Value Chain Microfinance

Lorenzo Casaburi

University of Zurich UZH

STIAS - Nobel in Africa
Microdevelopment research in the last 20 years

Value chain (micro)finance

- **Financial services are often provided within value chain relationships**

  - Buyer → supplier (input credit)

  - Seller → buyer (trade credit)

  - Employer → employee

- **Value chain microfinance:** provision of value chain financial services to low-income individuals, including consumers, workers, and entrepreneurs (Casaburi and Willis, 2024)

Recent research on value chain microfinance

- Old development literature on interlinked transactions (Bell, 1988; Bardhan, 1989)

- Renewed interest in the last 10 years, based on:

  o **Evaluations** of value chain microfinance products

  o **New product design**, with economists collaborating with firms (Kremer, 2019)

  o **New benefits** of linkages, often related to insights from *behavioral economics*

  ➢ Add to traditional motivations: information, enforcement, lower transaction costs
    (Petersen and Rajan, 1997; Burkart and Ellingsen, 2004)
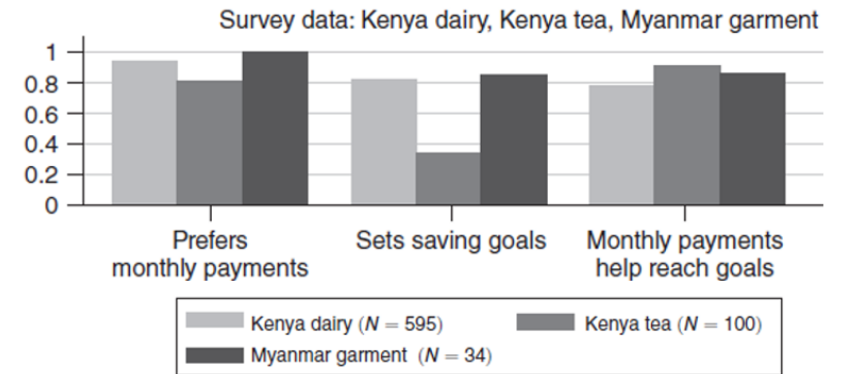
This talk

- Recent insights on value chain microfinance

    1. Savings

    2. Credit

    3. Insurance

    4. Equity

- Open questions and future directions

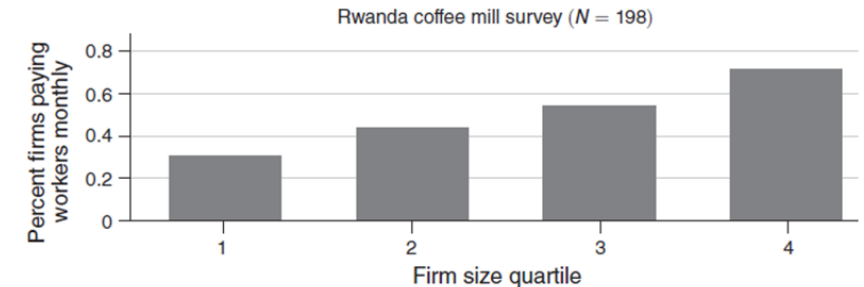# 1. Recent insights on value chain microfinance

(i) Savings: infrequent payments

- The frequency at which sellers/employees receive payments from buyers/employers may affect their ability to save

- Demand for infrequent payments, driven by **self control** motives (Casaburi and Macchiavello, 2019; Brune *et al.*, 2021; Kansikas *et al.,* 2023)
    - Bundling provides stronger commitment than other contracts

- Only some buyers can credibly offer infrequent payments → source of market power (Emran *et al.*, 2021; Macchiavello and Morjaria, 2021; Casaburi and Reed, 2022; Ghani and Reed, 2022)

Panel A. Preferences over payment frequencies

Survey data: Kenya dairy, Kenya tea, Myanmar garment

Kenya dairy (N = 595) Kenya tea (N = 100)
Myanmar garment (N = 34)

Panel B. Firm size and payment frequency

Rwanda coffee mill survey (N = 198)

Source: Casaburi and Macchiavello (2019)

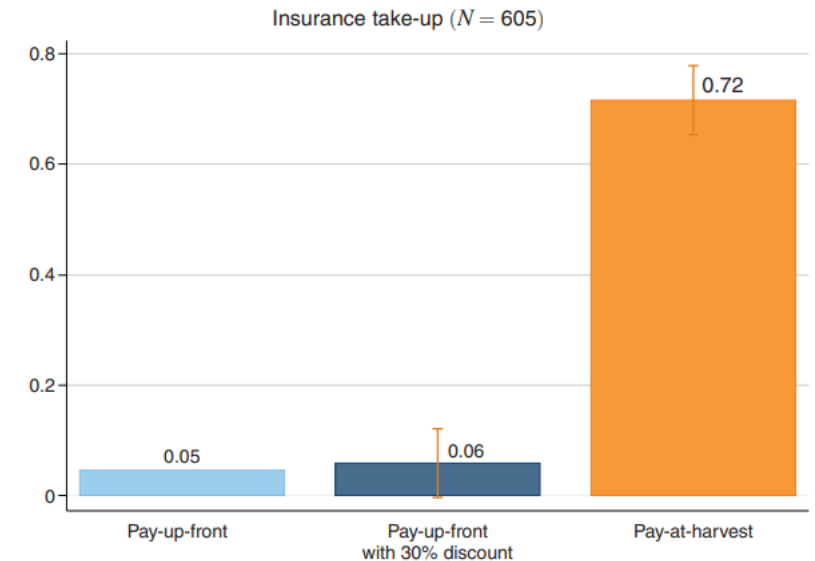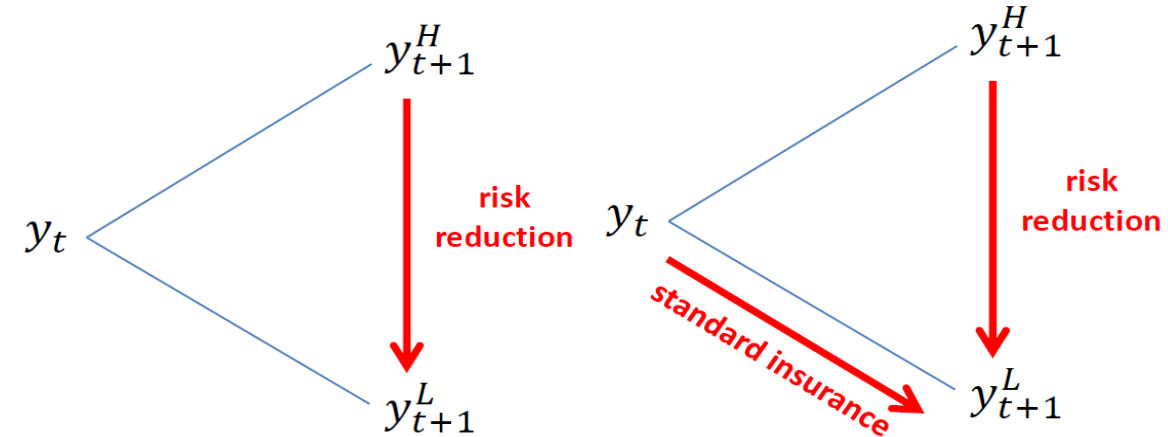# (ii) Credit: same-asset collateralized loans

- Standard value chain credit: input loans repaid through deductions from future sales.

  o Experimentation around this product

- **Same-asset collateralized loans (SACL)** for rainwater harvesting tanks in Kenya (Jack *et al.,* 2023):

  o Higher take up, productive benefits, low default rates

- **Dynamic loss aversion** (Carney *et al.,* 2022)

  o Other-asset CL: Endowment effect reduces demand

  o SACL: no loss aversion initially, but later attachment

    → Ambiguous welfare consequences due to naiveté

Treatment (loan) description	Take up
4% deposit loan	0.44 (0.013)
25% deposit loan, maintained	0.28 (0.011)
25% deposit loan, waived	
21% guarantor loan, 4% deposit, maintained	0.24 (0.011)
21% guarantor loan, 4% deposit, waived	
100% secured joint-liability loan	0.02 (0.021)

Source: Jack *et al.* (2023)

(iii) Insurance: pay-at-harvest crop insurance

- Puzzle: low demand for crop insurance despite large benefits (Cole and Xiong, 2017; Carter *et al., 2017*)

- A potential explanation: gains from insurance come from transfer across states, but standard products require upfront premium payment.

- Higher take up when crop buyer deducts premium from farmer revenues (Casaburi and Willis, 2018)

  o Pay-at-harvest insurance removes barriers to demand: liquidity constraints, **trust, present bias**

y_t → y_{t+1}^H · **risk reduction** → y_{t+1}^L

y_t → y_{t+1}^H · **risk reduction**, **standard insurance** → y_{t+1}^L

Insurance take-up ($N = 605$)

- Pay-up-front: 0.05
- Pay-up-front with 30% discount: 0.06
- Pay-at-harvest: 0.72

(iv) Microequity

- Traditional challenge for microequity (performance-based finance): **unobservability of returns**

- Value chain microequity: VC partners can often observe performance, or a sufficiently good proxy

- Kenyan food multinational finances asset of microdistributors, observing stock purchases (Cordaro *et al.*, 2023):
  - Randomization of finance contract terms: debt, equity (revenue share), hybrid (debt+equity), index. Largest gains from hybrid.

|	(1) Profits: Foodco	(2) Profits: Foodco
Debt	583	771
	(432)	(566)
Hybrid	1496**	1920**
	(609)	(819)
RevShare	787*	1314*
	(441)	(691)
IndexShare	279	532
	(440)	(816)
Estimation	ITT	LATE
Observations	2,888	2,888
Individuals	161	161
Timeframe	1m-36m	1m-36m
Control mean	897	897
Test: Hybrid = Debt	0.121	0.149
Test: Hybrid = RevShare	0.633	0.371
Test: RevShare = Debt	0.227	0.462

Source: Cordaro *et al.* (2023)

# 2. Open questions and future directions

(i) Value chain finance and the financial sector

Substitution or complementarity?

- Substitution: will better info & enforcement displace VCF?

- Complementarity: *External value chain finance*

  o Evaluation of external value chain finance products (e.g., receivables financing to aggregators)

  o Evaluation of *Aceli Africa*: do incentives to banks for agri-SME lending trickle down on value chain finance provision?
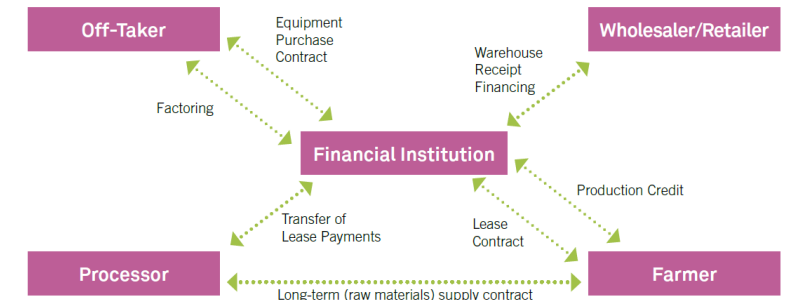

Source: Miller and Jones, 2010.
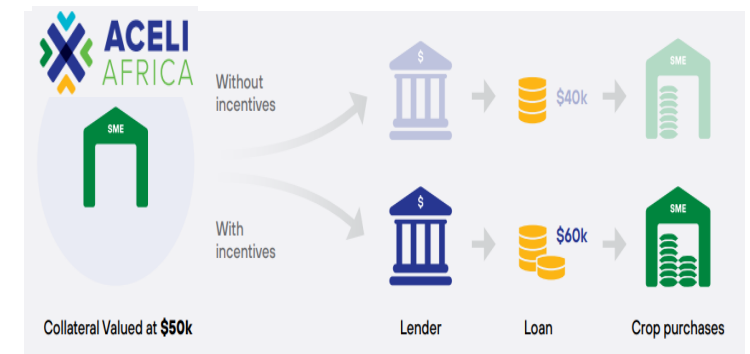
(ii) Overcoming strategic default

- A recurring challenge: strategic default

  o Side selling in contract farming (Barrett et al., 2022), sale diversion in microequity (Meki and Quinn, 2024)

- More work is needed on this topic

  o **Increasing the value of the relation:** input quality; timeliness of payments (double-sided moral hazard)

  o **Contracting:** fixed-price vs. differential-price contracts (Blouin and Macchiavello, 2019)

 o **Punishment strategies:** little research on contract breaches and on what to do in these cases.
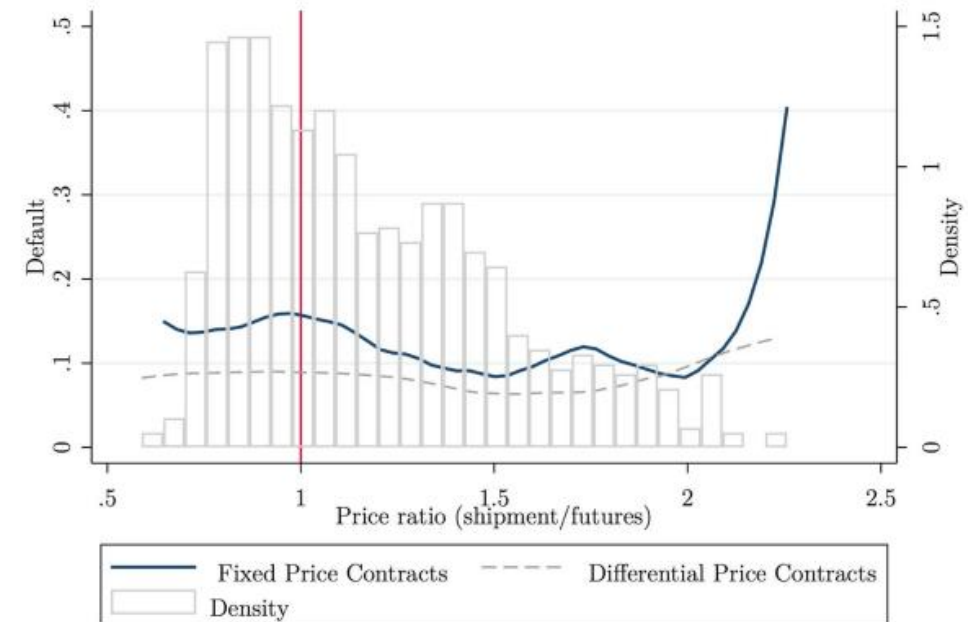
Source: Blouin and Macchiavello (2019)

(iii) Finance for land markets

- Growing land markets across Africa, but land misallocation persists (Jayne et al., 2021; Chen *et al.*, 2023; Acampora *et al.*, 2023)

  o Financial constraints hinder reallocation (Kaboski *et al.*, 2022)

- **Value chain finance for land markets?**

  o VC partners: info on potential returns to land expansion

- Land is the main asset for most poor→ revisit the literature on land and finance? (Besley and Ghatak, 2010)

  o Macro development approaches (Manysheva, 2022)

  o New data: credit registries, credit bureaus, land registries (d'Andrea et al., 2023)

Panel A. Land size versus farm productivity

Source: Chen *et al.* (2023)
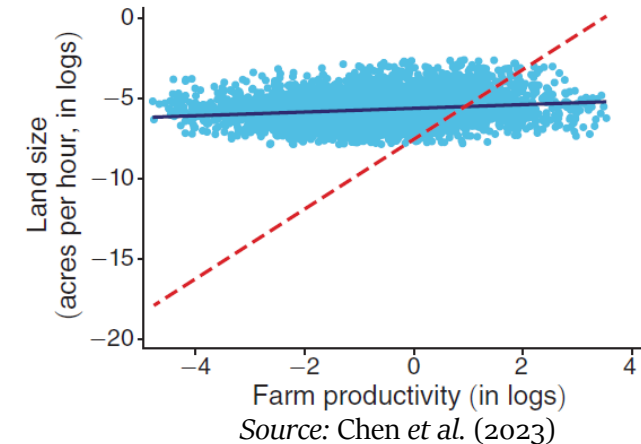
	(4)
	I2-land†
won lottery (0/1)	364,871
	(1,048,596)
won large lottery (0/1)	4,321,085**
	(2,157,123)
risk loving (0/1)	-778,129
	(1,301,096)
district fe's	Yes
demographic controls	Yes
$\beta_1 + \beta_2$	4,685,956
P-value: $\beta_1 + \beta_2 = 0$	.013
Control mean if risk loving = 0	14,155,589
Control mean if risk loving = 1	16,009,917
R^2	.5
Observations	867

Source: Kaboski *et al.* (2022)

Conclusion

- Recent research insights on value chain microfinance

  o New domains: savings, equity

  o Evaluating new product designs

  o New benefits, often tied to behavioral economics

- Several exciting directions for new research

  o Interaction between value chain microfinance and the financial sector

  o Value chain finance for land markets

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- **Thanks!**