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May 16, 2012

Matching Products with Preferences: Innovations in Commitment Savings for the Poor

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Jason Wolfe

USAID

Jason Wolfe is Senior Household Economic Strengthening Advisor with USAID's Office of HIV/AIDS, where he supports PEPFAR programs to improve the economic circumstances of households affected by HIV/AIDS. Previously he served for five years with USAID's Microenterprise Development office promoting inclusive value chain development, managing the Enterprise Development Implementation Grant Program, contributing to knowledge management and collaborative learning efforts, and coordinating special initiatives with youth, HIV/AIDS-affected households, and conflict-affected environments. Wolfe has 14 years of experience in 45 countries, working with poor, rural, and marginalized communities.



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Aishwarya Ratan

Innovations for Poverty Action

Aishwarya Ratan is the Director of the Microsavings and Payments Innovation Initiative at Yale University. Ratan has joined Yale and the team at Innovations for Poverty Action in New Haven in June 2011. In her years at the Microsoft Research Labs in Bangalore, Ratan gained extensive experience leading projects on the role of technology in enabling social and economic development and poverty alleviation. She has an undergraduate degree in Economics from Wellesley College and a Master's degree in Public Administration and International Development (MPA/ID) from the Kennedy School at Harvard University.



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Jessica Goldberg

University of Maryland

Dr. Jessica Goldberg is an assistant professor at the University of Maryland and a postdoctoral research fellow at the Center for Global Development. Her research focuses on the ways that people in developing countries earn, spend, and save money. She is particularly interested in how financial market imperfections, behavioral factors, or other obstacles to borrowing and saving affect decisions about working and consuming. Goldberg received her Ph.D in Economics and Public Policy from the University of Michigan in 2011, and also holds an MPA from the Woodrow Wilson School at Princeton University and a BA in economics and political science from Stanford University.



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Jonathan Robinson

University of California at Santa Cruz

Dr. Jonathan Robinson is an assistant professor of economics at the University of California, Santa Cruz, and a research affiliate of Innovations for Poverty in Action and the Abdul Latif Jameel Poverty Action Lab. His current research is focused on the effect of providing basic financial access to people in developing countries, including evaluations of a program to provide savings accounts to micro-entrepreneurs and a program which allowed farmers to commit to save harvest income for future fertilizer investment. His research also examines the effect that risk has on the decisions people make and the effect that access to risk-coping mechanisms have on these decisions. He received his Ph.D. from Princeton University in 2007.

Matching Products with Preferences: **Innovations in Commitment Savings for the Poor**

Aishwarya Lakshmi Ratan
Director, Microsavings Initiative
Yale University & IPA

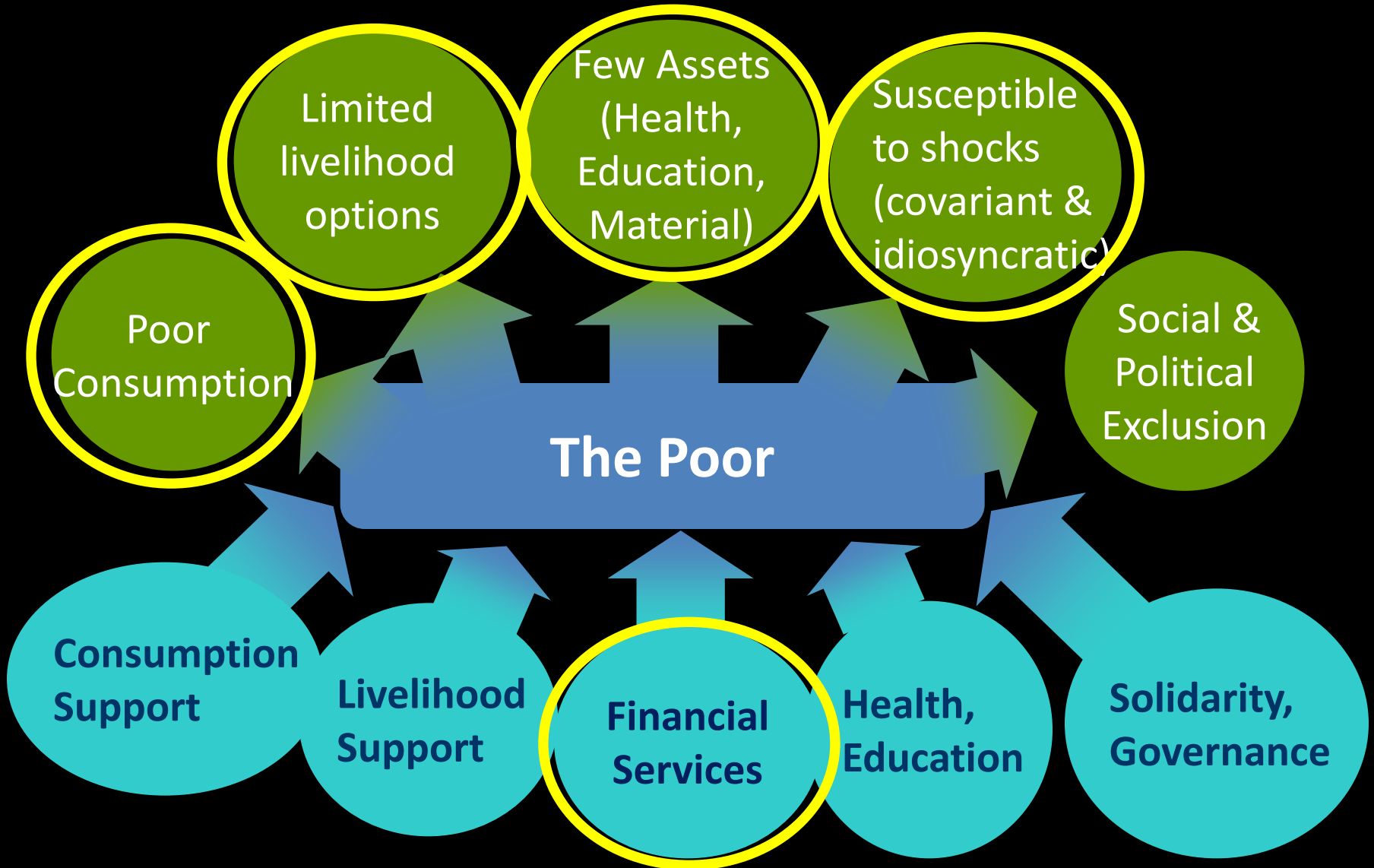


IPA research projects

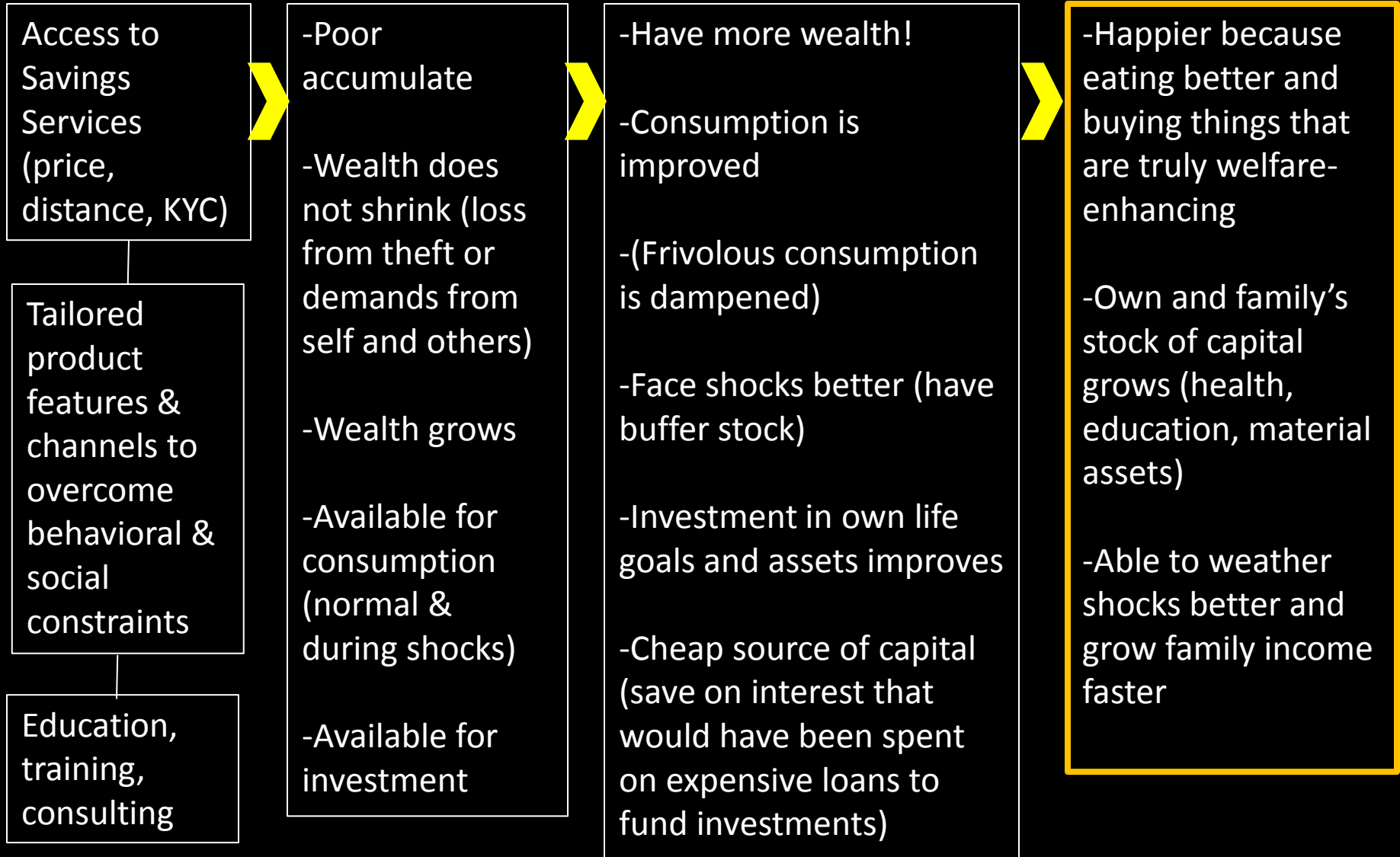


IPA has over 397 projects underway in 48 countries, with close to 600 staff

Why poverty?



Savings – Theory of Change



Behavioral & Social Constraints

Tailored
product
features &
channels to
overcome
behavioral &
social
constraints



Self-control/ Time-inconsistency

Inattention

Status-quo

Choice overload

Etc....

Intra-household social constraints

In-network social constraints

The 'two-self' problem...



Images source: Google Images

Alarm example thanks to Sendhil Mullainathan

Range of commitment devices....

SOFT

HARD



**Auto-on in oven
(smell of bacon
wafting in...)**

**“Pour water on
me if I don’t
wake up...”**

**Labels of goals on
savings accounts**

**Penalties if you
miss a deposit**

...with a range of impacts....

SOFT

HARD



**30% increase in
net savings
towards goal
(Ghana, 2011)**

**80% increase in
net savings
towards goal
(Philippines, 2008)**

Things to keep in mind....

- For whom (which type of individuals, families) are commitment devices needed?
- When are commitment devices required?
- When needed, what kind of device is most suitable (soft or hard)?
- Short-term impact (behavioral and social)?
- Long-term impact (behavioral e.g. habit formation, and social e.g. strength of kin network links)?

Things to keep in mind....

- Always thinking of the commitment product in the context of the individual/family's portfolio of financial products.
 - Must balance liquidity needs with growth of wealth
- Savings itself achieves nothing. Needs to translate to asset or expenditure item.

Questions?



www.poverty-action.org/microsavings



Commitments to Save: A Field Experiment in Rural Malawi

Lasse Brune
University of Michigan

Xavier Giné
World Bank

Jessica Goldberg
University of Maryland

Dean Yang
University of Michigan

Motivation

- The returns to saving and investment are high in many developing countries
 - de Mel, McKenzie and Woodruff (2008)
 - Duflo, Kremer and Robinson (2009)
- In sub-Saharan Africa, fertilizer is one of the highest-return and most under-exploited investment opportunities for smallholder farmers

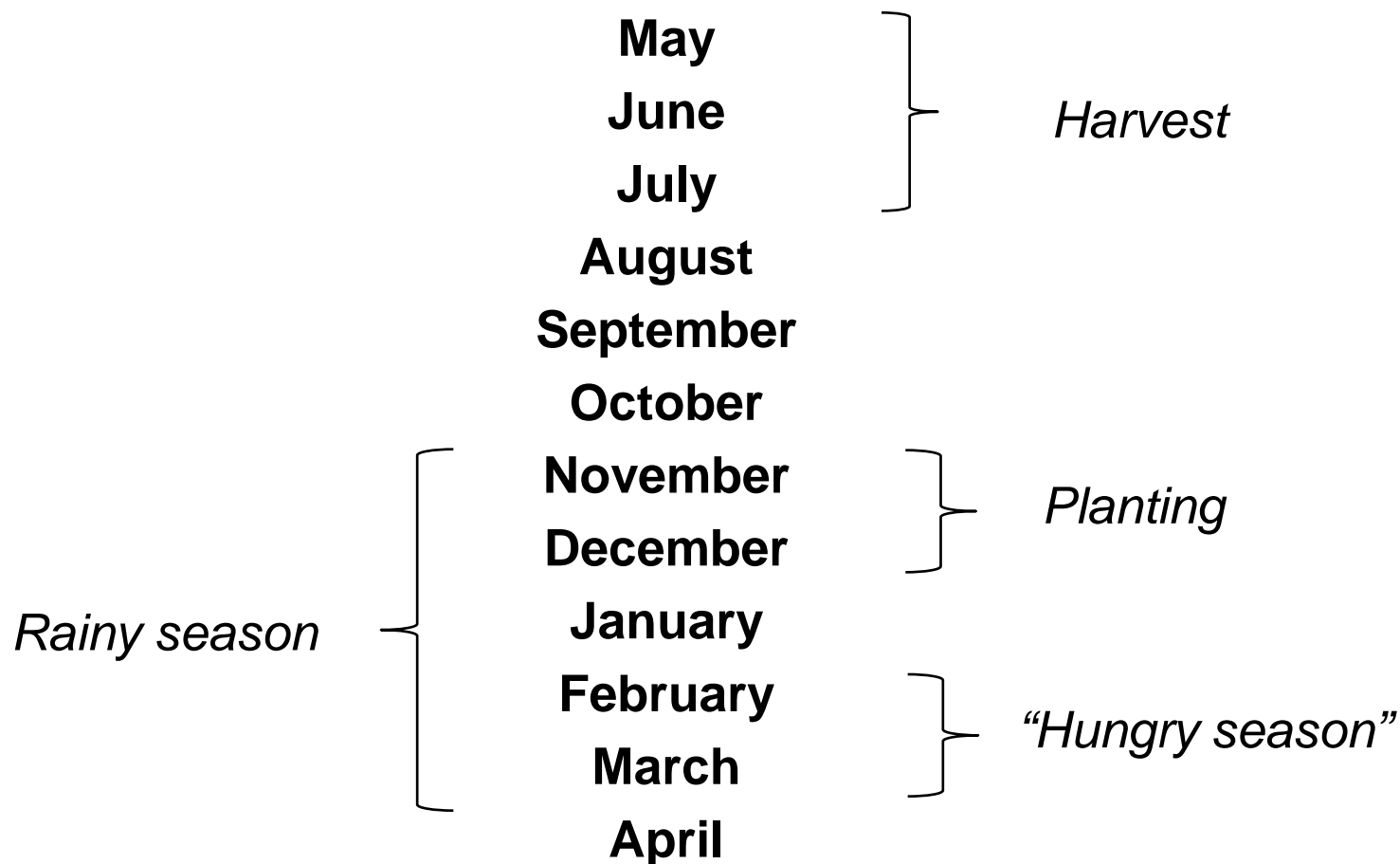
Motivation

- The returns to saving and investment are high in many developing countries
 - de Mel, McKenzie and Woodruff (2008)
 - Duflo, Kremer and Robinson (2009)
- In sub-Saharan Africa, fertilizer is one of the highest-return and most under-exploited investment opportunities for smallholder farmers
- Government response has been large-scale fertilizer subsidies for smallholders (Malawi, Tanzania, etc.)
 - In Malawi, 11% of government budget in 2010/11
 - Unsustainable without continued donor support

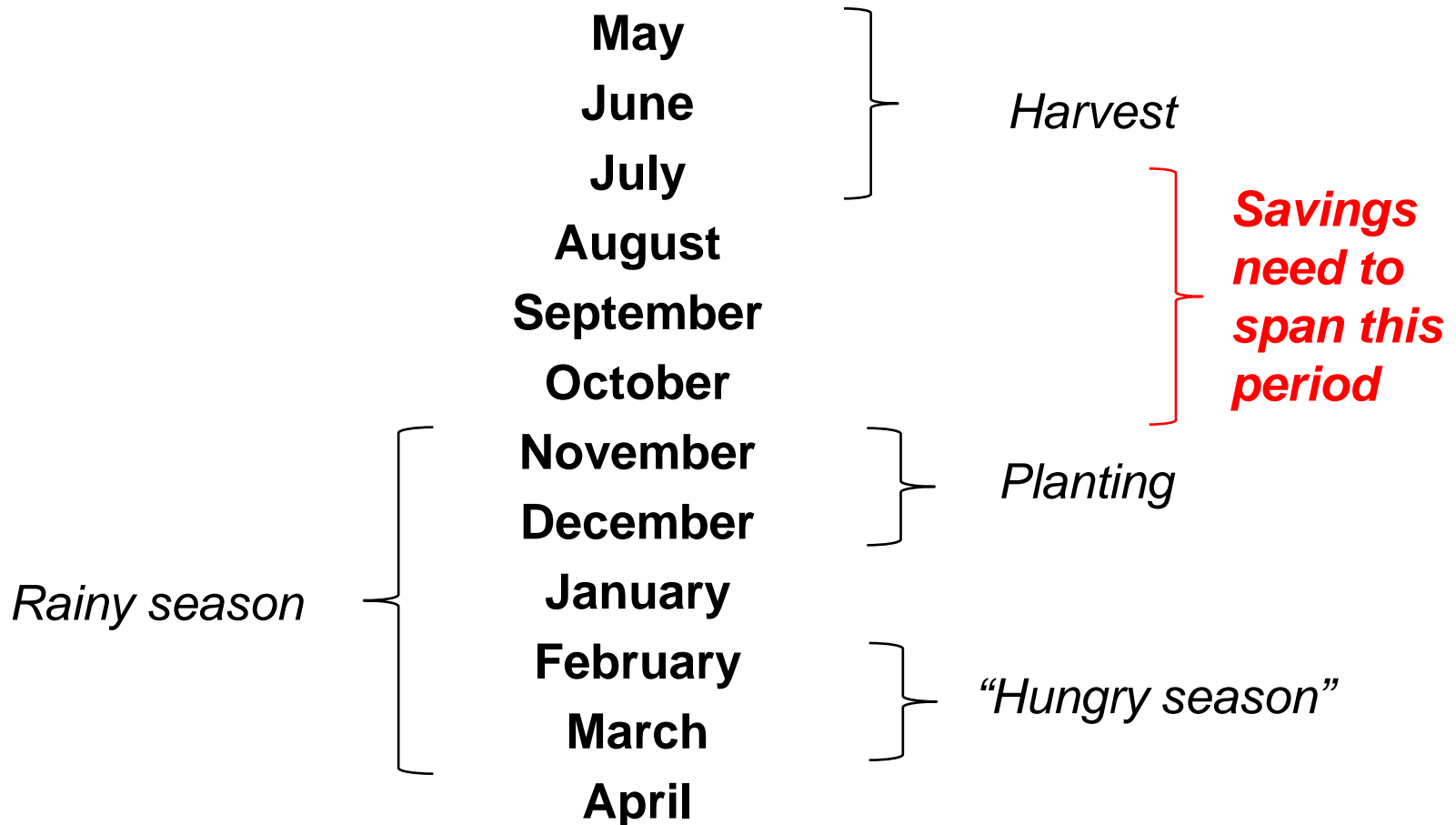
Raising farm output with rural finance

- For today: results from the 3rd of a series of experiments in rural Malawi aimed at raising farm output via financial service provision
- **Insure** farmers against adverse events
 - Provide insurance against poor rainfall
- Facilitate **credit** for agricultural inputs
 - Improve repayment via biometric identification
- Encourage farmers to **save** for their own input purchases
 - Facilitate access to ordinary and “commitment” savings accounts

The agricultural cycle in Malawi



The agricultural cycle in Malawi



What we do

We implement a randomized control trial in rural Malawi to answer the following questions:

- What is the impact of providing access to savings accounts on savings, farm input use, and farm output?
- Does offering “commitment” savings accounts have greater impacts (vis-à-vis “ordinary” accounts)?
- If so, what mechanism underlies the impact of the commitment savings offer?

Commitment savings

- Commonly proposed mechanism for increasing savings
- Allow individuals to voluntarily restrict own access to funds (“tying Odysseus to the mast”, “tying one’s hands”)
- In practice:
 - Allow customers to put funds into a special account where their access is restricted for defined period
 - Customers choose “release date” of funds
- **But:** households less able to respond to shocks
- Unknown: what is net impact of commitment facilities on household well-being?

Sources of demand for commitment

- Self-control problems
 - Want to save for future, but often give in to temptation to spend now
 - “Hyperbolic” time preference: apply higher discount rate to intertemporal choices today vs. similar choices in future
 - Strotz (1956), Laibson (1997), O’Donoghue and Rabin (1999)
 - Ashraf, Karlan, and Yin (2006)
- Social network demands for sharing of resources (a.k.a., “other-control” problems)
 - Informal village insurance systems may reduce productive investment and growth (Platteau 2000)

Sample

- 3,150 tobacco farmers currently borrowing from a Malawian MFI
- ~300 borrowing “clubs” with group liability loans
- Sell crop to central auction, crop proceeds (net of loan repayment) deposited into club accounts
 - Our intervention takes advantage of this direct deposit system



Randomized control trial: set-up

- Collaborating institution: Opportunity International Bank of Malawi (OIBM)
- Treatments involve:
 - Help with account opening procedures
 - Direct deposit of cash crop sales into individual farmer accounts
- Study participants randomly allocated to control group or one of the savings treatments:
 - “Ordinary” savings account
 - Ordinary + commitment accounts
- All clubs given financial education session on savings and budgeting for future needs
- Randomization at club level after stratification on locality, crop sub-type, week of intervention

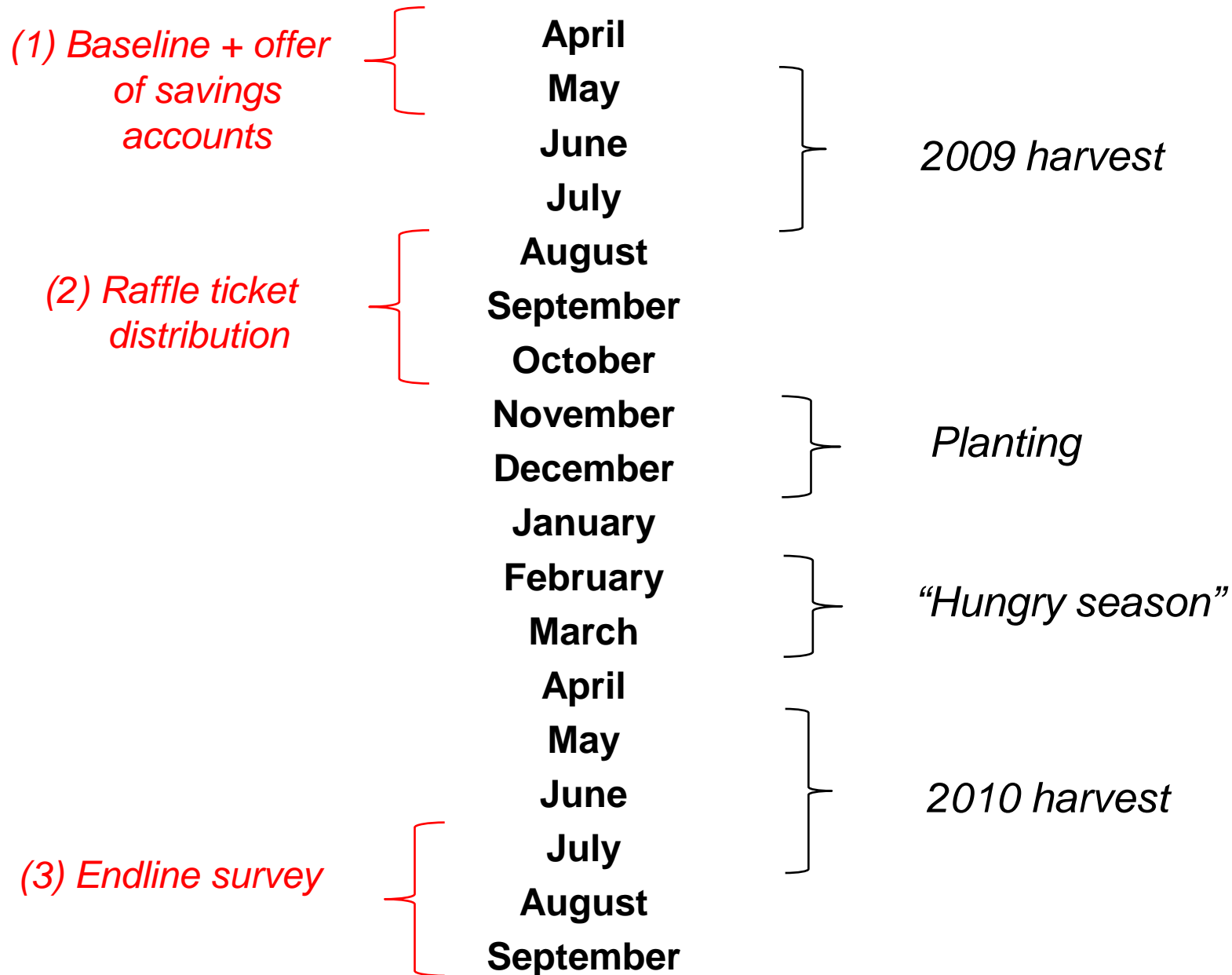
2nd intervention: revealing savings balances

- Objective: create variation in information disseminated to social network on individual's savings balances
 - Allow “other-control” problems to arise
- Treatment groups were further randomized to be part of a raffle (lottery) or not (prizes: bicycle, fertilizer)
- Study participants got 1 raffle ticket per MK1000 saved prior to next planting season
 - Number of tickets is strong signal of savings balance
- For raffle clubs, randomize ticket distribution procedure
 - **Public** raffle: in front of other group members
 - **Private** raffle: in private, out of sight of other group members
 - Also a “no raffle” group

Treatment conditions

	No savings intervention	Savings intervention: <u>ordinary</u> accounts offered	Savings intervention: <u>ordinary and commitment</u> accounts offered
No raffle	Group 0: 42 clubs	Group 1: 43 clubs	Group 4: 42 clubs
<u>Public</u> distribution of raffle tickets	N/A	Group 2: 44 clubs	Group 5: 43 clubs
<u>Private</u> distribution of raffle tickets	N/A	Group 3: 43 clubs	Group 6: 42 clubs

Project timing



Summary of findings

- Offer of commitment savings accounts has substantial impacts on:
 - Savings prior to next planting season
 - Key outcomes in and after next season: agricultural inputs applied, crop output, household expenditures
- No significant impact of facilitating ordinary accounts
- Actual “tying of hands” appears unnecessary
 - Amounts actually saved in commitment accounts very small; most savings are in ordinary accounts
- Cannot pin down mechanism. Possible:
 - Impacts due to reducing “other control” problems
 - Mental accounting or intention effects

Regression specification

For farmer i in club j :

- $$Y_{ij} = \delta + \alpha_1 \text{Commitment}_j + \alpha_2 \text{Ordinary}_j + \alpha_3 \text{Com_Raf}_j + \alpha_4 \text{Com_PubRaf}_j + \alpha_5 \text{Ord_Raf}_j + \alpha_6 \text{Ord_PubRaf}_j + \beta' \mathbf{X}_{ij} + \varepsilon_{ij}$$
- Y_{ij} = dependent variable
- \mathbf{X}_{ij} = vector of baseline control variables and stratification cell fixed effects
- Standard errors clustered at club level

Impact on take-up, deposits, and withdrawals

	(1)
<u>Dependent variable:</u>	Any Transfer via Direct Deposit (Take-Up Indicator)
<u>Time period:</u>	Mar 2009 - Apr 2010
Commitment Account	0.21*** (0.05)
Ordinary Account	0.16*** (0.05)
<u>Mean Dep Var in Control</u>	0.00
<u>Number of observations</u>	3,150
<u>P-value of F-test:</u>	
Commitment, No Raffle = Ordinary, No Raffle	0.333

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

Impact on take-up, deposits, and withdrawals

	(1)	(2)
<u>Dependent variable:</u>	Any Transfer via Direct Deposit (Take-Up Indicator)	Total deposits into accounts [MK]
<u>Time period:</u>	Mar 2009 - Apr 2010	Mar-Oct 2009
Commitment Account	0.21*** (0.05)	21,829.20*** (6,884.03)
Ordinary Account	0.16*** (0.05)	21,574.40*** (7,071.27)
<u>Mean Dep Var in Control</u>	0.00	3,281.13
<u>Number of observations</u>	3,150	3,150
<u>P-value of F-test:</u>		
Commitment, No Raffle = Ordinary, No Raffle	0.333	0.978

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

Impact on take-up, deposits, and withdrawals

	(1)	(2)	(3)	(4)	(5)
<u>Dependent variable:</u>	Any Transfer via Direct Deposit (Take-Up Indicator)	Total deposits into accounts [MK]	Deposits into ordinary accounts [MK]	Deposits into commitment accounts [MK]	Deposits into other accounts [MK]
<u>Time period:</u>	Mar 2009 - Apr 2010	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009
Commitment Account	0.21*** (0.05)	21,829.20*** (6,884.03)	19,431.76*** (6,281.25)	1,994.26** (788.77)	403.18 (348.01)
Ordinary Account	0.16*** (0.05)	21,574.40*** (7,071.27)	21,345.45*** (6,960.03)	-100.19 (235.00)	329.14 (278.41)
<u>Mean Dep Var in Control</u>	0.00	3,281.13	3,107.05	0.00	174.09
<u>Number of observations</u>	3,150	3,150	3,150	3,150	3,150
<u>P-value of F-test:</u>					
Commitment, No Raffle = Ordinary, No Raffle	0.333	0.978	0.825	0.009	0.847

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

Impact on take-up, deposits, and withdrawals

	(1)	(2)	(3)	(4)	(5)	(6)
<u>Dependent variable:</u>	Any Transfer via Direct Deposit (Take-Up Indicator)	Total deposits into accounts [MK]	Deposits into ordinary accounts [MK]	Deposits into commitment accounts [MK]	Deposits into other accounts [MK]	Total withdrawals from accounts [MK]
<u>Time period:</u>	Mar 2009 - Apr 2010	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009
Commitment Account	0.21*** (0.05)	21,829.20*** (6,884.03)	19,431.76*** (6,281.25)	1,994.26** (788.77)	403.18 (348.01)	20,707.85*** (6,828.63)
Ordinary Account	0.16*** (0.05)	21,574.40*** (7,071.27)	21,345.45*** (6,960.03)	-100.19 (235.00)	329.14 (278.41)	20,946.16*** (6,748.68)
<u>Mean Dep Var in Control</u>	0.00	3,281.13	3,107.05	0.00	174.09	3,256.44
<u>Number of observations</u>	3,150	3,150	3,150	3,150	3,150	3,150
<u>P-value of F-test:</u>						
Commitment, No Raffle =						
Ordinary, No Raffle	0.333	0.978	0.825	0.009	0.847	0.978

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

Impact on take-up, deposits, and withdrawals

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>Dependent variable:</u>	Any Transfer via Direct Deposit (Take-Up Indicator)	Total deposits into accounts [MK]	Deposits into ordinary accounts [MK]	Deposits into commitment accounts [MK]	Deposits into other accounts [MK]	Total withdrawals from accounts [MK]	Net deposits [MK]
<u>Time period:</u>	Mar 2009 - Apr 2010	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009	Mar-Oct 2009
Commitment Account	0.21*** (0.05)	21,829.20*** (6,884.03)	19,431.76*** (6,281.25)	1,994.26** (788.77)	403.18 (348.01)	20,707.85*** (6,828.63)	1,121.35* (670.15)
Ordinary Account	0.16*** (0.05)	21,574.40*** (7,071.27)	21,345.45*** (6,960.03)	-100.19 (235.00)	329.14 (278.41)	20,946.16*** (6,748.68)	628.24 (1,027.27)
<u>Mean Dep Var in Control</u>	0.00	3,281.13	3,107.05	0.00	174.09	3,256.44	24.69
<u>Number of observations</u>	3,150	3,150	3,150	3,150	3,150	3,150	3,150
<u>P-value of F-test:</u>							
Commitment, No Raffle =							
Ordinary, No Raffle	0.333	0.978	0.825	0.009	0.847	0.978	0.678

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

Impact on inputs, production, expenditures

	(1)	(2)
<u>Dependent variable:</u>	Land under cultivation [acres]	Total value of inputs [MK]
Commitment Account	0.42** (0.20)	16,533.52** (6,394.38)
Ordinary Account	0.05 (0.19)	8,521.34 (6,272.71)
<u>Mean Dep Var in Control</u>	4.28	60371.80
<u>Number of observations</u>	2,835	2,835
<u>P-value of F-test:</u>		
Commitment, No Raffle = Ordinary, No Raffle	0.057	0.276

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

Impact on inputs, production, expenditures

	(1)	(2)	(3)	(4)
<u>Dependent variable:</u>	Land under cultivation [acres]	Total value of inputs [MK]	Value of crop output (sold & not sold) [MK]	Farm profit (output-input) [MK]
Commitment Account	0.42** (0.20)	16,533.52** (6,394.38)	33,967.76** (15,115.21)	19,205.08 (12,398.64)
Ordinary Account	0.05 (0.19)	8,521.34 (6,272.71)	7,844.33 (14,805.72)	1,888.26 (11,194.60)
<u>Mean Dep Var in Control</u>	4.28	60371.80	155684.93	95209.65
<u>Number of observations</u>	2,835	2,835	2,835	2,835
<u>P-value of F-test:</u>				
Commitment, No Raffle = Ordinary, No Raffle	0.057	0.276	0.081	0.142

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

Impact on inputs, production, expenditures

	(1)	(2)	(3)	(4)	(5)
<u>Dependent variable:</u>	Land under cultivation [acres]	Total value of inputs [MK]	Value of crop output (sold & not sold) [MK]	Farm profit (output-input) [MK]	Total expenditure in last 30 days (survey in July-Sep 2010) [MK]
Commitment Account	0.42** (0.20)	16,533.52** (6,394.38)	33,967.76** (15,115.21)	19,205.08 (12,398.64)	1,859.77** (856.78)
Ordinary Account	0.05 (0.19)	8,521.34 (6,272.71)	7,844.33 (14,805.72)	1,888.26 (11,194.60)	412.76 (876.40)
<u>Mean Dep Var in Control</u>	4.28	60371.80	155684.93	95209.65	10678.42
<u>Number of observations</u>	2,835	2,835	2,835	2,835	2,835
<u>P-value of F-test:</u>					
Commitment, No Raffle = Ordinary, No Raffle	0.057	0.276	0.081	0.142	0.141

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Impact on inputs, production, expenditures

	(1)	(2)	(3)	(4)	(5)
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<u>P-value of F-test:</u>					
Commitment, No Raffle =					
Ordinary, No Raffle	0.057	0.276	0.081	0.142	0.141
<u>P-value of F-test of Ordinary= 0 across regressions of columns 1, 2, 3, 5:</u>			0.115		
<u>P-value of F-test of Ordinary=Commitment across regressions of columns 1, 2, 3, 5:</u>			0.088		

Notes: Stars indicate significance at 10% (*), 5% (**), and 1% (***) levels. Standard errors are clustered at the club level. USD 1 is ca. MK 145.

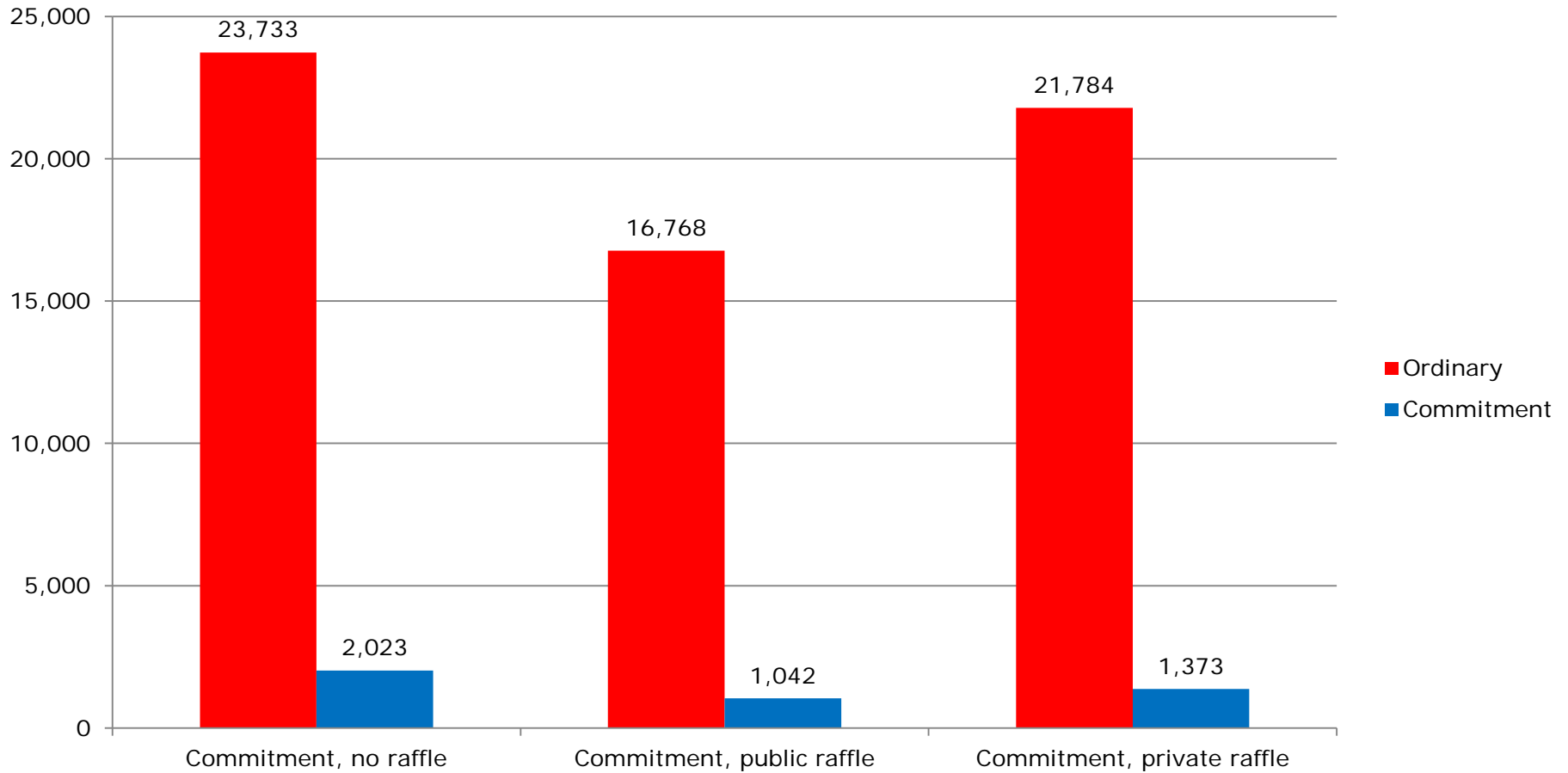
Channel for effects

- How exactly does offer of commitment accounts lead to higher inputs?
- Initial hypothesis: funds are locked up and can't be accessed until planting time, at which point they are used for inputs
 - Help to solve both self- and other-control problems
 - Distribution of commitment “release dates” is consistent with this

Channel for effects

- How exactly does offer of commitment accounts lead to higher inputs?
- Initial hypothesis: funds are locked up and can't be accessed until planting time, at which point they are used for inputs
 - Help to solve both self- and other-control problems
 - Distribution of commitment “release dates” is consistent with this
- But on closer inspection, it does not appear that commitment accounts help via literal “tying of hands”
 - Vast majority of funds ended up in ordinary, not commitment accounts
 - However, no conclusive evidence for alternative channels

Deposits in ordinary and commitment accounts, pre-planting



“Other” control channel

- Although little was saved in commitment accounts, individuals may have *claimed* funds were inaccessible
- But effect not linked to reduced transfers
 - Change in net transfers is not significant
 - “Savings balance revelation” treatment not significant (but balances are low to begin with)
- Cannot rule out reduced “anticipatory consumption”
 - If households anticipate demands on their funds from social network, may consume early (soon after harvest) so they have “nothing to share” (Goldberg 2010)
 - Commitment treatment helped households resist demands from social network
 - reduced anticipatory consumption, leading to higher input use

Psychological channels

- In commitment treatment, respondents specified allocation of funds into ordinary vs. commitment accounts
 - Both treatment groups were given same budgeting session.
- This may have created “mental accounts” for treated farmers
 - “Consumption” account to be spent immediately
 - “Investment” account to be spent on the next season’s agricultural inputs
 - Yet little money went to the “investment” account
- Prospect theory
 - Loss aversion + reference dependence
 - Commitment treatment → increased reference point for future crop income → greater risk-taking to avoid loss vis-à-vis new reference point

In sum

- Commitment treatment leads to higher input use, crop output, and household expenditures later on
 - Unlike ordinary savings treatment
- Commitment treatment effects not due to self-control
 - Good news for welfare impact of intervention, since funds available to cope with shocks
- Might have helped with “other-control” problems but no conclusive evidence
- Raffle treatment results inconclusive
- Cannot rule out mental accounting or other psych. channels

Agenda for future research

- Investigation of other possible channels:
 - Reduction in “other-control” problems
 - Psychological channels
- Does the commitment feature matter? Include treatment arm offering two (ordinary) accounts
- Examine impact of direct deposit itself
 - Separately randomize commitment treatment with and without direct deposit



Designing Savings Products: Evidence from Randomized Evaluations

Jonathan Robinson, UC Santa Cruz & Pascaline Dupas, Stanford

Women in Sub-Saharan Africa lack access to formal banking

- Bank account ownership in developing countries is 4 times lower than in developed countries (Chaia et al. 2009)
- In Sub-Saharan Africa, only 15% of households have bank accounts (Aggarwal et al. 2011)
- In a series of ongoing projects, CEGA/JPAL researchers find even lower rates in rural areas:
 - Uganda: <3 % (N= 5000 households)
 - Malawi: <3 % (N= 6000 households)
 - Mali: <4 % (N= 5000 households)
 - Kenya: <10% (N= 2000 households)

Enabling savings

- There is by now a lot of evidence that the lack of access to formal savings has welfare implications
 - Risk-coping
 - Business investment
 - Health investment
- So expanding access is important
- But what types of products work best?

Outline of talk

- Will discuss several projects I have conducted with Pascaline Dupas (Stanford), and others
- Project 1: providing basic accounts to unbanked entrepreneurs
 - Main finding: some people really benefit from basic savings products
- Project 2: providing several health savings products jointly to see what characteristics matter, and for what people
 - Main finding: characteristics of products, and of savers, matter
- Project 3: providing basic accounts to larger sample
 - Main finding: characteristics of bank matter

Study #1: Expanding access to village banking

Market women can benefit from formal bank accounts



Study #1: Village Banking Experiment

- Experiment to provide *formal savings accounts* in a village bank
- Main Findings
 - Significant demand, usage among female vendors
 - Increases in savings, business investment, and income
 - Negligible effect for other entrepreneurs

Testing the impact of banking access



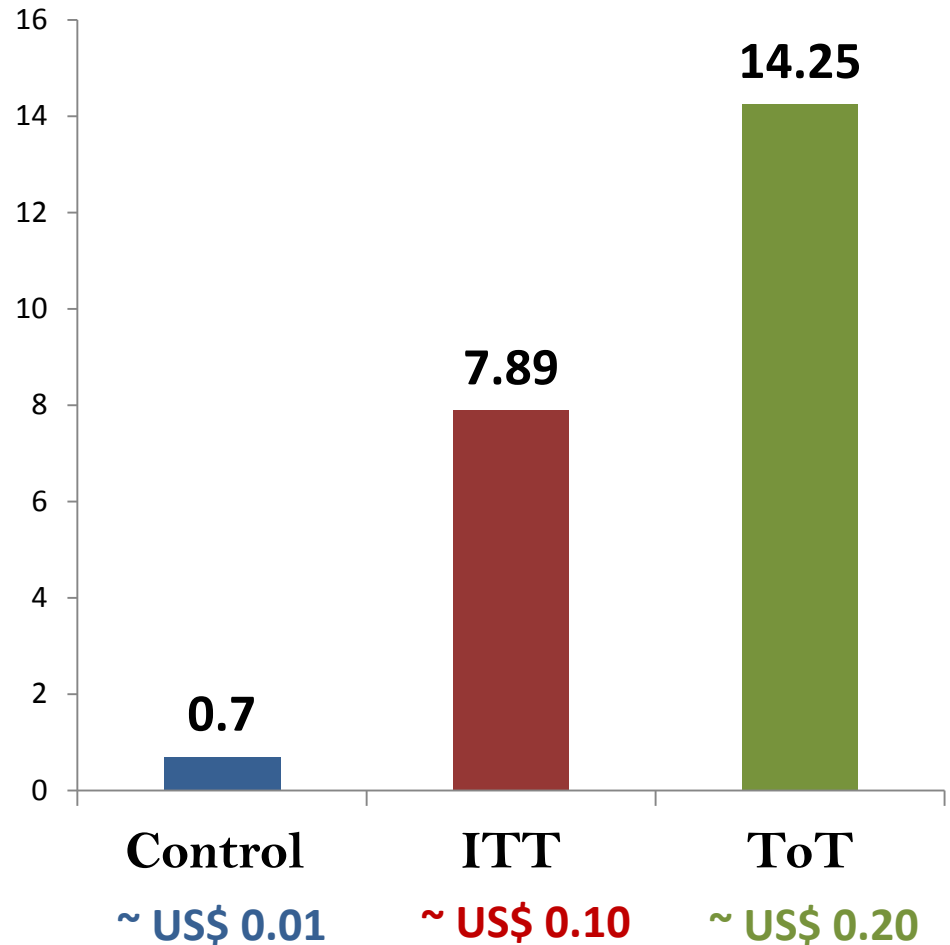
- Sample: entrepreneurs working around one market in rural W. Kenya from 2006-2009 ($N = 250$)
- Formal savings accounts in a village bank, program paid \$6 opening fee.
- No interest but withdrawal fees + inflation = negative return

Measuring impacts

- Bank records to track take-up, usage
- Most importantly, want to know if accounts affected standard of living
- Collected detailed daily financial logbooks (“diaries”)
 - Pre-printed questionnaires asking for information on income, expenditures, transfers, etc.
 - Met with people regularly to help fill them

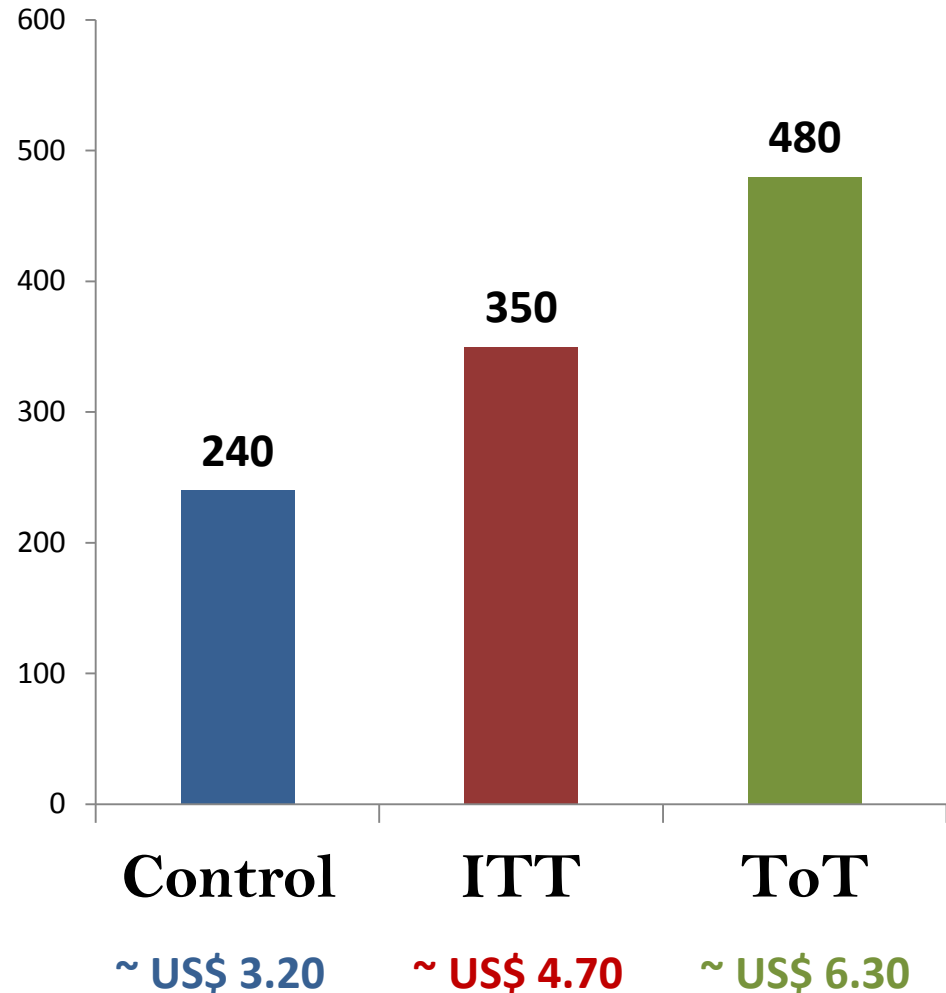
Women's savings: Daily average

- On average, women in the treatment group had ten times more savings in a bank than women in the control group.
- This difference nearly doubled when comparing actual account-openers against the control group.



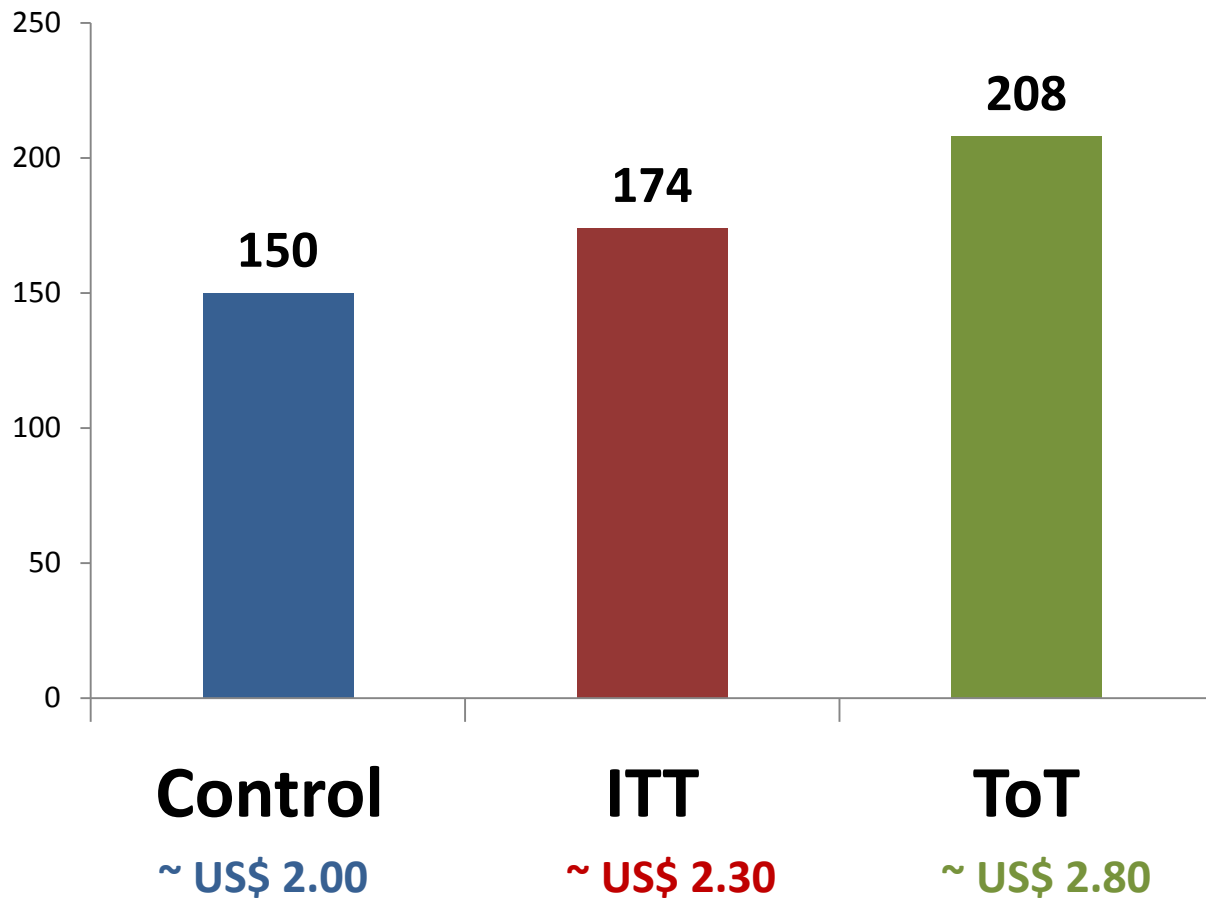
Women's investment in business

- Women in the treatment group invested 45% more in their business
- Women with active accounts invested twice as much as women in the control group



Women's income

(proxied by total expenditures)



Study #1: Conclusions

- There appears to be a demand for formal bank accounts among rural female micro-entrepreneurs (at least in this sample)
- These accounts can help women grow their businesses

Study #1: Questions raised

- Why do these accounts, which have a negative interest rate, have such impact? Why can't people save on their own? What barriers are the accounts overcoming?
- What is the effect on a broader sample of individuals?

Study #2: Why do people take up savings products? And can informal products work to save for health?



Study #2: Savings for health

- Question: why did providing savings accounts help?
- Experiment with several *informal savings products*
 - All products focused on health
 - But characteristics varied
- Main outcomes
 - Usage
 - Health investment
 - Risk-coping

Potential barriers to savings

- Inter-personal: relatives, friends and neighbors ask for money, and strong sharing norms make it difficult to say 'no'
 - Could be inter- or intra-household
- Intra-personal: self-discipline problems, people want to save but end up overspending

Experiment

- Worked with Rotating Savings and Credit Associations (ROSCAs), also called merry-go-rounds
 - 113 ROSCAs (about 2,000 people)
 - Sampled 770 for follow-ups to measure impacts
- Same part of Western Kenya as other study
- Offered several different products:

New saving products offered

- Lock box: locked box in the home, key held by program officer
 - Helps keep money from self and others
 - Money earmarked for specific savings goal
 - Have to call to get box unlocked
 - Cannot be used for emergencies
- Safe box: locked box in the home, owner has key
 - Helps keep money from others
 - Money can be spent on anything
 - In particular, money available to deal for emergencies
 - But, flip side is that the commitment isn't strong

Safe / Lock box



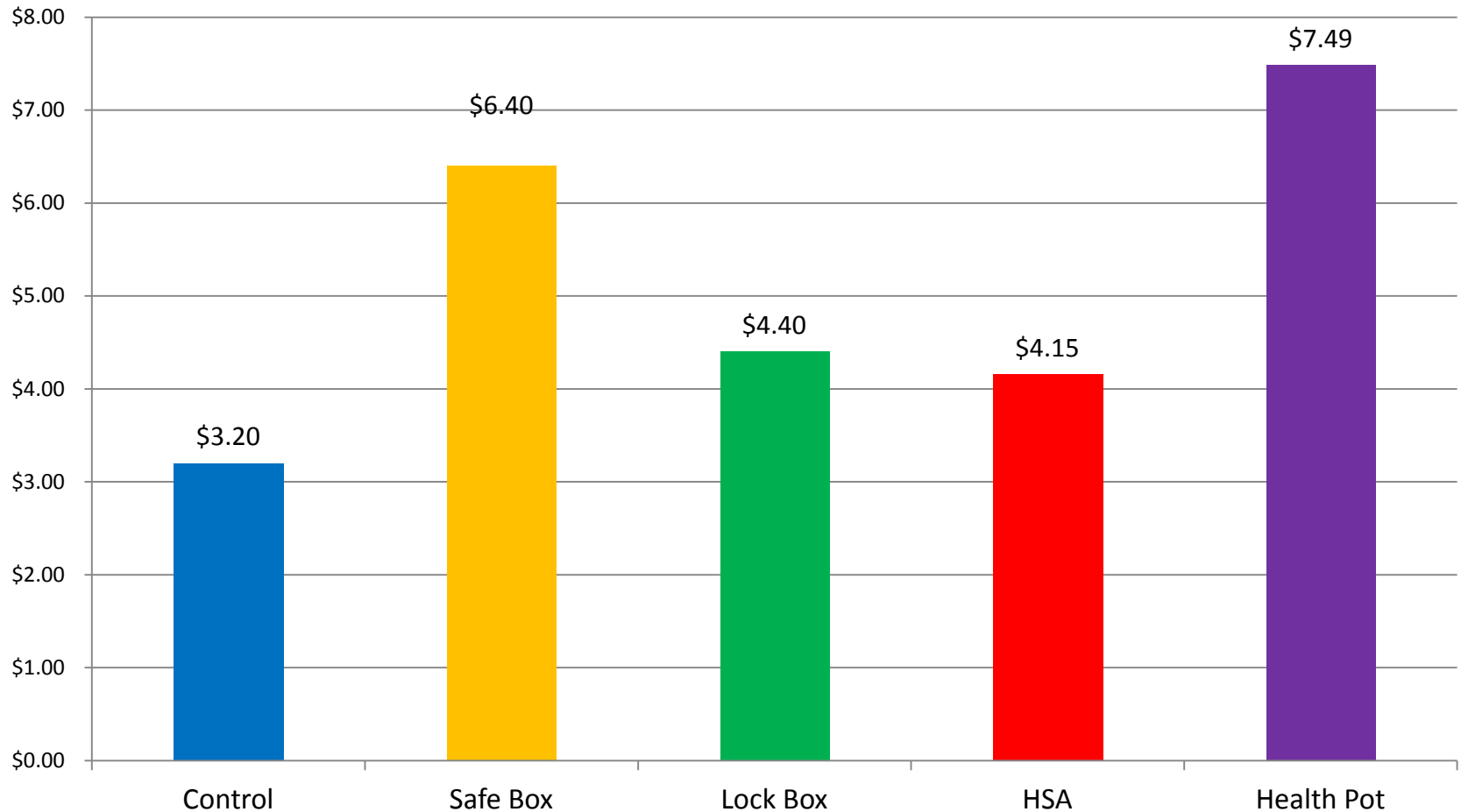
New saving products offered

- Health Savings Account (HSA): Individual account held at ROSCA for health emergencies
 - Keeps money from others
 - Earmarks it for health emergencies
- Health Pot: Encourage creation of side pot in which people saved up for health product
 - Possible social pressure
 - Get product faster

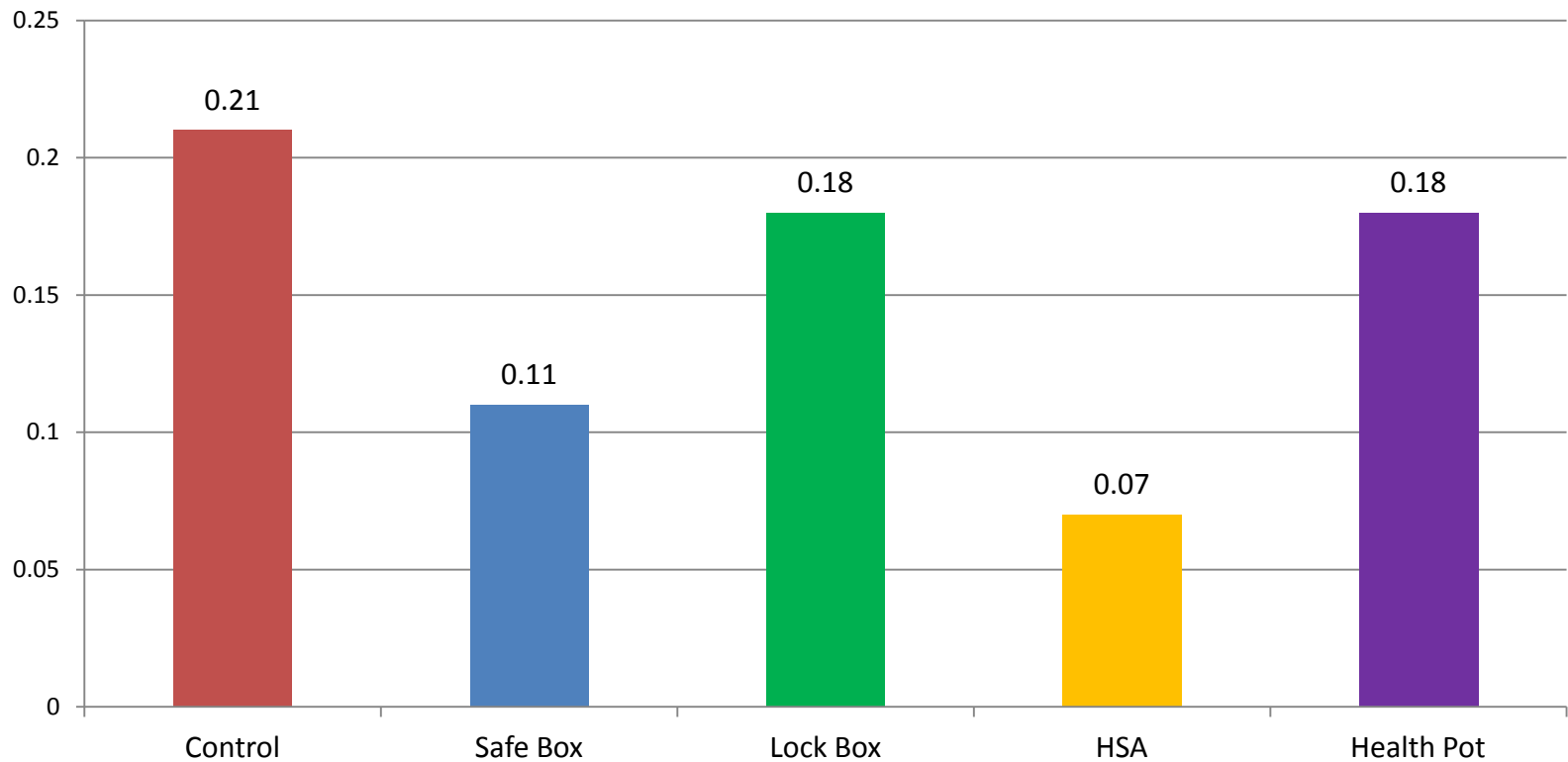
Proportion of people using products

- After 6 months:
 - Safe box: 86%
 - Lock box: 89%
 - HSA: 93%
 - Health pot: 65%
- After 12 months:
 - Safe box: 84%
 - Lock box: 84%
 - HSA: 97%
 - Health pot: 71%
- Usage continued to be > 50% after 3 years

Results: Investments in preventative health products over 12 months



Results: Inability to afford medical treatment in past 3 months



Other results

- Impacts bigger for those with bigger demands on income from family network
 - They benefit more from having a place to securely keep money
- Present-biased people benefited less from safe box
 - Because they end up just withdrawing it

Study #2: Conclusions

- Simple storage mechanisms had large impacts
- Earmarking has a liquidity cost
 - Preventative health – cost outweighed benefit of having money on hand
 - Emergencies – earmarking helped
- Barriers
 - Inter-personal
 - Intra-personal
- Both relevant

Study #2: Conclusions

- Why did such simple mechanisms work?
 - People report a mental accounting reason - once the money is in the box, it's not to be touched
 - Easier to limit spending, as well as refuse requests for money from others
 - Plausible, in that the box and key are usually kept at home. If they really felt compelled to give money when somebody asks, they could always open it

Study #3: Quality and access

- Can expanding access work for a broader sample?
- How important is the *quality* of savings services relative to simply providing access

Study #3: Quality and access

- Conducted with a representative sample of 1,898 households around the catchment areas of 3 rural market centers in Western Province
 - Different area from studies #1 and 2, but nearby
 - 2 banking options: (1) village bank, (2) commercial bank
- Two “interventions”:
 - Savings Intervention: Of those without bank accounts, randomly selected half for chance to get an account at one of the banks *at no cost*
 - Credit Intervention: Randomly selected some to receive information and help to apply for loans. Some also got help with collateral requirements.

Possible role for banks

- Only 10% of women and 21% of men have accounts
- But, people don't even *know* about local banking options – only about 50% have even heard of the local village bank or commercial bank
- Reasons for not opening among those who do
 - Fees
 - Trust
 - Low interest rate
 - Worried about reliability

Savings intervention – reduce fees

- Focused on unbanked households with one female head. Those are poorer on average.
- Randomly sampled 55% of individuals in those households for savings intervention
- We collaborated with the banks to help those sampled individuals with the paperwork, ID requirements, etc.
 - At the village bank, we also paid the account opening fee
- Account opening was done by bank staff
- Data collection was done with a separate survey team

Low take-up

- 62% took up account
- But only 28% of these actively used accounts
- Thus, overall take-up is only $62\% \times 28\% = 18\%$
- Of those who used the accounts, some used quite a lot
- But the average person didn't use at all

- Why?

Reasons for non-usage

- A lot of people cite fees, reliability issues, and trust issues

	<i>Commercial Bank</i>	<i>Village Bank</i>
Panel B. Non-Compliers		
<i>Concerns with Savings Option:</i>		
Fees	0.39	0.21
Unreliable	0.15	0.37
Distance	0.19	0.03
Risk of embezzlement	0.07	0.24
Observations	285	284
Panel C. Compliers		
<i>Concerns with Savings Option:</i>		
Fees	0.46	0.16
Unreliable	0.17	0.43
Distance	0.11	0.02
Risk of embezzlement	0.06	0.21
Observations	79	82

Reasons for non-usage

- These are valid concerns
 - History of banking crises in Kenya and in neighboring countries
 - Also, numerous pyramid schemes which might make people hesitant generally
 - In fact, deposits were frozen at 1 of 3 branches of the village bank for a period.
 - Service in another branch was spotty
 - Branch closed 62% of the times we did spot checks between 9:30 and 10:30 am
 - Branch closed the whole day 15% of the time

Credit options

- People can also get loans from these banks
- Village bank
 - Need to invest in “share capital”
 - Loans made in groups
 - Maximum loan size is a multiple of capital
 - 1.25% monthly interest rate (16% APR)
- Commercial Bank
 - 1.5% monthly interest rate (19.5% APR)
 - Need to have some savings history
 - Two guarantors and collateral are required
- In both, priority given to business lending
- Again, most not even aware of these options at baseline

Credit intervention

- We randomly selected people for a credit experiment
- 2 groups
 - Information on loan options
 - Information plus a voucher for the first share at the Village Bank
- Again, we find low take-up (after 6 months)
 - 87% accept voucher
 - Only 40% redeem
 - Only 3% even started process of applying

Reasons for low take-up

Don't need the money	0.14
Afraid bank will seize collateral	0.51
Too risky	0.45
Don't trust the bank	0.09
Don't like the idea of being in debt	0.08
Have too much other debt	0.01
Too much hassle	0.12
I don't have a business which is required for loan	0.27
I can't pay immediately	0.18
Other	0.38

Study #3: Conclusions

- Reasons to hope:
 - 18% of people used the accounts and some used them quite intensively
 - Higher usage in markets that offered fuller services
- Reason to be concerned
 - A lot of people don't trust banks, find them unreliable, or find the fees excessive
 - People have little information on banking options
 - People also seem to be confused/intimidated by banking generally
 - Unless these issues are addressed, expanding access alone might not have as big an effect as has been hoped

Study #3: Conclusions

- If designed properly, even very simple savings products can help
- But characteristics matter a lot
 - Basic access can be enough (sometimes)
 - Limiting liquidity can be good, or bad, depending on the situation
 - Related fertilizer study which allowed people to invest harvest income in fertilizer had large impacts
- Many important open questions
 - How do results generalize – ongoing studies in Chile, Malawi, Uganda, and the Philippines, but much more work needed
 - Can simple products mitigate trust problems with bank? Preliminary results in Kenya suggest yes (lock box vs. account)



Thank you

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