Research Guide

The Impact of Mobile Money on Poverty

October 2020

MOBILE MONEY

"Mobile money enables mobile phone owners to deposit, transfer, and withdraw funds without owning a bank account. It is therefore distinct from mobile banking, which allows access to one's existing bank account via a mobile phone."

Suri: 2017, Annual Review of Economics

This guide is largely interested in the individual and household impacts of mobile money and, thus, takes a broad definition of mobile money, focusing on the user experience of account to account transfers/payments enabled by mobile phones.

The studies covered leverage mobile money platforms across a variety of providers and from a variety of countries—including M-Pesa (Kenya), mKesh (Mozambique), bKash (Bangladesh), and Airtel (Uganda, Malawi, Niger).

These platforms operate under a diversity of regulatory and licensing models for bank and non-bank led approaches to mobile phone-based payments accounts.

Further information on regulation of mobile money services can be found in the Inclusive Digital Financial Services: A Reference Guide for Regulators[1]

1. https://docs.gatesfoundation.org/documents/InclusiveDigitalFinancialServices_ReferenceGuide.pdf

THE IMPACT OF MOBILE MONEY ON POVERTY

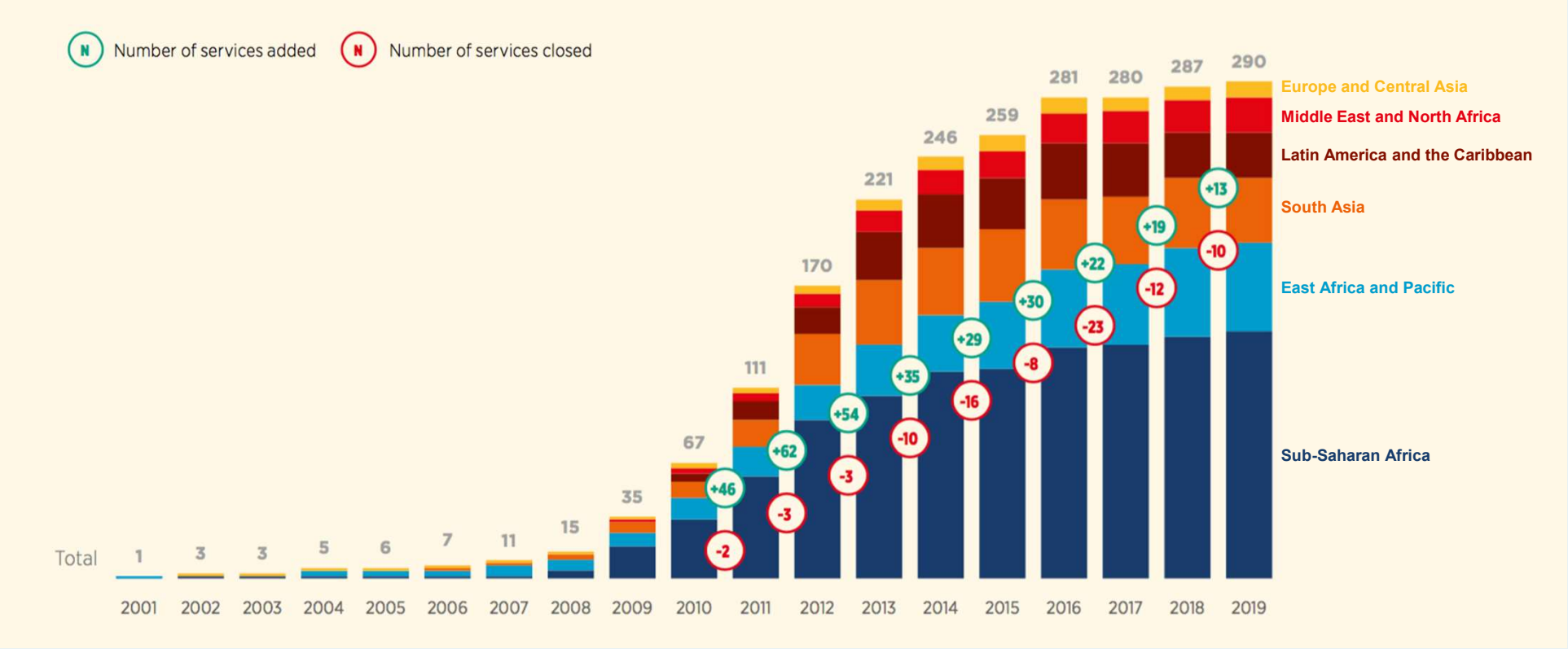
Mobile money accounts have spread widely in select regions of the developing world, particularly in Sub-Saharan Africa.

Over the past decade, evidence has emerged citing beneficial impacts of mobile money in developing economies on consumption, poverty, labor outcomes, remittances, and migration.

This has led to a surge in rigorous studies focusing on the impact of mobile money on poor and rural households who tend to be unbanked and have nonexistent or very low mobile money agent access.

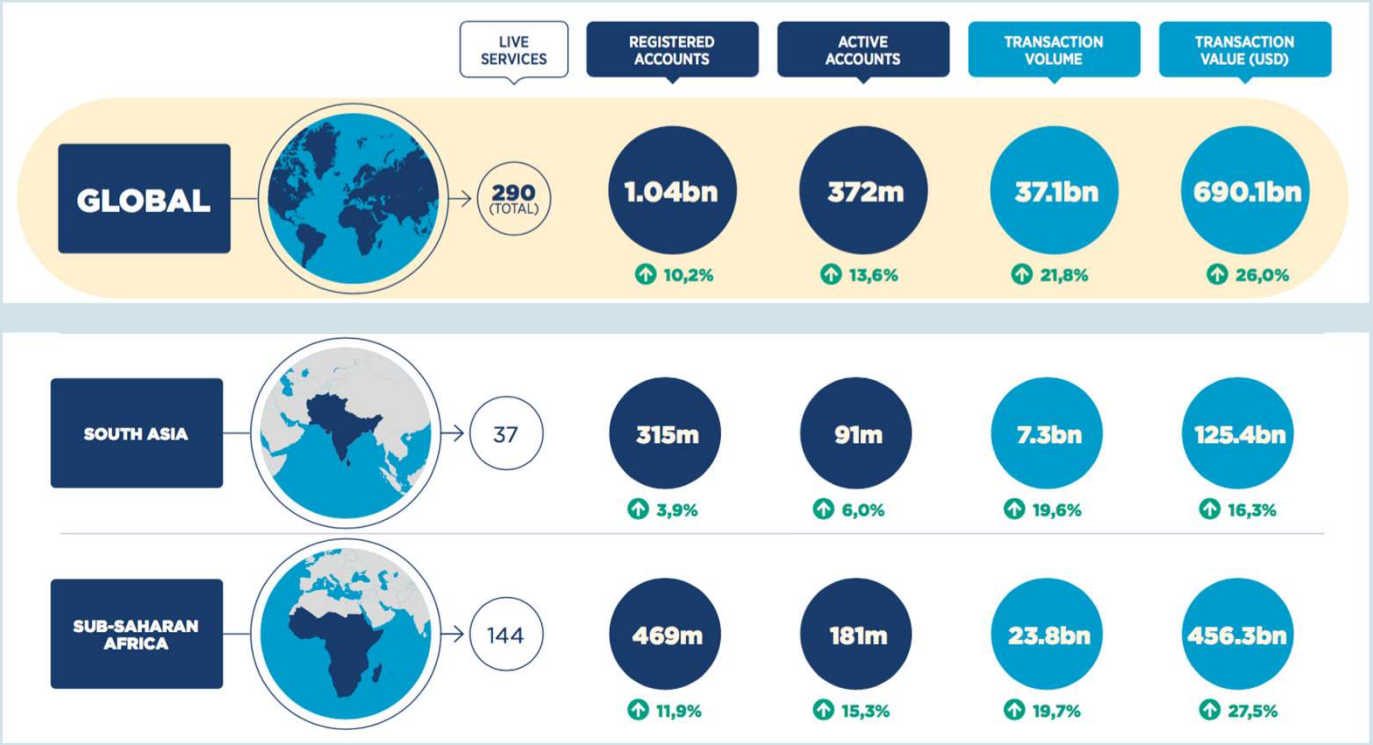
This presentation summarizes experimental and rigorous non-experimental evidence from the development economics literature.

EVOLUTION OF THE GLOBAL MOBILE MONEY SERVICES, 2001 TO 2019



Source: GSMA State of the Industry Report on Mobile Money 2019

THE RISE OF MOBILE MONEY: GLOBAL AND REGIONAL GROWTH IN 2019



Green arrows represent growth in 2019. Source: GSMA State of the Industry Report on Mobile Money 2019

THE IMPACT OF MOBILE MONEY ON POVERTY: KEY FINDINGS (1 OF 2)

Consumption, Risk Sharing, and Poverty

Mobile money had direct impacts on consumption, the ability to cope with shocks, and extreme poverty.

- Mobile money increased consumption expenditure by 44% when households experienced a flood shock in Mozambique (Batista and Vicente, 2019).
- Mobile money users in Kenya who experienced a negative shock saw no change in their consumption level, whereas nonusers experienced a 7% decrease in consumption (Jack and Suri, 2014).
- Mobile money increased daily per capita consumption by 8% and reduced the extreme poverty index by 42% when urban migrants remitted income back to their household in rural Bangladesh (Lee et al., 2020).
- In Northern Uganda, mobile money increased food security by 45% for households that lived far away from bank branches (Weiser et al., 2019).
- Kenyan female-headed households who lived in areas with many agents saw their long-run consumption grow by 8.5 percentage points (Suri and Jack, 2016).

Labor Outcomes and Investment

Mobile money impacted labor outcomes by allowing workers to shift into more productive occupations and firms to invest in fixed assets.

- In Northern Uganda, self-employment increased from 3% to 6% for individuals that lived far away from a bank branch (Weiser et al., 2019).
- Female-headed households in Kenya increased self-employment by 2-3%. (Suri and Jack, 2016)
- In Malawi, microentrepreneurs worked less in their primary business and more on their farms (Aggarwal et al., 2020).
- In Bangladesh, rural households that had urban migrants were 17% less likely to engage in wage labor (Lee et al., 2020).
- Rural households in Mozambique reduced their agricultural investment by 28%, but saw an increase in their number of migrants, suggesting a shift from rural to urban occupations (Batista and Vicente, 2019).
- Firms in Kenya, Tanzania, and Uganda that use mobile money saw a 16% increase in the likelihood of investing in fixed assets (Islam et al., 2016).

THE IMPACT OF MOBILE MONEY ON POVERTY: KEY FINDINGS (2 OF 2)

Remittances and Migration

Mobile money users were more likely to send and receive remittances and to have additional household members migrate.

- Remittances received by Kenyan households increased their annual income by 3-4%, following a negative shock (Jack and Suri, 2014).
- In Mozambique, mobile money led to a 30% increase in the share of migrants in a household. (Batista and Vicente, 2019).
- In Bangladesh, mobile money increased the value of remittances by 28% and the migration rate by 35% (Lee et al., 2020).
- In Niger, 50% of households are willing to pay to use mobile money to send remittances, but there is a lack of agent infrastructure to do so (Aker et al., 2020).

Savings

Mobile money does not tend to impact the level of savings*; however, there is suggestive evidence that mobile money accounts can be used as a substitute for informal savings.

The biggest impact on savings seems to be for migrants and firms with high cash turnover.

- Households in Bangladesh that had urban migrants and actively used mobile money saved 296% more than nonusers (Lee et al., 2020).
- 83% of microentrepreneurs in Malawi used mobile money accounts to save when there were no withdrawal fees, and continued to save via mobile money following the intervention once withdrawal fees increased (Aggarwal et al, 2020).

**Weiser et al., 2019; Batista and Vicente, 2019; Jack and Suri, 2014*

RESEARCH BRIEFS:

THE IMPACT OF MOBILE MONEY ON POVERTY

REPORTS SUMMARIZED

	Article	Authors	Consumption	Labor Outcomes & Investment	Remittances	Migration	Savings
1	**Risk Sharing and Transaction Costs:** Evidence from Kenya's Mobile Money Revolution (2014)	Suri, Jack	●	○	●	○	○
2	**The Long-Run Poverty and Gender Impacts of Mobile Money** (2016)	Suri, Jack	●	◕	◕	○	◔
3	**Is Mobile Money Changing Africa?** Evidence from a Field Experiment (2019)	Batista, Vicente	●	●	◕	◕	◔
4	**Poverty and Migration in the Digital Age:** Experimental Evidence on Mobile Banking in Bangladesh (2020)	Lee, Morduch, Ravindran, Shonchoy, Zaman	●	◑	●	●	○
5	**The Impact of Mobile Money on Poor Households:** Experimental Evidence from Uganda (2019)	Wieser, Bruhn, Kinzinger, Ruckteschler, Heitmann	●	●	◑	○	○
6	**Mobile Money and Risk Sharing Against Village Shocks** (2018)	Riley	●	○	●	○	○
7	**Payment Mechanisms and Antipoverty Programs:** Evidence from a Mobile Money Cash Transfer Experiment in Niger (2016)	Aker, Bounmijel, McClelland, Tierney	●	○	○	○	○
8	**Cashing In (and Out):** Experimental Evidence on the Effects of Mobile Money in Malawi (2020)	Aggarwal, Brailovskaya, Robinson	○	●	◑	○	●
9	**Migration, Money Transfers, and Mobile Money:** Evidence from Niger (2020)	Aker, Prina, Welch	○	○	●	◑	○
10	**Does Mobile Money Use Increase Firms' Investment?** Evidence from Enterprise Surveys in Kenya, Uganda, and Tanzania (2018)	Islam, Muzi, Meza	○	●	○	○	○
11	**Can Mobile-linked Bank Accounts Bolster Savings?** Evidence from a Randomized Trial in Sri Lanka (2020)	De Mel, McIntosh, Sheth, and Woodruff	○	○	○	○	●
12	**Transaction Networks:** Evidence from Mobile Money in Kenya (2013)	Jack, Ray, Suri	○	○	●	○	○
13	**Mobile Money, Remittances, and Household Welfare:** Panel Evidence from Rural Uganda (2016)	Munyegera, Matsumoto	●	○	●	●	○

SUMMARY OF ONBOARDING/TRAINING INTERVENTIONS ACROSS STUDIES

Many of the studies utilize some form of training for onboarding consumers or mobile money agents. Some onboarding interventions also distribute phones and facilitate actual money transfers to encourage learning by doing. Note that these trainings with account administration and use are often quick, inexpensive, and, therefore, quite different from many more comprehensive financial education interventions that have been examined elsewhere and shown to have little impact.

Study	Date	Onboarding in Randomized Control Trials
Can Mobile-linked Bank Accounts Bolster Savings? Evidence from a Randomized Trial in Sri Lanka	2020	*Participants were given a mobile phone, the minimum balance to open a savings account with the government bank, assistance linking the savings account to the mobile phone, and training on how to make deposits to the savings account using the mobile phone.*
Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh	2020	*Participants were given a 30-45 minutes training session on how to sign up and use mobile money (bKash).The session included at least five hands-on transactions.*
Is Mobile Money Changing Africa? Evidence from a Field Experiment	2019	*Participants were trained to deposit money onto the mobile account, make a purchase using mobile money, and transfer mobile money to another mobile phone. Free trial money was given to the participant.*
The Impact of Mobile Money on Poor Households: Experimental Evidence from Uganda	2019	*Mobile money agents were recruited and given equipment, training, and marketing materials. There was no direct intervention with consumers to encourage mobile money use.*
Cashing In (and Out): Experimental Evidence on the Effects of Mobile Money in Malawi	2020	*Participants received a mobile phone and training on how to use a mobile money account.*
Payment Mechanisms and Antipoverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger	2016	*Participants were given a mobile phone and training on how to exchange e-money (mobile money digital currency) for cash.*

Risk Sharing and Transaction Costs

MOBILE MONEY REDUCES VULNERABILITY TO SHOCKS

Authors: *Tavneet Suri and William Jack*
Journal: *American Economic Review, 2014*

Research Design: This study surveyed households across Kenya on welfare measures, mobile money use, and remittances. In addition, the entire network of M-PESA agents were surveyed.

Survey Dates:

Households: Sept. 2008 – June 2010

Agents: March 2010

Country: Kenya

Sample: 2,017 households and 7,700 agents

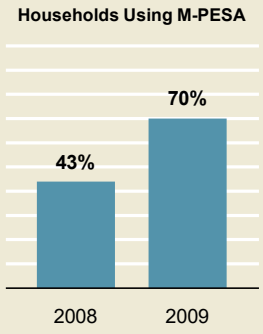
Context: 70% of Kenya's adult population had adopted M-PESA

Contribution: Examines the impact of reducing the transaction costs of sending remittances and a household's ability to cope with negative shocks

Descriptive

Mobile Money Use

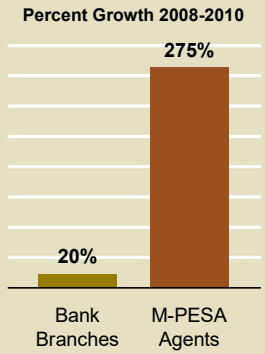
Between 2008 and 2009, the share of Kenyan households who used M-PESA increased from 43% to 70%.



Descriptive

Mobile Money Agents

Between 2008 and 2010, M-PESA agents increased from 4,000 to 15,000, whereas bank branches grew by 20%.



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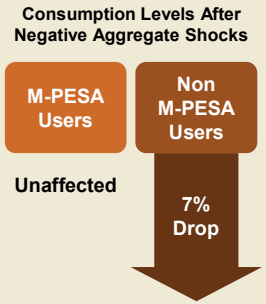
Consumption and Risk Sharing

Consumption levels of M-PESA users are unaffected by negative aggregate shocks, whereas non-users experience a 7% drop in consumption.



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Remittances

A negative shock increases the likelihood that M-PESA users receive remittances by 9 percentage points.

In the presence of a negative shock, remittances received by M-PESA users increases their annual income by 3 to 4%.

Impact

Better Leveraging of Social Networks

M-PESA users reach deeper into their social network to send and receive remittances in the presence of a negative shock.

Jack, William, and Tavneet Suri. "Risk Sharing and Transactions Costs: Evidence from Kenya's mobile money revolution." American Economic Review 104, no. 1 (2014): 183-223.

The Long-Run Poverty and Gender Impacts of Mobile Money

FEMALE-HEADED HOUSEHOLDS INCREASE FINANCIAL RESILIENCE AND SAVINGS USING MOBILE MONEY IN KENYA

Authors: *Tavneet Suri and William Jack*
Journal: *Science, 2016*

Research Design: This study uses long-term household data to examine the impact of changes in mobile money agent density[1].

Survey Dates: 2008 – 2014

Country: Kenya

Sample: 1,608 households

Context: 96% of Kenyan households had used mobile money since its launch in 2007.

Contribution: Examines the long-run impact of mobile money, and in particular, differential impacts by gender.

Descriptive

Consumption

Kenyans consume approximately US$2.50 on average each day.

Poverty

- Extreme Poverty: 43% of the sample live on less than US$1.25 per day
- General Poverty: 66% of the sample live on less than US$2 per day

Occupations

- 25% of the sample are farmers
- 18% of the sample run a business

Migration

- 41% of households had at least one migrant

Impact

Impact by the Numbers

Mobile money lifted 2% of Kenyan households out of poverty. That is, the increased availability of M-PESA agents "helped raise 194,000 households out of extreme poverty, and induced 185,000 [female-headed households] to switch into business or retail as their main occupation."[2]

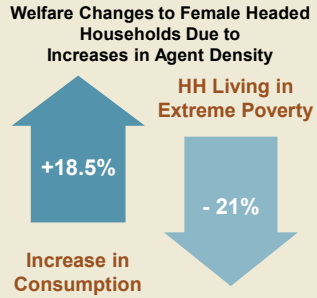
Impact

Consumption Growth

Female-headed households experienced an 18.5% increase in consumption due to an increase in agent density[2].

Extreme Poverty

Increases in M-PESA agent density caused the share of female-headed households living in extreme poverty to decrease by 21%; that is, from about 43% to about 34%[2].



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Occupation

The change in agent density increased the share of female-headed households in business/ sales by 2% and decreased the share participating in farming and secondary occupations by 3%[2].

Savings

Female-headed households increased their financial savings by 22% due to the increase in agent density[2].

1.Changes in agent density occurred between 2008 and 2010. 2. Interquartile-impact: If the number of agents within 1 km of their home increased from 0 to 6. For completeness, the study did not find impacts on migration. 2.These results extrapolate the impacts derived from the sample to all households in Kenya. Suri, Tavneet, and William Jack. "The long-run poverty and gender impacts of mobile money." Science 354, no. 6317 (2016): 1288-1292.

MOBILE MONEY INCREASES THE ABILITY TO COPE WITH SHOCKS IN MOZAMBIQUE

Authors: *Cátia Batista and Pedro C. Vicente*
Journal: *Working Paper, 2019*

Research Design: The intervention introduced mobile money services to randomly selected rural areas in Mozambique. Individual and community-wide demonstrations were held to teach participants how to use the service.

Intervention Active: July 2012 – June 2015

Country: Mozambique

Sample: 102 areas where 2,004 individuals were surveyed

Context: The study took place in a migration corridor.

Contribution: The area studied did not previously have any mobile money services.

Themes: Examines responses to aggregate and idiosyncratic shocks.

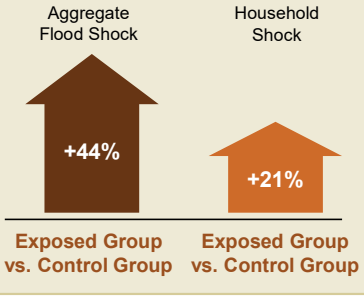
Impact

Consumption

Mobile money increases consumption expenditure in the event of shocks.

- Aggregate Flood Shock: 44% increase in consumption expenditure
- Household Shock: 21% increase in consumption expenditure

Increases in Consumption Expenditure



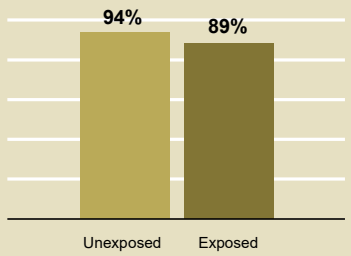
Impact

Labor Outcomes and Investment

Agricultural activity decreased from 94% to 89% and agricultural investment decreased by 28%.

The reduction in agricultural activity and investment, combined with the increase in remittances and migration, suggest an occupational shift from rural to urban labor activities.

Agricultural Activity
Share of Households



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Rural to Urban Migration

Mobile money facilitates rural to urban migration by:

- Reducing remittance transaction costs
- Improving migration-based insurance possibilities

Mobile money increases the share of migrants from exposed households by 15.8 percentage points in the event of an aggregate flood shock.

Impact

Mobile Money Transfers

Households who have access to mobile money and experience an aggregate flood shock are 11 percentage points more likely to receive a mobile money transfer than households who have access to mobile money and do not experience an aggregate flood shock.

Savings

Mobile money does not have a significant impact on savings overall.

However—households who have access to mobile money services are 58 to 76 percentage points more likely to save using mobile money compared to households in the unexposed group.

For completeness, the research design also included behavioral games that were played in the field in order to illicit respondent's marginal willingness to save and remit using mobile money.
Batista, Catia, and Pedro C. Vicente. "Is mobile money changing rural Africa? evidence from a field experiment." Working Paper, 2019.

Poverty and Migration in the Digital Age

MOBILE MONEY REDUCES EXTREME POVERTY FOR FAMILIES OF MIGRANTS IN BANGLADESH

Authors: *Jean N. Lee, Jonathan Morduch, Saravana Ravindran, Abu S. Shonchoy, and Hassan Zaman*
Journal: *Working Paper, 2020**

Research Design: The randomized control trial selected migrant-household pairs to facilitate and encourage the use of a Bangladesh mobile money system, bKash, through a training intervention. The intervention taught participants how to use mobile money and translated the phone menus from English to Bangla, the local language.

Intervention Active: April 2015 – June 2016

Country: Bangladesh

Sample: 815 rural household-urban migrant pairs

Context: The areas studied are rural, poor, and vulnerable to seasonal food insecurity during the *monga* season.

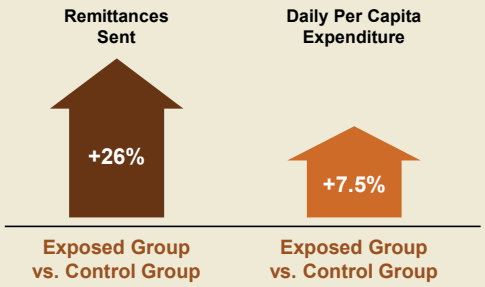
Contribution: Examines the impact of mobile money as a facilitating mechanism between rural-urban migration pairs.

Impact

Total Remittances: The intervention induced a 26% increase in the value of total remittances sent by urban migrants in the exposed group compared to the unexposed group.

This suggests that new remittances were the primary driver in the increase of total remittances rather than a substitution away from other means of sending remittances.

Consumption: Daily per capita expenditure in households exposed to the treatment was 7.5% greater than households in the unexposed group.



Impact

Poverty: The intervention led to a 42% decline in the extreme poverty index of the exposed households that actively used bKash compared to the unexposed group.

Migration: The intervention led to a 7% decrease in the average household size of those exposed to the intervention and a 35% increase in the migration rate.

Labor:

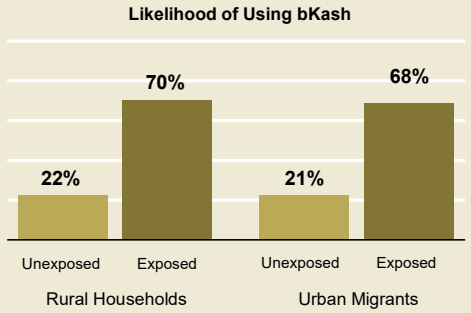
- Exposed households that actively used bKash are 17% less likely to engage in wage labor.
- For exposed households who actively used bKash and engaged in self-employment, the intervention led to a 42% increase in the number of self-employed people within the household. The intervention did not significantly induce households not engaged in self-employment to shift into self-employment.

Impact

Mobile Banking

Rural Households: Exposed rural households were 48 percentage points more likely to use bKash than the control group.

Urban Migrants: Urban migrants exposed to the intervention were 47 percentage points more likely to use bKash than the unexposed group.



Lee, Jean N., Jonathan Morduch, Saravana Ravindran, Abu S. Shonchoy, and Hassan Zaman. "Poverty and migration in the digital age: Experimental evidence on mobile banking in Bangladesh." Working Paper, 2020.
**American Economic Journal: Applied Economics, Conditional Acceptance*

MOBILE MONEY INCREASES FOOD SECURITY IN RURAL UGANDA

Authors: *Christine Wieser, Miriam Bruhn, Johannes Kinzinger, Christian Ruckteschler, and Soren Heitmann*
Journal: *World Bank Policy Research Working Paper, 2019*

Intervention: The intervention rolled-out mobile money agents to randomly selected areas in rural Northern Uganda.

Intervention Active: 2016 – 2017

Country: Uganda

Sample: 658 areas where 4,541 households were surveyed

Context: The regions studied are rural, poor areas that have very few existing mobile money agents, low access to financial services through bank branches, and low remittance receipts.

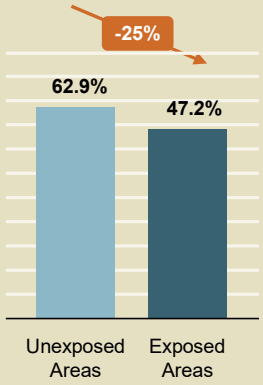
Contribution: Examines the impact of rolling out mobile money to rural areas with low remittance activity (15%) and that are very far from banks. Previous studies examined country-wide samples with remittance rates ranging from 40-65%.

Impact

Food Insecurity

Mobile money reduced the share of households with food insecurity.

This effect is likely due to increased remittance transfers or the income generated from non-farm self-employment.



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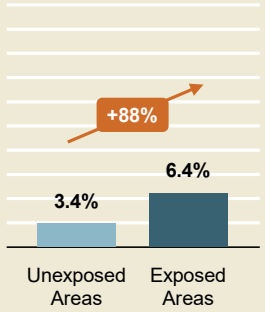
Labor Outcomes

Mobile money stimulated the non-farm self-employment rate.

This effect is likely due to households using their increased peer-to-peer transfer receipts and cost savings from remittance transfers to invest in self-employment.



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Impact by the No's

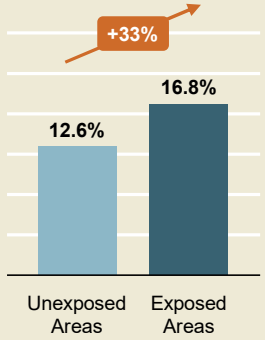
In total, 8,576 households live in the exposed communities. These impacts suggest that within these communities:

The rollout of 121 agents provided self-employment to 257 households and improved food security for 1,345 households[1].

Impact

Usage

Mobile money agents increased mobile money usage.



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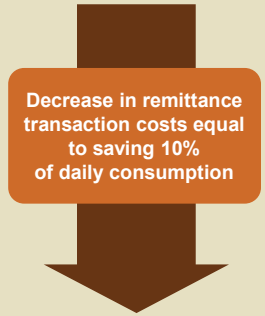
Remittances

Mobile money decreased the costs of remittance transactions.



1. These results extrapolate the impacts derived from the sample to all households living in the exposed areas. Wieser, Christina, Miriam Bruhn, Johannes Kinzinger, Christian Ruckteschler, and Soren Heitmann. "The impact of mobile money on poor rural households: Experimental evidence from Uganda." The World Bank, 2019.

MOBILE MONEY INCREASES REMITTANCES TO RURAL HOUSEHOLDS WITH MIGRANT WORKERS IN UGANDA

Authors: *Ggombe Kasim Munyegera and Tomoya Matsumoto*
Journal: *World Development, 2016*

Research Design: This paper studies the impact of mobile money on welfare in rural Uganda in the absence of shocks.

Survey Dates: 2009 - 2012

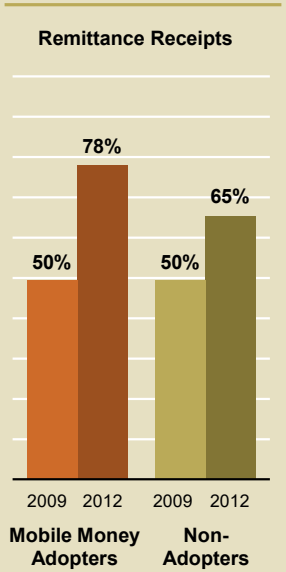
Country: Uganda

Sample: 846 Households

Contribution: One of the first papers to study the impact of mobile money on rural household welfare in the absence of shocks.

Descriptive

Mobile money adoption increased from 1% in 2009 to 38% in 2012.



Impact

Remittances

Mobile money adoption increases the probability of receiving remittances by 7 percentage points.

Mobile money adopters receive 36% more in remittances than non-adopters, or approximately US$61.

Impact

Remittances

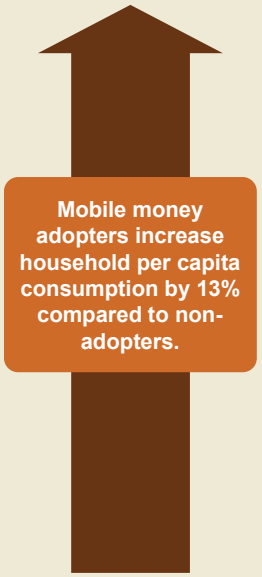
Comparing adopter households that have a migrant worker to adopter households that do not, the results show that households with a migrant worker:

- Increase their likelihood of receiving remittances by 11 percentage points
- Increase their total value of remittances by 42%.

Other evidence suggests that prior to the introduction of mobile money there was no significant relationship between having a migrant worker and remittances; thus, the results above provide evidence in support of the impact of mobile money.

Impact

Consumption



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Distance from Agent

Households located 1km away from a mobile money agent consume less and are 2 percentage points less likely to receive remittances.

Citation: Munyegera, Ggombe Kasim, and Tomoya Matsumoto. "Mobile money, remittances, and household welfare: panel evidence from rural Uganda." World Development 79 (2016): 127-137.

Mobile Money and Risk Sharing Against Village Shocks

MOBILE MONEY USERS SMOOTH CONSUMPTION IN THE PRESENCE OF VILLAGE-LEVEL SHOCKS

Authors: *Emma Riley*
Journal: *Journal of Development Economics, 2018*

Research Design: This study uses a household survey to examine the impact of mobile money on household consumption in the presence of a village-wide rainfall shock. In particular, the paper investigates the spillover effects of mobile money to non-mobile money users when they reside in the same village as mobile money users.

Panel Survey Dates: 2008 – 2013 (3 waves)

Country: Tanzania

Sample: 3,265 households in 26 districts

Contribution: Examines the spillover effects of mobile money; that is, whether mobile money users share their remittances in the presence of a village-level shock. Sheds light on how new technologies affect traditional risk sharing agreements.

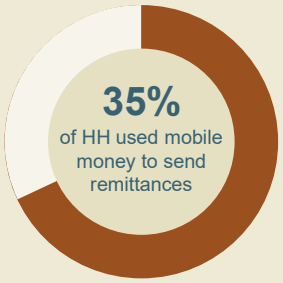
Descriptive

Remittance Transactions

- 67% of households have sent remittances
- 82% of households have received remittances

Means of Sending Remittances

- 40% of households sent remittances physically via friends and family



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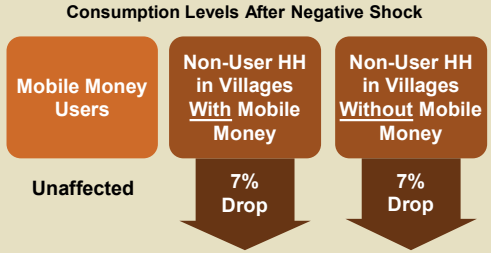
Shocks and Consumption

- The consumption level of mobile money users are unaffected by the shock.
- Households that live in villages without any mobile money users experience a 7% decrease in consumption in the presence of a shock.
- Non-users that live in villages with mobile money users do not significantly differ from non-users that live in villages without any mobile money users.

The results suggest that although mobile money users are able to smooth consumption in the presence of a shock, non-mobile money users do not benefit from living in the same village with others that use mobile money; that is, there are no spillover effects of mobile money detected.

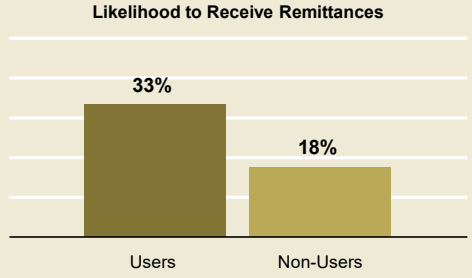


Impact

Remittances

- In general, mobile money users are 15 percentage points more likely to receive remittances compared to non-users.
- Following a shock, mobile money users receive US$10 more in remittances compared to non-users. This is approximately 4% of the median household's per capita income in 2013[1].

The results suggest that in the presence of a shock, mobile money users are not more likely to receive remittances, but the value of remittances received significantly increases.



1. Only data from 2013 are used for these results.Citation: Riley, Emma. "Mobile money and risk sharing against village shocks." Journal of Development Economics 135 (2018): 43-58.

Cashing In (and Out)

MOBILE MONEY LEADS TO A REALLOCATION OF LABOR FROM BUSINESS TO AGRICULTURE FOR MICRO-ENTREPRENEURS IN MALAWI

Authors: *Shilpa Aggarwal, Valentina Brailovskaya, and Jonathan Robinson*
Journal: *American Economic Association Papers and Proceedings, Forthcoming*

Research Design: The intervention assisted randomly selected micro-entrepreneurs in opening mobile money accounts. Training modules on mobile money features were provided, withdrawal fees were waived, and firms were encouraged to save using the accounts.

Dates: July 2017 – Aug. 2019

Country: Malawi

Sample: 480 Micro-entrepreneurs

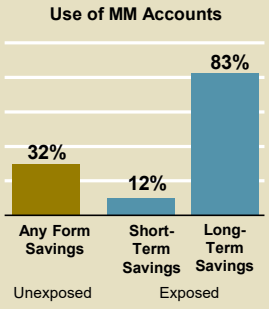
Context: The sample consisted of micro-entrepreneurs in urban Malawi that had less than 3 employees. Additionally, mobile money use in Malawi is modest.

Contribution: One of the first mobile money randomized experiments among micro-entrepreneurs. Additionally, one of the only studies to find impacts driven by savings rather than interpersonal transactions.

Impact

Savings

83% of exposed micro-entrepreneurs reported using mobile money accounts for long-term savings and 12% for short-term money storage, compared to 32% of unexposed micro-entrepreneurs for any form of savings.



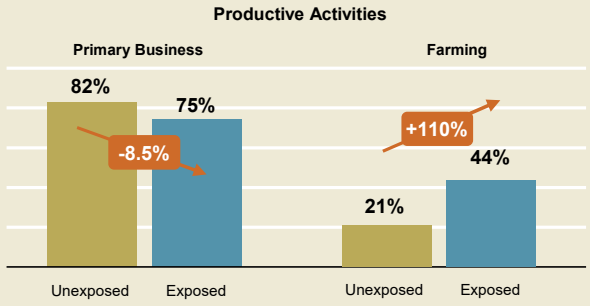
Impact

Labor Supply

Mobile money led micro-entrepreneurs exposed to the intervention to work less in their primary business and more on their farm.

The share of exposed micro-entrepreneurs working in their primary business decreased by 8.5% relative to the control group. Exposed: 75%. Unexposed: 82%.

The share of exposed micro-entrepreneurs working on their farm increased by 110% relative to the control group. Exposed: 44%. Unexposed: 21%.



Impact

Deposits

Micro-entrepreneurs exposed to the intervention were 55-80% more likely to make a deposit.

The value of deposits increased 67-83% for exposed micro-entrepreneurs relative to the control group.

Exposed micro-entrepreneurs made on average 11 deposits amounting to US$90, relative to their average daily profits of about US$2.50.

Impact

Interpersonal Transfers

The mobile money accounts led to a 25% increase in the share of exposed micro-entrepreneurs making transfers to people outside of the household.

- Exposed: 55%
- Unexposed: 44%

Exposed micro-entrepreneurs sent on average US$11 and received US$9.50, compared to average deposits of US$90.

Post-Intervention

There continued to be substantial usage in mobile money accounts even after the withdrawal fee waiver was removed.

Aggarwal, Shilpa, Valentina Brailovskaya, and Jonathan Robinson. "Cashing In (and Out): Experimental Evidence on the Effects of Mobile Money in Malawi." AEA Papers and Proceedings, Forthcoming.

Migration, Money Transfers, and Mobile Money

DEMAND FOR MOBILE MONEY IN NIGER

Authors: *Jenny C. Aker, Silvia Prina, and C. Jamilah Welch*
Journal: *American Economic Association Papers and Proceedings, Forthcoming*

Research Design: This study surveys households on migration, remittances, and willingness to pay for mobile money[1]. In addition, surveys are conducted on all money transfer service providers in Niger.

Dates: 2017

Country: Niger

Sample: 460 households and 45 money transfer service providers

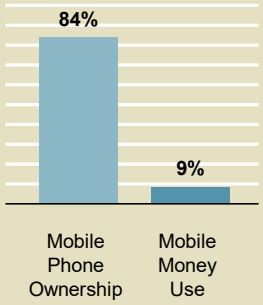
Context: Niger is one of the most financially excluded countries in sub-Saharan Africa.

Contribution: Explores mobile money adoption patterns in Niger and provides evidence on the willingness to pay for mobile money services.

Descriptive

Mobile Phone Ownership

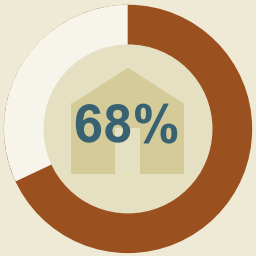
84% of households in the sample own mobile phones, and in general, 9% of households in Niger have used mobile money.



Descriptive

Remittances

68% of households received remittances.



Descriptive

Remittances

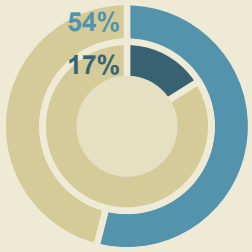
How do respondents receive remittances?

- Friend or Family Member: 74%
- Domestic Money Transfer Provider: 34%
- Bus: 8%
- Mobile Money: 3%

Descriptive

Migration Patterns

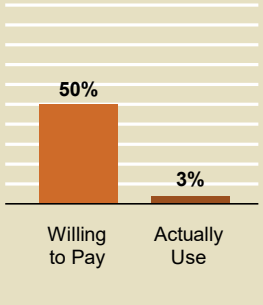
54% of households had at least one seasonal migrant and 17% had a permanent migrant.



Key Insight

Willingness to Pay Mobile Money Fees (via Behavioral Game Theory Experiment)

Approximately 50% of the sample is willing to pay the actual cost of sending the transfer, yet only 3% use this channel.



1. Willingness to pay was observed using a behavioral game. Aker, Jenny C., Silvia Prina, and C. Jamilah Welch. "Migration, Money Transfers and Mobile Money: Evidence from Niger." AEA Papers and Proceedings, Forthcoming.

DOES MOBILE MONEY USE INCREASE FIRMS' INVESTMENT?
EVIDENCE FROM ENTERPRISE SURVEYS IN KENYA, UGANDA, AND TANZANIA

Authors: *Asif Islam, Silvia Muzi, and Jorge Luis Rodriguez Meza*
Journal: *Small Business Economics, 2018*

Research Design: This study used the World Bank's Enterprise Surveys to examine the relationship between mobile money use and firm outcomes.

Year: 2012

Countries: Kenya, Uganda, and Tanzania

Sample: 1,228 firms

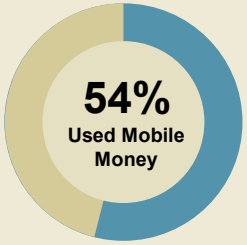
Context: The sample of firms are in the manufacturing and service sector and have 5 or more employees.

Contribution: Examines the relationship between mobile money use by firms and private investment, and does so by comparing across countries.

Descriptive

Adoption of Mobile Money

54% of firms in the sample used mobile money to conduct a financial transaction.



Adopter Characteristics

On average, firms that adopt mobile money are:

- Smaller
- Younger
- Concentrated in the service sectors
- Located in the main business or capital cities.

Descriptive

Reasons Firms Adopt Mobile Money

Kenya

Main Reason for Adopting	Main Reason for Not Adopting
Satisfy Customers Request	Payments Too Large

Tanzania

Main Reason for Adopting	Main Reason for Not Adopting
Reduce Transaction Costs	Customers Do Not Use

Uganda

Main Reason for Adopting	Main Reason for Not Adopting
Reduce Transaction Costs	Suppliers Do Not Use

Impact

Investment

Mobile money use by manufacturing and service firms is associated with a 16% increase in the likelihood of investing.

Impact

Ways Mobile Money is Used and Investment

Of the firms who adopt mobile money there is a:

- 27% increase in the likelihood of investing for firms that used mobile money to pay suppliers
- 21% increase in likelihood of investing for firms that receive mobile payments from customers
- 17% increase in the likelihood of investing for firms that make payments to employees using mobile money

Islam, Asif, Silvia Muzi, and Jorge Luis Rodriguez Meza. "Does mobile money use increase firms' investment? Evidence from Enterprise Surveys in Kenya, Uganda, and Tanzania." Small Business Economics 51, no. 3 (2018): 687-708.

CAN MOBILE-LINKED BANK ACCOUNTS BOLSTER SAVINGS?
EVIDENCE FROM A RANDOMIZED TRIAL IN SRI LANKA

Authors: *Suresh De Mel, Craig McIntosh, Ketki Sheth, and Christopher Woodruff*
Journal: *Working Paper, 2020*

Research Design: The randomized intervention introduced a novel savings account mobile-deposit service provided by a partnering bank. Randomly selected individuals were mailed offer letters to participate. Those who accepted were provided assistance opening a bank account, as well as given a mobile phone, SIM card, and demonstration of the service. Funds could be deposited without a transaction fee[1].

Intervention Active: December 2011 – May 2013

Country: Sri Lanka (Central)

Context: Formal savings are widely available in Sri Lanka; however, informal saving methods are commonly used.

Sample Size: 1,908 individuals

Contribution: One of the first experiments to use mobile phone-linked bank accounts to encourage savings, and in particular formal savings.

Impact

Partner Bank and Other Formal Bank Deposits

The intervention led to a 44% increase in the amount of total savings deposited to the partner bank. Mobile deposits accounted for less than half of this increase[2].

Both frequent and infrequent mobile-deposit users preferred the traditional method of deposits, implying that transaction costs are not a barrier to the use of savings accounts.

Impact

Total Savings

Total savings (formal and informal) were unaffected by the intervention suggesting that percentage gains in formal savings, as well as the partner bank, were not meaningful increases.

Transaction Fees

Additional randomization assigned individuals to one of four exposed groups that differed by transaction fee (0-8%).

The level of transaction fee (ranging from 0–8%) did not lead to differences in the demand for the mobile-deposit service.

Empirical Insight

What if the intervention targeted women or those who lived 2-5 km from a bank?

Women and Savings

The intervention could potentially increase total savings by 23% for women relative to the unexposed group.

Distance and Savings

Households who live 2–5 km away from a bank branch saw a 79% increase in the amount deposited to the partner bank and a 26% increase in formal deposits relative to the unexposed group.

1. Additional randomization varied based on the level of transaction fee, but most impact results compare participants without a transaction fee to the non-exposed group. 2. The intervention only provided the mobile-deposit service for the partner bank.

De Mel, Suresh, Craig McIntosh, Ketki Sheth, and Christopher Woodruff. "Can Mobile-Linked Bank Accounts Bolster Savings? Evidence from a Randomized Controlled Trial in Sri Lanka." Working Paper, 2020.

Transaction Networks

MOBILE MONEY LEADS TO MORE RECIPROCAL TRANSACTIONS IN KENYA

Authors: *William Jack, Adam Ray, and Tavneet Suri*
Journal: *American Economic Review: Papers and Proceedings, 2013*

Research Design: This study surveyed households across Kenya on detailed remittance information, such as means of and reason for the transfer. In addition, the entire network of M-PESA agents were surveyed.

Survey Dates:

Households: Sept. 2008 – Dec. 2009

Agents: March 2010

Country: Kenya

Sample: 2,017 households and 7,700 agents

Context: 70% of Kenya's adult population had adopted M-PESA

Contribution: This paper extends the evidence on M-PESA mobile money transactions and risk sharing by investigating the characteristics of interpersonal transactions and examining the types of transactions that are conducted.

Descriptive

All M-PESA Transactions

- Reciprocal Transactions: 21%
- Non-reciprocal Transactions: 79%

22% of all M-PESA User Transactions are Reciprocal.

This 22% is composed of:

- Regular Support: 42%
- Credit Arrangements: 14%
- Emergency Help: 11%
- No Particular Reason: 19%
- Other: 14%

11% of Non-M-PESA User Transactions are Reciprocal.

This 11% is composed of:

- Regular Support: 53%
- Emergency Help: 13%
- Credit: 4%
- No Particular Reason: 22%
- Other: 8%

Impact

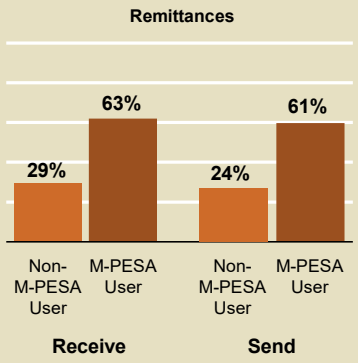
Remittances

Receive

61% of M-PESA users receive remittances compared to 24% of non-users

Send

63% of M-PESA users send remittances compared to 29% of non-users



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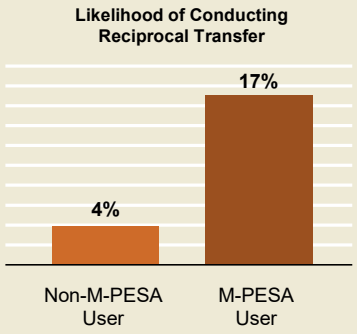
Reciprocity

The likelihood of M-PESA users to conduct a reciprocal transfer is 17%, compared to 4% of non-users.



Impact

Types of Transactions

Households that use M-PESA are more likely to send remittances for regular support, credit arrangements, and emergency help.

Composition of Transactions

- 50% of an M-PESA user's transactions are sent as regular support, vs. 61% of a non-user's.
- 11% of an M-PESA user's transactions are credit arrangements, compared to 6% of a non-user's.
- An M-PESA user's transactions that are sent as emergency help do not significantly differ from a non-user's. 11% of a nonuser's transactions are sent as emergency help.

This suggests that M-PESA users are shifting away from regular support transfers and toward credit transfers, and possibly emergency support transfers.

Jack, William, Adam Ray, and Tavneet Suri. "Transaction networks: Evidence from mobile money in Kenya." American Economic Review 103, no. 3 (2013): 356-61.

PAYMENT MECHANISMS AND ANTI-POVERTY PROGRAMS:
EVIDENCE FROM A MOBILE MONEY CASH TRANSFER EXPERIMENT IN NIGER

Authors: *Jenny C. Aker, Rachid Bounmijel, Amanda McClelland and Niall Tierney*
Journal: *Economic Development and Cultural Change, 2016*

Research Design: The intervention varied the delivery mechanism of an unconditional cash transfer program in Niger following the 2009/2010 drought and food crisis. The delivery mechanisms varied as follows: cash delivered in an envelope, received a mobile phone along with having the cash delivered in an envelope, and cash delivered via mobile money transfer. All participants in the intervention received a cash transfer, so there was no pure unexposed group.

Intervention Active:
May 2010 – May 2011

Country: Niger

Sample: 1,152 Households in 96 villages

Context: Within Niger, there is high rainfall variability, which has led to at least 7 droughts between 1980 and 2010. During the 2010 drought, 2.7 million people were classified as vulnerable to extreme food insecurity. Agriculture is the primary income source for 97% of households.

Contribution: Disentangles the impact of technology from the transfer mechanism.

Impact

Uses of the Transfer

Households that received the cash transfer via mobile money purchased a more diverse set of goods compared to the other exposed groups[1]:

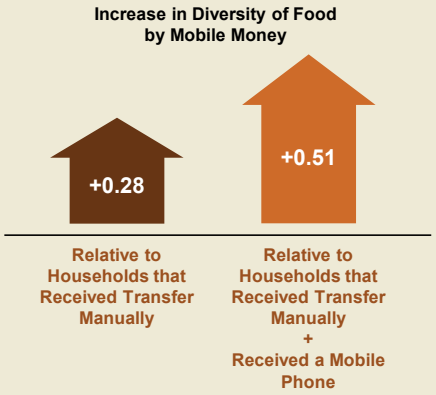
- Compared to households that received the cash manually, mobile money transfer recipients purchased .78 more types of goods.
- Compared to households that received a mobile phone, along with the cash in hand, mobile money transfer recipients purchased .85 more types of goods.
- Households that received cash manually purchased 4.32 types of goods on average.

Impact

Food Security

Households that received the cash transfer via mobile money had a more diverse diet than both groups that received the cash transfer manually.

This score was .28-.51 points higher. Households that received cash manually had a diet diversity score of 3.17 out of 12.



Impact

Children and Nutritional Status

Although children in the mobile money transfer group ate slightly larger and more diverse meals, their nutritional status was unchanged.

- Children in households that received the cash transfer via mobile money ate an additional 1/3 of a meal compared to both groups that received the cash transfer manually. Children in the group that received cash manually ate 3.17 meals per day on average.
- Children in mobile money transfer households also ate more diverse meals relative to the group that received a mobile phone along with the manual cash transfer. Their diet diversity score was 12-14% higher.

1. Households were surveyed on which goods and services they purchased, but not on a full expenditure and income module. Aker, Jenny C., Rachid Boumnijel, Amanda McClelland, and Niall Tierney. "Payment mechanisms and antipoverty programs: Evidence from a mobile money cash transfer experiment in Niger." Economic Development and Cultural Change 65, no. 1 (2016): 1-37.