

# Recent development in microfinance and related research

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October 31, 2024

PIER's Development Economics Research Workshop @ BOT

# Microcredit → Microfinance

- Microcredit by Grameen-Bank Style
  - Collateral-free small-scale loans to the poor, especially female, who have not been deemed to be creditworthy
  - High repayment rates
  - Joint liability (Peer selection & Peer monitoring)
  - Strict repayment schedule (weekly/monthly) that begins right after disbursement
  - Dynamic incentives
- From Microcredit to Microfinance
  - Variants of Grameen-style microcredit
    - Individual liability
    - Large-scale loans
    - Grace period etc
  - Microsaving
  - Microinsurance

# Microinsurance

- Problems in the traditional crop/livestock insurance products
  - Market failure associated with asymmetric information
    - Moral hazard
    - Adverse selection
  - High transaction costs to verify individual losses
- Development of index-based insurance
  - Weather/other index that closely related to losses
  - Reduced incentive problems and adverse selection, and reduced transaction costs
- But still low demand
  - Basis risk
  - Upfront premium payment (liquidity constraints/present-biased preference)

# Casaburi and Willis (2018): AER

- In Kenya: Sugarcane
- Novelty: A company offers the insurance in the growing cycle and deducts the premium plus interest at harvest.
- Interlinked contract: insurance and production sales (sold to a company at pre-determined timing and price) → contract farming style.
- Payout if yield is below 90% of its predicted level.
- Experiment: (1) upfront payment (2) upfront with 30% discount (3) delayed payment at harvest
- Results of take-up: (1) 5% (2) 6% (3) 72%
- Main mechanisms:
  - small price elasticity because partial insurance is impossible
  - large demand for delayed payment because of liquidity constraints and present bias
- Similar results are found in Liu et al. (2020)

# Timing matters in many microcredit contracts...

- Burke et al. (2019) in QJE
  - Farmers sell low at harvest season and buy high in lean season
  - A harvest-time loan that allows inter-temporal arbitrage of grain sales can significantly increase farm revenues in rural Kenya
- Fink et al. (2020) in AER
  - A lean season-specific loan program in rural Zambia results in increased on-farm labor and agricultural output, resulting in improved food security
- Beaman et al. (2023) in ECMA
  - There is mismatch in traditional microcredit for crop production between cash inflows (at harvest) and credit outflows (frequent installment).
  - Lump-sum repayments at post-harvest reduces borrower transaction costs, and boosts agricultural investments and profits in rural Mali
- Kono et al. (2024) *mimeo*
  - There is also mismatch between credit inflows (upfront) and cash outflows (sequential investment).
  - Sequential disbursement of agricultural credit and lump-sum repayments at post-harvest increases agricultural investment among present-biased borrowers and reduces the loan size by eliminating precautionary borrowing in rural Bangladesh

# Lane (2023): ECMA

- In Bangladesh: Emergency loan for households living in flood-prone areas
- Typically, credit products have not been used to respond to shocks because financial institutions do not want to lend to vulnerable households for fear of losing money
- Novelty: the Emergency Loan commits institutions to evaluating borrowers' creditworthiness prior to the shock. Households can choose not to take a loan after the shock.
- Experiment: Treatment vs Control (both eligible above threshold credit score)
- Main results: (1) make more profitable ex ante investment (amount of land dedicated to crop cultivation and other business investment) and improve consumption and crop production ex post (2) improve repayment rate (3) increase profits for MFI
- Mechanisms: W/O guaranteed credit, households are less willing to make risky, but profitable investment for fear of investment failure in the face of shock, which reduces consumption → the credit guarantee encourages households to increase their productive investments by weakening the relationship between a future negative shock and consumption levels.

# Microsaving

- Saving is possible even at home, but demand-side saving constraints exist...
  - Present bias
  - Social pressure/Kinship tax
  - Limited cognitive skills (inattention to save, budget neglect/planning fallacy)
- Recent development of products and understandings
  - Commitment savings (Ashraf et al., 2006)
  - ROSCAs (Ambec and Treich, 2007; Baland and Anderson, 2002; Dupas and Robinson, 2013) and mobile money (Riley, 2024)
  - Savings reminder (Karlan et al., 2016), deposit collectors (de Mel et al., 2013), budget exercise (Augenblick et al., 2022)

# Future Research

- Flexible product designs tailored to heterogenous agents/demands
  - But evidence can be mixed: e.g., flexible repayment/debt moratorium
    - Negative on repayment: Czura et al. (2020), Brune et al. (2022)
    - Positive on repayment: Battaglia et al. (2024), Fiorin et al. (2023)
    - No impact on repayment: Aragon et al. (2020)
- General equilibrium effects at scale-intervention/natural experiment
  - Burke et al. (2019)
  - Breza and Kinnan (2021)
  - Egger et al. (2022)



# Reference

- Aragon, F.M., Karaivanov, A., and Krishnaswamy, K. (2020) "Credit lines in microcredit: Short-term evidence from a randomized controlled trial in India." *Journal of Development Economics* 146. MS#102497.
- Ambec, S., and Treich, N. (2007). "Roscas as financial agreements to cope with self-control problems," *Journal of Development Economics*, 82(1):120-137
- Anderson, S. and Baland, J.M. (2002). "The Economics of Roscas and Intrahousehold Resource Allocation." *Quarterly Journal of Economics*, 117, 963-995.
- Ashraf, N., Karlan, D., and Yin, W. (2006). "Tying Odysseus to the Mast: Evidence From a Commitment Savings Product in the Philippines." *Quarterly Journal of Economics*, 121(2), 635–672.
- Augenblick, N., Jack, B. K., Kaur, S., Masiye, F., and Swanson, N. (2023). "Retrieval Failures and Consumption Smoothing: A Field Experiment on Seasonal Poverty." mimeo.
- Battaglia, M., Gulesci, S., and Madestam, A. (2024). "Repayment Flexibility and Risk Taking: Experimental Evidence from Credit Contracts." *The Review of Economic Studies*, 91(5): 2635-2675.
- Beaman, L., Karlan, D., Thuysbaert, B. and Udry, C. (2023). "Selection Into Credit Markets: Evidence From Agriculture in Mali." *Econometrica*, 91: 1595-1627.
- Breza, E., and Kinnan, C. (2021). "Measuring the Equilibrium Impacts of Credit: Evidence from the Indian Microfinance Crisis." *Quarterly Journal of Economics*, 136(3): 1447-1497.
- Brune, L., Gin, X., and Karlan, D. (2022). "Give Me a Pass: Flexible Credit for Entrepreneurs in Colombia." NBER Working Papers 30634
- Burke, M., Bergquist, L. F., and Miguel, E. (2019). "Sell Low and Buy High: Arbitrage and Local Price Effects in Kenyan Markets." *Quarterly Journal of Economics*, 134(2), 785–842.
- Casaburi, L., and Willis, J. (2018). "Time versus state in insurance: Experimental evidence from contract farming in Kenya." *American Economic Review*, 108(12), 3778–3813.

# Reference

- Czura, K., John, A., and Spantig, L. (2020). "Flexible Contract, Flexible Morale? Microcredit Design and Repayment Discipline." Mimeo.
- De Mel, S., McIntosh, C., and Woodruff, C. (2013). "Deposit collecting: Unbundling the role of frequency, salience, and habit formation in generating savings." *American Economic Review*, 103(3), 387–92.
- Dupas, P., and Robinson, J. (2013). "Why don't the poor save more? evidence from health savings experiments." *American Economic Review*, 103(4), 1138–71.
- Egger, D., Haushofer, J., Miguel, E., Niehaus, P., and Walker, M. (2022). "General Equilibrium Effects of Cash Transfers: Experimental Evidence From Kenya." *Econometrica*, 90(6): 2603-2643.
- Fink, G., Jack, B. K., and Masiye, F. (2020). "Seasonal Liquidity, Rural Labor Markets and Agricultural Production." *American Economic Review*, 110 (11), 3351–3392.
- Fiorin, S., Hall, J., and Kanz, M. (2023). "How do Borrowers Respond to a Debt Moratorium? Experimental Evidence from Consumer Loans in India." Mimeo.
- Lane, G. (2024). "Adapting to Climate Risk With Guaranteed Credit: Evidence From Bangladesh." *Econometrica*, 92: 355-386.
- Liu, Y., Chen, K., and Hill, R. V. (2020). "Delayed Premium Payment, Insurance Adoption, and Household Investment in Rural China." *American Journal of Agricultural Economics*, 102(4), 1177–1197.
- Karlan, D., McConnell, M., Mullainathan, S., and Zinman, J. (2016). "Getting to the Top of Mind: How Reminders Increase Saving." *Management Science* 62(12)
- Kono, H., Shonchoy, A., and Takahashi, K. (2024) "At the Right Time: Eliminating Mismatch between Cash Flow and Credit Flow in Microcredit." Mimeo.
- Riley, E. (2024). "Resisting social pressure in the household using mobile money: Experimental evidence on microenterprise investment in Uganda." *American Economic Review*, 114(5), 1415–47.