Repayment in microfinance: The role of financial literacy and caste

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Summary of findings

The authors document two key benefits of financial literacy

- Leads to a decline in the number of days taken to make loan repayments
- Helps borrowers in homogeneous groups of reserved castes overcome their initial disadvantage of low financial literacy

Literature on financial literacy

- Banerjee et al. (2010) suggest that the real benefit of bringing poor households into formal or semi-formal financial sector via microfinance might be limited
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  - Would additional interventions such as *targetted financial education programs* help?
- There is a paucity of randomized evaluation of financial literacy programs
  - Cole et al. (2010) find no effect of an education program designed to promote savings behaviour
  - Carpena et al. (2012) reject the hypothesis that financial education permits individuals to minimize interest expense by choosing from a pool of loans

Literature on financial literacy

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  - Bernheim et al. (2003) find that high school financial education leads to higher savings rate
  - Cole and Shastry (2010) suggest that the above result might be spurious
- Agarwal et al. (2009) and Agarwal et al. (2010) examine the *relative* efficacy of a mandatory counseling program *and* a long-term voluntary participation program for prospective homebuyers
  - They find the latter approach to be more effective; they document lower delinquency rates among program graduates

Literature on financial literacy

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  - The programs might be effective, but its impact on financial decision making might be inherently difficult to measure

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- The current paper assesses the impact of mandatory short-term financial programs on loan repayment behaviour
  - The authors exploit variation in timing of financial literacy program across branches
- Big picture: Why is a higher repayment rate beneficial?
  ... " high repayment rates can reduce the cost of credit and allow MFIs to lower the interest rates, thereby enabling greater access to finance"

Measuring repayment performance

- The authors use multiple measures of loan repayment performance
  - Days late in each of six installments
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  - Days late in each of six installments
  - The total number of days late over six installments
  - The total number of months of delayed repayment
- The focus on the first six installments is due to data constraints
  - The program was administered in 2012; by Feb 2014 (the last period for which the authors have data), most loans would have had completed six months of tenure *post* the program

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- Using data from earlier periods, can we examine the relation between these repayment measures and actual defaults?
- Suggestions:
  - Define a 60 days-past-due (DPD) measure; what % of loans went 60 DPD in the first six installments?
  - Repeat the analysis with loans of maturity 12 months, but using a 60 DPD or 90 DPD as a measure of performance

Measuring repayment performance

- In most cases, *days late in each installment* is negative; this suggests that borrowers are actually paying ahead of time.

Table 4 Summary statistics: Loan repayment

	Full sample	Training Yes	Training No
N	17896	10901	6995
Days late installment #1	-0.06	-0.21	0.17
	(3.07)	(2.13)	(4.13)
Days late installment #2	-0.04	-0.09	0.03
	(3.36)	(2.98)	(3.88)
Days late installment #3	-0.08	-0.10	-0.05
	(5.09)	(4.92)	(5.34)
Days late installment #4	-0.03	-0.02	-0.03
	(6.27)	(5.89)	(6.82)
Days late installment #5	-0.28	-0.32	-0.21
	(6.43)	(5.33)	(7.85)
Days late installment #6	-0.29	-0.37	-0.18
	(8.23)	(7.51)	(9.24)
Total Days Late	-0.78	-1.10	-0.27
	(19.69)	(16.69)	(23.61)
Number of months late	0.11	0.06	0.18
	(0.40)	(0.26)	(0.54)

- It wasn't evident from the paper, but does Swadhaar have a policy of giving grace periods? If yes, are the above results inclusive of such grace periods?

Regression models

- Across all measures of loan repayment, financial literacy yields improvements that are statistically significant

Table 5 Results: Difference-in-difference

	(1) First Installment	(2) Second Installment	(3) Third Installment	(4) Fourth Installment	(5) Fifth Installment	(6) Sixth Installment
Financial Literacy	-0.256*	-0.303*	-0.475**	-0.617**	-0.792***	-1.101***
	(0.143)	(0.163)	(0.235)	(0.301)	(0.302)	(0.371)
Disbursed Amount	-0.000	-0.000	-0.000**	-0.000***	-0.000	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Loan Series	-0.164***	-0.098**	0.061	0.220**	0.114	0.169
	(0.042)	(0.048)	(0.069)	(0.089)	(0.089)	(0.109)
Married	-0.058	0.045	0.211*	0.101	0.067	0.291*
	(0.068)	(0.078)	(0.112)	(0.143)	(0.144)	(0.177)
Age of Client	0.040*	-0.035	0.005	0.071	0.017	0.099*
	(0.022)	(0.025)	(0.037)	(0.047)	(0.047)	(0.058)
Age Squared	-0.001*	0.000	-0.000	-0.001	-0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
No Education	0.046	0.020	0.054	0.213**	0.052	0.098
	(0.049)	(0.056)	(0.081)	(0.103)	(0.104)	(0.128)
Monthly Income	0.000**	0.000***	0.000	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Number of Earning Members	-0.051	-0.077	-0.036	0.003	-0.066	-0.135
	(0.043)	(0.049)	(0.070)	(0.090)	(0.090)	(0.111)
Reserved Caste	0.112*	-0.134**	0.087	0.154	0.046	0.062
	(0.050)	(0.057)	(0.082)	(0.105)	(0.106)	(0.130)
Number of Dependents	-0.010	-0.016	-0.061**	-0.045	0.032	0.018
	(0.018)	(0.020)	(0.029)	(0.037)	(0.038)	(0.046)
Branch Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16272	16272	16272	16272	16272	16272
R-Squared	0.03	0.03	0.02	0.04	0.02	0.01

* Significant at the 10%; ** at the 5%; *** at 1% levels

Regressions control for the duration of the loan i.e. 12 months or 24 months

Regression models

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        - How do we attribute this to financial literacy?

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- How do we juxtapose these two results? The authors might want to elaborate more on this
- Given that these *mandatory* programs were for only 30 minutes, it might be interesting to examine if basic and/or financial literacy of family members has an impact on the borrower's repayment behaviour

Extended regression models

- The authors extend the base models to examine the impact of social ties and group homogeneity on repayment

Table 8 Results: Group Homogeneity

	(1) Total Days Late	(2) Number of Months Late
Financial Literacy	-3.117***	0.070***
	(1.002)	(0.022)
All Reserved*Financial Literacy	0.994	-0.033*
	(0.808)	(0.017)
All Reserved Caste	-0.887	0.029**
	(0.627)	(0.014)
All General*Financial Literacy	-1.409**	-0.022
	(0.695)	(0.015)
All General Caste	-0.591	-0.002
	(0.510)	(0.011)
Observations	16264	16264

* Significant at the 10%; ** at the 5%; *** at 1% levels
Regressions control for the duration of the loan i.e. 12 months or 24 months and demographic variables
All regressions control for year, month, branch and state fixed effects

- While the authors make some interesting inferences, lack of consistency in results across loan performance measures is a source of concern

Other comments

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- I recommend that the authors also elaborate more on the benefits of early repayments, particularly at the level of the individual borrower
  - Field and Pande (2008) find that flexibility in repayment (weekly vs monthly) has no significant effect on client delinquency or default
  - Field et al. (2012) find that flexibility in repayment reduces financial stress
  - Field et al. (2014) find that allowing a grace period in repayment involves both costs and benefits

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- The authors validate their primary results using a comprehensive battery of robustness tests
- Interesting paper and definitely recommend reading it