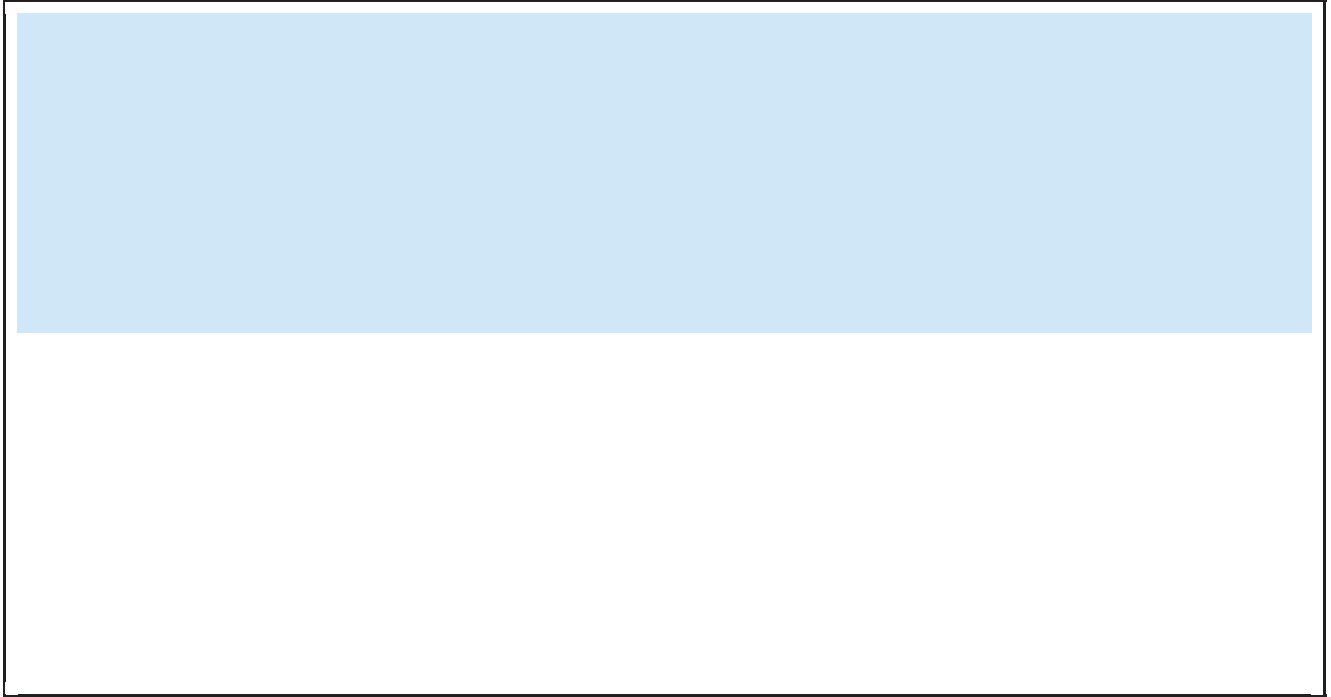


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the repayment schedule that best suits their needs. [16], for example, shows that microfinance clients who select into more flexible repayment schedules repay more of their loan. However, these results could be driven by either selection or a change in behavior due to the loan contracts. Here, we use a randomized experiment to provide causal evidence that more flexible repayment reduces client stress. Although we are unable to pinpoint the channel, the time trends in stress and income suggest that an important channel is likely to be the fact that flexible repayment schedules allow clients to invest in more profitable assets.

Our findings complement a growing experimental literature on the impact of microfinance. These studies report limited to no effects of the classic microfinance contract on average poverty rates among microfinance clients, despite significant benefits for some population subgroups [17–19]. Our study suggests that one reason for this may be that client investment behavior (and subsequent income) is sensitive to the design of microfinance debt contracts. In other words, if well designed, microfinance products have the potential to provide poor entrepreneurs with valuable credit that ultimately reduces their financial insecurity and

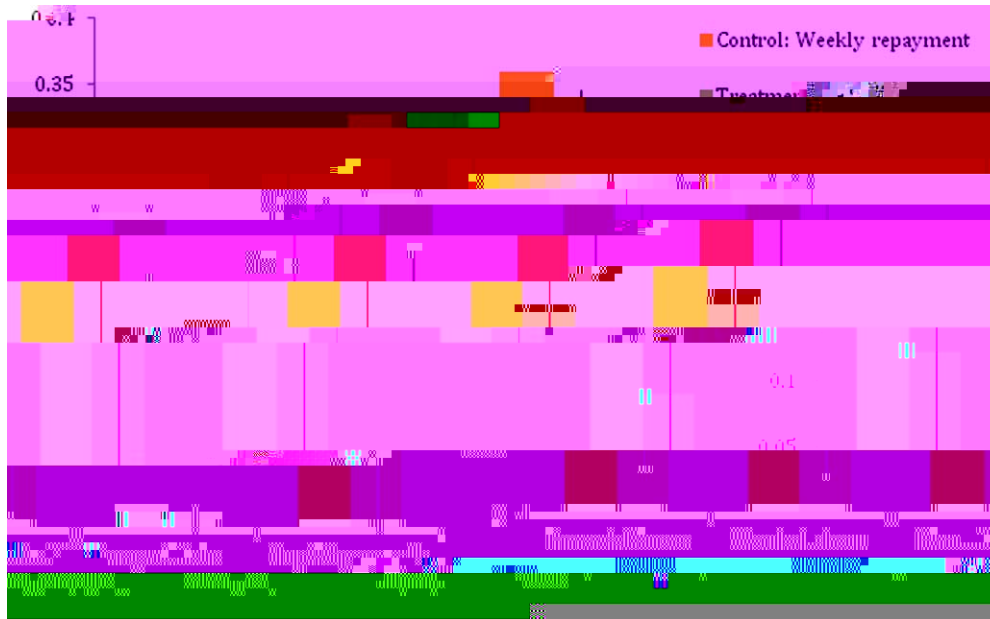


Figure 1. Impact of less frequent repayment on financial stress. Control bars represent means of control group. Treatment bars are sum of control group mean and treatment coefficient estimated by OLS regression. OLS regressions include control variables shown in Panel A of Table S1. Lines on Treatment bars represent plus or minus 1.96 times the standard error of the treatment coefficient. The Financial Stress Index is an unweighted average of “Worried about money,” “Not confident about repaying,” “Argue about finances,” and “Top 25 percentile of minutes spent.”

Results

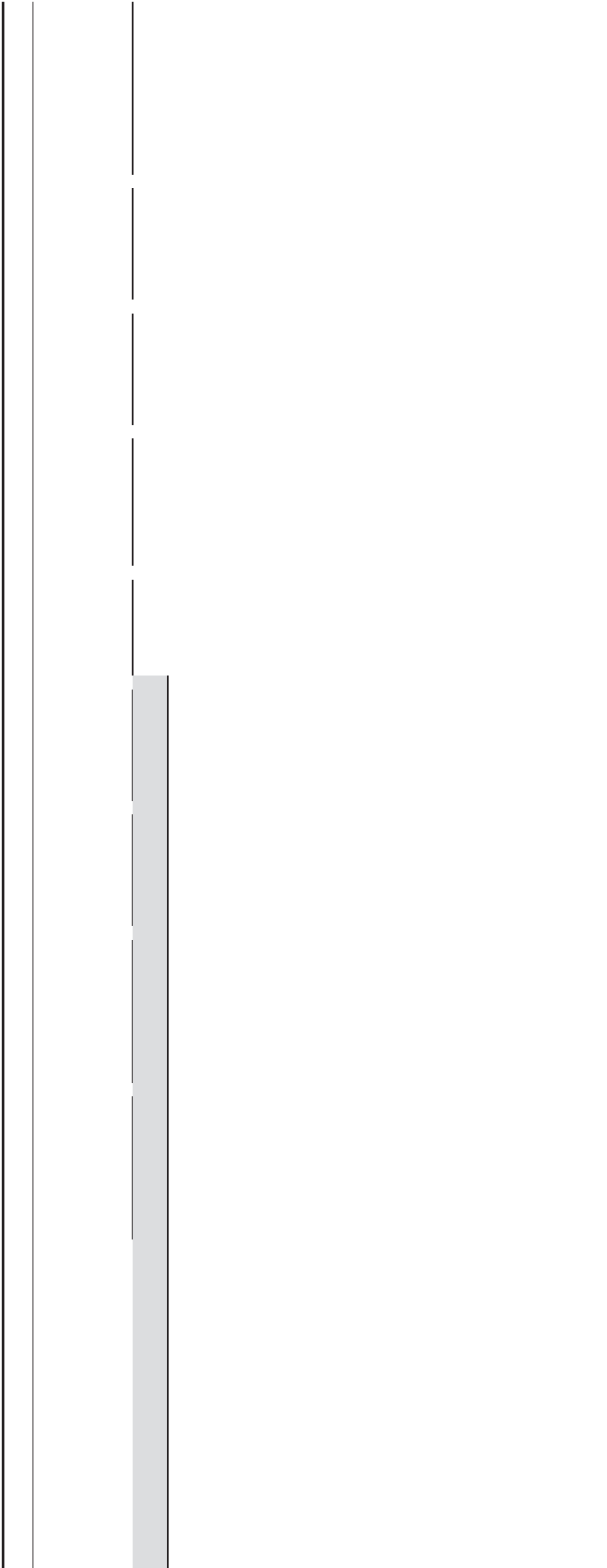
Figure 1 shows that monthly clients scored 45 percent lower on the Financial Stress Index than weekly clients ($P < 0.05$, *t* test). Monthly clients report being worried about repayment 51 percent less often than weekly clients ($P < 0.05$, *t* test), and report a lack of confidence in their ability to repay their loan at a rate that is 54 percent lower than weekly clients ($P < 0.05$, *t* test). Monthly clients are also 60 percent less likely to spend significant time thinking about loan repayment ($P < 0.05$, *t* test).

The results show that flexibility in repayment reduced clients’ mental stress along several dimensions, suggesting that product design can play a key role in influencing how microcredit affects the financial stress of the poor.

Our survey provides suggestive evidence on the channels of influence associated with less frequent repayment:

1. Higher business income and household expenditures: Relative to weekly clients, monthly clients more than doubled their business income on average, increasing their total household income by 84–88 percent ($P < 0.05$, *t* test), as shown in Table 1. As we would expect, wage income is unaffected by repayment frequency, reducing concerns that the result is spurious. Moreover, higher business profits among monthly clients were due to increased investment in business inventory. We note that the smaller sample size for the business investment and inventory outcome is due to the fact that we aggregate business investment and inventory to the client-week level. Finally, we also observe higher household expenditures, which is consistent with higher income. Considering that the correlation between financial deprivation and financial stress problems is well established in the literature, we hypothesize that this large increase in income is likely an important contributor to the financial stress results.

1. Further evidence of the income channel comes from looking at the time path of stress levels and income. As shown in Figure 2, stress levels are more or less comparable between weekly and monthly clients until around week 12 of the loan cycle, at which point the stress level of monthly clients begins to fall steadily. The difference in stress levels between monthly and weekly clients is particularly large at the very end of the interview period (week 30), by which time large differences in income have also emerged (Figure 3). In contrast, we see that differences in investment are concentrated in the early part of the loan cycle (Figure 3). Given that income effects emerge slowly over time as investments come to fruition, if income is the driver of differences in financial stress, we would expect stress levels of monthly and weekly clients to diverge over time. The observed time path does not support the alternative possibilities that either consumption-smoothing or the time burden of repayment meetings are the channels; in those cases financial stress levels should converge as debt levels fall or remain constant throughout the loan cycle. The difference-in-differences estimate in column 2 of Table 1 confirms that the stress index is significantly lower for monthly clients after, but not before, week 12 of the loan cycle.
2. No increase in short-run default and share of spending on temptation goods: Using transaction data obtained from VFS, we tested whether moving to a monthly repayment schedule increased default by measuring default rates at 8, 16, and 20 weeks past the date when each client’s loan was due in full. Using the OLS specification described above, we find no evidence that moving from weekly to monthly repayment increased default during the study period. Within our study period, household expenditures among monthly clients increased by only a fraction of the increase in household income, suggesting that clients were able to maintain fiscal discipline and prioritize business investment even with less frequent



repayment requirements. The fraction of total household spending that was devoted to tobacco, alcohol and ready-made foods was unaffected.

3. No change in variation of income and consumption: We find no change in the coefficient of variation of income and household expenditure among monthly clients. It is possible that an improved ability to smooth consumption also increases economic income and the net effect is no change in the volatility of consumption [28]. As a result, this outcome cannot

be interpreted as implying that monthly repayment failed to reduce the cost of smoothing consumption.

Discussion

Presented with the problems caused by financial stress, policy-makers often believe the right response to is to reduce overall financial indebtedness. But there are many reasons to believe that access to credit is critical to improving economic outcomes for the poor in developing countries. In this study we consider self-

