Commitment or Concealment?
Impacts and Use of a Portable Saving Device:
Evidence from a Field Experiment in Urban India

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Overview

Overview

Motivation for this Paper

- Saving and financial planning are important means for smoothing consumption, increasing resilience to income shocks, and reducing household poverty (Steinert et al., 2018, Hulme, Moore & Barrientos, 2015; Rutherford & Arora, 2009)

- Despite these benefits, low-income households tend to "under-save" (Karlan et al., 2014; Kast, Meier & Pomeranz, 2018)

- **Research Question**: How can we promote higher saving rates among low-income individuals?

Motivation for this Paper

- The savings promotion literature identifies multiple **barriers to saving**:
  1. Institutional barriers (Hulme et al., 2015; Brune et al., 2011)
  2. Risks associated with informal saving (Avdeenko, Bohne, Froelich & Kemper, 2015; Wright & Mutesasira, 2001)
  3. Social obligations (Dizon, Gong & Jones, 2016; Dupas & Robinson, 2013; Ambec & Treich, 2007)
  4. Behavioural constraints (Haushofer & Fehr, 2014; Banerjee & Mullainathan, 2010; Banerjee & Duflo, 2007)
- This paper focuses on behavioural constraints and specifically **temptation spending**:
  - Defined as spending on goods which provide utility while consuming but not in anticipation of the consumption
  - Temptation spending is more consequential for the poor (Banerjee & Mullainathan, 2010)
  - Could generate a demand for commitment devices

Motivation for this Paper

- **Commitment devices** are arrangements that foster saving and financial self-discipline by making deviations from a savings goal costly and unattractive:

  - **Hard commitments** pertain institutionalized flexibility constraints or economic penalties for deviations (Aggarwal et al., 2020, 2018; Aker et al., 2020; Herskowitz, 2020; Karlan & Zinman, 2018; Karlan & Linden, 2014; Dupas & Robinson, 2013; Ashraf et al., 2010, Ashraf, Karlan & Yin, 2006)
  - **Soft commitments** rely on self-imposed restrictions, plans, and goals or can feature peer pressure elements (Gine & Karlan, 2014; Soman & Cheema, 2011; Benabou & Tirole, 2004)

- Previous evidence found similar effects of hard and soft commitment devices (Burke et al., 2014), but highlights potential welfare losses associated with hard commitment devices (John, 2018)

Contribution of this Paper

- Introducing a new soft commitment intervention targeted at temptation expenditures consisting of a **portable saving device**, a zip purse, that is provided in addition to a stationary lockbox

- The portable device may add value to existing designs by **activating the binding appeal** in the moment spending decisions are made (Karlan et al., 2017; Shafir & Thaler, 2006)

- Evaluation of the intervention: **Randomized field experiment** with 1525 low-income slum dwellers in India's Maharashtra province

Preview of Results

1. **Substantial impact on saving behavior**: Increase in total savings balances six months after the intervention

2. **No impact on temptation spending** - hypothesised mechanism is not confirmed

3. **Alternative explanation: Hiding channel** - participants appear to use the portable device with the intention to hide private savings from others

4. **Some impacts on secondary outcomes**: We document positive treatment effects on female empowerment and decreases in levels of debt

Overview

Setting

Figure 1: Study Location: Pune & Pune Pimpri-Chinchwad, Maharashtra, India

Sample

- **Sample** consisted of 1525 female (82%) and male (18%) slum dwellers
- From each HH: 1 adult (> 18 years) who earned an income at least once during last month. Spouse also received device but was not included in study
- **Interviews** took place at home, face-to-face via standardized questionnaires that were administered on tablets, available both in English and Marathi

Figure 2: Data Collection

Intervention

- *"Aaj bachat kara, udya khush raha"* (Marathi for *"Save today, be happy tomorrow"*)
- Participants received a **portable commitment device** – a zip purse – in addition to a stationary savings box
- The **stationary device** was a metal box secured with a padlock as used in previous trials (e.g., Dupas & Robinson, 2013)
- Delivery at home by local community workers trained as program facilitator
- Participants in both groups were also asked to define a **savings goal** and to develop **individual savings plan**
- Usage instructions:
  1. carry portable device when leaving the house
  2. move money from portable to stationary device on a regular basis

Figure 3: Zip purse

Figure 4: Lock-boxes

Experimental Design

- **Stratified randomization** of n=1525 participants into treatment group (n= 771) or control group (n=754)
- Stratification based on participant sex, baseline savings, and baseline levels of present bias
- Trial and pre-analysis plan pre-registered (ID: AEARCTR-0003682)
- **Recruitment** and **baseline surveys**: November 2018-January 2019
- **Delivery of savings devices**: February-April 2019
- **Endline surveys**: August-October 2019
- 7% sample attrition between baseline and endline ▸ Differential Attrition
- Four **focus group discussions** with program participants in October 2019

Estimation Strategy

Average intent-to-treat effect is estimated as:

$$Y_i = \alpha + \beta T_i + \gamma Y_{i(t-1)} + \delta S_i' + \epsilon X_i' + \omega_i \tag{1}$$

- T_i treatment arm
- $Y_{i(t-1)}$ lagged outcome (at baseline)
- S_i vector of stratification variables (participant sex, baseline savings, and baseline levels of present bias)
- X_i' vector of individual-level baseline covariates (age, marital status, educational level, employment, household size, and baseline poverty level)
- ω_i error term for individual i

Estimation Strategy

Heterogeneity in treatment effects is estimated

$$Y_i = \alpha + \beta T_i + \theta TRAIT_i' \times T_i + \gamma Y_{i(t-1)} + \delta S_i' + \epsilon X_i' + \omega_i \quad (2)$$

- $TRAIT_i$ vector of baseline characteristics for which we assume heterogeneity in the effectiveness of the treatment: (i) participant sex, (ii) female involvement in HH financial decision-making, (iii) present bias, and (iv) income levels
- $\beta + \theta$ indicates average treatment effect for the subgroup with respective trait

Overview

Sample Characteristics

Table 1: Baseline Balance (Full Table)

	Control (N=754)	Treatment (N=771)	t-test Difference (1)-(2)
Female	0.82 (0.01)	0.81 (0.01)	0.00
Age	35.59 (0.46)	36.37 (0.54)	-0.78
Belongs to scheduled/backward caste or tribe	0.47 (0.02)	0.45 (0.02)	0.02
Married	0.81 (0.01)	0.85 (0.01)	-0.05**
Hindu	0.76 (0.02)	0.78 (0.02)	-0.02
Household members	5.01 (0.08)	4.97 (0.09)	0.04
Unemployed	0.33 (0.02)	0.32 (0.027)	0.01
No education	0.22 (0.02)	0.22 (0.02)	0.00
Past-month income	17968.91 (3941.90)	13262.10 (1754.74)	4706.80
Past-month savings	7381.29 (1211.84)	7933.16 (1168.38)	-551.87
Past-month temptation spending (INR)	128.06 (23.11)	126.14 (16.84)	1.92
F-test of joint significance (F-stat)			0.765
F-test, number of observations			1525

Note: *p<0.1, **p<0.05, ***p<0.01. Robust standard errors in parentheses.

Effects on Primary Outcomes

Table 2: ITT Estimates: Primary Outcomes

	(1) Total Savings Balance			(2) Temptation Expenditures		
	1	2	3	1	2	3
ITT: Received Program	6708.26** (3111.33) [0.072]	6555.50** (3085.91) [0.068]	6802.30** (3351.22) [0.086]	1.37 (14.91) [0.927]	1.34 (14.91) [0.929]	2.65 (15.25) [0.862]
Stratification variables	yes	yes	yes	yes	yes	yes
Lagged Outcome	no	0.09* (0.05)	0.09* (0.05)	no	0.00 (0.01)	0.00 (0.01)
Controls	no	no	yes	no	no	yes
Observations	1421	1421	1379	1421	1421	1379
Mean Control		8400.83 (20463.25)			82.27 (262.25)	

Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected q-values in square brackets. Robust standard errors in parentheses. Model I includes trial arm and stratification variables, namely participant sex and baseline savings. Model II includes stratification variables (same as Model I) and the lagged outcomes. Model III includes additional controls: participants' age, marital status, educational status, employment, household size, household income.

▶ ITT Withdrawals and Deposits ▶ ITT Saving Accounts ▶ ITT Temptation index

Table 3: ITT Estimates: Secondary Outcomes

	(1) Gender Attitudes Index (full sample)			(2) Female Empowerment Index (women only)			(3) Self-Efficacy Index		
	1	2	3	1	2	3	1	2	3
ITT: Received Program	-0.00 (0.12) [0.973]	-0.00 (0.12) [0.992]	-0.02 (0.12) [0.862]	0.05** (0.02) [0.144]	0.04** (0.02) [0.171]	0.04** (0.02) [0.114]	0.03 (0.13) [0.945]	0.04 (0.12) [0.936]	0.04 (0.12) [0.862]
Stratification Variables	yes	yes	yes	yes	yes	yes	yes	yes	yes
Lagged Outcome	no	0.08*** (0.02)	0.07*** (0.03)	no	0.20*** (0.03)	0.17*** (0.03)	no	0.14*** (0.03)	0.17*** (0.03)
Controls	no	no	yes	no	no	yes	no	no	yes
Observations	1420	1417	1375	1186	1176	1134	1415	1409	1368
Mean Control		-0.69 (0.57)			-0.23 (0.37)			6.00 (2.41)	

Notes: *$p<0.1$, **$p<0.05$, ***$p<0.01$, based on naïve p-values. Multiple hypothesis corrected sharpened q-values in square brackets. Robust standard errors in parentheses. Model I includes trial arm and stratification variables, namely participant sex and baseline savings. Model II includes stratification variables (same as Model I) and the lagged outcomes. Model III includes additional controls: participants' age, marital status, educational status, employment, household size, household income.

Effects on Secondary Outcomes

Table 4: (ctd.) ITT Estimates: Secondary Outcomes

	(4) Resilience Index			(5) Outstanding Debt			(6) Household Expenditures		
	1	2	3	1	2	3	1	2	3
ITT: Received Program	-0.01 (0.02) [0.946]	-0.01 (0.02) [0.936]	-0.01 (0.02) [0.774]	-498.81* (270.40) [0.195]	-506.13* (266.18) [0.171]	-579.65** (278.87) [0.114]	499.91 (1631.67) [0.946]	458.72 (1653.83) [0.936]	635.62 (1688.83) [0.862]
Stratification Variables	yes	yes	yes	yes	yes	yes	yes	yes	yes
Lagged Outcome	no	0.22*** (0.03)	0.19*** (0.03)	no	0.01 (0.01)	0.01 (0.01)	no	0.08 (0.08)	0.08 (0.08)
Controls	no	no	no	no	no	yes	no	no	yes
Observations	1421	1421	1379	1421	1421	1379	1421	1421	1379
Mean Control	**0.44 (0.44)**			**1956.51 (5319.36)**			**5767.05 (29496.46)**		

Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected sharpened q-values in square brackets. Robust standard errors in parentheses. Model I includes trial arm and stratification variables, namely participant sex and baseline savings. Model II includes stratification variables (same as Model I) and the lagged outcomes. Model III includes additional controls: participants' age, marital status, educational status, employment, household size, household income.

Heterogeneity in Treatment Effects

- **Heterogeneity analysis** based on four pre-specified characteristics:
    1. Participants' sex
    2. Baseline income level
    3. Present bias
    4. Women's involvement in HH financial decision-making
- Overall, little evidence for heterogeneities in the treatment effects (maybe a power issue).
    - **Primary outcomes**: Tentative evidence of insignificant treatment effect on total savings for participants in the lowest income quantile. ▸ Heterogeneity I
    - **Secondary outcomes**: Treatment effect in debt reduction significantly more pronounced for female participants. ▸ Heterogeneity II ▸ Heterogeneity III

Overview

Hypothesized Pathways

Theoretical Literature and Qualitative Evidence

- **Self-control** (Dupas & Robinson, 2013; Shefrin & Thaler, 1998)
  - *'When I go shopping or some other work, I keep the change in the purse instead of spending it here and there. So I don't buy unnecessary things because of the purse'*
  - *'It was useful. What I do is, I put small purse inside the big one. When I go out, I put my remaining money in it and when I come back, I put it in the box.'*
- **Reminder Channel** (Kast, Meier & Pomeranz, 2018; Karlan et al., 2016)
  - *'Earlier I used to buy anything I saw. Now I don't because the purse is there.'*
  - *'Earlier I used to buy vegetables and put the remaining money somewhere. I never saved it. But now I see the purse and put the remaining amount from the purse in the box.'*
- **Hiding Channel** (Schaner, 2015; Anderson & Baland, 2002)
  - *'I always keep money in the purse so that I can keep it for myself.'*
  - *'I keep some money with me in the purse. If he [husband] wants money he takes it from the box or asks me. I give him the money from the box but he does not know that I have more money with me in my purse.'*

Hypothesized Pathways

Table 5: Predictors of total savings amounts in the treatment arm

	Savings Balance	Savings Balance	Savings Balance	Savings Balance
	(1)	(2)	(3)	(4)
Self-Control Purpose	773.25			-9463.58*
	(1613.97)			(5038.55)
Reminder Purpose		4645.75		7077.37
		(3373.92)		(4830.38)
Hiding Purpose			6876.99*	8189.97**
			(3450.01)	(3680.32)
Controls	yes	yes	yes	yes
N	641	645	639	638

Notes: *p<0.1, **p<0.05, ***p<0.01. Robust standard errors in parentheses. Controls include baseline income, HH size, employment status, education level, age, marriage status, baseline present bias, baseline savings, and participants sex. Self-control purpose is captured with the following item: "When I am tempted to buy something I do not really need, the purse helps me to resist my temptations", reminder purpose is captured with: "When I see the purse, it reminds me of the importance to save money", and hiding purpose is captured with: "This purse helps me to keep money for myself and not to give it to other people (my partner, children, friends. . .)". All three items are rated on a 1-5 Likert-scale with higher values indicating higher agreement.

Table 6: ITT Estimates: Responding to Social Demand

	(1) Past-month transfer to to a household member			(2) Past-month transfer to a person outside the household		
	1	2	3	1	2	3
ITT: Received Program	-395.27*** (151.36)	397.49*** (150.76)	-409.16** (162.34)	222.23 (202.28)	222.49 (202.56)	204.25 (204.59)
Stratification variables	yes	yes	yes	yes	yes	yes
Lagged Outcome	no	0.00 (0.01)	0.00 (0.01)	no	-0.00 (0.00)	-0.00 (0.00)
Controls	no	no	yes	no	no	yes
Observations	1421	1421	1379	1421	1421	1379
Mean Control		**1185.53 (3030.57)**			**340.98 (2269.30)**	

Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected q-values in square brackets. Robust standard errors in parentheses. Model I includes trial arm and stratification variables, namely participant sex and baseline savings. Model II includes stratification variables (same as Model I) and the lagged outcomes. Model III includes additional controls: participants' age, marital status, educational status, employment, household size, household income.

Overview

Conclusion

- Effect sizes on savings from this study are **substantially larger** than for prior commitment interventions
- Few significant effects on **secondary outcomes** and **sub-groups** complicate explanation of this large treatment effect.
- We document some evidence for a (spousal) **hiding channel** and find this explanation most plausible.
- Future plans:
    - Can we better disentangle **transmission channels**?
    - Can the effects hold **in the longer run**? Use data from telephone follow-up.

Thank you!

Sample Attrition

Table 7: Sample Attrition

	Participants not completed endline
Treatment	0.01
	(0.01)
Female	0.10***
	(0.02)
Married	-0.03*
	(0.02)
Age	-0.00
	(0.00)
Education	0.00
	(0.00)
Employed	-0.03**
	(0.01)
Household Size	-0.00
	(0.00)
Income	0.00
	(0.00)
Baseline Savings	-0.01*
	(0.00)
Baseline Time Preference	0.00
	(0.00)
Observations	1482
R^2	0.048

Baseline Balance Full Table

Table 8: Baseline Balance Full Table ▸ Back

	Control (N=754)	Treatment (N=771)	t-test Difference (1)-(2)
Female	0.82 (0.01)	0.81 (0.01)	0.00
Age	35.59 (0.46)	36.37 (0.54)	-0.78
Belongs to scheduled/backward caste or tribe	0.47 (0.02)	0.45 (0.02)	0.02
Married	0.81 (0.01)	0.85 (0.01)	-0.05**
Hindu	0.76 (0.02)	0.78 (0.02)	-0.02
Household members	5.01 (0.08)	4.97 (0.09)	0.04
Unemployed	0.33 (0.02)	0.32 (0.027)	0.01
No education	0.22 (0.02)	0.22 (0.02)	0.00
Completed primary education	0.20 (0.02)	0.21 (0.01)	0.00
Completed secondary education	0.36 (0.02)	0.39 (0.02)	-0.03
Completed tertiary education	0.21 (0.02)	0.19 (0.01)	0.02
Past-month income	17968.91 (3941.90)	13262.10 (1754.74)	4706.80
Past-month savings	7381.29 (1211.84)	7933.16 (1168.38)	-551.87
Past-month temptation spending (INR)	128.06 (23.11)	126.14 (16.84)	1.92
Temptation index	1.47 (0.03)	1.44 (0.02)	0.03
Self-efficacy index	6.12 (0.09)	6.15 (0.09)	-0.03
Female empowerment index	0.02 (0.04)	-0.02 (0.04)	0.04
Outstanding debt	8810.23 (1994.31)	10651.75 (2736.34)	-1841.52
Past-month household expenditures (for selected goods)	5088.60 (398.14)	5491.69 (435.67)	-403.09
Resilience index	0.27 (0.02)	0.28 (0.02)	-0.01
F-test of joint significance (F-stat)			0.765
F-test, number of observations			1525

Impact on Withdrawals and Deposits

Table 9: ITT Estimates: Impact on Withdrawals and Deposits

	(1) Total Past-Month Withdrawals			(2) Total Past-Month Deposits		
	1	2	3	1	2	3
ITT: Received Program	-3445.25** (1444.96)	-3470.71** (1450.53)	-3542.79** (1525.09)	-482.42 (332.18)	-491.12 (332.48)	-512.00 (342.72)
Stratification Variables	yes	yes	yes	yes	yes	yes
Lagged Outcome	no	0.02 (0.02)	0.01 (0.02)	no	0.06 (0.06)	0.04 (0.07)
Controls	no	no	yes	no	no	yes
Observations	1421	1421	1379	1421	1421	1379
Mean Control		8765.12 (34986.16)			2315.65 (7344.15)	

*Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected q-values in square brackets. Robust standard errors in parentheses. Model I includes trial arm and stratification variables, namely participant sex and baseline savings. Model II includes stratification variables (same as Model I) and the lagged outcomes. Model III includes additional controls: participants' age, marital status, educational status, employment, household size, household income.*

▸ Back to Main

Impact on Saving Accounts

Table 10: ITT Estimates: Impact on Saving Accounts

	Bank Savings	Mobile Money Savings	Savings Club	Home Savings	Savings held by Relatives
ITT: Received Program	1345.19 (1062.99)	60.31 (62.64)	-27.00 (83.21)	-218.19 (229.65)	3798.32 (2714.16)
Stratification Variables	yes	yes	yes	yes	yes
Lagged Outcome	0.05 (0.03)	-0.04 (0.03)	0.05 (0.06)	0.05 (0.03)	0.05 (0.06)
Controls	yes	yes	yes	yes	yes
Observations	1379	1379	1379	1379	1379

Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected q-values in square brackets. Robust standard errors in parentheses. Estimates are for Model III, which includes additional controls: participants' age, marital status, educational status, employment, household size, household income.

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Impact on Self-rated Temptations

Table 11: ITT Estimates: Impact on Self-rated Temptations

	Self-rated Temptations		
	1	2	3
ITT: Received Program	-0.03 (0.02)	-0.03 (0.02)	-0.02 (0.02)
Stratification Variables	yes	yes	yes
Lagged Outcome	no	0.10*** (0.03)	0.09*** (0.03)
Controls	no	no	no
Observations	1417	1414	1414
Mean Control		1.29 (0.46)	

Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected q-values in square brackets. Robust standard errors in parentheses. Model I includes trial arm and stratification variables, namely participant sex and baseline savings. Model II includes stratification variables (same as Model I) and the lagged outcomes. Model III includes additional controls: participants' age, marital status, educational status, employment, household size, household income

Table 12: Heterogeneity in Treatment Effects: Primary Outcomes `▸ Back`

	(1) Total Past-Month Savings		(2) Temptation Expenditures	
	1 Main & Interaction Effect	2 Total Effect	1 Main & Interaction Effect	2 Total Effect
ITT Received Program x TRAIT **Female**	6414.72 (4673.90) 367.53 (5922.70) [0.951]	6782.25* (3637.71)	43.17 (48.93) -49.86 (51.18) [0.660]	-6.69 (14.99)
ITT: Received Program x TRAIT **Low Income**	5484.95** (2313.22) -2422.33* (1468.00) [0.198]	10904.61 11654.22	6.03 (17.45) -18.70 (32.97) [0.571]]	-12.67 (27.96)
ITT: Received Program x TRAIT **Present Bias**	9796.39* (5536.30) -6584.54 (5996.15) [0.511]	3211.85 2302.87	11.30 (23.04) -19.42 (29.51) [0.511]	-8.12 (18.44)
ITT: Received Program x TRAIT **Female Involvement**	596.46 (3132.58) 7903.44 (5542.12) [0.154]	8499.89* (4571.88)	23.01 (14.66) 38.88* (23.78) [0.154]	-15.87 (18.74)

Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected sharpened q-values in square brackets. Robust standard errors in parentheses.

Table 13: Heterogeneity in Treatment Effects: Secondary Outcomes ● Back

	(1) Gender Attitudes		(2) Female Empowerment Index (women-only sample)		(3) Self-Efficacy Index	
	1 Main & Interaction Effect	2 Total Effect	1 Main & Interaction Effect	2 Total Effect	1 Main & Interaction Effect	2 Total Effect
ITT: Received Program	0.33 (0.30)	-0.07 (0.14)	/	/	-0.03 (0.26)	0.07 (0.14)
x TRAIT **Female**	-0.39 (0.33) [0.369]				0.09 (0.30) [0.760]	
ITT: Received Program	0.45 (0.14)	-0.21 (0.28)	0.02 (0.02)	0.09** (0.04)	0.05 (0.14)	0.05 (0.28)
x TRAIT **Low Income**	-0.25 (0.31) [0.830]		0.07 (0.05) [0.348]		0.00 (0.31) [0.993]	
ITT: Received Program	0.04 (0.17)	-0.03 (0.17)	0.02 (0.03)	0.06** (0.03)	0.15 (0.18)	-0.05 (0.18)
x TRAIT **Present Bias**	-0.08 (0.25) [0.970]		0.05 (0.04) [0.970]		-0.20 (0.25) [0.970]	
ITT: Received Program	0.02 (0.31)	-0.09 (0.15)	0.09* (0.0)	0.03 (0.02)	-0.32 (0.31)	0.17 (0.16)
x TRAIT **Female Involvement**	-0.11 (0.35) [0.889]		-0.06 (0.05) [0.889]		0.49 (0.35) [0.448]	

*Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected sharpened q-values in square brackets.*

Table 14: (ctd.) Heterogeneity in Treatment Effects: Secondary Outcomes [Back]

	(4) Resilience Index		(5) Outstanding Debt		(6) Household Expenditures	
	1 Main & Interaction Effect	2 Total Effect	1 Main & Interaction Effect	2 Total Effect	1 Main & Interaction Effect	2 Total Effect
ITT: Received Program	0.05	-0.03	1163.94	-837.90***	4536.09	-254.05
	(0.05)	(0.02)	(890.81)	(262.67)	(4103.31)	(1860.90)
x TRAIT	-0.08		-2001.84**		-4790.14	
Female	(0.06)		(925.12)		(4575.00)	
	[0.369]		[0.155]		[0.369]	
ITT: Received Program	-0.02	-0.00	-228.36	-1450.86***	722.26	-247.27
	(0.03)	(0.05)	(306.68)	(546.94)	(2167.81)	(451.68)
x TRAIT	0.01		-1222.50		-969.53	
Low Income	(0.06)		(627.98)		(2231.80)	
	[0.969]		[0.312]		[0.969]	
ITT: Received Program	-0.02	-0.01	-367.01	-639.40	817.17	272.87
	(0.03)	(0.03)	(304.90)	(423.49)	(2274.30)	(2418.19)
x TRAIT	0.00		-272.39		-544.29	
Present Bias	(0.05)		(500.30)		(3284.80)	
	[0.970]		[0.970]		[0.970]	
ITT: Received Program	0.03	-0.04	-573.79*	-923.77***	-338.78	-357.69
	(0.05)	(0.03)	(311.00)	(325.32)	(450.74)	(2420.46)
x TRAIT	-0.07		-349.99		-18.91	
Female Involvement	(0.06)		(450.11)		(2383.92)	
	[0.655]		[0.448]		[0.990]	

Notes: *p<0.1, **p<0.05, ***p<0.01, based on naïve p-values. Multiple hypothesis corrected sharpened q-values in square brackets.

Outcome Measures

Total Savings:

What is the total amount of money that you currently keep in...

- your savings box? [based on self-report and hand count]
- your purse? [based on self-report and hand count]
- your savings account?
- your accounts in post offices/national savings centres?
- cash savings at home (other than those kept in the lockbox)?
- cash savings with relatives or friends?
- your mobile phone money account?
- any informal savings association?

Sum of total savings amounts in rupees for each saving method ▸ Back to Main Outcome

Outcome Measures

Temptation Spending:

1. Amount:
   - In the past month, how much money did you spend on [sugar, meat, cola/lemonade, alcohol, fried snacks, cake, gambling, tobacco, toys] ?
   - In next month, how much money would you like to spend on this item?

   For all items where: past amount > desired future amount, the difference (in rupees) is calculated and added up into a total amount of past-month temptation expenditures

2. Index:
   - In the past month, I spent money on things that I didn't really need.
   - In the past month, I bought something and later regret that I did.
   - In the past month, I found it difficult to really control on how I spend my money

   5-point Likert scale from never-very often. PCA-weighted index aggregating three individual items ▸ Back to Main Outcome

Outcome Measures

Self-Efficacy / Locus of Control:

- When I make plans, I am almost certain to make them work
- When I get what I want, its usually because I worked hard for it
- My life is controlled by other powerful people
- I am confident that I will not run out of money before the next payday
- I am confident that I can plan carefully in advance how to use my money during each week

Rated on a 1-10-point Likert scale, ranging from very much disagree to very much agree. Self-efficacy Index: PCA-weighted index aggregating of five individual items

Outcome Measures

Female Empowerment

- Boys should not be allowed to get more opportunities and resources for education than girls.
- Boys should be fed first and given more food compared to girls.
- A husband should be more educated than his wife.
- Daughters should have a similar right to inherited property as sons.
- It would be a good idea to elect a woman as the President of India again.
- Do you get in trouble for leaving the house without informing your husband or another household member?
- Do you get in trouble for making unescorted outings such as visiting your parents, friends, going to the market?

Rated on a 1-10-point Likert scale, ranging from very much disagree to very much agree. Last two items are binary and answered by female respondents only.
Female Empowerment Index: PCA-weighted index aggregating of seven individual items ▶ Back to Secondary Outcome

Outcome Measures

Resilience to Emergencies

- Did you experience any kind of emergency in the past six month?
- If yes: How difficult was it for you and your family to find enough money to cope with that emergency?
- Imagine an emergency would happen tomorrow. How difficult would it be for you and your family to find ten thousand INR to cope with this emergency?
- Was there a time in the last 4 weeks when you needed to be admitted at the hospital but didn't because you didn't have enough money?
- Was there a time in the last 4 weeks when you needed to buy medicine from a chemist but didn't because you didn't have enough money?

Rated as very difficult, somewhat difficult, not difficult at all. Total sum of counts for both items ▶ Back to Secondary Outcome

Outcome Measures

Household expenditures

- How many Rupees did you spend in the last month for [rice, dal, cleaning utensils, insurances,transport....]

PCA-weighted index aggregating individual items

Total Debt

- Are there any outstanding loans that you have to pay back?
- How much money do you expect to pay for any loan in the next month?

Total sum of money owed in rupees ▸ Back to Secondary Outcome

Present Bias

- Would you prefer 4000 rupees now or 5000 rupees tomorrow?
- Today is more important than tomorrow.
- I am impatient.
- I easily give in to my temptations.
- It is difficult for me to avoid eating a snack food I enjoy if it is easily available, even if I am not hungry.

Coded 0-10, ranging from not at all/less than a day to nearly every day fro two weeks. PCA-weighted index aggregating five individual items.

Female Decision Making

- Amol and Devika are married. Amol decides how to spend the money because he makes all decisions for the family. Do you resemble this couple? (Dictator Vignette)

- Navin and Shilpa are married. Navin decides how to spend the money because most men in the community make these decisions. Do you resemble this couple? (Norms Vignette)

- Are you involved in decisions about money in your home?