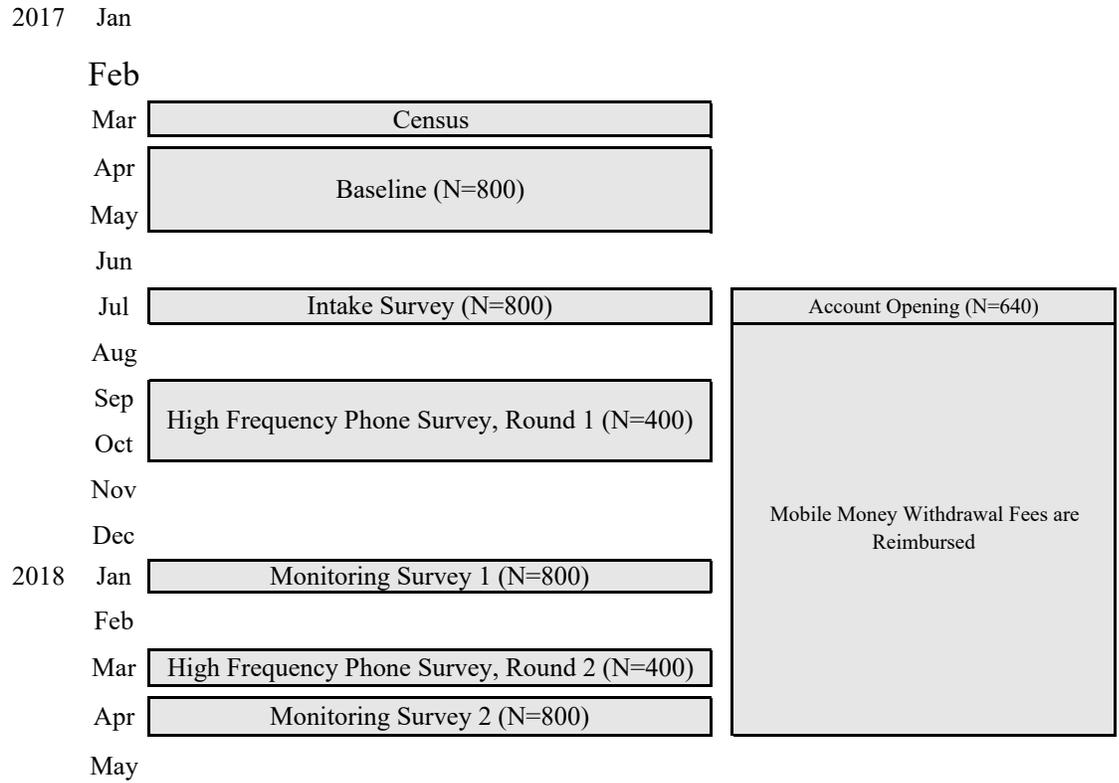


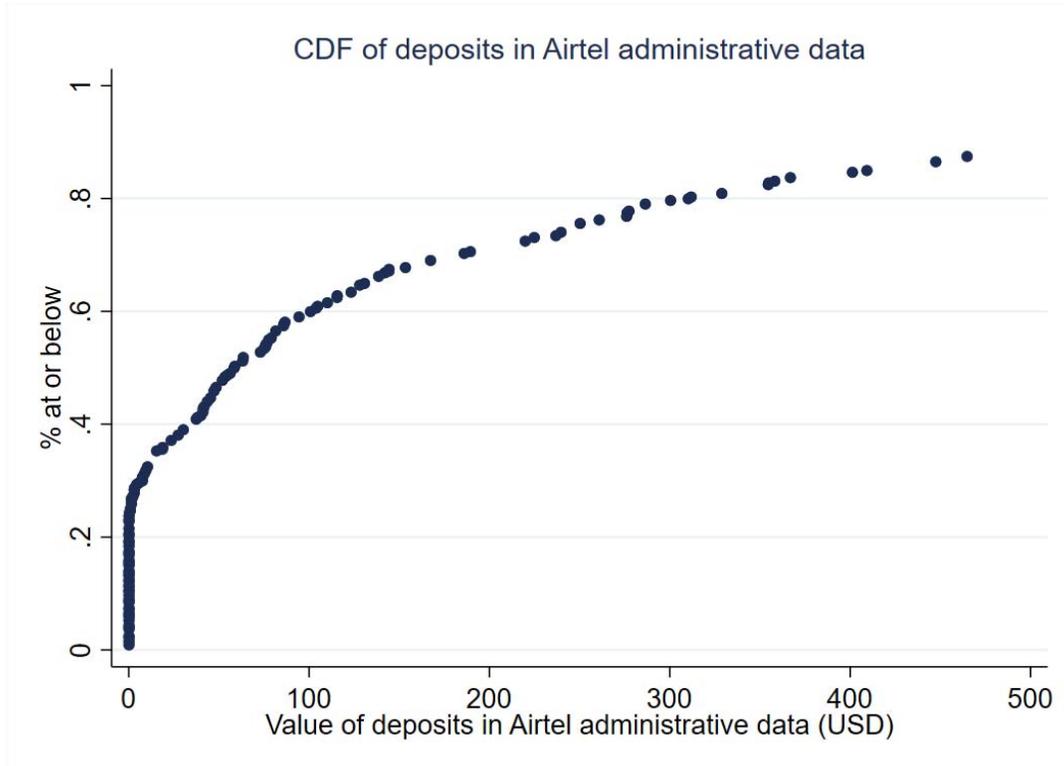
Cashing In (and Out): Experimental Evidence on the Effects of Mobile Money in Malawi

Shilpa Aggarwal, Valentina Brailovskaya, and Jonathan Robinson

Online Appendix

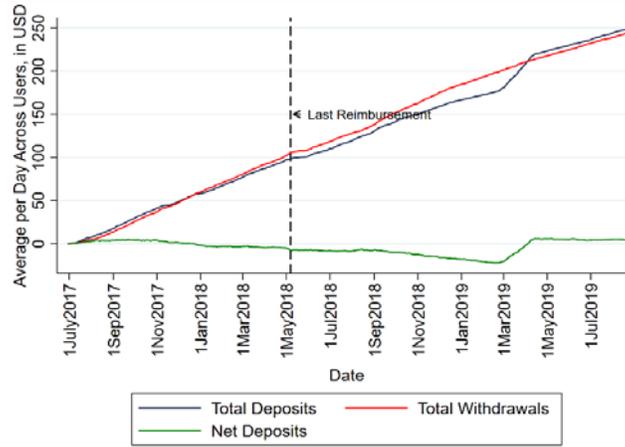
Web Appendix Figure A1. Project and Survey Timeline



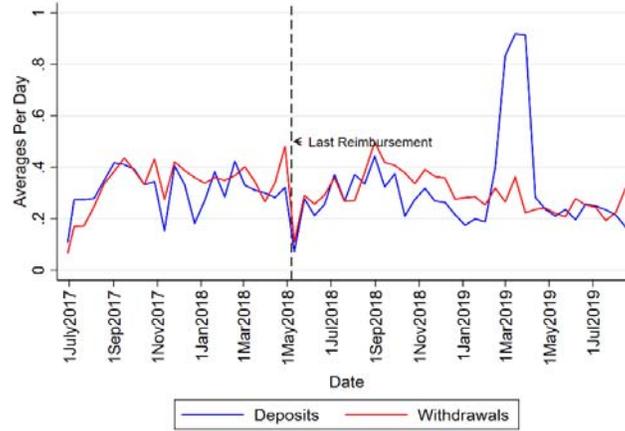


Notes: Data is from administrative data from the telecom company, and covers account opening (July 2017) until August 2019.

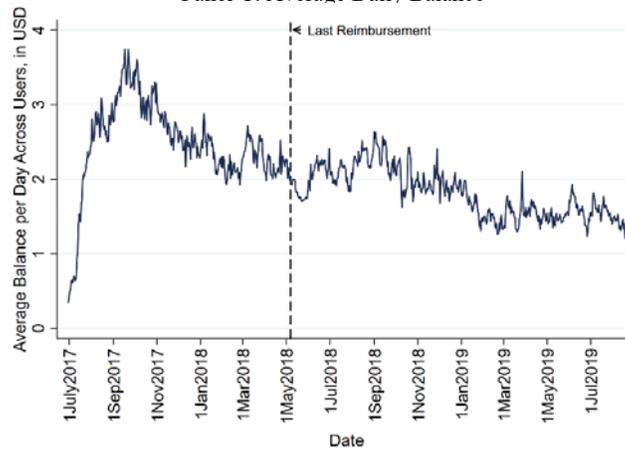
Panel A. Cumulative usage: Deposits and Withdrawals



Panel B. Average Deposits and Withdrawals (2 week period)



Panel C. Average Daily Balance



Notes: Data taken from administrative data from telecom company for mobile money accounts. Panel A shows average (per-person) cumulative deposits, withdrawals and net deposits (the difference) over time. Panel B shows average deposits and withdrawals during the study period. The values are daily averages collapsed into 2 week periods. Panel C shows running balances. The dashed line represents the date at which withdrawals stopped being reimbursed. Please note, we were not able to receive the data for 3 weeks in July-August 2018, which is indicated by the break in lines on the graphs.

Web Appendix Table A1. Summary Statistics and Randomization Check

	(1)	(2)
	Control Mean	Difference between mobile money and control
Panel A. Demographic information and asset ownership		
Age	34.42 (10.16)	2.25** (1.08)
Married	0.81 (0.40)	-0.08 (0.05)
Male	0.46	0.01 (0.07)
Household Farms	0.71	0.05 (0.06)
Years of Education	9.05 (2.83)	-0.30 (0.35)
Land Owned (Acres)	0.66 (1.18)	0.08 (0.16)
Value of Durable Assets and Livestock	872.60 (1547.00)	9.73 (163.35)
House has iron roof	0.93	-0.01 (0.02)
Owns a cell phone	0.94	-0.02 (0.03)
Has mobile money account	0.56	0.06 (0.07)
Distance to closest mobile money agent (minutes)	11.32 (14.25)	-0.72 (1.16)
Panel B: Business		
=1 if Retail	0.68	0.07 (0.06)
Average Weekly Revenue	66.37 (99.00)	-5.45 (12.32)
Average Weekly Profit	18.77 (23.20)	-0.15 (2.58)
Value of equipment and inventory	256.70 (401.20)	-42.34 (57.03)
Panel C: Savings		
Total cash savings (balance)	119.80 (196.70)	-4.29 (22.81)
<i>Saves in:</i>		
Mobile money	0.32	0.05 (0.06)
Bank account	0.30	0.02 (0.06)
VSLA / ROSCA	0.52	-0.01 (0.07)
Secret place at home	0.82	0.01 (0.05)
Savings box	0.22	-0.05 (0.05)

Notes: There are 453 observations. Means are population weighted. Randomization check is performed only for businesses that appear in the analysis sample (i.e. completed a monitoring survey or at least one phone survey). Monetary values are winsorized at 1% and expressed in USD. In Columns 1, standard deviations in parentheses; in Column 2, standard errors in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1% respectively.

Web Appendix Table A2. Withdrawal Fee Schedule for Mobile Money Accounts

Withdrawal amount (USD)	(1)	(2)	(3)
	Fee (USD)	Fee (percentage) for:	
		Minimum withdrawal within range	Maximum withdrawal within range
\$0.07-\$0.72	\$0.03	-	0.040
\$0.73-\$1.43	\$0.06	0.082	0.042
\$1.44-\$3.57	\$0.14	0.097	0.039
\$3.58-\$7.14	\$0.29	0.081	0.041
\$7.15-\$14.29	\$0.54	0.076	0.038
\$14.3-\$28.6	\$1.08	0.076	0.038
\$28.7-\$85.7	\$2.71	0.094	0.032
\$85.7-\$142.9	\$5.36	0.063	0.038

Notes: from posted withdrawal fees on Airtel webpage. The maximum allowable daily withdrawal is \$142.9.

Web Appendix Table A3. Determinants of Account Usage

	Cumulative deposits in telecom administrative data
Distance to nearest agent (hours)	-65.16* (35.04)
Female	30.69 (33.83)
Married	10.87 (28.78)
Female * married	-42.73 (39.44)
Age (tens of years)	-16.96* (8.84)
Years of education	-2.19 (3.20)
Has kids under 18	41.03 (26.47)
Had savings box at baseline	-43.21** (21.82)
Had bank account at baseline	28.52 (19.32)
Had mobile money account at baseline	46.50*** (16.03)
Inverse hyperbolic sine of baseline monetary savings	5.49 (4.36)
Log assets	7.57 (6.27)
"Taxed" (i.e. gives money but does not receive)	-9.2 (16.35)
Observations	319
Mean	87.75
Standard deviation	122.70

Notes: Values are in USD and winsorized at 5%. Regressions also includes a control for experimentally being offered multiple accounts (see Aggarwal et al. 2020 for a discussion). Standard errors in parentheses.

*, **, and *** indicate significance at 10%, 5%, and 1% respectively.

Web Appendix Table A4. Treatment Effects on Deposits across all sources

	(1)	(2)	(4)	(5)	(6)	(7)	(8)
	Deposits into experimental mobile money account	First Stage Total mobile money deposits ¹	Deposits into other savings sources				Total Deposits ³
			Cash at home	Bank accounts	Savings groups ²	Lockboxes	
Panel A: HFPS							
Mobile money	0.35*** (0.06)	0.20*** (0.07)	0.04 (0.20)	-0.04 (0.08)	-0.08 (0.05)	-0.09* (0.05)	0.00 (0.27)
Observations	2721	2721	2721	2721	2721	2721	2721
Number of Businesses	232	232	232	232	232	232	232
Control Mean	0.00	0.24	1.05	0.29	0.46	0.26	2.46
Control SD	0.00	0.68	1.81	2.78	0.83	0.44	3.95
Panel B: Monitoring Surveys							
Mobile money	0.24*** (0.03)	0.12*** (0.04)	-0.04 (0.06)	0.21** (0.10)	-0.10 (0.09)	-0.02 (0.05)	0.29* (0.17)
Observations	786	786	786	786	786	786	786
Number of Businesses	429	429	429	429	429	429	429
Control Mean	0.00	0.18	0.31	0.23	0.54	0.31	1.54
Control SD	0.00	0.38	0.55	0.99	0.93	0.46	1.80

Notes: All results are converted to daily averages. Deposits were measured over 7 days in Panel A and 2 months in Panel B. All regressions in Panel A control for a measure of the dependent variable during the intake survey, calendar date fixed effects and binary indicator for winning an experimentally induced lottery. All regressions in Panel B control for participation in HFPS and date of the survey fixed effect. All regressions control for strata and baseline controls, and are probability weighted. All monetary variables are expressed in USD and are winsorized at 5%. Standard errors clustered at individual level in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%.

¹Total mobile money deposits includes non-project accounts.

²Savings groups include VSLAs and ROSCAs.

³Total deposits is the sum of the other columns, as well as other less common types of savings (such as safekeeping with shopkeepers or friends).

Web Appendix Table A5. Treatment effects on inter-personal transfers (extensive and intensive margin)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Transfers outside household				Transfers to spouse			
	Gave transfer	Amount	Received transfer	Amount	Gave transfer	Amount	Received transfer	Amount
Panel A. High frequency phone surveys								
Mobile money	0.11**	0.17	0.04	-0.45	0.03	-0.05	0.03	-0.06
	(0.04)	(0.37)	(0.03)	(0.63)	(0.05)	(0.34)	(0.04)	(0.67)
Observations	2727	2727	2749	2727	2720	2720	2727	2722
Number of Businesses	232	232	232	232	232	232	232	232
Control Mean	0.44	2.92	0.23	3.00	0.33	2.10	0.21	2.42
Control SD	0.50	6.21	0.42	10.90	0.47	4.34	0.41	6.91
Panel B. Monitoring Surveys								
Mobile money	-0.02	-0.17	0.01	0.70	0.06	2.01**	0.03	-1.19
	(0.05)	(0.71)	(0.05)	(1.09)	(0.05)	(0.82)	(0.04)	(1.13)
Observations	784	784	786	786	786	786	786	786
Number of Businesses	427	427	429	429	429	429	429	429
Control Mean	0.41	3.97	0.38	5.67	0.38	3.91	0.33	6.63
Control SD	0.49	7.52	0.49	13.40	0.49	7.40	0.47	15.12

Notes: Transfers include gifts and loans, and both cash and in-kind payments and do not include survey compensation. In Panel A, variables are measured over the 7 days prior to the survey. In Panel B, all values are over the past month. We do not standardize time periods in order to show extensive margins. All regressions in Panel A control for a measure of the dependent variable during the intake survey, calendar date fixed effects and binary indicator for winning an experimentally induced lottery. All regressions in Panel B control for participation in HFPS and date of the survey fixed effect. All regressions control for strata fixed effects and baseline controls, and are probability weighted (see in the text for details). All monetary variables are expressed in USD and are winsorized at 5%. *, **, and *** indicate significance at 10%, 5%, and 1% respectively.

Web Appendix Table A6. Debriefing survey

Used Mobile Money for longer-term savings	0.83
Used Mobile Money to store money temporarily	0.12
Did you like having a mobile money account?	0.98
If yes, why?	
Money was secure	0.47
Easy to deposit	0.35
Hard to withdraw	0.30
Liked having a goal	0.29
Fees were reimbursed	0.22
Easy to transfer	0.13
Easy to pay bills	0.04
Are there downsides of using mobile money?	
No, there are no downsides	0.30
Of those who say yes, listed downsides:	
Network is often down	0.38
Agents don't have enough cash to make withdrawals	0.13
Agents are too far away	0.04
Agents don't have enough balance to make deposits	0.03
I don't trust mobile money companies with my money	0.02
Too complicated	0.01
Agents will cheat you	0.01
It is not useful to me	0.01
I am afraid I may forget my pin	0.01
I don't know	0.05
I don't know enough about mobile money	0.07

Notes: Data comes from responses collected during a debriefing section of the endline survey, at the conclusion of the project. Data is restricted to the mobile money treatment group in the experiment. There are 224 observations.