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## Introduction

The success of microfinance—the system that aids poor women in developing countries by offering them small collateral-free loans—was acknowledged internationally in 2006 when Muhammad Yunus and the Grameen Bank won the Nobel Peace Prize [1,2]. While the microfinance model has increased economic opportunities for the poor, its strict repayment requirements have come under fire in the media after reports of suicides among loan delinquents in the Indian state of Andhra Pradesh in 2010 [3]. A central concern is that the psychological burden of frequent repayment—particularly among poor clients who often lack the financial skills to optimally manage loans—may, in many instances, offset the positive influence of access to credit, making microfinance borrowers worse off in terms of mental well-being [4].

The typical microfinance borrower faces a very rigid repayment schedule that requires her to make installments on a weekly basis beginning shortly after loan disbursement. While such a contract is believed to be an important component of keeping defaults at bay [5], frequent repayment also limits clients' ability to deal with short-term shocks to household income and credit, therefore, be an important source of anxiety when there is a high degree of income variance. Our study rigorously examines whether a small adjustment to loan structure that reduces repayment rigidity can make it possible for clients to experience the economic benefits of microfinance with minimized financial stress.

Financial stress is well documented in the psychology literature to be an important factor leading to mental health problems [6–8], which in turn are among the most important causes of mortality in the world, and which produce considerable disability in developing countries [9–11]. Indicators of poverty and risk for mental disorders are highly correlated in the developing world [12]. Hence, minimizing financial stress is of first-order importance.

Yet, despite the media's persistent, negative evidence that microfinance indebtedness negatively impacts mental health is lacking [13]. Moreover, theory suggests that the regulations which have been proposed to curb microfinance clients' stress levels have ambiguous implications. Nevertheless, largely based on case-study evidence, the Indian federal and state governments have moved to increase regulation of the microfinance sector [14].

Here, we provide experimental evidence on a key product design feature—repayment frequency. Poor households' income is often irregular and uncertain [15]. As a result, frequent repayment requirements could be a source of stress. Yet, one can imagine the frequent repayment increasing financial stress if clients procrastinate in preparing and have to scramble to make a larger installment at the end of each month.

Observational evidence is unable to identify the causal impact of repayment flexibility on stress in large part because there is high variation in repayment schedules across microfinance clients, and because, where alternative payment plans are possible, clients who face differentially successful economic lives are likely to select into

# Repayment Flexibility Can Reduce Financial Stress: A Randomized Control Trial with Microfinance Clients in India

Financial stress is widely believed to cause health problems. However, policies seeking to relieve financial stress by limiting debt levels of poor households may directly worsen their economic well-being. We evaluate an alternative policy – increasing the repayment flexibility

of debt contracts. A field experiment randomly assigned microfinance clients to a monthly or a traditional weekly installment schedule ( $N = 200$ ). We used cell phones to gather survey data on income, expenditure, and financial stress every 48 hours over seven weeks. Clients repaying monthly were 51 percent less likely to report feeling “worried, tense, or anxious” about repaying, were 54 percent more likely to report feeling confident about repaying, and reported spending less time thinking about their loan compared to weekly clients. Monthly clients also reported higher business investment and income, suggesting that the flexibility encouraged them to invest their loans more profitably, which ultimately reduced financial stress.

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