, since forgoing the cash discount is economically equivalent to paying interest on an informal loan. At endline, 16 percent of control-group vendors report paying such an implicit cost. We find

no significant treatment effects at endline, midline, or in the pooled specification. Supplier credit relationships appear to be unaffected by access to Tatkal-M, perhaps because they serve a different function—enabling vendors to restock on a daily or weekly basis in a way that is closely tied to the supplier relationship itself.

Columns 5–6 examine whether vendors took any new bank or MFI loans over the course of the study. Because this question asks about new originations since baseline, the endline measure captures the full study period. At endline, treatment reduces the probability of having taken any new bank or MFI loan by 6 percentage points ($p < 0.10$), relative to a control-group mean of 20 percent, while the estimated effect on the total amount of new formal borrowing is negative but imprecise. At midline, however, the point estimate is positive and of similar magnitude (0.06, not significant), yielding a pooled estimate of essentially zero. We therefore interpret the endline result cautiously: while it is consistent with Tatkal-M substituting for some new formal borrowing, the opposing sign at midline suggests this pattern did not hold earlier in the study, and the result is only marginally significant at endline.

Taken together, Table 1 points most clearly to displacement of moneylender credit rather than to a general reduction in all outside borrowing. Supplier credit is unaffected, and effects on formal borrowing are modest. The main credit-market effect of Tatkal-M is not simply to reduce debt overall, but to replace a particularly costly source of working-capital finance with a cheaper and more flexible formal alternative.

4.2 Mental Health and Financial Stress

Alongside the reduction in moneylender borrowing, we find improvements in psychological well-being. Table 2 reports effects on psychological distress and financial worry. Column 1 presents the PHQ-4 total score, coded in the standard direction so that higher values indicate worse mental health. The PHQ-4 is a widely used ultra-brief screening instrument that combines the PHQ-2 depression items and the GAD-2 anxiety items into a 0–12 index, with conventional cutoffs of 0–2 for none, 3–5 for mild, 6–8 for moderate, and 9–12 for severe distress (Kroenke et al. 2009). At endline (Panel A), treated vendors score 0.46 points lower than control vendors ($p < 0.01$), relative to a control-group mean of 1.74 and a control-group standard deviation of 2.14. This corresponds to an improvement of roughly 0.21 standard deviations. The pooled estimate is also statistically significant: treated vendors score 0.28 points lower than controls across the two follow-up surveys ($p < 0.05$). Midline effects are directionally similar but smaller and statistically insignificant. Although the control-group mean is below the conventional threshold for mild distress, it is close to published PHQ-4 norms from general-population samples in other settings, suggesting that our sample is not unusually distressed on average by PHQ-4 standards (Wicke et al. 2022).

Columns 2–5 examine the four PHQ-4 components separately. At endline, treatment significantly reduces three of the four symptom measures: respondents report lower frequencies of feeling nervous or anxious (Column 2, -0.16, $p < 0.05$), being unable to stop or control worrying (Column 3, -0.15, $p < 0.05$), and feeling down, depressed, or hopeless (Column 4, -0.12, $p < 0.05$). The estimated effect on the fourth item—little

interest or pleasure in doing things (Column 5)—is negative but small and statistically insignificant. In the pooled specification, the largest robust component effect appears on depressed mood (Column 4, -0.09, $p < 0.05$), while the remaining item-level estimates are negative but imprecisely estimated. This pattern suggests that the mental-health gains are concentrated more in anxiety, worry, and depressed mood than in anhedonia.

Column 6 reports impacts on a separate question about worry regarding household finances, coded so that higher values indicate more frequent worry. At endline, treated vendors score 0.21 points lower than controls ($p < 0.05$), relative to a control-group mean of 0.70. The pooled effect is also significant (-0.15, $p < 0.05$), while the midline estimate is negative but statistically insignificant.

The endline PHQ-4 effect of roughly 0.21 standard deviations is meaningful relative to the broader literature on financial interventions and mental health. A recent meta-analysis of cash-transfer programs in low- and middle-income countries reports average improvements in depression, anxiety, and stress of roughly 0.10 standard deviations, with somewhat larger effects for unconditional transfers (Wollburg et al. 2023). Our estimate therefore sits above the average cash-transfer benchmark, while remaining within a plausible range for an intervention that directly reduces a persistent source of financial strain. Taken together, these results suggest that access to cheaper, more flexible working-capital credit improves psychological well-being and reduces financial stress, with the strongest evidence at endline rather than midline—mirroring the timing of the moneylender displacement results.

4.3 Household Income and Business Outcomes

We now turn to impacts on income and business performance. Table 3 reports impacts on household income and business outcomes. At endline (Panel A), we find a large and statistically significant positive impact on total monthly household income: treated vendors report incomes INR 11,638 higher than the control group mean of INR 48,138—a roughly 24 percent increase, significant at the 1% level. Directionally similar point estimates appear at midline (INR 7,299) and in the pooled specification (INR 9,275, significant at 10%), though the midline estimate is imprecise.

Figure 1 plots the distribution of monthly household income at endline by treatment status. The rightward shift in the treatment distribution is visible across much of the support, with the treatment group exhibiting less concentration at low income levels and more mass between INR 50,000 and INR 100,000. The two distributions converge in the upper tail, suggesting that the income gains are concentrated among vendors in the lower and middle portions of the distribution rather than driven by a few large outliers.

Turning to business outcomes, we observe positive but noisy impacts on revenues at both endline (INR 8,237) and midline (INR 11,901), neither statistically significant. Estimated impacts on monthly business profits are small and insignificant across all panels—a finding we return to shortly. We also find no significant effects on business assets, inventory values, or the number of employees, though our estimates on assets and inventory are imprecise and are consistent with modest impacts.

Table 4 decomposes the household income impact at endline (this decomposition was

not elicited at midline). Rather than relying on the single household income question used in Table 3, Column 1 reconstructs total household income as the sum of its three components (Columns 2–4), each elicited separately with explicit instructions to avoid double-counting across household members. The resulting treatment effect (INR 11,379, $p < 0.01$) is very similar to the estimate from the direct question (INR 11,638), providing reassurance that the income result is robust to the method of elicitation. Column 2 shows that roughly half the income gain is attributable to the respondent's own personal income (INR 4,885, $p < 0.10$). Column 3 shows a significant increase in income earned by other household members in their own businesses (INR 3,706, $p < 0.05$), suggesting spillover effects within the household. Column 4 shows a positive but insignificant effect on non-business household income.

The divergence between the significant personal income result and the insignificant business profit result warrants comment. Two explanations are plausible, and they are not mutually exclusive. First, both measures are noisy, and their confidence intervals largely overlap; there may be no true inconsistency to reconcile. Second, recall that the endline personal income question included an additional instruction to net out new business investment, reflecting "take-home pay." If access to Tatkal-M changed the timing of investment—for example, by allowing treated vendors to make working-capital investments earlier—then treated vendors may have had more current earnings available as take-home pay at endline even if measured business profits do not show a comparable effect.

At the same time, we are cautious about the precise magnitude of the household-income effect. The endline point estimate of INR 11,638 is large relative to the scale of the credit intervention, and we do not want to over-interpret that estimate in isolation. The 95 percent confidence interval ranges from INR 3,803 to INR 19,474, which includes many economically meaningful but more moderate effects. Figure 1 shows that the result is not driven by a small number of extreme observations: the treatment distribution is shifted to the right across much of the support, especially through the lower and middle portions of the income distribution, rather than only in the upper tail. And Tables 3 and 4 demonstrate similar impacts on household income utilizing two distinct measures of income. The constellation of evidence strongly indicates that access to Tatkal-M increased household income, even if the data do not allow us to pin down the exact magnitude with high precision.

5 Discussion

In a randomized controlled trial with 675 market vendors in Tamil Nadu, access to a flexible, short-tenure microcredit product reduced moneylender borrowing, improved mental health, and increased household income after fifteen months. We interpret these results and discuss their implications.

The clearest credit-market effect is displacement of informal debt rather than a general expansion of borrowing. This pattern is consistent with the idea that what borrowers need is not one-time debt relief—which Karlan et al. (2019) show does not durably re-

duce moneylender dependence—but an ongoing substitute for the service that informal lenders provide. Revealed-preference evidence on product use reinforces this interpretation: although borrowers could choose among several repayment structures, the vast majority selected the 10-week, weekly-repayment contract—closely replicating the modal moneylender loan in this setting—suggesting that borrowers valued Tatkal-M precisely as a lower-cost substitute for the informal contracts they were already using. Relatedly, the stronger effects at endline than midline suggest that exiting moneylender relationships takes time; qualitative feedback indicates that borrowers were reluctant to sever informal arrangements until they had gained experience with the new product.

The welfare pattern also warrants comment. We find improvements in household income and mental health alongside substantial declines in moneylender borrowing, but comparatively weak effects on measured business profits, assets, inventory, and employment. Given the large impacts on household income, some increase in business performance or scale is likely, even if our measures of those margins are too noisy to recover precise estimates.

At the same time, interpretation of the income result requires some care. The endline household income measure differs from the midline measure because respondents were instructed to exclude new business investment from their own income, making it closer to take-home pay. That said, several features of the data give us confidence that the income effect is real. The result appears using two independent measures of household income—a direct summary question and the sum of individually reported member incomes—and the point estimates are nearly identical (Tables 3 and 4). Figure 1 shows that the treatment distribution is shifted rightward across much of the support rather than driven by a handful of extreme observations. We nonetheless interpret the endline income effect alongside the broader pattern of evidence—reduced moneylender borrowing, improved wellbeing, and positive though noisy point estimates on business outcomes—rather than in isolation.

In its pilot form, Tatkal-M was not financially sustainable: servicing costs were elevated by reminders and follow-up, and some borrowers exhibited meaningful repayment difficulties. The same features that make the loan valuable to borrowers—flexibility, short horizons, and individual liability—may also raise operating costs for the lender. Our results establish borrower demand for a formal product that competes with informal finance on flexibility and tenor, and demonstrate that such a product can generate social benefits. They do not establish that the exact pilot design can be scaled profitably.

Our pilot data also point to a clear direction for future product iteration. Figure 2 shows that collection problems were concentrated among early borrowers, rather than reflecting an inherent weakness of the product. Among first-cycle borrowers, 6.2 percent were overdue by more than 7 days, 3.8 percent by more than 30 days, and 1.0 percent by more than 90 days. By the third loan cycle, these rates had fallen to 2.8 percent, 0.6 percent, and 0 percent, respectively. In other words, repayment performance improved rapidly with repeat borrowing, with serious delinquency nearly disappearing after the earliest cycles. This pattern suggests that the main challenge was onboarding and early repayment discipline among new borrowers, not persistent repayment risk among repeat users.

The evidence suggests that repayment problems are concentrated among borrowers who could potentially be screened out earlier, either through tighter initial underwriting or through a smaller tester loan that reveals repayment difficulty at lower cost. In that sense, Figure 2 points to a concrete path toward sustainability: use early loan cycles as a screening technology, then expand flexible credit to borrowers whose repayment histories indicate that they can use the product reliably. More broadly, our findings suggest that the persistence of informal finance may reflect not only gaps in access to formal credit, but also gaps in contract design—and that narrowing those gaps can improve welfare while pointing toward a viable model of sustainable lending.

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Tables and Figures

Table 1: Other Sources of Credit

	Moneylender Loans			Supplier Credit	Bank/MFI Loans	
	Has Loans	N Loans	Total Amount	Takes Inventory On Credit	Has New Loans	New Loans Amount
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Endline Survey						
Treatment	-0.10**	-0.42***	-10961.97*	-0.00	-0.06*	-9922.41
	(0.04)	(0.12)	(5597.65)	(0.03)	(0.03)	(10519.95)
Control group mean	0.40	0.90	33539.09	0.16	0.20	45922.41
	[0.49]	[1.51]	[66168.97]	[0.36]	[0.40]	[125673.99]
No. Obs	551	549	549	524	542	539
Panel B: Midline Survey						
Treatment	-0.02	-0.11	-1149.35	-0.01	0.06	-2383.31
	(0.04)	(0.11)	(6025.55)	(0.04)	(0.04)	(6045.14)
Control group mean	0.47	0.91	35410.71	0.22	0.20	27155.77
	[0.50]	[1.36]	[75084.84]	[0.41]	[0.40]	[73783.96]
No. Obs	632	632	632	636	595	594
Panel C: Both Surveys						
Treatment	-0.06*	-0.25***	-5710.38	-0.00	0.00	-5962.52
	(0.03)	(0.09)	(4829.63)	(0.03)	(0.03)	(6304.82)
Control group mean	0.44	0.91	34541.11	0.19	0.20	36005.08
	[0.50]	[1.43]	[71020.74]	[0.39]	[0.40]	[101932.41]
No. Obs	1,183	1,181	1,181	1,160	1,137	1,133

Notes: Each column reports estimates of Equation (1). Columns 1–3 measure current moneylender borrowing; Column 4 measures supplier credit, defined as whether a vendor who takes inventory on credit reports that the supplier offers a cash discount for paying upfront (vendors who do not take inventory on credit are coded as zero); Columns 5–6 measure cumulative new bank/MFI borrowing since baseline. Exact question wording is reported in Table B2. Total loan amounts (Columns 3 and 6) are topcoded at the 98th percentile. Panel A reports endline results, Panel B reports midline results, and Panel C pools both waves with survey-wave fixed effects. Control group means are reported below the Treatment coefficient, with standard deviations in brackets. Standard errors clustered at the market-hub level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 2: Mental Health Outcomes

	Index	PHQ-4 Components				Financial Worry
	PHQ-4	Anxious	Can't Stop Worrying	Depressed	Little Interest	Financial Worry
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Endline Survey						
Treatment	-0.46***	-0.16**	-0.15**	-0.12**	-0.04	-0.21**
	(0.18)	(0.07)	(0.07)	(0.05)	(0.05)	(0.08)
Control group mean	1.74	0.75	0.45	0.33	0.23	0.70
	[2.14]	[0.85]	[0.75]	[0.65]	[0.57]	[0.91]
No. Obs	508	513	515	513	511	513
Panel B: Midline Survey						
Treatment	-0.14	-0.01	0.00	-0.07	-0.04	-0.10
	(0.18)	(0.07)	(0.06)	(0.06)	(0.05)	(0.08)
Control group mean	1.93	0.61	0.58	0.47	0.28	0.78
	[2.19]	[0.81]	[0.77]	[0.75]	[0.62]	[0.94]
No. Obs	615	631	625	623	627	628
Panel C: Both Surveys						
Treatment	-0.28**	-0.07	-0.07	-0.09**	-0.04	-0.15**
	(0.14)	(0.06)	(0.05)	(0.04)	(0.04)	(0.06)
Control group mean	1.85	0.67	0.52	0.41	0.26	0.75
	[2.17]	[0.83]	[0.76]	[0.71]	[0.60]	[0.93]
No. Obs	1,123	1,144	1,140	1,136	1,138	1,141

Notes: Each column reports estimates of Equation (1). Column 1 reports the PHQ-4 total score (0–12 scale); Columns 2–5 report its four component items. All are coded in the standard direction so that higher values indicate worse mental health symptoms. Column 6 reports financial worry, coded so that higher values indicate more frequent worry. Exact question wording is reported in Table B2. Panel A reports endline results, Panel B reports midline results, and Panel C pools both waves with survey-wave fixed effects. Control group means are reported below the treatment coefficient, with standard deviations in brackets. Standard errors clustered at the market-hub level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Household Income and Business Outcomes

	HH Outcome	Business Outcomes				
	HH Income	Revenues	Profits	Assets Value	Inventory Value	N Employees
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Endline Survey						
Treatment	11638.28***	8236.81	600.89	-41418.12	8929.91	0.13
	(3979.07)	(17243.32)	(4140.34)	(45303.56)	(17479.38)	(0.17)
Control group mean	48138.06	140439.29	43814.38	317533.48	91472.95	0.95
	[39501.16]	[179799.91]	[47791.24]	[543509.72]	[209827.11]	[1.68]
No. Obs	529	547	547	539	552	543
Panel B: Midline Survey						
Treatment	7299.31	11901.12	1626.72	-2717.74	-2818.54	0.09
	(7935.54)	(16449.19)	(3383.02)	(27444.06)	(15646.66)	(0.13)
Control group mean	91761.79	166894.15	43809.75	217151.58	100948.76	0.89
	[88608.52]	[191567.97]	[41714.60]	[322646.46]	[199682.24]	[1.54]
No. Obs	631	635	635	636	637	637
Panel C: Both Surveys						
Treatment	9275.37*	10205.31	1151.97	-20409.74	2632.73	0.11
	(4995.26)	(14845.37)	(3187.68)	(29344.32)	(15073.78)	(0.13)
Control group mean	71994.79	154649.33	43811.90	262479.07	96561.48	0.92
	[73923.40]	[186505.36]	[44586.72]	[438836.79]	[204300.77]	[1.60]
No. Obs	1,160	1,182	1,182	1,175	1,189	1,180

Notes: Each column reports estimates of Equation (1). The dependent variable is listed in the column header and measured over the previous 30 days; exact question wording is reported in Table B2. All monetary outcomes are topcoded at the 98th percentile. Panel A reports endline results (median 15 months after baseline), Panel B reports midline results (median 3 months after baseline), and Panel C pools both waves with survey-wave fixed effects. Control group means are reported below the Treatment coefficient, with standard deviations in brackets. Standard errors clustered at the market-hub level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Household Income by Business Sources

	HH Outcome	Income Components		
	Total Income	Personal Income	Others Business Income	Non-business Income
	(1)	(2)	(3)	(4)
Treatment	11379.41***	4884.87*	3705.94**	2036.09
	(3946.18)	(2556.72)	(1526.27)	(1841.43)
Control group mean	47313.22	27525.34	4469.39	13220.41
	[40178.38]	[25627.72]	[14048.29]	[22583.51]
No. Obs	533	532	553	553

Notes: Each column reports estimates of Equation (1) using endline data only. Column 1 reports total household income, which equals the sum of Columns 2–4. Column 2 reports the respondent's own personal income; Column 3 reports income earned by other household members in their own businesses; Column 4 reports non-business household income. Exact question wording is reported in Table B2. All monetary outcomes are topcoded at the 98th percentile and measured over the previous 30 days. Control group means are reported below the Treatment coefficient, with standard deviations in brackets. Standard errors clustered at the market-hub level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

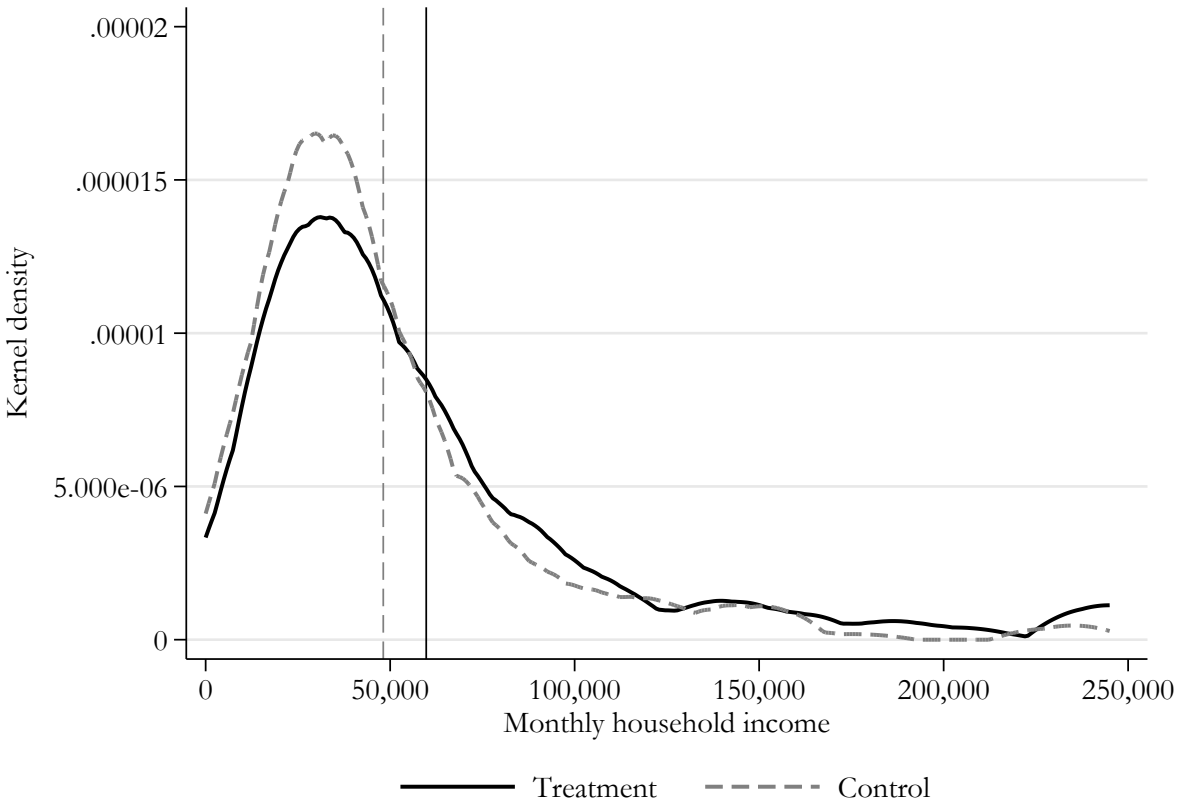


Figure 1: Distribution of Monthly Household Income at Endline

Notes: Figure shows kernel density estimates of monthly household income at endline for treatment and control groups. Vertical lines indicate group means. Household income is topcoded at the 98th percentile. The dashed line represents the control group and the solid line represents the treatment group.

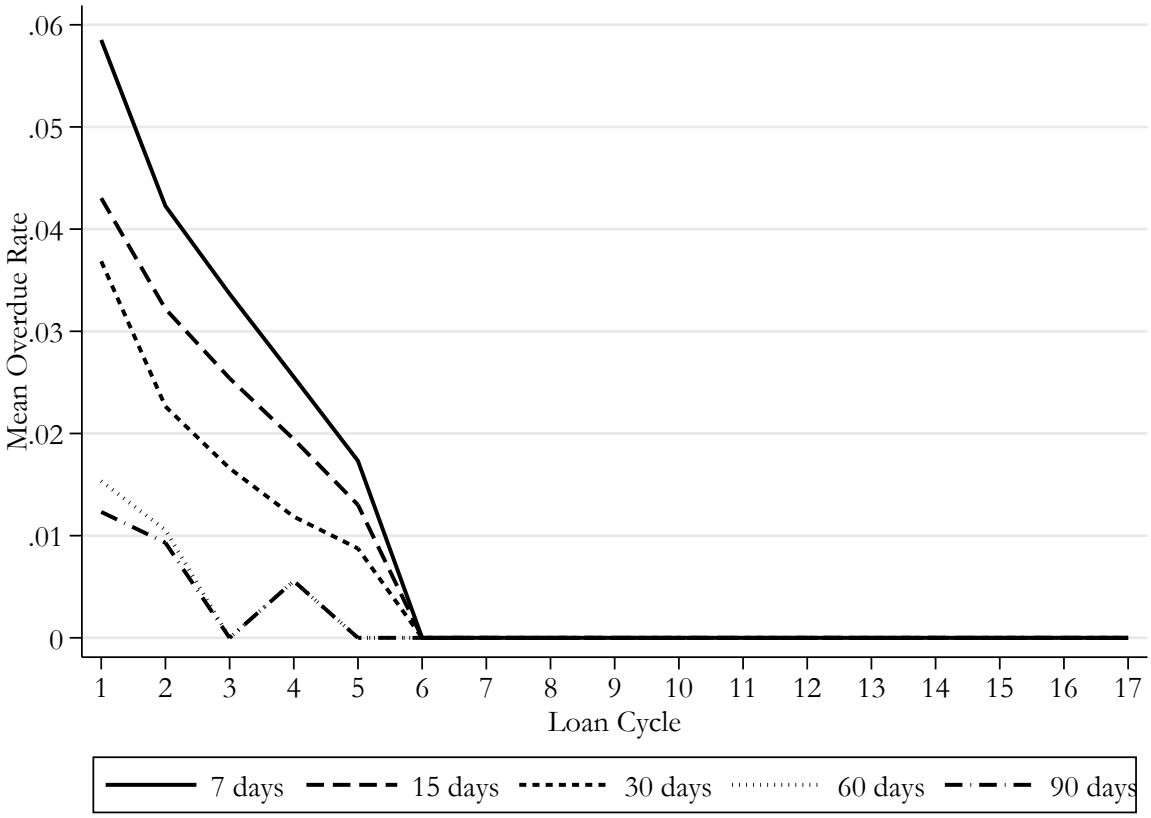


Figure 2: Repayment Delinquency by Loan Cycle

Notes: The figure plots mean delinquency rates by loan cycle for five thresholds: overdue by more than 7, 15, 30, 60, and 90 days. Each point in the underlying data corresponds to the share of loans in a given cycle that exceeded the stated delinquency threshold. The displayed lines are smoothed to emphasize the overall pattern across borrowing cycles and are set to zero after the last cycle in which positive delinquency is observed for that threshold. The sample includes all 1181 loans.

Online Appendix

Can Flexible Microcredit Substitute For Informal Finance?
Experimental Evidence from Market Vendors in South India

Natalia Rigol Benjamin N. Roth Shreya Chandra

Table A1: Distribution of Household Income for Control Group

	Mean	Median
Panel A: Full Sample		
Baseline: Total Household Income	68955.02	60000
Midline: Total Household Income	91761.79	65000
Endline: Total Household Income	47313.22	35900
Endline: Total Household Income (self-income replacement)	65890.45	50000
Panel B: Households with Only One Business at Endline		
Baseline: Total Household Income	67414.91	60000
Midline: Total Household Income	90568.79	65000
Endline: Total Household Income (self-income replacement)	70055.91	55000

Notes: This table reports mean and median total household income across survey waves for the control group only. In *Panel A*, household income at baseline and endline is constructed as the sum of individually reported incomes across all earning household members; baseline values correspond to those in Appendix Table A2, and endline values correspond to Column 1 of Table 4. At midline, household income is from a single summary question and corresponds to Column 1, Panel B of Table 3. The last row of *Panel A* takes the endline member-sum measure but replaces the respondent's own reported income with their business profits, while retaining other household members' reported incomes. *Panel B* restricts to control-group households with exactly one active business at endline. For these households, the endline instruction to net out new business investment affects only the respondent's income, so replacing it with business profits more cleanly restores comparability with prior waves. All values are top-coded at the 98th percentile.

Table A2: Balance Table: Baseline Characteristics

	Control	**Treatment**	**P-value**
	(1)	(2)	(3)
Panel A - Loan Applicant			
Age	42.64	43.12	0.557
	(9.50)	(10.25)	
Female	0.28	0.28	0.915
	(0.45)	(0.45)	
Panel B - Household			
Number Of Household Members	3.74	3.63	0.272
	(1.20)	(1.24)	
Number Of Earning Household Members	1.86	1.90	0.617
	(0.89)	(0.89)	
Total Household Income	68955.02	66671.43	0.565
	(45839.55)	(43608.82)	
Panel C - Business			
Past Month Revenue	186689.29	181064.17	0.725
	(187299.91)	(175140.14)	
Past Month Costs	125385.55	121297.09	0.761
	(154931.26)	(144186.47)	
Monthly Profits	58760.88	57773.75	0.772
	(41938.01)	(39766.07)	
Purchase Value Current Inventory	113629.81	108523.83	0.716
	(180327.33)	(183901.92)	
Business Type: Retail	0.44	0.39	0.317
	(0.50)	(0.49)	
Business Type: Service	0.35	0.37	0.652
	(0.48)	(0.48)	
Business Type: Manufacturing	0.09	0.06	0.372
	(0.29)	(0.25)	
Business Type: Food Preparation	0.15	0.22	0.022**
	(0.36)	(0.42)	
Panel D - Access to Formal Credit			
Has a Credit Score	0.89	0.89	0.975
	(0.32)	(0.32)	
Credit Score	643.71	656.19	0.274
	(119.44)	(108.60)	
Total Outstanding Loans Balance†	342456.91	304068.17	0.314
	(462647.04)	(407231.86)	
Total Outstanding Balance of Business Loans†	86153.65	72301.02	0.286
	(161947.42)	(154316.99)	
Observations	308	367	
Joint F-stat			0.86
Joint P-value			0.635

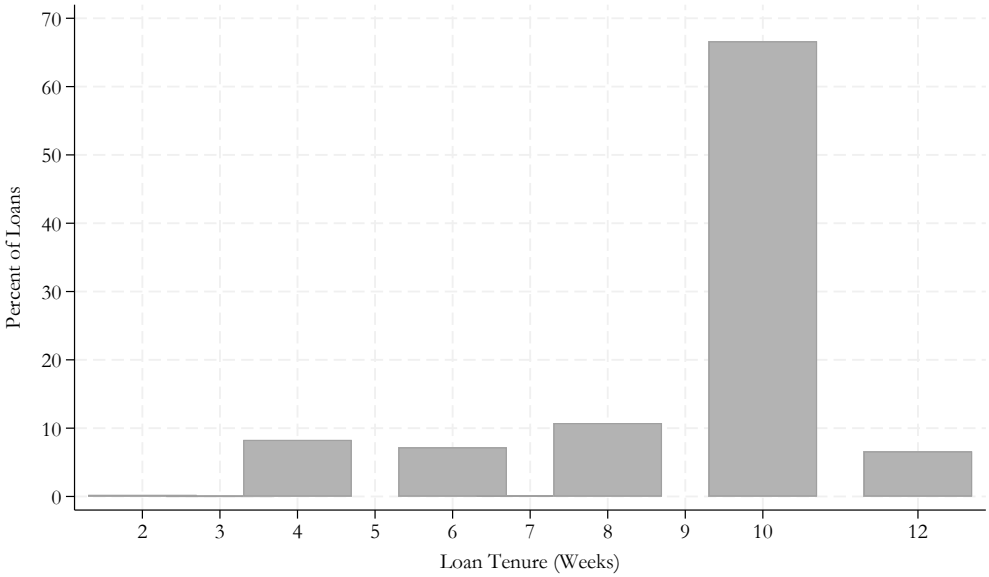
Columns 1 and 2 report means for the control and treatment groups, respectively, with standard deviations in parentheses. Column 3 reports p-values from regressions of each baseline covariate on treatment status with standard errors clustered at the market-hub level. Monetary variables are topcoded at the 98th percentile. Panel D reports credit bureau (CRIF) data; total outstanding loan balances exclude housing loans. The joint F-statistic tests the null hypothesis that all baseline covariates are jointly equal across treatment arms. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A3: Attrition Table: Survey Response by Treatment Status

	Any Survey	**Midline**	**Endline**
	(1)	(2)	(3)
Control Group			
Response Rate	0.961	0.922	0.795
	(0.011)	(0.015)	(0.025)
Treatment Group			
Response Rate	0.981	0.965	0.839
	(0.008)	(0.010)	(0.023)
Difference			
P-value	0.143	0.020**	0.191
Observations			
Control Group	308	308	308
Treatment Group	367	367	367

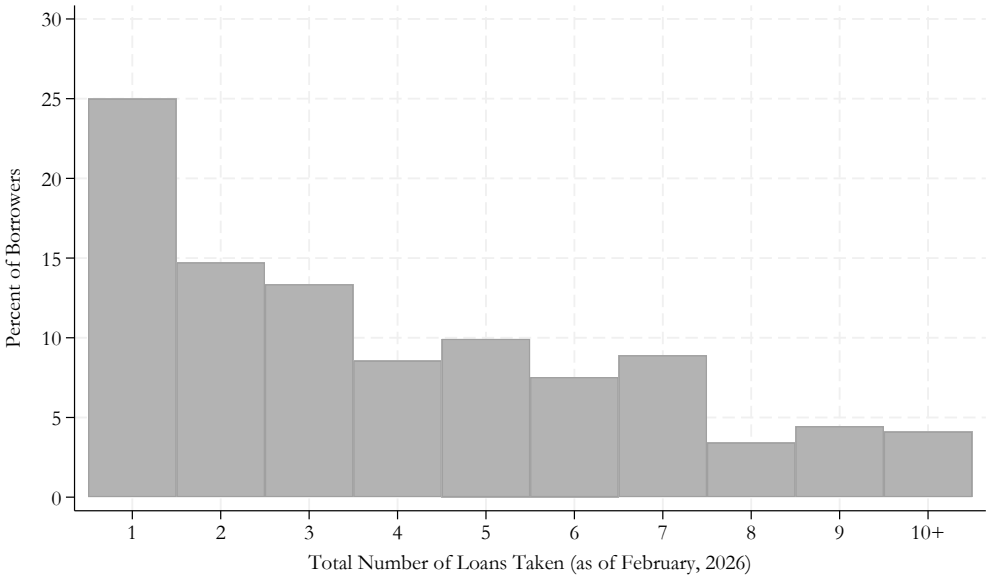
Response rate is the share of baseline sample members who completed or partially completed each survey. equals one if the respondent completed at least one of midline or endline. Standard errors in parentheses, clustered at the market-hub level (303 clusters). P-values test for differences in response rates between control and treatment groups with no additional controls. *** p<0.01, ** p<0.05, * p<0.1.

Figure A1: Distribution of Loan Tenure



Notes: Figure shows the distribution of contracted loan tenures across all 1,181 Tatkal-M loans disbursed. Tenure is measured in weeks. The modal tenure is 10 weeks, accounting for approximately two-thirds of all loans issued.

Figure A2: Distribution of Total Loans per Borrower



Notes: Figure shows the distribution of the total number of Tatkal-M loans taken by each borrower as of February 2026. The sample includes the 292 treatment-group vendors who took up at least one loan. Borrowers with 10 or more loans are grouped into the "10+" category. A total of 1,181 loans were disbursed.

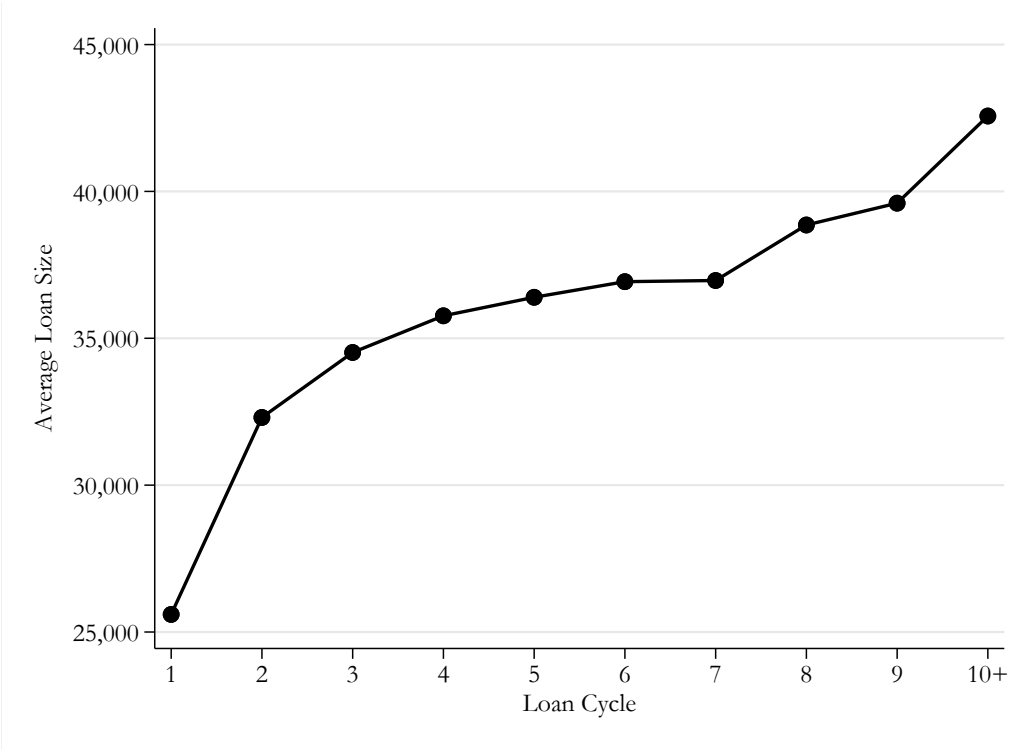


Figure A3: Average Loan Size by Loan Cycle

Notes: Figure shows the average sanctioned loan amount (in INR) by loan cycle number. Loan amounts range from INR 10,000 to INR 50,000, with borrowers eligible to increase by INR 10,000 with each successful repayment cycle. Borrowers with 10 or more cycles are grouped into the "10+" category. Based on 1,181 loans disbursed to 292 borrowers.

Table B1: Tatkal-M Loan Product Features

Feature	**Details**
Interest Rate	26% APR
Loan Tenure	4–12 weeks, with flexibility for borrowers to extend tenure (subject to higher interest rates)
Repayment Options	daily installments, weekly installments, monthly installments, or lump-sum repayment at loan end
Minimum Loan Amount	Rs. 10,000 (∼USD 120)
Maximum Loan Amount	Rs. 50,000 (∼USD 600), reached through incremental increases per successful repayment
Screening and Collection	In-person for initial approval; digital for repayment and re-borrowing
Joint Liability	None—individual liability only

Table B2: Survey Question Wording

Variable name	Question wording
Panel A: Income and Business Outcomes	
Total household income (baseline)	No summary household income question was asked at baseline. Total household income is constructed as the sum of individual household members' reported incomes, using *"How much did [HH MEMBER] earn in the last 30 days?"* asked for each earning member.
Total household income (midline)	*"What was your total household income in the last 30 days? Please include all earnings from income generating activities of all household members, including yourself (the borrower), as well as any government transfers or remittances that your household has received, or earnings from rental income."*
Total household income (endline)	*"What was your total household income in the last 30 days? Please include all earnings from income generating activities of all household members, including yourself (the borrower), as well as any government transfers or remittances that your household has received, or earnings from rental income. Please note that the shop's profits in the last 30 days were Rs. [biz_profit]. Of this, ask them how much they actually keep. Ensure that there is no double-counting between different family members, that is, the same income share is not counted twice."*
Personal income (endline)	*"How much did [HH MEMBER] earn in the last 30 days? Please include income from all occupations. When we collect household income member-wise, sometimes the same income can be reported by more than one person. This is called double counting. It makes the total household income look higher than it actually is. For example, if a husband and wife run a shop together, the husband may say 'the shop earns INR 20,000 per month' and the wife may also say 'I earn INR 20,000 from the shop.' If we add both, we wrongly record INR 40,000 instead of INR 20,000. Please be careful to record correctly. If it is a joint income (like shop, farm), enter only one income entry at the household level. If it is individual income (like a wage job), enter separately for each person."*
Revenues	*"In the last 30 days, what were the total revenues (sales) in your business? NOTE: Please ask the respondent whether this amount includes GST, the % of GST paid. If customers pay GST, then the GST amount should be included in the sales/revenue amount."*

Continued on next page

Table B2 (continued): Survey Question Wording

Variable name	Question wording
Profits	*"What was the total income the business earned in the last 30 days, after paying all expenses including wages of employees, but not including any income you paid yourself. That is, what were the profits of your business in the last 30 days?"*
Value of assets	*"Think about all the durable assets that you own for your business. This includes the premise from which you operate your business (if you own the premise), any machinery, furniture, equipment, vehicles, or livestock that you use for your business. What is the current market value of all durable assets that you own for your business? That is, if you had to sell/replace all of these assets, how much would it cost to purchase them in a similar condition/location?"*
Value of inventory	*"What is the total purchase value of your current inventory? In other words, what was the cost to you of all the inventory that you currently hold?"*
Number of employees	Constructed as paid employees plus unpaid employees, using *"How many paid employees did you have in total for this business in the last 30 days?"* and *"How many unpaid employees do you have in your business?"*
Panel B: Borrowing	
Has a moneylender loan	*"Do you currently have any moneylender/local finance loans? This includes all loans for which you currently have repayments due."*
Number of moneylender loans	*"How many moneylender/local finance loans do you currently have?"*
Total moneylender amount	Asked in the repeated loan module as *"Money Lender Loan 1: How much did you take?"* Total amount constructed by summing across all current moneylender loans.
Has a new bank loan	*"Have you taken any new bank or MFI loans in the last [recall_mos] months – that is, since [ls_month_year]? This includes all new loans taken in the past [recall_mos] months, for which you have active repayments due."* Note: the recall period is anchored to the baseline survey date, so this question captures cumulative new bank/MFI borrowing since baseline.
Number of loans (new bank/MFI)	*"You mentioned earlier that you have taken new bank/MFI loans in the last [recall_mos] months – that is, since [ls_month_year]. How many new bank or MFI loans have you taken in the last [recall_mos] months?"*

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Table B2 (continued): Survey Question Wording

Variable name	Question wording
Total amount (new bank/MFI)	Asked in the repeated loan module as *"Bank/MFI Loan 1: What was the loan amount?"* Total amount can be constructed by summing across all new bank/MFI loans.
Supplier offers cash discount	Asked conditional on reporting taking inventory on credit (*"Do you purchase any goods in your inventory on credit?"*). If yes: *"Do any of your current suppliers offer a cash discount for buying goods in cash rather than on credit? By cash discount, I mean that for the same amount of inventory, you would pay a lower price if you bought the inventory in cash rather than taking it on credit."* Coded as one if both conditions are met, zero otherwise.
Panel C: Mental Health	
Mental health: nervous/anxious/on edge	*"Over the last two weeks, how often have you been bothered by feeling nervous, anxious or on edge?"*
Mental health: cannot stop/control worrying	*"Over the last two weeks, how often have you been bothered by not being able to stop or control worrying?"*
Mental health: down/depressed/hopeless	*"Over the last two weeks, how often have you been bothered by feeling down, depressed or hopeless?"*
Mental health: little interest/pleasure	*"Over the last two weeks, how often have you been bothered by little interest or pleasure in doing things?"*
Financial worries	*"Over the last month, how often have you worried about your family's financial situation?"*