

Savings in Microfinance

Rajeev Dehejia

Today

- Savings: the forgotten half?
- The basic puzzle.
- How poor households save.
- Psychology matters.
- Ideas into practice.
- Next steps.

Savings – the forgotten half?

- Muhammad Yunus and other pioneers demonstrated that poor households are “bankable” (1976)
 - Yunus struck at orthodoxy, replacing it with a new set of understandings
 - Focus on:
 - Group Lending
 - Microbusiness
 - Credit (not saving)

Savings – the forgotten half?

Dale Adams: “Mobilizing Household Savings Through Rural Financial Markets.” 1978. *Econ. Development and Cultural Change*

- Policy makers assume that:
 - Rural households are too poor to save
 - Those that do acquire additional income spend it on consumption or ceremonial sprees.

- But avg. propensities to save of rural households in Asia (1973-74):
 - Taiwan: 0.31 (from 0.19 in 1960)
 - Japan: 0.22 (from 0.10 in 1950)
 - Korea: 0.33 (from 0.04 in 1965)

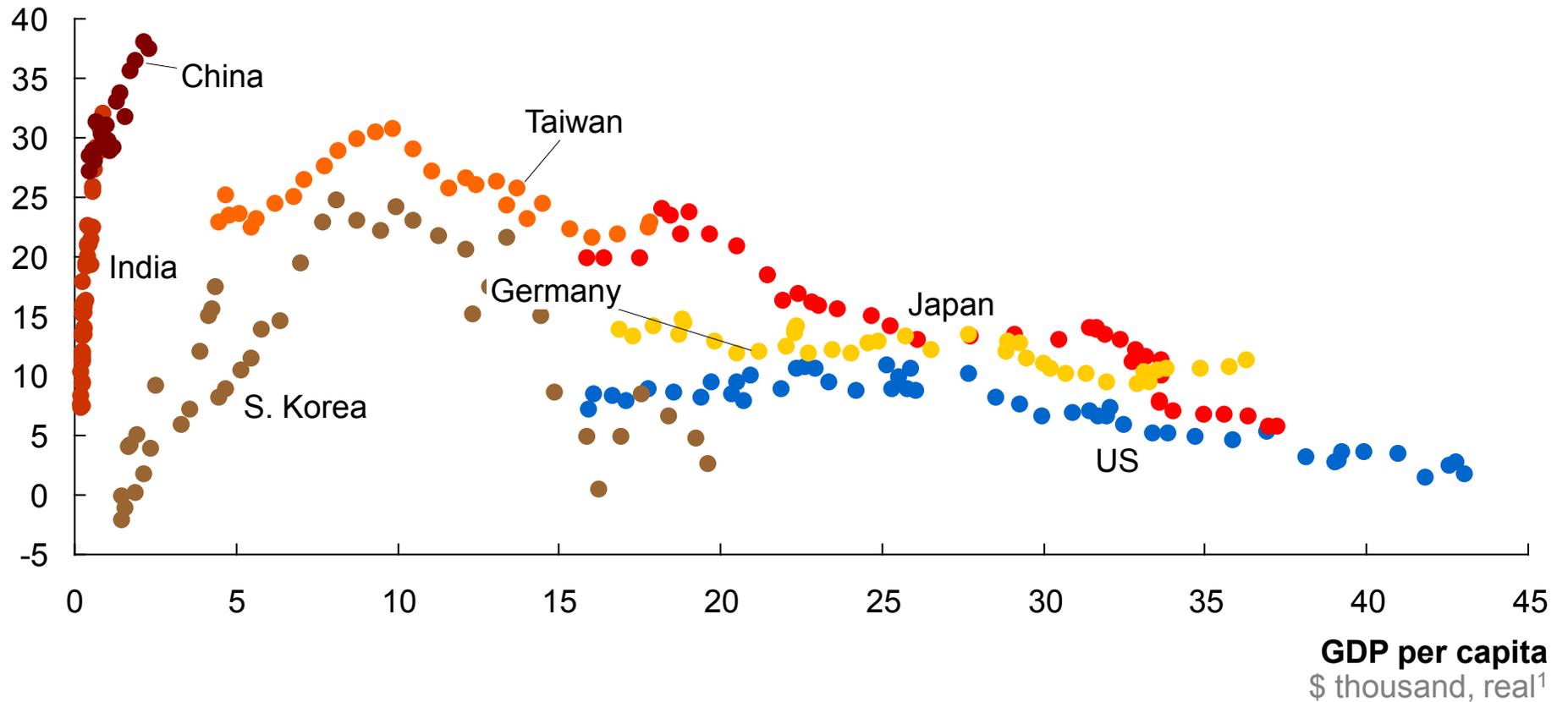
- Rural households have a substantial capacity for voluntary saving
- Capacity is hindered by rural financial markets that discourage savers.

Forgotten – by whom?

Household savings rate vs. GDP per capita, 1960–2008

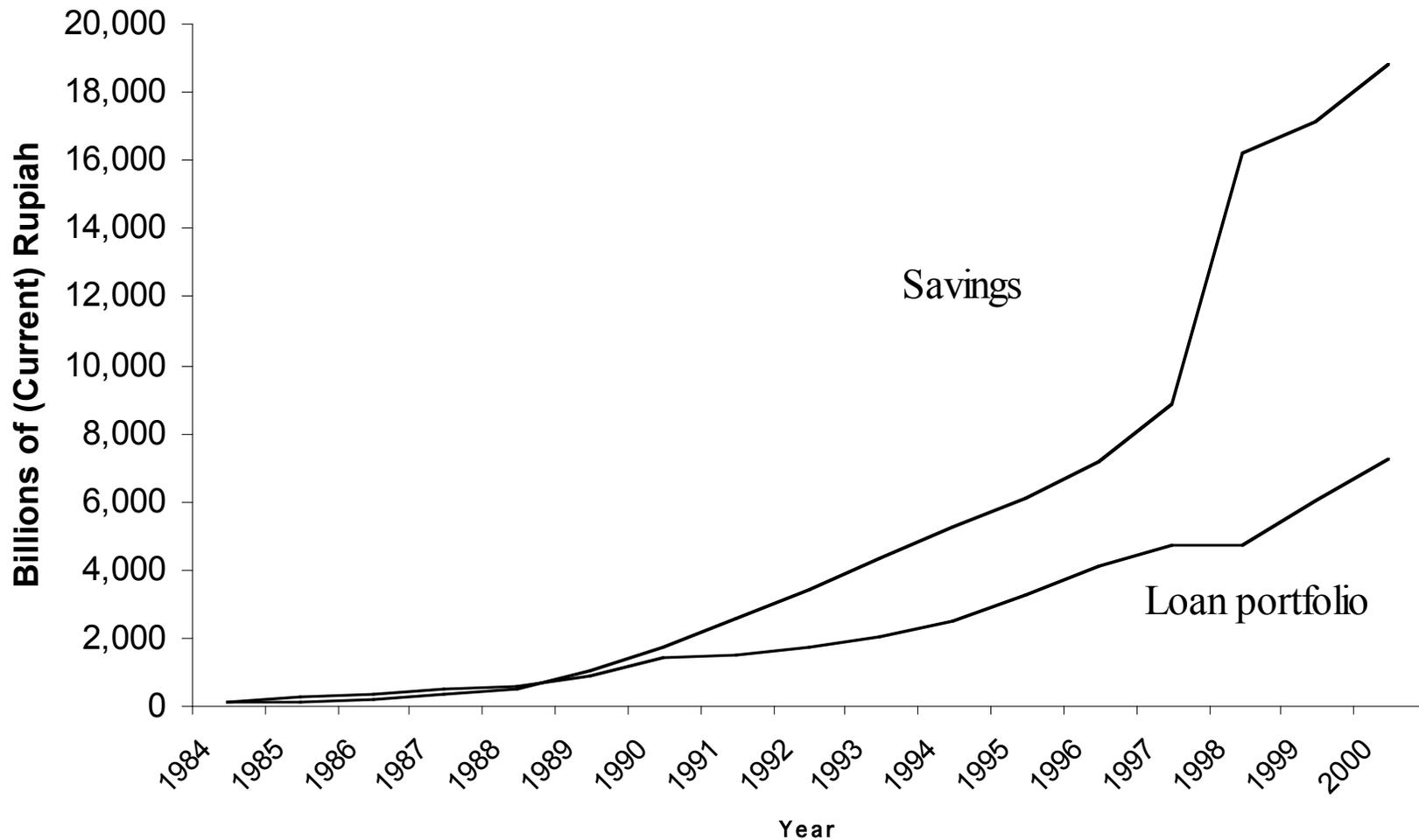
Savings rate

% of disposable personal income



Forgotten – by whom?

Bank Rakyat Indonesia: Deposit and Lending Volumes, 1984-2000



A big new push

- Gates announces new funding strategy
 - Nov 2010 announcement:
\$500 million over 5 years
- Rural savings programs, research, training, new technologies, educational programs for central bankers.
- Ties with telecommunications operators, banks and retailers.
 - E.g., \$11.7 million grant to Oxfam/FFH to start training programs and group-savings programs, focused in Mali and Cambodia.

Reserve Bank of India

“No-frills” accounts

- In November 2005, RBI asked banks to make available a basic banking “no frill” account with zero minimum balances open to anyone – with the aim to broaden financial inclusion
 - ATM facility and 10-15 free transactions per month
 - Balances cannot exceed Rs.50,000/year (\$1,200)
- 12.6 million “no frill” accounts as of Dec 2007
- 100 million “no frill” accounts as of 2013 – renamed basic savings accounts

The basic puzzle

- Can the poor really save?
- An inherent puzzle drove Yunus and Grameen:
 - Poor cannot save enough, or quickly enough
 - Poor need to rely on credit to "move the needle"

The basic puzzle

- Returns to Saving = Returns to Borrowing
 - Profound fact: if you are credit constrained, but have some high return project, you should be able to “save yourself” out of the constraint. Few people do.
- So, if there’s pent-up demand for loans, why isn’t there more saving?
- Are borrowing constraints = saving constraints?
- Problems: mechanisms, behavioral constraints?

Example 1: Turning 15 rupees into 46

Banerjee Duflo p.190

- Fruit vendors in Chennai borrowed about 1,000 rupees (\$45.75 USD PPP) each morning at the rate of 4.69 percent per day, and repay at the end of the day.
- A cycle of poverty. How to break out?
- Save your way of poverty – conceptually easy.
- Drink two fewer cups of tea for three days. This would save them 5 rupees a day for three days which would wipe out borrowing.
- How?

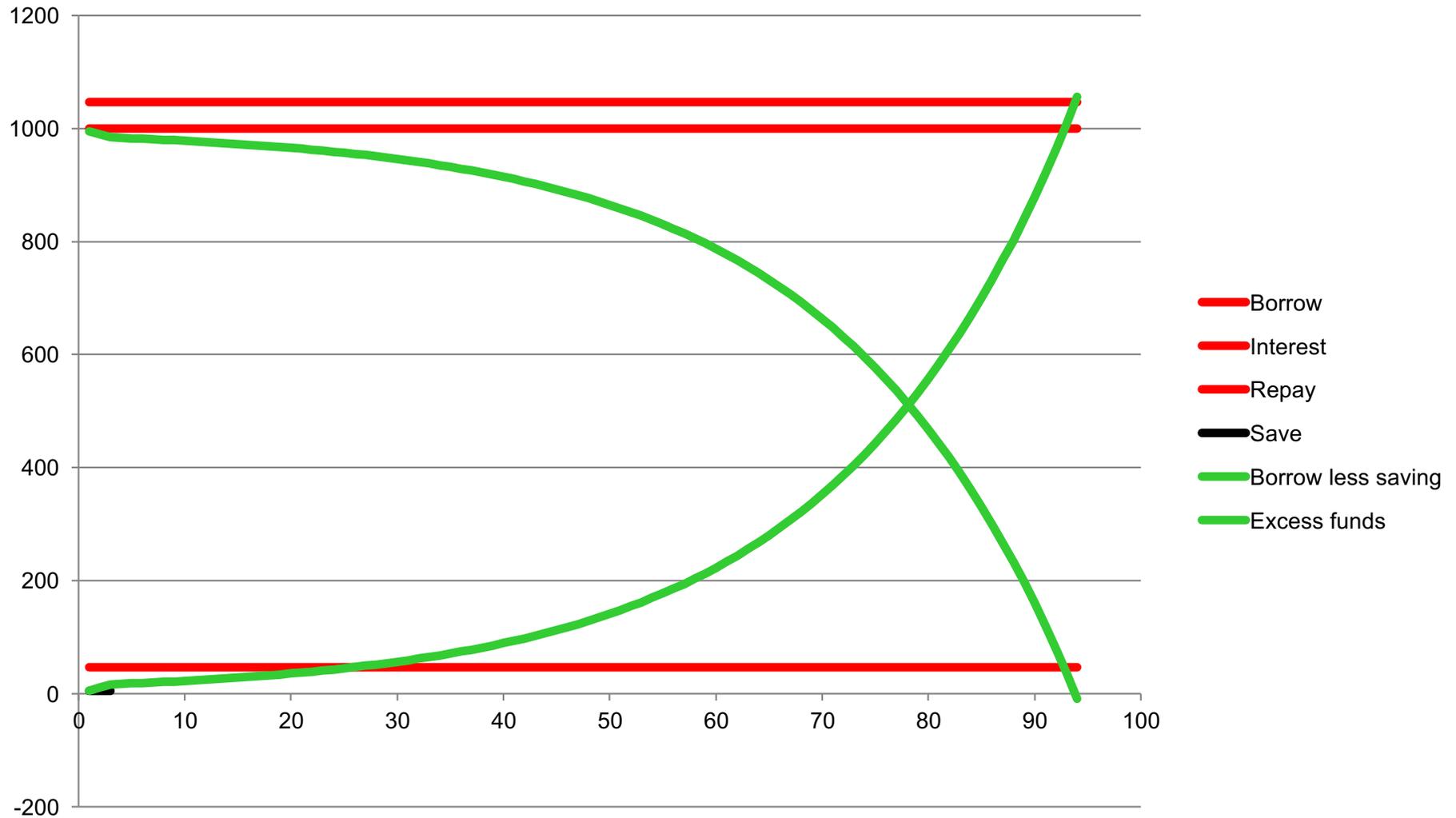
Turning Rs 15 into 46

Banerjee Duflo p.190

- Day 1 one less cup of tea – save 5 rupees.
- Day 2, borrow 5 rupees less, pay 0.23 less in interest. Drink one less cup of tea during the day.
- Day 3, borrow 10.23 rupees less, save interest of 0.48 rupees.
- Etc...

Turning Rs 15 into 46

Banerjee Duflo p.190



The basic puzzle

- Returns to Saving = Returns to Borrowing

- Profound fact: if you are credit constrained, but have some high return project, you should be able to “save yourself” out of the constraint. Few people do.

- ➔ ■ So, if there's pent-up demand for loans, why isn't there more saving?

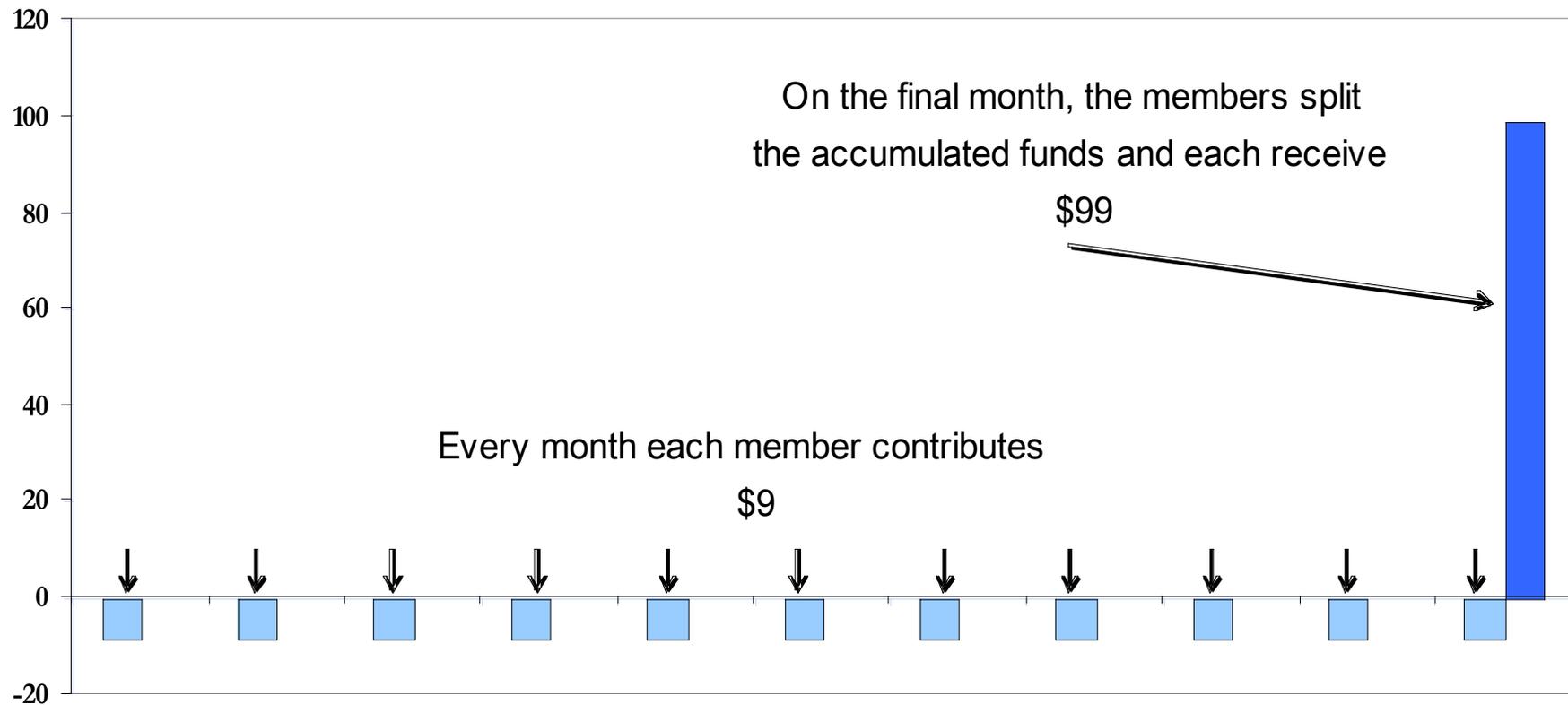
- Are borrowing constraints = saving constraints?
- Problems: mechanisms, behavioral constraints?
- Lack of desire to save?
- Lack of a good vehicle for saving?

How poor households save

- People do save:
 - Piecemeal approach:
 - Steady, incremental pay-ins by saving week after week in small amounts, say, or paying back loans week after week in small amounts
 - Use of financial instruments for larger needs.
 - A “portfolio approach”
 - But instruments are imperfect

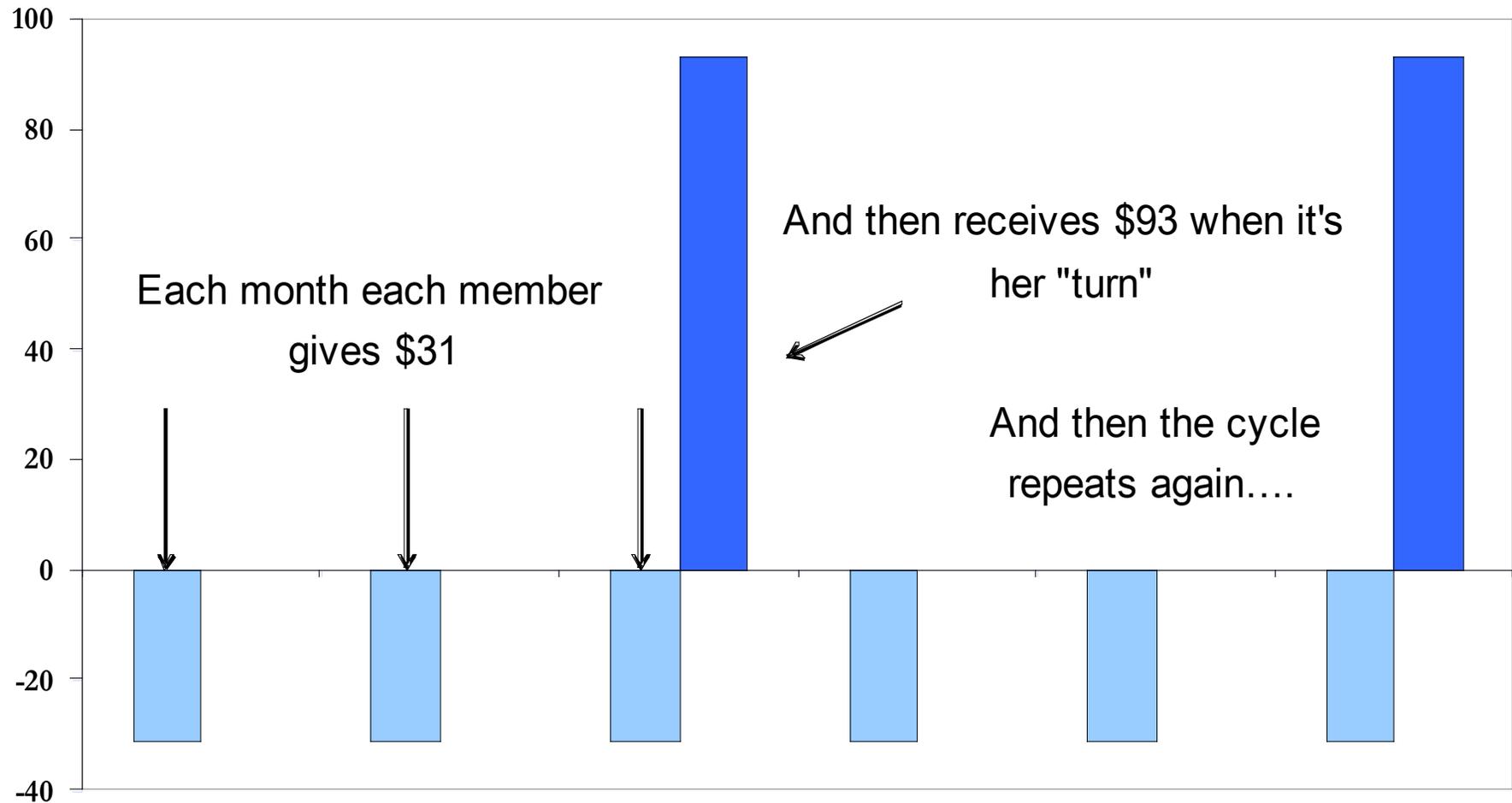
Cash Flow Schematic - Nomsa's Saving Up Club

US\$ converted from South African rand at \$=6.5 rand, market rate



Cash Flow Schematic - Nomsa's RoSCA

US\$ converted from South African rand at \$=6.5 rand, market rate



Portfolios of the Poor

“Accumulators”:

- Households (even those with bank accounts) participate in informal savings clubs, ROSCAs, ASCAs, chit funds etc. to convert small sums to bigger sums, to match cash flow and needs.

But instruments are imperfect

- Low reliability: members fail to make payments
- Inflexible schedule: trade-off between flexibility and discipline
- Terms that are too short: difficult to make accumulate for multi-year needs such as home mortgages, pension plans

Which would you choose...?

1

Tomorrow

\$250

OR

In 3 months

\$270

Which would you choose...?

2

In 1 year

\$250

OR

In 15
months

\$270

Psychology matters: which would you choose...?

1

	<p>2</p> <p>In 1 year</p>	<p>In 15 month s</p>
<p>Tomorrow</p>	<p>Always impatient</p>	<p>Present- biased</p>
<p>In 3 months</p>	<p>(bizarre)</p>	<p>Always patient</p>

Evidence From Karnataka, India

Bauer, Chytilova, Morduch, *AER*

	In 1 Year	In 3 Months
Tomorrow	39% impatient	32% “present-biased”
In 3 Months	10%	19% patient

Current and future selves

Save later

Current
self

Future
self

2015

2016

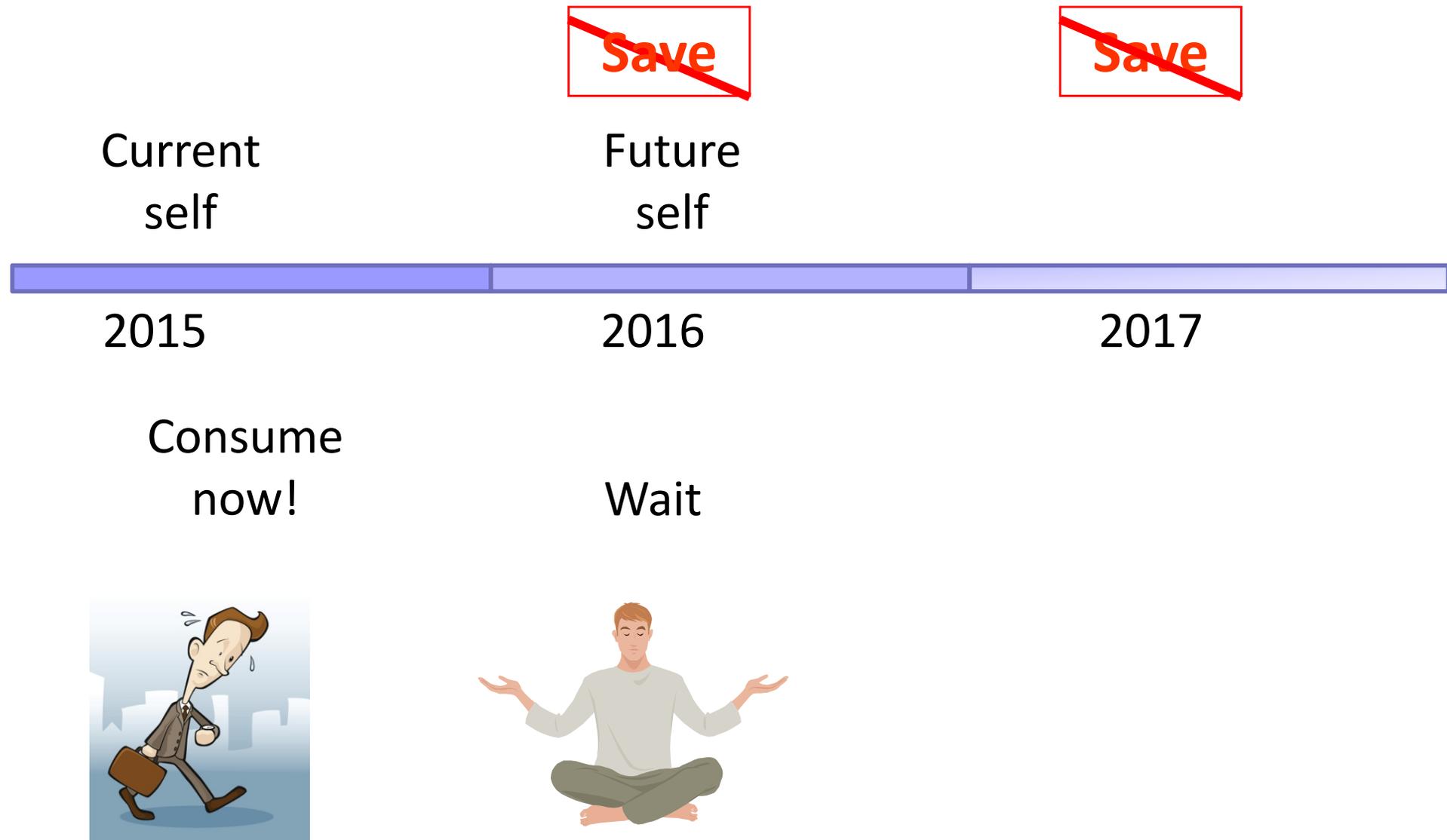
2017

Consume
now!

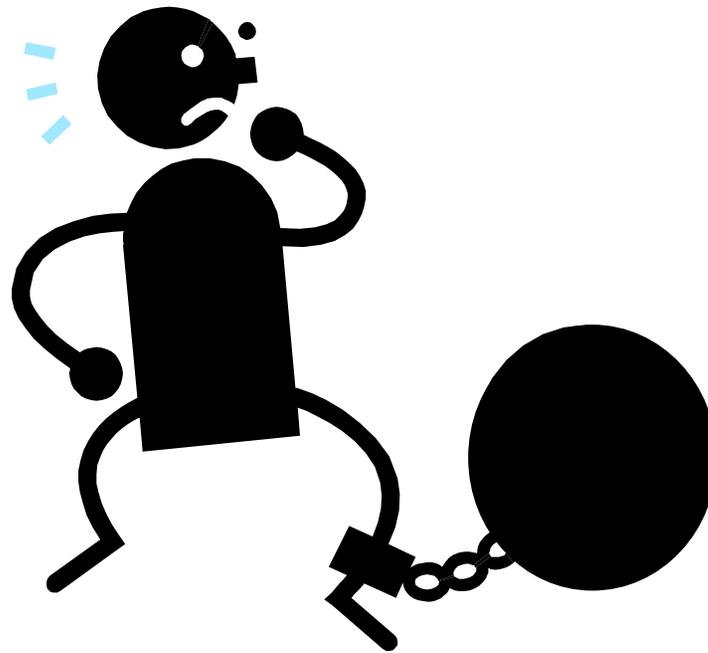
Wait



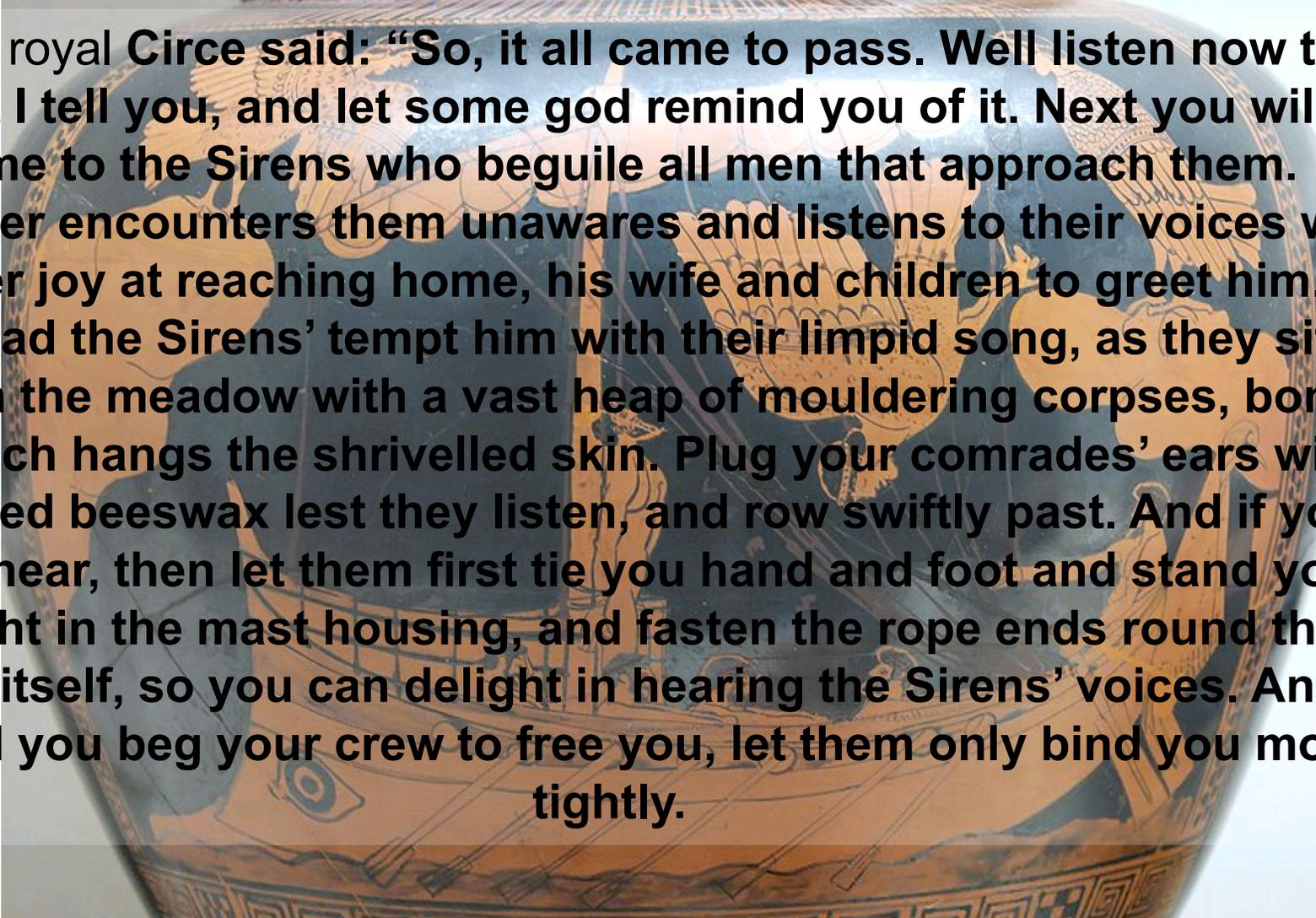
Current and future selves



How can your future self prevail?



Odysseus and the sirens



'Then royal Circe said: "So, it all came to pass. Well listen now to what I tell you, and let some god remind you of it. Next you will come to the Sirens who beguile all men that approach them. Whoever encounters them unawares and listens to their voices will never joy at reaching home, his wife and children to greet him. Instead the Sirens' tempt him with their limpid song, as they sit there in the meadow with a vast heap of mouldering corpses, bones on which hangs the shrivelled skin. Plug your comrades' ears with softened beeswax lest they listen, and row swiftly past. And if you must hear, then let them first tie you hand and foot and stand you upright in the mast housing, and fasten the rope ends round the mast itself, so you can delight in hearing the Sirens' voices. And should you beg your crew to free you, let them only bind you more tightly.

British Museum: Odysseus and the Sirens.
Detail from an Attic red-figured stamnos, ca. 480-470 BC. From Vulci.

Psychology matters: SEED experiment

Nava Ashraf, Dean Karlan, and Wesley Yin

“Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines”

Quarterly Journal of Economics, 2007

SEED: a commitment savings product

- **Withdrawal restriction**
 - Time-based or amount-based
 - Decided entirely by client
 - No compensation for restriction
- **Deposit incentive**
 - Lock box which only bank can open
 - Automatic transfer
- **Same interest rate as regular savings account**

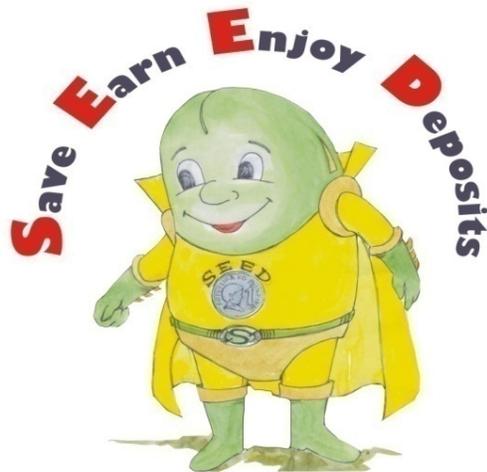
Front



GREEN BANK

You are chosen to avail of our new commitment savings product

SEED SAVINGS ACCOUNT



GREEN BANK

is ready to help you with our new savings product...

Back

SEED SAVINGS ACCOUNT



Do you want to finance your own business? Thinking, where you can secure tuition fee payments? Do you want a high standard of living?

MAKE YOUR DREAMS COME TRUE!

SEED is the answer

How to open a SEED account?

- You can choose your own goal for saving
- You decide the amount you choose to transfer to your **SEED** account.
- To start with, buy a **SEED** box for only P/25

Make use of your savings, after you reach your goal and make your dreams come true.



GREEN BANK

SEED SAVINGS

Certificate



I, _____, commit to save for _____.

I have opened a SEED savings account with a

Goal Date / Goal Amount of _____.

I will try everything in my power to accomplish my SEED Savings Goal by

saving _____ Pesos a day / a week.

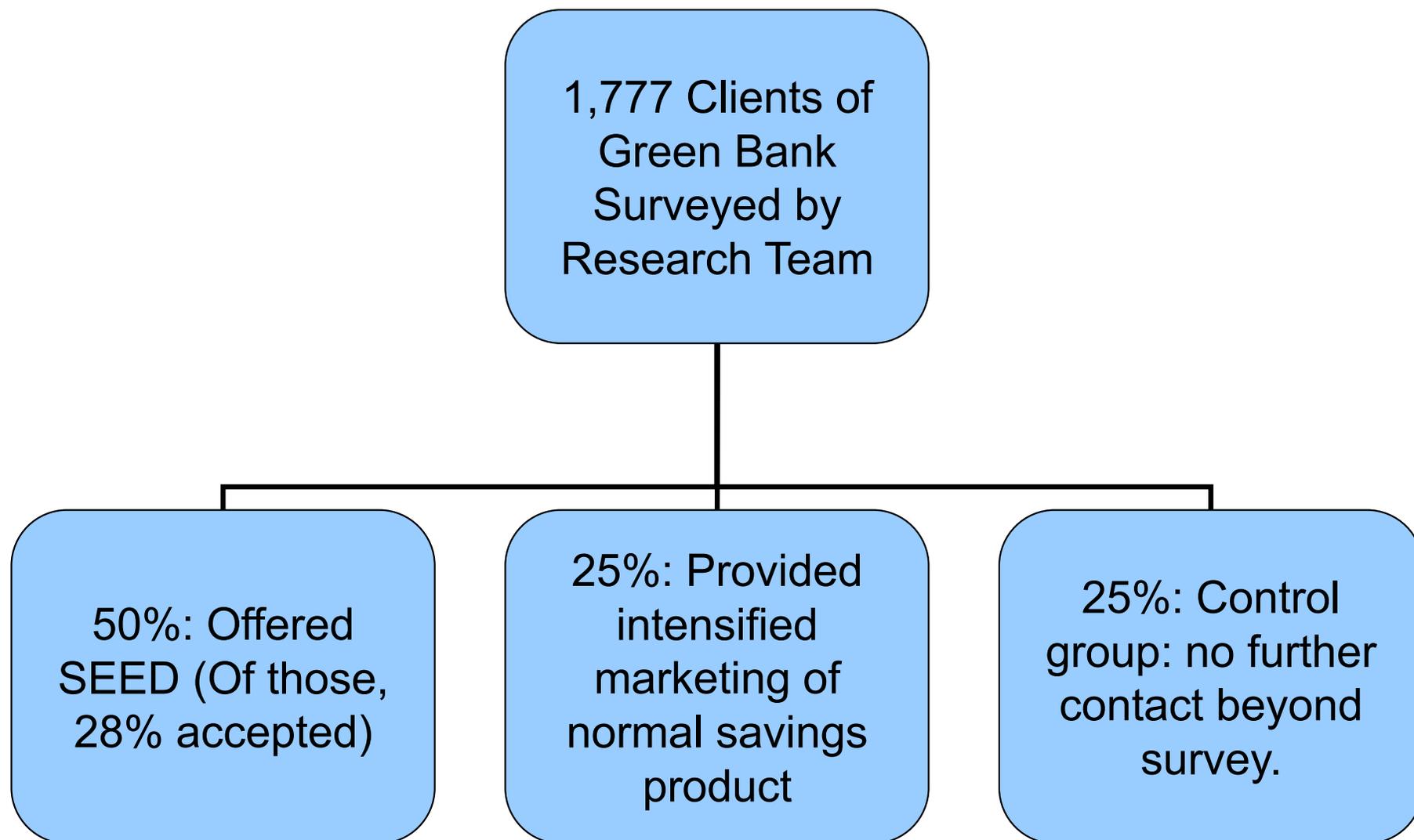
*If I achieve this goal, I will be able to enjoy my savings to _____
by _____.*

Name

Date

SEED Experiment

Green Bank of Caraga, Philippines



SEED: Lessons from the study

- Average savings increases by 85% for those who took-up.
- Average savings increases by 24% for those who were offered.
- ~34% of SEED clients actively using the account.
- Commitment Savings Product design features correctly attracts individuals with evidence of self-control problems.

SEED: Is the impact big?

- Increases in avg. bank account savings (ITT):
 - After 6 months: 234 pesos (47% increase in savings stock).
 - After 12 months: 411 pesos (82% increase).

- Compare to:
 - Doctor's visit: 150 pesos
 - Public school fees: 150 pesos/year, plus ~200 pesos/month for special projects
 - 1 month supply of rice for a family of 5: 1000 pesos

SEED: Implications

Two behavioral lessons:

- Commitment matters

- Including a commitment component affects use of saving products.

- Labeling matters

- Marketing and product design affect take-up and use.

Commitments to Save: A Field Experiment in Rural Malawi

Lasse Brune, Xavier Giné, Jessica Goldberg,
Dean Yang

Does a “better” saving account help farmers hold onto their harvest-time profits?

- Help with saving **account opening** procedures
- **Direct deposit** of cash crop sales into individual farmer accounts



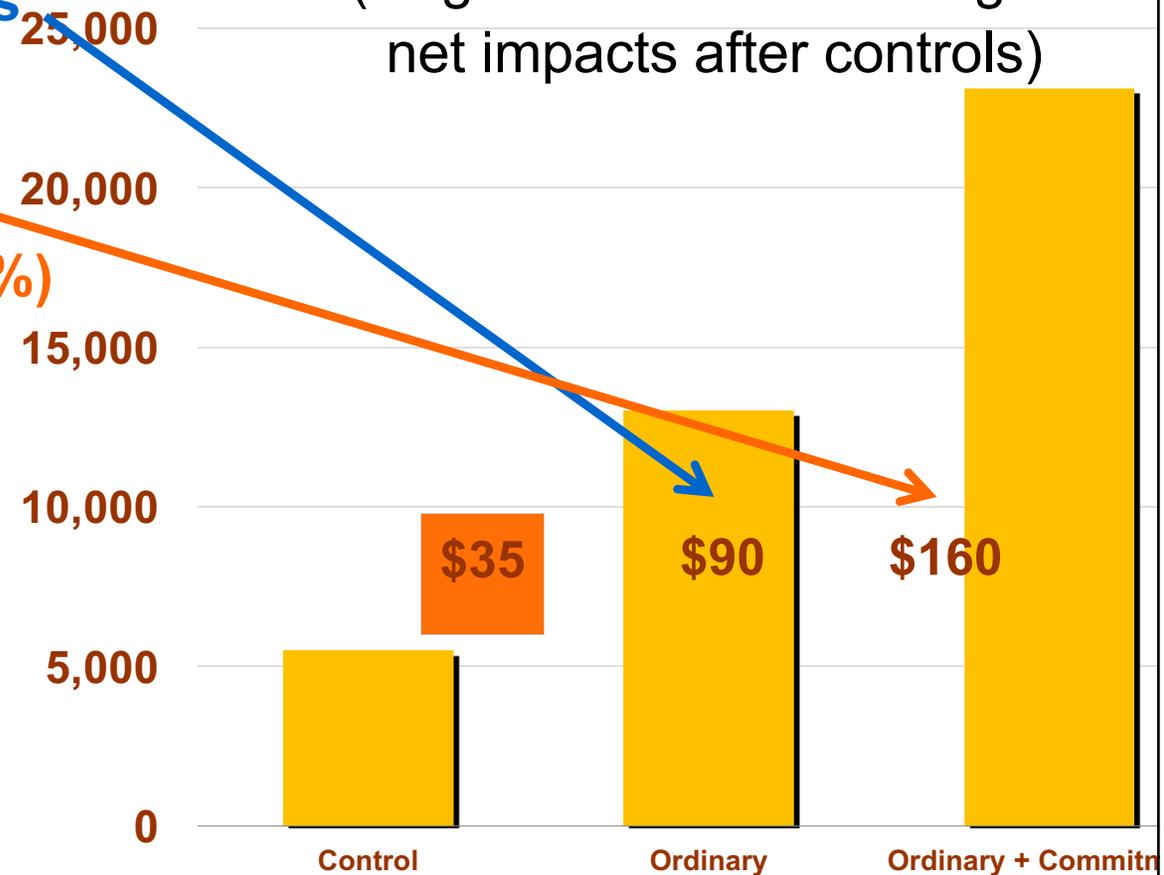
Two randomized savings treatments

1. Offer of ordinary savings account only (37%)

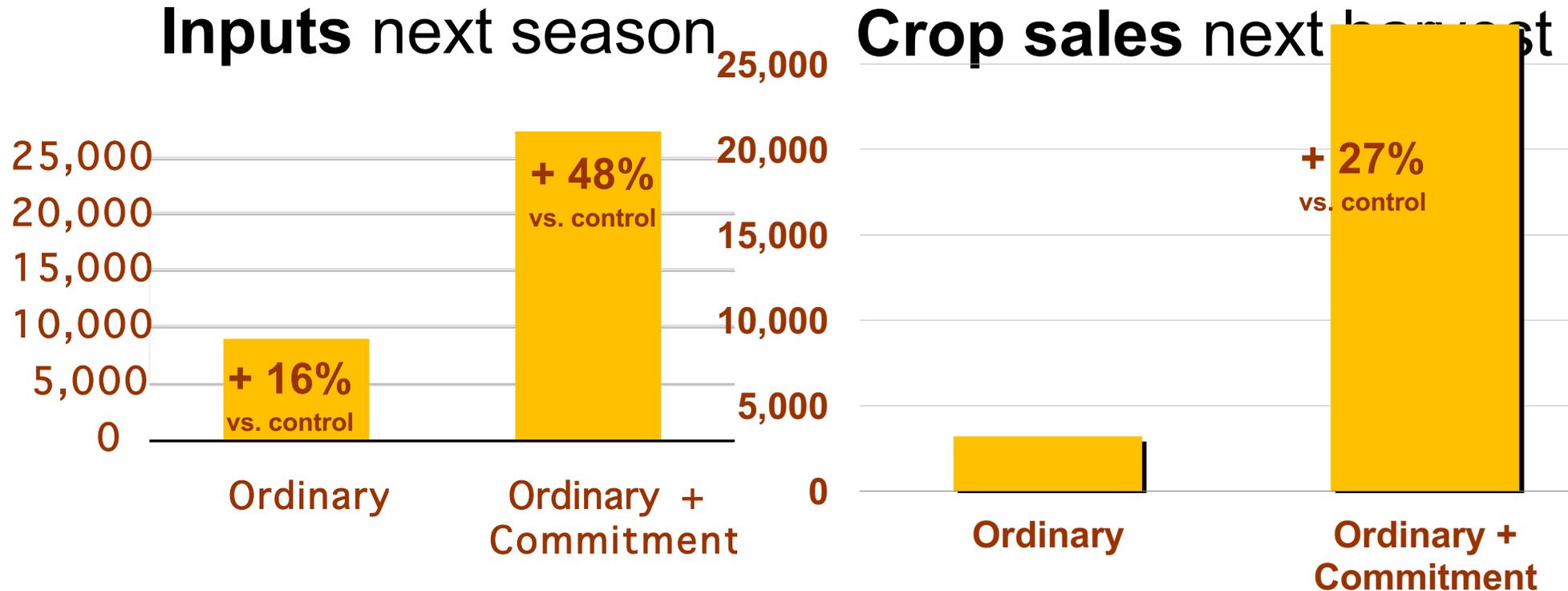
2. Offer of ordinary + contractual account (31%)

3. Control (32%)

Deposits, pre-planting season
(Regression coefficients give net impacts after controls)



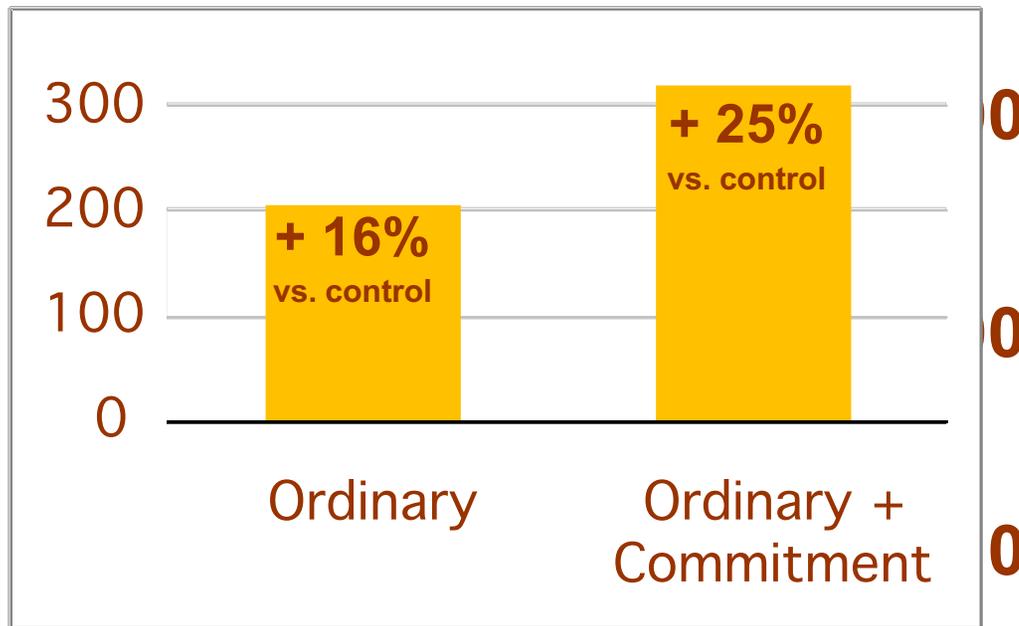
Net impact of contractual saving on:



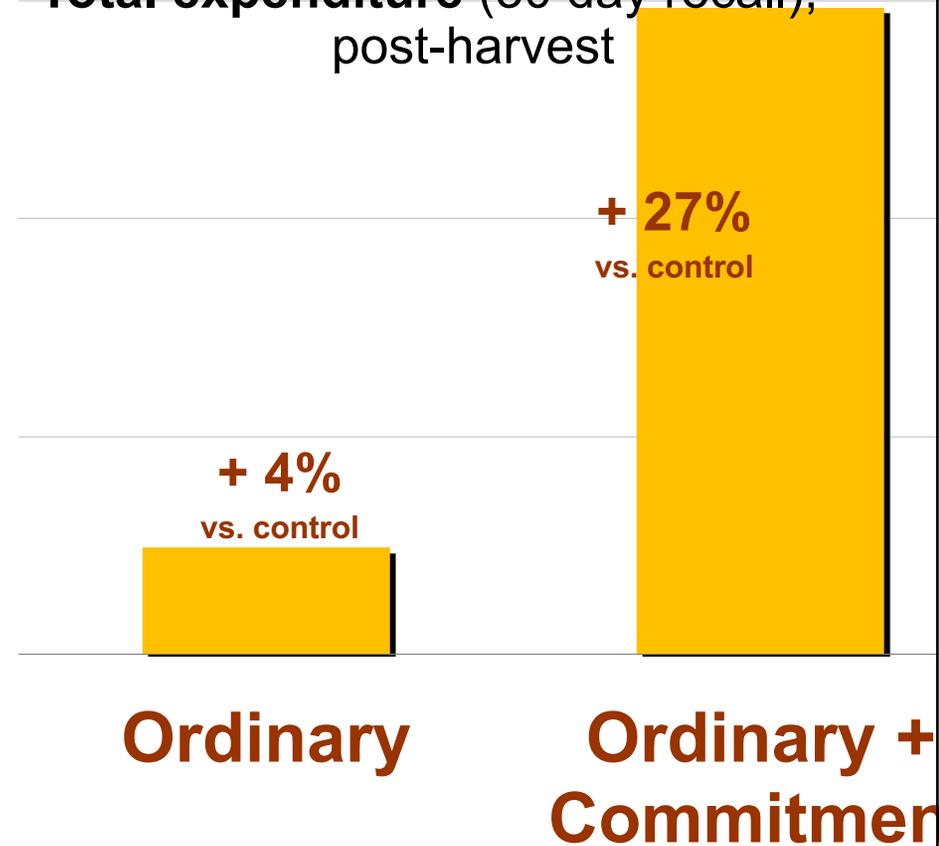
Note: Results are regression coefficients after controls. Dependent variable expressed in Malawi kwacha. Exchange rate is roughly MK145/USD.

Net impact of contractual saving on:

Food consumption (7 day recall), post-harvest **3,000**



Total expenditure (30 day recall), post-harvest



Note: Results are regression coefficients after controls. Dependent variable expressed in Malawi kwacha. Exchange rate is roughly MK145/USD.

Reminders to save: Fertilizer

- Not investing in fertilizer is a classic example of the saving problem.
- Money comes after harvest. Returns to fertilizer have been shown to be very high. But you have to pay for it right before planting when money is tight.
- Why not save in advance?

Duflo, Kremer, Robinson

- Show in Kenya that farmers indeed underinvest in fertilizer (return is 36% per season, 70% annualized).
- But when offered small discounts right after they harvest (free delivery) they do take them up: fertilizer use up 46-60%.
 - Like “tying to the mast”.
 - Effect is greater than offering free delivery with even a 50% discount later in the season.
- Can think of this as a reminder or “nudge”.

Ideas into Practice

Flexibility: The *SafeSave* Model

- *SafeSave* operates in slums of Dhaka (just replicated in countryside)
- Customers are **visited every day** by a loan officer. Individual loans.
- Most loans have no set term as long as interest is paid
- Savings can be drawn down as long as not being used as collateral
- Households encouraged to save, not borrow.



Beribadh Slum

Dhaka

শ্রী শ্রী সমবায় সমিতি লিঃ (সেফসেভ)
কাপাশিয়া, গাজীপুর।

স্বাক্ষরের নাম	
পিতা/স্বামীর নাম	সুদীন
হিসাব খোলার তারিখ	২০১৮/০৮
হিসাব নম্বর	০২২৪৩



উত্তরাধিকারীর নাম	সুদীন
স্বাক্ষর	সুদীন

নিয়মিত সঞ্চয় করুন
এ সঞ্চয় ভবিষ্যতে আপনার সহায়ক হবে।
সঞ্চয় করে বার্তা
উন্নতির শিখরে পৌঁছে তারা।
(SafeSave)

A typical passbook

Weekly Savings Details

Date	Week	Amount Deposit	Amount Withdrawn	Total	Signature of FA	Remarks
16/10/07	1	5 .12	-	5 .12	[Signature]	
23/10/07	2	5 .12	-	10 .25	[Signature]	
30/10/07	3	5 .12	-	15 .37	[Signature]	
6/11/07	4	5 .12		20 .50	[Signature]	
13/11/07	5	10 .25		30 .75	[Signature]	
20/11/07	6	10 .25		40 1.00	[Signature]	
27/11/07	7	20 .50		60 1.50	[Signature]	
4-12-07	8	20 .50		80/- 2.00	[Signature]	
18/12/07	9	100 .50		180 4.50	[Signature]	✓ -05
22/12/07	10	20 .50		200 5.00	[Signature]	
1/1/08	11	10 .25		210 5.25	[Signature]	
8/1/08	12	10 .25		220 5.50	[Signature]	
12/01/08	13	10 .25		230 5.75	[Signature]	
	14					
	15					

SafeSave

■ Advantages

- Very flexible
- Responds to households needs
- Allows small bits to become large sums

■ Disadvantages

- Can it be scaled up?
- Costs of daily, individual collections

Grameen Bank II and Savings

- New focus on voluntary savings from non-borrowers
- New savings products with rigid schedules
- Popular pension scheme

GBI and Savings

Personal savings accounts

- 2.5% of new loan is deposited directly into this account, but may be withdrawn.
- Interest: 8.5% p.a. (better than commercial)
- Deposits made at weekly village meetings
- Withdrawals made at branch (1/2 hour by rickshaw typically), **without restriction**

GBII and Savings

Special savings accounts

- Also 2.5% of new loan is deposited directly into this account.
- Illiquid for 3 years
- Also: interest: 8.5% p.a. (better than commercial)

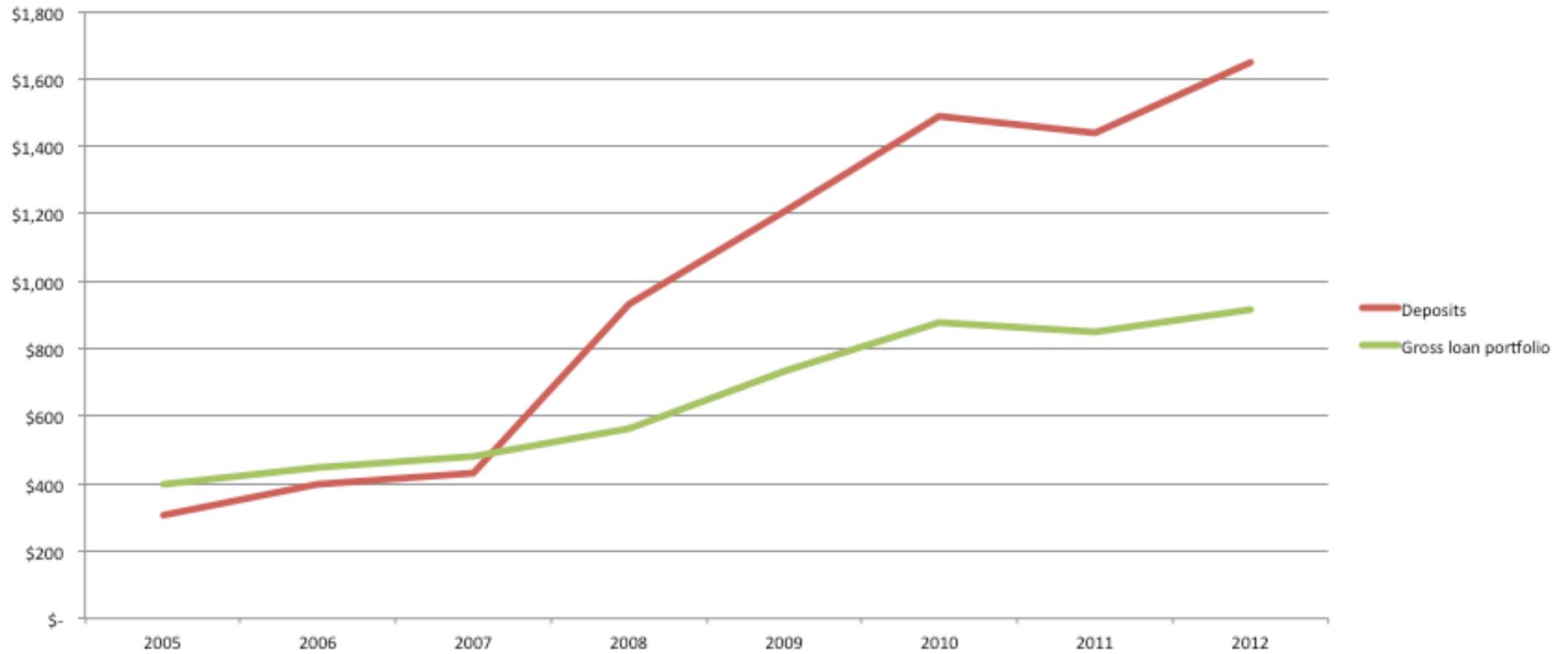
GBI and Savings

Grameen Pension Scheme

- Popular, provides discipline
- Must open account if loan exceeds 8,000 taka (\$13).
- 5-10 year term.
- Monthly deposit: minimum 50 taka (< \$1)
- Interest: 12% p.a. (10% for 5 years)
- Deposits made at weekly village meetings
- Pay-out as lump sum or monthly income

Grameen

Deposits and Loans, millions of USD

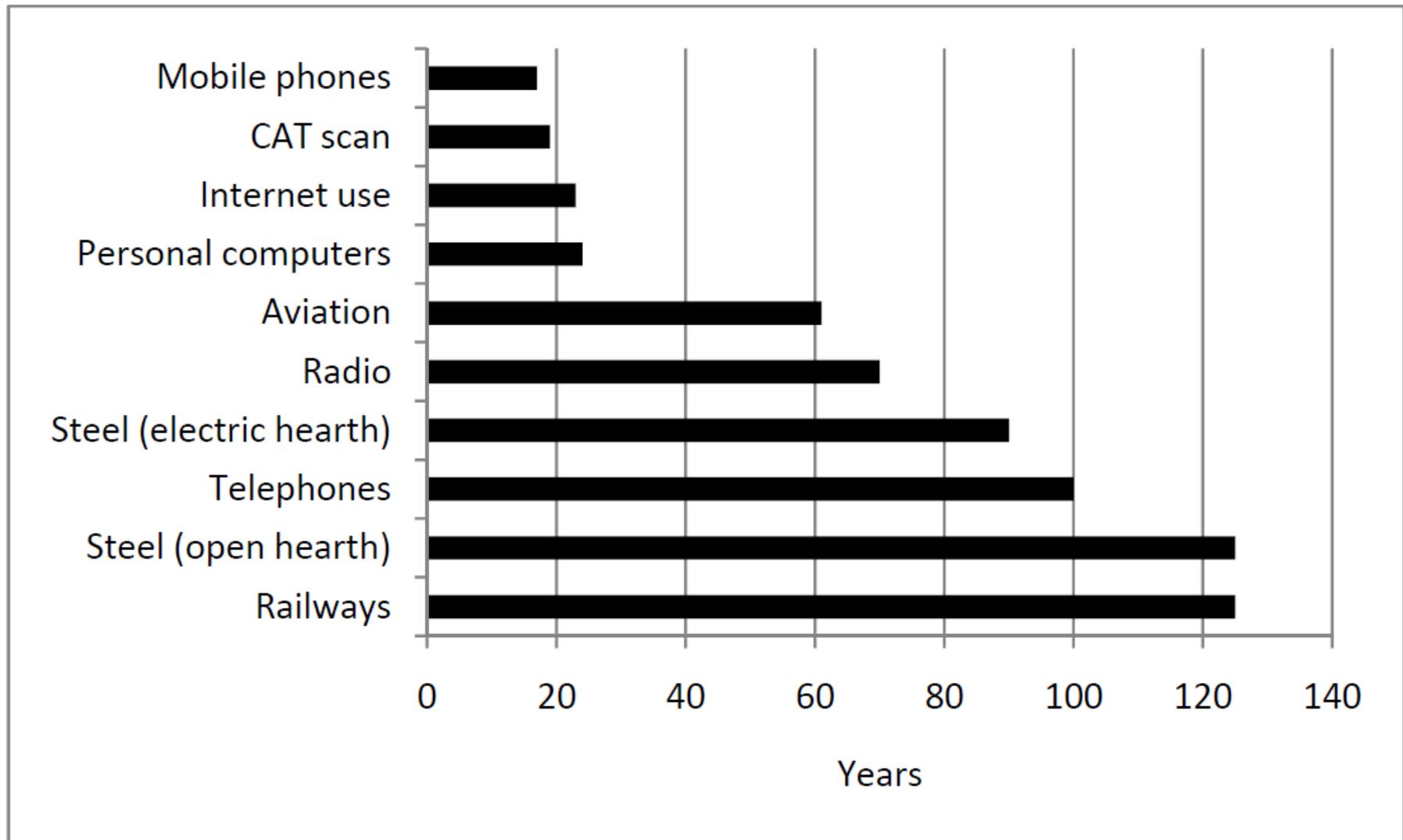


Next steps

William Jack and Tavneet Suri

Mobile phones and saving

Technology: Mobile phones



Number of years to reach 80% coverage

Technology: Mobile phones

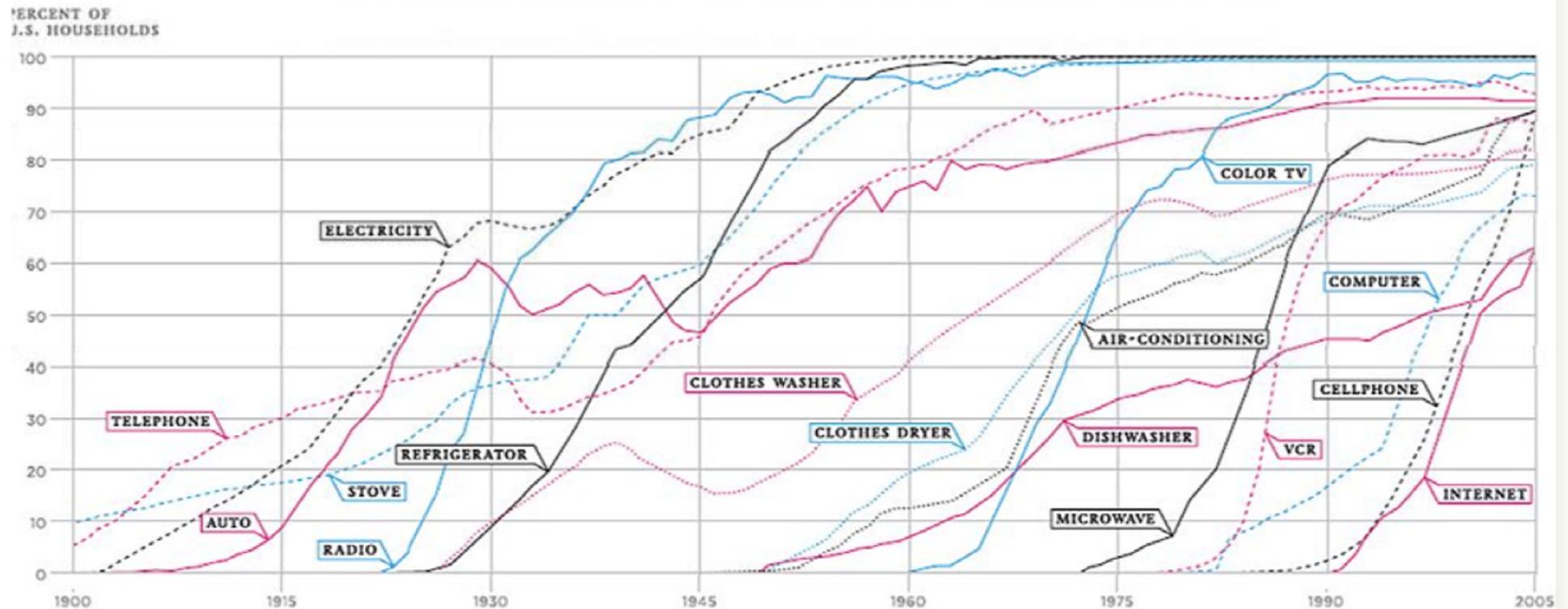
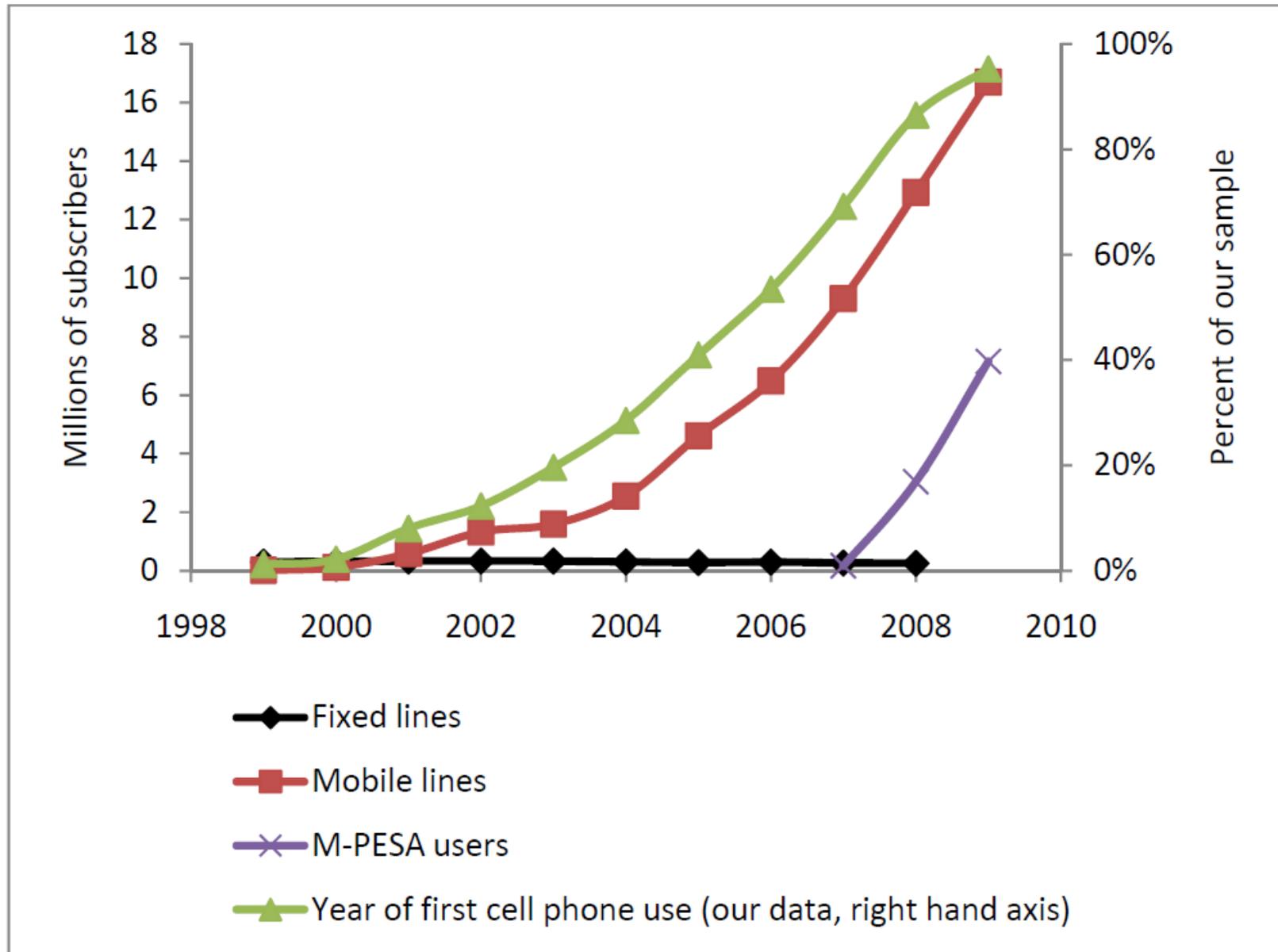


Figure 2: Technology adoption is getting faster⁶

Phone use in Kenya



Rapid growth of M-Pesa in Kenya

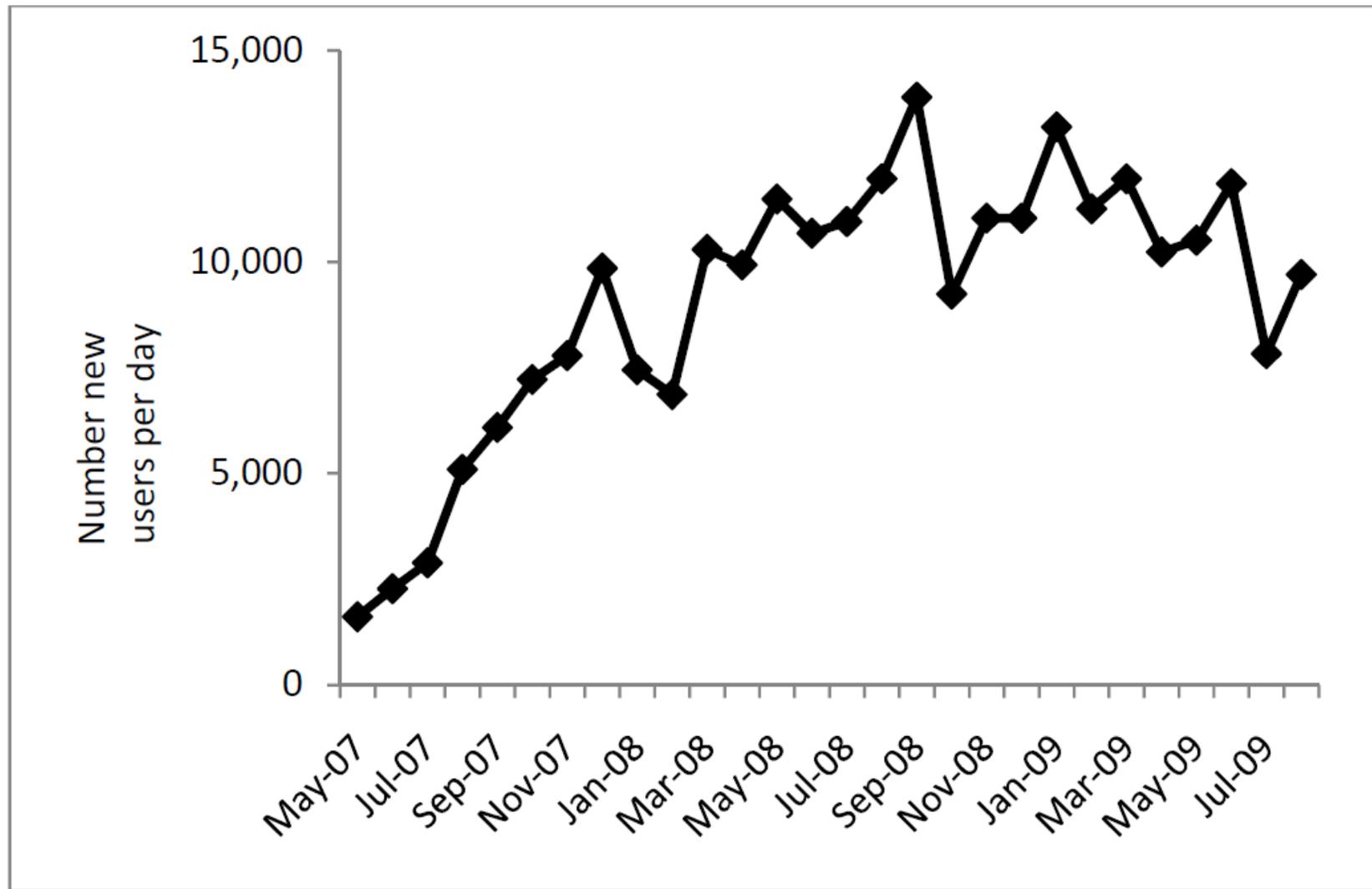
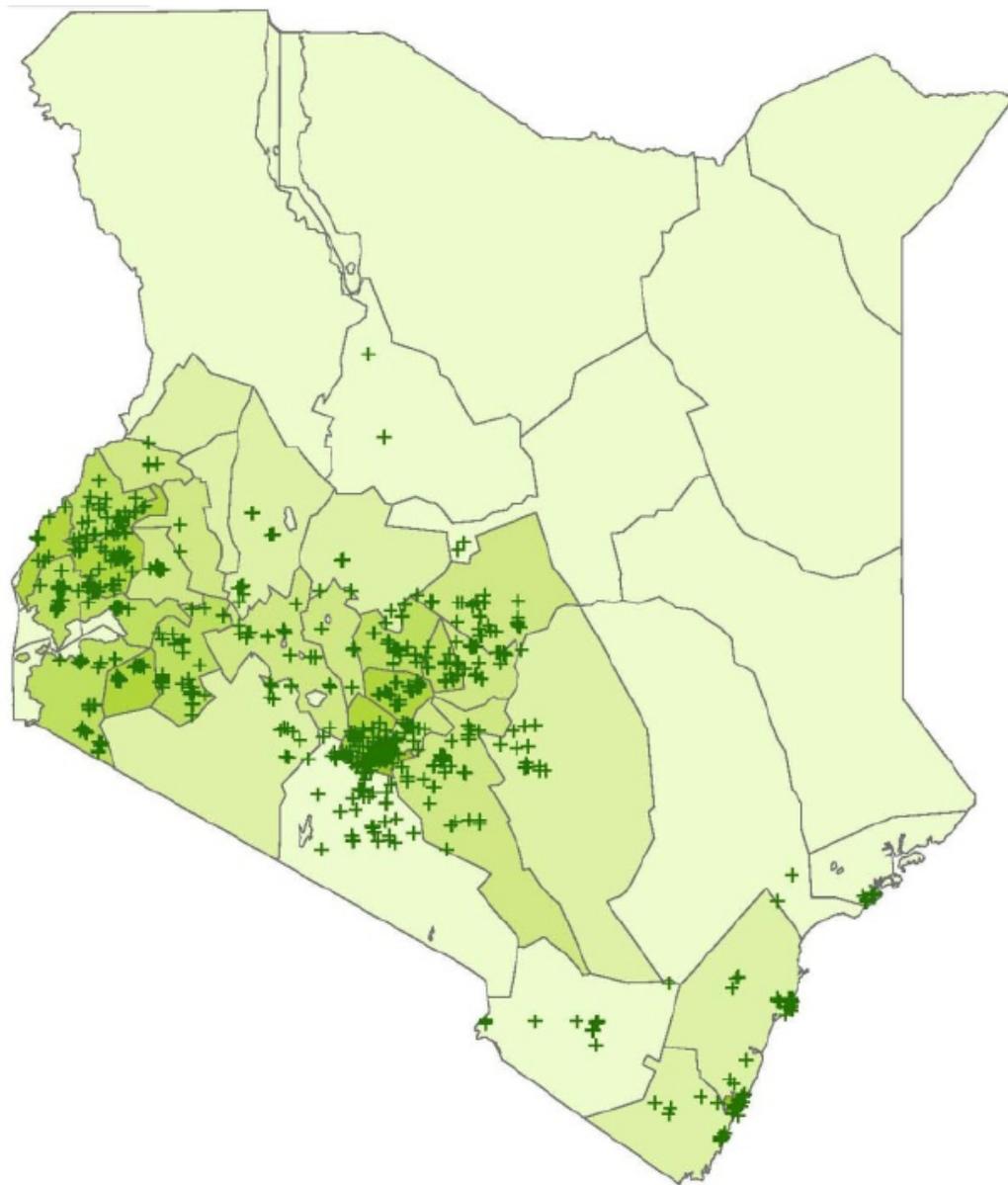


Figure 4: Average daily growth in M-PESA registrations by month

Safaricom network coverage, September 2009



Interviewed households (lighter areas have higher poverty rates)



Probability of saving on M-PESA across households with and without a bank account

Probability Save on M-PESA

Round 1

Round 2

No Bank account

0.65

0.68

Bank account

0.80

0.88

Total

0.76

0.81

Reasons for household use and non-use of MPESA for saving

Reason	Round 1		Round2	
	Non-users	Users	Non-users	Users
Safety	0.03	0.26	0.01	0.26
Ease	0.01	0.43	0.01	0.41
Cost	0.09	0.07	0.09	0.07
No access	0.20	0.00	0.21	0.01
Confidentiality	0.02	0.02	0.01	0.02
Emergency	0.00	0.12	0.00	0.22
No Reason	0.28	0.07	0.41	0.01
No need	0.17	0.00	0.25	0.00
Other	0.19	0.01	0.01	0.00

Next steps

- Prudential regulation remains a challenge
 - Need to balance expanding access and consumer protection concerns
 - Need to keep money local
- Transaction costs remain an obstacle
 - Technological solutions are emerging
- **Design matters**
 - Product design and service delivery matter
 - New design tools for commercial players
 - Seeding ideas that are “informal”