

A photograph of three people in a warm, indoor setting. In the center, a young woman with short, dark, curly hair is smiling and looking down at a smartphone she is holding. To her right, an older woman with a gentle smile is looking at the phone. To the left, a young girl is also looking at the phone. The woman in the center is wearing a dark green t-shirt with a graphic of a purple flower. The older woman is wearing a colorful, patterned top. The young girl is wearing a blue and white patterned top. The background is a simple, light-colored wall.

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THE IMPACTS OF DIGITAL FINANCIAL SERVICES ON WOMEN'S ECONOMIC EMPOWERMENT

Financial Services for the Poor

August 2021

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INTRODUCTION



KEY DEFINITIONS AND CONTEXT

Definition

Digital Financial Services (DFS)

Digital financial services are financial services (e.g., payments, remittances, savings, credits, etc.) accessed and delivered through digital channels, including mobile devices and debit cards.

DFS accounts may be established with banks and nonbank financial institutions, such as mobile network operators, microfinance institutions, and fintech firms.

DFS transactions are distinct from cash transactions in that they require formal accounts associated with individuals whose unique identity has been authenticated. Thus, DFS transactions leave a data trail.

Definition

Women's Economic Empowerment (WEE)¹

A woman is economically empowered when she has

- *access to skills, resources, and institutions* necessary to effectively participate in markets;
- *power and agency* to act on personal preferences in making economic decisions, including the control of personal and household resources.



Context

Measuring WEE Remains an Active Area of Research

WEE is a complex concept that is defined differently across contexts and often includes many sub-concepts. Measuring each of the sub-concepts and then aggregating them into a summary WEE indicator remains a fertile topic of research for two reasons:

- The objects of interest (agency, control, access to institutions, etc.) are often difficult to observe
- Inconsistencies in associations among proposed indicators across studies confuses which indicators should and should not be trusted

This presentation does not address ongoing debate regarding how best to capture the concept of WEE. Instead, the presentation focuses on the potential for DFS to affect WEE through more easily measured and observable mechanisms and indicators, such as labor force participation, safety, access to resources, time use, etc.

1. Based on the definition from ICRW.org: www.icrw.org/wp-content/uploads/2016/10/Understanding-measuring-womens-economic-empowerment.pdf

DFS FOR WEE: KEY TAKEAWAYS

The presentation highlights important DFS features that improve WEE through mechanisms that enable women to enact their preferences, lower transaction costs, and improve safety.¹

Evidence of Impact: Strong evidence from a variety of countries across diverse interventions suggests that access to DFS promotes WEE both by increasing women's bargaining power within households and more generally enabling women to realize their own preferences in terms of money management, work, purchasing choices, etc.

Mechanisms of Impact: Unpacking these two broad channels, economic theory suggests a variety of more specific mechanisms through which DFS may impact WEE about which we have varying levels of evidence. There is strong evidence that DFS expands the breadth of women's support networks and expedites the speed of transfers received during periods of acute need, that DFS empower already working women to shift to more productive occupations, and enable non-working women to enter the labor force.

Research Gaps: Further evidence on additional mechanisms of impact likely enabled by DFS - the role of reduced transaction costs, behavioral nudges, changes in control of private information, reduced time costs, improved physical mobility, reduced discrimination, and improved safety— would continue to illuminate how precisely DFS impacts WEE with lessons for designing WEE interventions more generally.



Image © Gates Archive / Saumya Khandelwal Source: BRAC Institute of Governance & Development. "Evidence of Digital Financial Services Impacting Women's Economic Empowerment" (2020)

HIGHLIGHTING STRONG EVIDENCE

Strong evidence suggests that DFS access promotes women's consumption, enables women to shift to higher productivity occupations, and enables women to join the labor force

DFS increases consumption, occupational mobility and decreases extreme poverty

Kenya

Source: Suri and Jack "The long-run poverty and gender impacts of mobile money" (2016)

A study in Kenya shows that over the course of 8 years, an increase in mobile money, measured by increases in agent density, led 185,000 female-headed households to switch into business or retail as their main occupation. These households increased their consumption by 18.5%, and the share of female-headed households living in extreme poverty to decrease by 21%.

Welfare Changes to Female-Headed Households Due to Increases in Agent Density



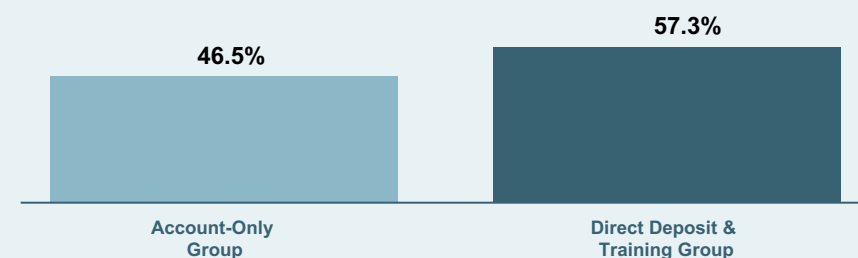
DFS improves women's labor force participation

India

Source: Field et al. "On Her Own Account: How Strengthening Women's Financial Control Affects Labor Supply and Gender Norms" (2019)

A study of women's participation in the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) work program in India shows that women who received a bank account, direct deposit earnings into that account, and training on the account are more likely to engage in the labor market than those without direct deposit. Direct deposits and training enabled women whose husbands subscribed to gender norms (constrained women) to improve their labor force participation compared to similarly constraining women without direct deposit access.

Constrained Women Engaged in the Labor Market (Long Term)



GENDER GAPS IN ACCESS TO DFS ARE ASSOCIATED WITH LOWER GDP

Gender gaps across key DFS enablers are strongly associated with lower per capita national income.



Source 1, 3, 4: Findex (2017), 2: Gallup World Poll (2019)

INTERVENTIONS TO ADVANCE WEE ARE DIVERSE AND OFTEN SILOED:

UNDERSTANDING THE INTERVENTIONS ACROSS VARIED SECTORS MAY BE CHALLENGING

Strategies to advance WEE include education and health as well as economic and institutional interventions.

Education & Health

Girls' Education

Family Planning

Access to Trained Birth Attendees

Nutrition

Psychosocial Support & Well-Being

Vaccinations

Menstrual Health Technologies

Economic

Entrepreneurial Training

Subsidized Microcredit / Savings

Cash Transfers / Public Workfare

Digital Financial Services

Access to Agricultural Inputs

Poverty "Graduation" Programs

Water Purification Technologies / Cookstoves / Home Lighting

Institutional

Quotas for Hiring

Gender Quotas for Political Office

Safe Spaces for Women/Girls

Access to Personal Identification

Women's Collectives / Self-Help Groups

Equal Property Ownership / Inheritance Rights

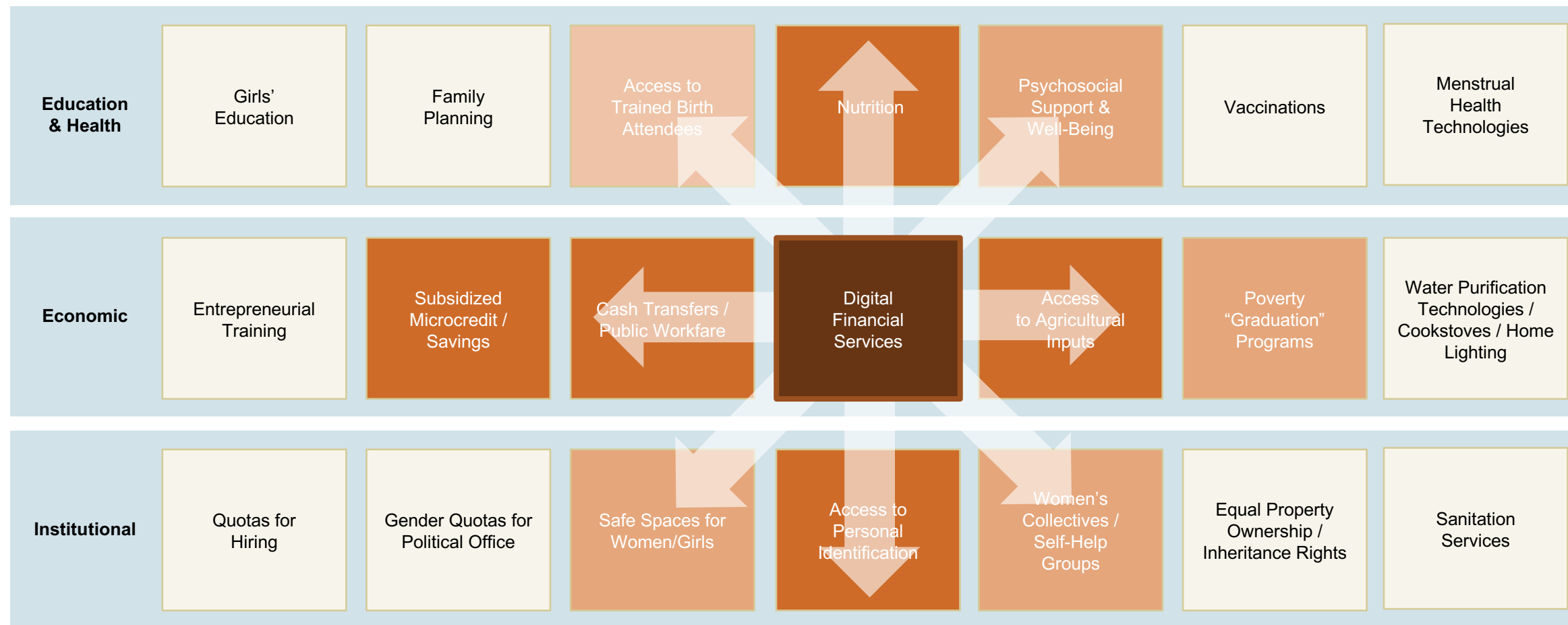
Sanitation Services

DFS COULD MAGNIFY THE IMPACT OF INTERVENTIONS AIMED AT IMPROVING WEE:

DFS SERVING AS A POINT OF CONNECTION ACROSS DISPARATE INTERVENTIONS AND SECTORS

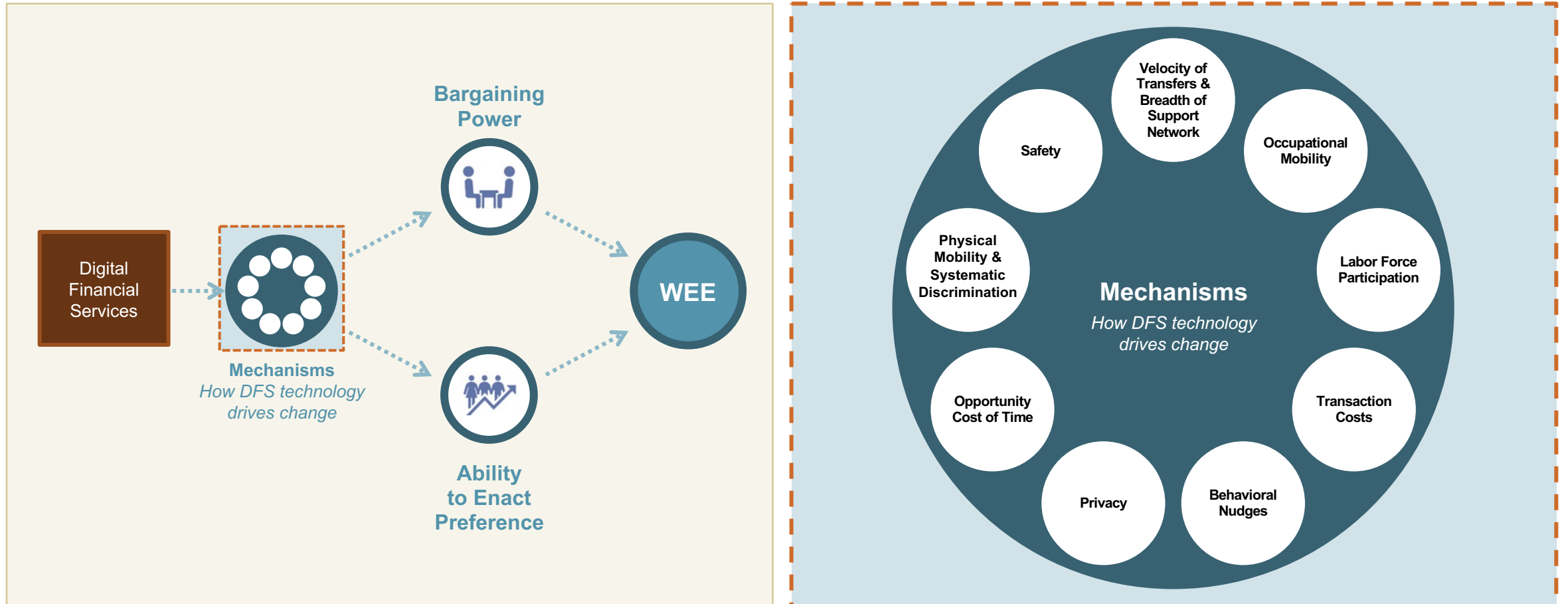
Evidence suggests DFS catalyzes WEE broadly, enabling access to fundamental resources and improved agency.

Relevance: Highest  Lowest



DFS IMPROVES WOMEN'S BARGAINING POWER AND ABILITY TO ACT ON THEIR OWN PREFERENCES

The impact of DFS on WEE is facilitated through multiple mechanisms.



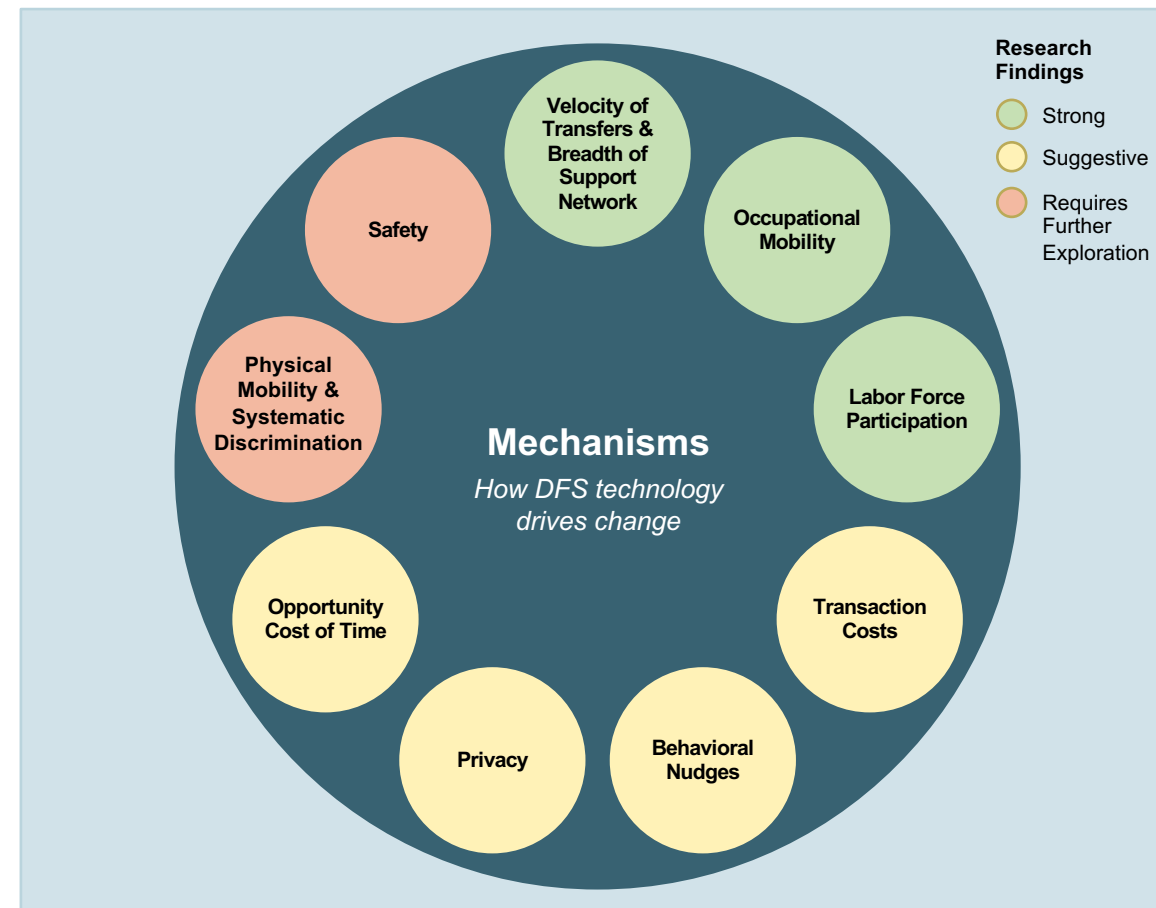
Source: BRAC Institute of Governance & Development. "Evidence of Digital Financial Services Impacting Women's Economic Empowerment" (2020)

DFS AFFECTS WEE THROUGH MULTIPLE MECHANISMS

There is strong empirical evidence for the impact of DFS on certain mechanisms; however, gaps remain in the research on others.

Definitions

- **Velocity of Transfers & Breadth of Support Network**—faster money transfers and the expansion of social support networks enabled by DFS
- **Occupational Mobility**—engaging in different economic activities
- **Labor Force Participation**—shifts in labor activities resulting from women's reduced need for multiple part-time occupations, efficiency gains in their labor allocation facilitated by mobile payment, and reduced time pressure on childcare
- **Transaction Costs**—fees associated with executing financial transactions
- **Behavioral Nudges**—behavioral changes in financial management related to technological features of DFS
- **Privacy**—information asymmetries regarding women's financial information may offer women greater control over their resources by increasing
- **Opportunity Cost of Time**—time accessing financial services
- **Physical Mobility & Systematic Discrimination**—accessing services and performing financial transactions
- **Safety**—physical insecurity related to carrying cash and transacting in cash



MECHANISMS: How DFS Technology Drives Change





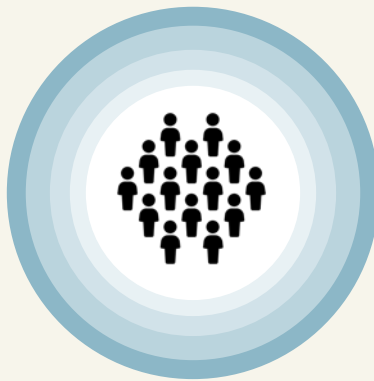
Research Findings:
Strong

MECHANISM 1: VELOCITY OF TRANSFERS AND BREADTH OF SUPPORT NETWORK

DFS enables fast delivery of transfers and improves women's ability to share risks, which can also improve ability to respond to shocks.

M-Pesa users reach out to a larger number of people in their social network to send and receive remittances in the presence of a negative shock.¹

This study explores the impact of the mobile money platform M-Pesa on risk sharing in Kenya. It uses a difference-in-differences specification to compare economic outcomes of M-Pesa users and individuals who do not use M-Pesa. Consumption for nonusers decreases after a negative shock, while consumption for users remains constituent with pre-shock levels. M-Pesa users receive more remittances and from more diverse senders than nonusers. Results are not disaggregated by gender; however, the speed of the transfer and broad risk sharing are identified as mechanisms through which M-Pesa affects consumption for all users regardless of gender.



DFS increases ability of vulnerable women to cope with shocks without adversely affecting other individuals in their risk-sharing networks.²

This study examines if using M-Pesa to save decreases the ability to respond to shocks due to substitution away from informal risk sharing in Kenya. The study population includes vulnerable women such as sex workers, widows, divorcees, and the never-married who own an M-Pesa account. Those subject to the intervention opened a new M-Pesa account that was specifically labeled for savings but did not have restrictions on use.

The experiment randomly assigns some women to receive an M-Pesa promotion for a free savings account.

While the study finds that the mobile savings account decreased informal risk sharing, it did improve the women's ability to respond to negative shocks. It did not negatively affect women who were not exposed to the intervention.

Many women in the sample had savings at baseline, so further research should be done to study the effects of DFS on more complete risk-sharing networks.

1. Suri and Jack. "Risk Sharing and Transaction Costs: Evidence from Kenya's Mobile Money Revolution" (2014)

2. Dizon et al. "The Effect of Promoting Savings on Informal Risk Sharing: Experimental Evidence from Vulnerable Women in Kenya" (2020)



MECHANISM 2: OCCUPATIONAL MOBILITY

DFS can lead to occupational shifts for women into more secure or productive types of employment. Across eight developing countries, evidence suggests women shift from irregular wage employment to self-employment, and in Kenya, women shifted from farming into business.

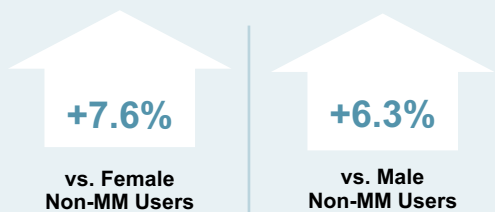
Women in eight Asian and African countries make occupational shift to self-employment.¹

The study uses Financial Inclusion Insights surveys to study the effect of mobile money on employment outcomes in Kenya, Nigeria, Tanzania, Uganda, Bangladesh, India, Pakistan, and Indonesia.

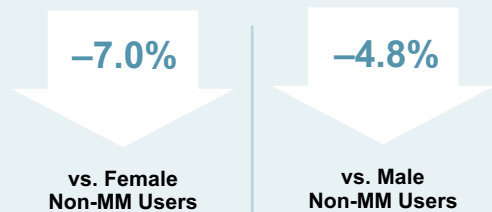
Female mobile money users are 7.6% more likely to be self-employed than female nonmobile money users and 6.3% more likely than male nonmobile money users.

Female mobile money users are 7% less likely to experience irregular wages than female nonmobile money users and 4.8% less likely than male nonmobile money users.

Likelihood of Being Self-Employed (Female MM Users)



Likelihood of Irregular Wages (Female MM Users)



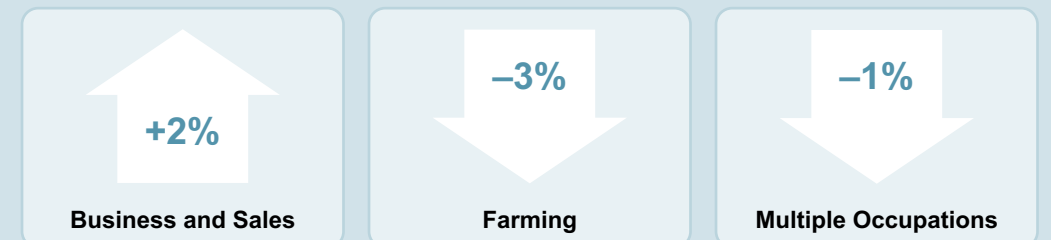
Female-headed households make occupational shift from farming to business.²

The study examines mobile money agent density in Kenya. The study finds that the change in agent density increased the share of female-headed households in business by 2% and decreased the share participating in farming and holding multiple occupations by 3% and 1%, respectively.

Possible channels that mediated the economic shift include:

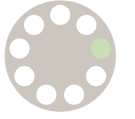
- Women's reduced need for multiple part-time occupations
- Efficiency gains in their labor allocation facilitated by mobile payment
- Reduced time pressure on childcare
- Reduced fertility

Occupational Choice: The Effect of Mobile Money on Female-Headed Household



1. De Gasperin et al. "Mobile Money and the Labor Market: Evidence from Developing Countries" (2019)

2. Suri and Jack. "The Long-Run Poverty and Gender Impacts of Mobile Money" (2016)



Research Findings:
Strong

MECHANISM 3: LABOR FORCE PARTICIPATION

DFS accounts affect women's attachment to the labor market. In India, direct deposits into women's accounts increase women's labor, and in Bangladesh, migrant women's hours increase following a mobile transfer intervention.

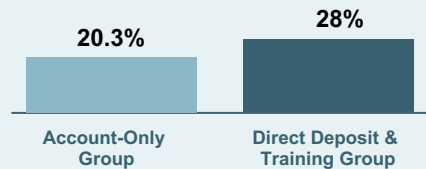
Direct deposit and training attract women to the labor market and catalyze economic agency.¹

The study uses an existing rural work program in India (MGNREGA) to experimentally vary whether a woman's wages are deposited directly into her individual account or continued to be deposited into the male household head's account (status quo).

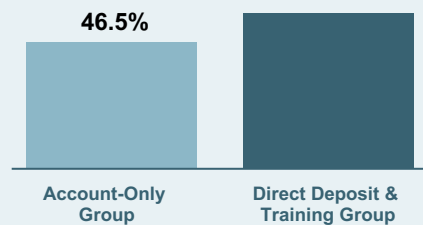
In the short run, the intervention significantly affected all women, but furthermore, three years after the intervention, the impact persisted for "constrained" women who, on average, worked less and whose husbands were more likely to subscribe to gender norms.

Finally, after three years, an average of INR 3,000 in wage payments had been deposited into women's individual accounts in the direct deposit and training group.

Women Engaged in the Labor Market (Short Term)



Constrained Women Engaged in the Labor Market (Long Term)



Mobile money increases work hours for female migrant labor.²

The study examines if mobile technology can reduce inequality in Bangladesh. The study employs a randomized controlled trial. The treatment group includes poor, rural households and family members who have migrated to cities, who are trained to use mobile money, and who receive support to set up a bKash account, a mobile banking platform.

Although the research design did not randomize based on gender, exploratory results indicate that women who actively use mobile money increase their work hours. Female migrants and garment workers increased their work hours compared to other women.

Increase in Female Work Hours per Day (Relative to female control group mean of 8.6 hours per day)

+12%
(1 hr.)

Female Migrant Workers

+14%
(1.25 hr.)

Female Garment Workers

1. Field et al. "On Her Own Account: How Strengthening Women's Financial Control Affects Labor Supply and Gender Norms" (2019)

2. Lee et al. "Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh" (2021)



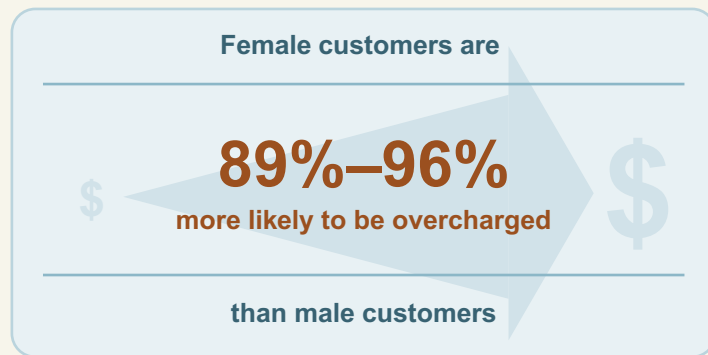
Research Findings:
Suggestive

MECHANISM 4: TRANSACTION COSTS (1 OF 2)

DFS drives down transaction fees and increases use of formal accounts, which is especially important for women who are disproportionately overcharged. However, fees may also enable women to shield their accounts from others. Together, this evidence suggests the need to design DFS with women in mind.

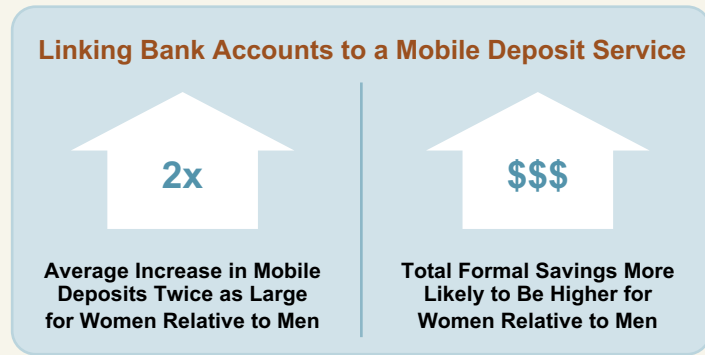
Female customers are more likely to be overcharged than male customers during OTC mobile money transactions.¹

The study explores gender differences in mobile money vendor misconduct (e.g., where the vendor overcharges for transactions) and measures customer discrimination due to this misconduct in Ghana. The study randomly assigns experimental customers to vendors to carry out a range of mobile money transactions. Gender discrimination by vendors leads to higher transaction fees for women, which suggests that transaction fee reduction could be especially important for women.



Reduction in savings account deposit costs increases women's formal savings.²

The study examines the impact of linking bank accounts to a mobile deposit service in Sri Lanka. The study randomizes access to the mobile deposit service, as well as whether participants were subject to a deposit fee. The intervention randomization did not target women; however, De Mel et al. estimate that the average increase in mobile deposits was twice as large for women relative to men. Additionally, women were more likely to have higher total formal savings.



Reduction in ATM withdrawal costs reduces women's control over savings.³

The study examines the effect of offering a free ATM card to couples who opened bank accounts in Kenya. Each couple had the option of a joint account, a husband account, or a wife account, and each opened account was randomly allocated a free ATM card.

Although ATM cards boosted formal account use for joint and men's accounts, they did not affect bank account use for women. The evidence suggests that the differential effect is driven by differences in bargaining power between men and women. The higher transaction fees provided a mechanism through which women could shield their accounts from other household members, so removing this friction could leave women's accounts vulnerable. Thus, women's account use decreased.

These results are consistent with evidence from the non-digital savings literature. Ashraf et al. (2010) found that a savings product that restricts withdrawals to the account holder, after a pre-specified savings goal is met, positively affects women's decision-making power within the household. Therefore, there is a need for DFS to be designed in consideration of gender dynamics.

1. Annan. "Gender and Financial Misconduct on Fintech: Experimental Evidence from Mobile Money in Ghana" (2019). 2. De Mel et al. "Can Mobile-Linked Bank Accounts Bolster Savings? Evidence from a Randomized Controlled Trial in Sri Lanka" (2020).

3. Schaner. "The Cost of Convenience? Transaction Costs, Bargaining Power, and Savings Account Use in Kenya" (2016).



MECHANISM 4: TRANSACTION COSTS (2 OF 2)

DFS drives down transaction fees and increases use of formal accounts, which is especially important for women who are disproportionately overcharged. However, fees may also enable women to shield their accounts from others. Together, this evidence suggests the need to design DFS with women in mind.

Cost Comparison of Alternative Methods of Sending Money in Bangladesh			
Method	Direct and Indirect Financial Costs (Taka/USD)	Time for Transfer	Other Costs & Considerations
Family Members	990 / \$11.75	2 days	Requires family member capable of traveling to Dhaka, potential theft in transit.
Self-Travel	780 / \$9.23	1 day	Loss of income while traveling, potential loss of employment.
Post Office	340 / \$4.02	3–7 days	Low penetration of post offices in rural areas, fixed office hours excluding weekends.
Bank Account	233 / \$2.76	1 day	Low penetration of banks in rural areas, extensive documentation required to open bank accounts, fixed office hours exclude weekends.
Bus Driver	200 / \$2.37	1 day	Few bus stops outside district cities, potential theft, requires familiarity with bus drive.
Friends/ Colleagues	200 / \$2.37	1 day	Popular but may need to wait to find friend/colleague traveling to required destination, potential theft in transit.
Agent-Assisted Mobile Banking	80 / \$0.95	Instant	Neither sender nor receiver needs a phone or mobile banking account. Requires receiver to also be in physical presence of an agent at time of transfer. Direct agent-to-agent transfer not legal.
Mobile Banking (Personal Account)	79 / \$0.93	Instant	Need account and PIN. Can take advantage of other features like mobile wallet to hold savings. Transfers do not require coordination.

Notes: Financial cost includes the total cost to both the sender and receiver, including transport costs and the opportunity cost of time, required to send 4,000 taka from Dhaka to northwest Bangladesh. Rural time valued at 70 taka per day. Urban time valued at 190 taka per day. Evidence from eight focus groups held in Gaibandha, Rangpur, in July 2018. Taka/USD conversion: April 1, 2021. Source: Lee et al. "Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh" (2021)



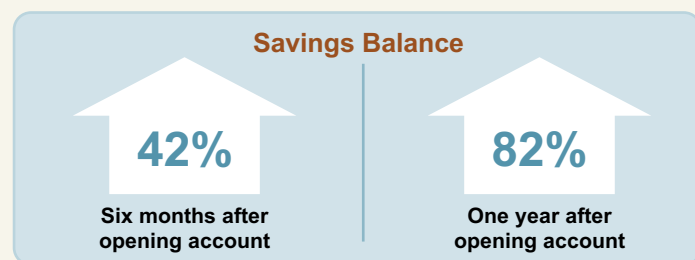
MECHANISM 5: BEHAVIORAL NUDGES

Digitization enables embedding behavioral nudges into financial services. Digital commitment savings devices, such as mobile banking accounts with formal banks and labeled mobile money accounts, can positively influence women to accumulate savings and increase their ability to cope with shocks.

Commitment savings accounts improve savings and household decision-making power for women.¹

Based on evidence from literature on non-digital financial services, it appears that certain features of financial services can improve women's financial outcomes by changing their behavior. For example, commitment savings accounts may boost savings, bargaining power, and resource allocation in favor of women because they shield women's finances from other household members. Account labeling can also boost savings because it enables women to prepare for and respond to shocks.

This study examines the impact of a non-digital commitment savings account on women's savings and decision-making in the Philippines. The savings accounts called SEED accounts require users to set a goal, and users are unable to withdraw from the account until that goal is met. Commitment savings accounts increased savings balance by 42% after six months and by 82% after one year. Commitment savings accounts led to 0.14–0.25 standard deviation increase in decision-making, calculated as the average of responses across nine decision categories (expensive purchases, assistance given to family members, recreational use, etc.).

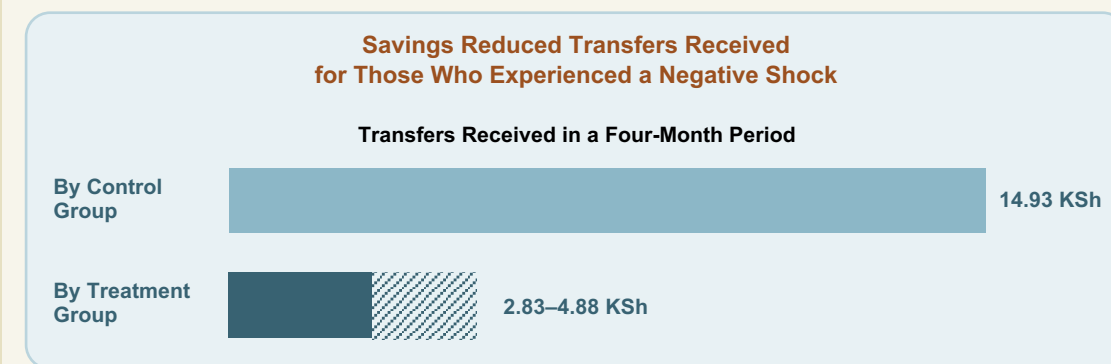


Vulnerable women increase ability to cope with shocks using savings.²

The study explores the relationship between savings and risk-sharing networks within vulnerable female populations. The randomized controlled trial assigns participants a new M-Pesa account that was specifically labeled for savings but did not have restrictions on use.

Savings reduced transfers received among those who experienced a negative shock by between 67% and 81% relative to the control group, thereby improving their ability to cope with shocks on their own.

The use of participants' own savings to cope with shocks did not come at the expense of risk-sharing partners.



1. Ashraf et al. "Female Empowerment: Impact of a Commitment Savings Product in the Philippines" (2010)

2. Dizon et al. "The Effect of Promoting Savings on Informal Risk Sharing: Experimental Evidence from Vulnerable Women in Kenya" (2020)



Research Findings:
Suggestive

MECHANISM 6: PRIVACY

Direct deposits into DFS accounts can provide women greater financial privacy; however, early evidence is mixed. Due to increased privacy, microfinance borrowers experience positive business outcomes, whereas conditional cash transfer recipients do not experience increased bargaining power.

The privacy afforded by mobile disbursement of unconditional cash transfers may increase intra-household decision-making.¹

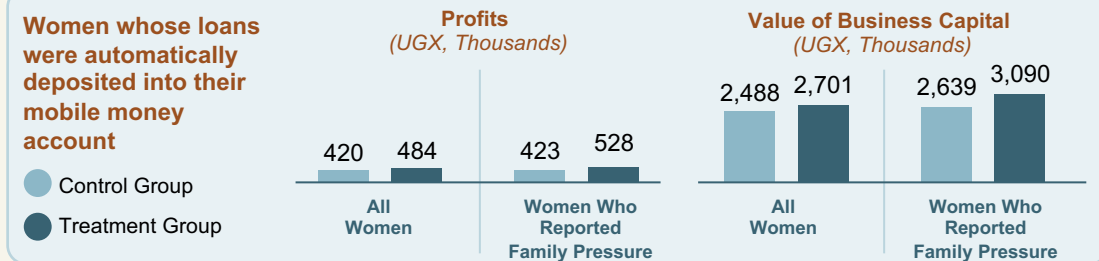
The study examines the effect of disbursing an unconditional cash transfer using mobile money in Niger. Outcomes studied included use of transfer, intra-household decision-making, and time saving. Women were targeted as the primary beneficiaries and received the transfer in one of the following ways: cash delivered in an envelope, cash delivered in an envelope along with receiving a mobile phone, and cash delivered via mobile money transfer.

Findings suggest that the mobile disbursement of the cash transfer affected intra-household decision-making. Although quantitative evidence does not indicate that women were able to hide their transfer amount from their husbands, focus group interviews revealed that transfer recipients were able to wait to discuss how the transfer would be used until reaching the privacy of their home, whereas cash recipients immediately handed over the transfer to the accompanying household member at the transfer distribution point.

Women increase business profits and capital with the introduction of mobile loan disbursements.²

The study measures the impact of depositing microfinance loans directly into a designated business mobile money account on women's savings and business outcomes in Uganda. It employs a randomized controlled trial. The intervention includes two treatment arms: (1) women microentrepreneurs who have their loans distributed in cash and have a business mobile money account opened for them; (2) women entrepreneurs who have their loans direct deposited into a business mobile money account. The control group includes women entrepreneurs who have their loans distributed in cash only.

Eight months following the intervention, women whose loans were automatically deposited into their mobile money accounts saw a 15% increase in business profits and an 11% increase in the value of business capital relative to women who received their loans in cash. These impacts were even larger for women who reported experiencing family pressure to share money. After ruling out alternative hypotheses, the author's evidence suggests that the mobile money account was used as a way to safely and privately store money.



1. Aker et al. "Payment Mechanisms and Antipoverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger" (2016)

2. Riley. "Hiding Loans in the Household Using Mobile Money: Experimental Evidence on Microenterprise Investment in Uganda" (2019)



Research Findings:
Requires Further
Exploration

MECHANISM 7: OPPORTUNITY COST OF TIME

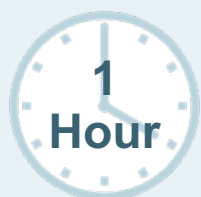
Mobile money has been shown to save users time in conducting financial transactions. Early evidence points to the possibility of this time saving being economically valuable to women.

Women use time savings to plant cash crops in Niger.¹

Mobile money transfer recipients were found to have traveled on average 2 km to cash out their transfer, compared to 4 km for nonmobile cash transfer recipients. This difference resulted in an average time savings of 2.5 days over a five-month period.

The authors argue that while this magnitude is small, the time savings occurred during the planting season, a time when opportunity costs are relatively higher. They find suggestive evidence that mobile transfer recipients may have used these time savings to plant cash crops that are primarily grown by women.

Time Savings for Mobile Transfer Recipients



Travel Time Saved per Cash Transfer



Waiting Time Saved per Cash Transfer

Probability of Growing Cash Crops (Ground Nuts or Okra)

35%

Cash Transfer Recipients

48%

Mobile Transfer Recipients

Microfinance group members save time with mobile banking access in the Philippines.²

This study estimated that by replacing the need to make deposits at microfinance group meetings, mobile banking decreased the time spent making a deposit by 30%, saving group members 4 minutes per transaction.

The largest gains for group members can be seen in withdrawing funds using mobile banking.

Since members no longer have to travel to the bank to make a withdrawal, they decreased time spent by 70%, saving about 42 minutes per withdrawal.

Deposits via Mobile Banking (vs. Microfinance Group Meetings)

30%

Decrease in Time Spent



Time Saved per Transaction

Withdrawals via Mobile Banking (vs. Travel to Bank)

70%

Decrease in Time Spent



Time Saved per Transaction

1. Aker et al. "Payment Mechanisms and Antipoverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger" (2016)

2. Harigaya. "Effects of Digitization on Financial Behaviors: Experimental Evidence from the Philippines" (2020)



Research Findings:
Requires Further
Exploration

MECHANISM 8: PHYSICAL MOBILITY & SYSTEMATIC DISCRIMINATION

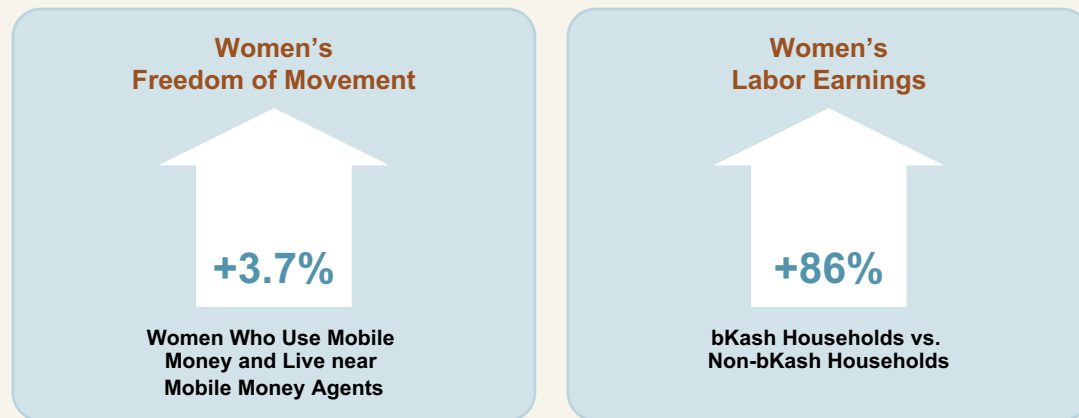
DFS can affect WEE via physical mobility in two possibly opposing ways: reducing the need to travel due to remote transactions and increasing the ability to travel by possibly normalizing women's engagement with financial agents and institutions.

Mobile money grants women more freedom to move.¹

The study examines how mobile money in Bangladesh affects household welfare, risk sharing, and other social impacts including women's empowerment.

Using a quasi-experimental approach, the study finds that women who use mobile money and live near mobile money agents have 3.7% more freedom of movement. This freedom includes visiting the homes of parents, relatives, and other friends, running errands, and going outside the village.

Additionally, labor earnings of women from bKash households are 86% higher than earnings from non-bKash households.

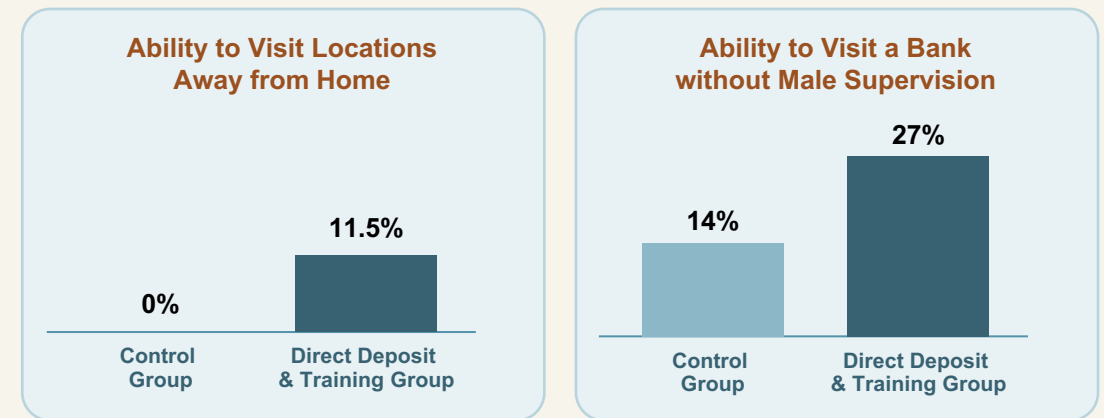


Direct deposit catalyzed mobility among socially constrained women.²

The study uses an existing rural work program in India (MGNREGA) to experimentally vary whether a woman's wages were deposited directly into her individual account or continued to be deposited into the male household head's account (status quo).

Following the intervention, 11.5% of constrained women in the direct deposit and training group reported the ability to visit locations away from home compared to 0% of the constrained women in the account-only group.

Specifically for bank visits, 27% of constrained women in the direct deposit and training group could visit a bank without male supervision compared to 14% of constrained women in the account-only group.



1. Murshid et al. "Impact of Mobile Financial Services in Bangladesh: The Case of bKash" (2020)

2. Field et al. "On Her Own Account: How Strengthening Women's Financial Control Affects Labor Supply and Gender Norms" (2019)



MECHANISM 9: SAFETY

Digital accounts and transactions have the potential to alleviate safety concerns for carrying cash. Early evidence shows consumers in Tanzania are willing to pay to reduce safety risks; however, more research is required to understand how this mechanism specifically affects women.

Consumers are willing to pay additional fees to not travel with cash or store cash at home.¹

The study used a change in mobile money transaction fees to quantify consumers' willingness to pay to avoid carrying cash or storing cash at home in Tanzania.

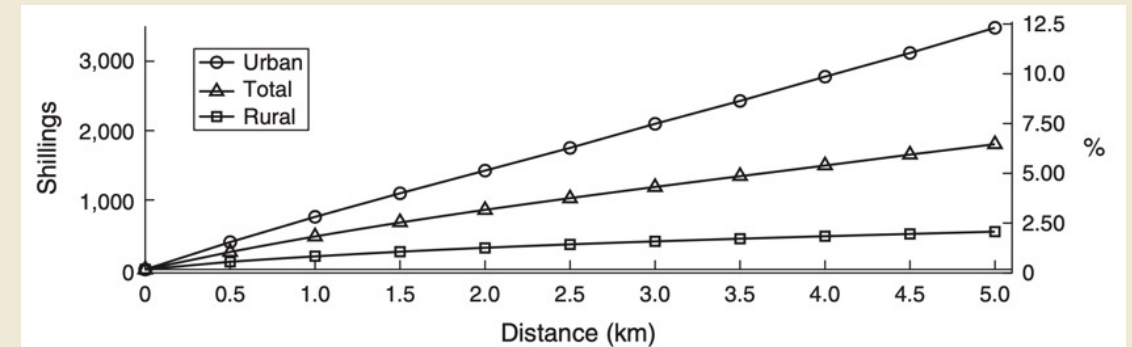
They find that consumers are willing to pay an additional 345 shillings, on average, not to walk an extra kilometer carrying cash, or equivalently, 1.24% of the average transaction size.

Regarding storage, they find that consumers are willing to pay 217 shillings for an extra day of storage.

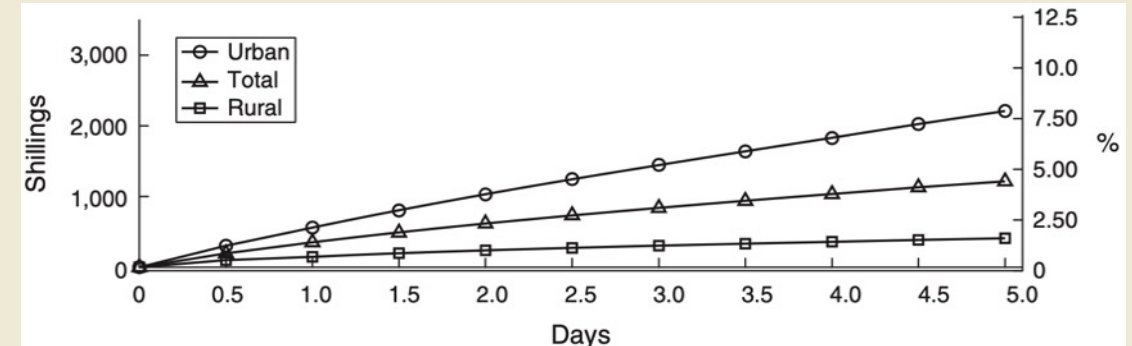
This study provides some of the first evidence to estimate how mobile money alleviates the risk of crime and burglaries, and in addition uses consumer behavior data, as opposed to administrative surveys, to do so.

The study does not focus specifically on women. However, safety is an important concern for many women.

Willingness to Avoid Walking with Cash



Willingness to Pay for Storing Money



1. Economides and Jeziorski. "Mobile Money in Tanzania" (2017)

SUMMARIES OF KEY STUDIES



EVIDENCE ON MECHANISMS: OVERVIEW OF KEY STUDIES

This section includes summaries of research on DFS and WEE.

Some studies referenced in the Mechanisms section are not detailed here.

Research Findings ● Strong ● Suggestive ● Requires Further Exploration

Article	Authors	Velocity of Transfers & Breadth of Support Network	Occupational Mobility	Labor Force Participation	Transaction Costs	Behavioral Nudges	Privacy	Opportunity Cost of Time	Physical Mobility & Systematic Discrimination	Safety
"Can Mobile-Linked Bank Accounts Bolster Savings? Evidence from a Randomized Controlled Trial in Sri Lanka" (2020)	De Mel, McIntosh, Sheth, Woodruff				Requires Further Exploration					
"Effects of Digitization on Financial Behaviors: Experimental Evidence from the Philippines" (2020)	Harigaya							Strong		
"Hiding Loans in the Household Using Mobile Money: Experimental Evidence on Microenterprise Investment in Uganda" (2019)	Riley						Strong			
"Mobile Money and the Labor Market: Evidence from Developing Countries" (2019)	De Gasperin, Rotondi, Stanca		Suggestive							
"On Her Own Account: How Strengthening Women's Financial Control Affects Labor Supply and Gender Norms" (2019)	Field, Pande, Rigol, Schaner, Moore			Strong					Strong	
"Payment Mechanisms and Antipoverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger" (2016)	Aker, Boumnijel, McClelland, Tierney						Requires Further Exploration	Strong		
"Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh" (2021)	Lee, Morduch, Ravindran, Shonchoy, Zaman		Suggestive							
"The Cost of Convenience? Transaction Costs, Bargaining Power, and Savings Account Use in Kenya" (2016)	Schaner				Strong					
"The Effect of Promoting Savings on Informal Risk Sharing: Experimental Evidence from Vulnerable Women in Kenya" (2020)	Dizon, Gong, Jones	Strong				Strong				
"The Long-Run Poverty and Gender Impacts of Mobile Money" (2016)	Suri, Jack		Strong							

CAN MOBILE-LINKED BANK ACCOUNTS BOLSTER SAVINGS?

EVIDENCE FROM A RANDOMIZED CONTROLLED TRIAL IN SRI LANKA

Authors: Suresh de Mel, Craig McIntosh, Ketki Sheth, and Christopher Woodruff

Journal: *The Review of Economics and Statistics* (2020)

Intervention: Mobile-Linked Savings Accounts

Mechanism: Transaction Costs

Outcome: Savings

Research Design: The intervention includes a novel savings account mobile-deposit service provided by a partnering bank. The study design is a randomized controlled trial. Randomly selected individuals are mailed offer letters to participate. Those who accept are provided assistance opening a bank account, as well as given a mobile phone, SIM card, and demonstration of the service. Funds can be deposited without a transaction fee.¹

Survey Dates: December 2010–May 2013

Country: Sri Lanka (Central)

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

Sample Size: 1,908 individuals

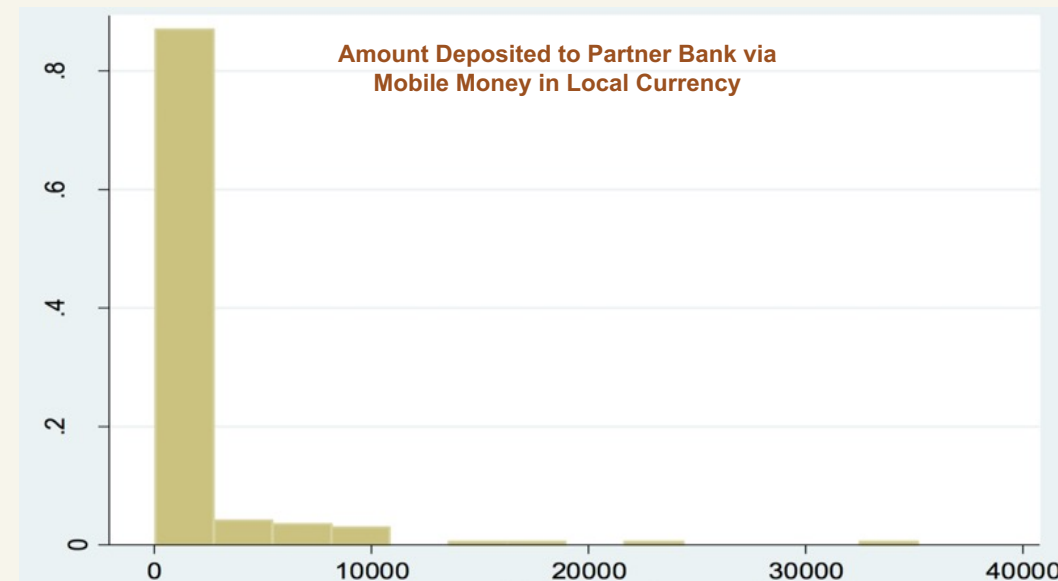
Contribution: This study is one of the first experiments to use mobile phone-linked bank accounts to encourage savings, and in particular formal savings.

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.

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% to 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 live an intermediate distance from a bank?

Women and Savings

Women are more likely to use the savings service than men, suggesting they would benefit more from reduced transaction costs.

Distance and Savings

Households who live 2–5 km away from a bank branch are more likely to use the savings service than those who live farther away.

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 et al. "Can Mobile-Linked Bank Accounts Bolster Savings? Evidence from a Randomized Controlled Trial in Sri Lanka" (2018).

EFFECTS OF DIGITIZATION ON FINANCIAL BEHAVIORS: EXPERIMENTAL EVIDENCE FROM THE PHILIPPINES

Authors: Tomoko Harigaya
Journal: Working Paper (2020)

Intervention: Mobile Banking (Store Clerk Using Mobile Phones)
Mechanism: Opportunity Cost of Time
Outcome: Savings, Consumption Smoothing, Credit

Research Design: Harigaya used a matched-pair randomized experiment to study the effect of mobile banking on microfinance groups in the Philippines. As per the status quo, microfinance groups in the control arm made payments and deposits at regular group meetings in cash. Groups in the intervention arm were required to make loan payments and savings account transactions using a mobile phone that was operated by a store clerk. In addition, new loans were deposited into each member's mobile account rather than via cash. Each mobile transaction incurred a small fee. Ninety percent of the sample were women.

Survey Dates: April 2013 and July–August 2015
(Intervention: January 2013–December 2014)

Country: Philippines (two municipal towns in one province)

Context: Mature microfinance sector where clients within the same village are organized into groups of 20–40. Approximately 50% of members were savers without loans. (Members cannot become savers until they have successfully completed three loan cycles.)

Sample: 14 microfinance centers consisting of 575 members

Contribution: The study reveals some unintended consequences of mobile money rollout.

Impact

Savings Balances

Members of microfinance groups exposed to the intervention experienced a 20% decline in their average daily savings account balances relative to members in the control arm.

Treatment

Average Daily Savings Account Balances

–20%

Impact

Deposits in Excess of Loan Payments

On average, mobile banking led to a 25% decline in the likelihood of making deposits in excess of loan payments.

Treatment

Likelihood of Making Deposits in Excess of Loan Payments

–25%

Impact

Savings Disaggregated by Distance from Transaction Points

Microfinance members who lived near transaction points saved 30% less than their control counterparts.

Evidence suggests that this was not driven by convenience of withdrawals.

Treatment

Savings for Members near Transaction Points

–30%

Impact

Withdrawals

Regarding the opportunity cost of time, a back-of-the-envelope calculation suggests mobile banking decreased the time spent making a deposit by 30% and time spent making a withdrawal by 70%.

Treatment

Time Spent Making a Deposit

–30%

Time Spent Making a Withdrawal

–70%

Impact

Avoiding Deposits

Using survey responses from members exposed to mobile money, members are 67% more likely to avoid deposits due to the mobile banking transaction costs.

Additionally, mobile banking increased defection from microfinance group members who lived near transaction points.

Treatment

Likelihood of Avoiding Deposits Due to the Mobile Banking Transactions Costs

67%

HIDING LOANS IN THE HOUSEHOLD USING MOBILE MONEY: EXPERIMENTAL EVIDENCE ON MICROENTERPRISE INVESTMENT IN UGANDA

Authors: Emma Riley

Journal: Working Paper (2019)

Intervention: Mobile Money Account

Mechanism: Privacy

Outcome: Profit, Value of Business Capital

Research Design: The study measures the impact of depositing microfinance loans directly into a designated business mobile money account on women's savings and business outcomes in Uganda. It employs a randomized controlled trial. The intervention includes two treatment arms:

1. Women microentrepreneurs who have their loans distributed in cash and have a business mobile money account opened for them
2. Women entrepreneurs who have their loans direct deposited into a business mobile money account. The control group includes women entrepreneurs who have their loans distributed in cash only.

Survey Dates: January–June 2017 and October 2017–January 2018

Country: Uganda

Sample: 3,000 women microentrepreneurs

Context: High prevalence of microfinance borrowing and high mobile money penetration

Contribution: The study explores the relationship between loan distribution channels and women's bargaining power.

Impact

Business Outcomes

Women whose loans were automatically deposited into their mobile money account experienced positive business outcomes. Eight months following the intervention, women whose loans were automatically deposited into their mobile money account saw a 15% increase in business profits and an 11% increase in the value of business capital relative to women who received their loans in cash.

These impacts were even larger for women who reported experiencing family pressure to share money (25% and 17%, respectively).

Empirical Insight

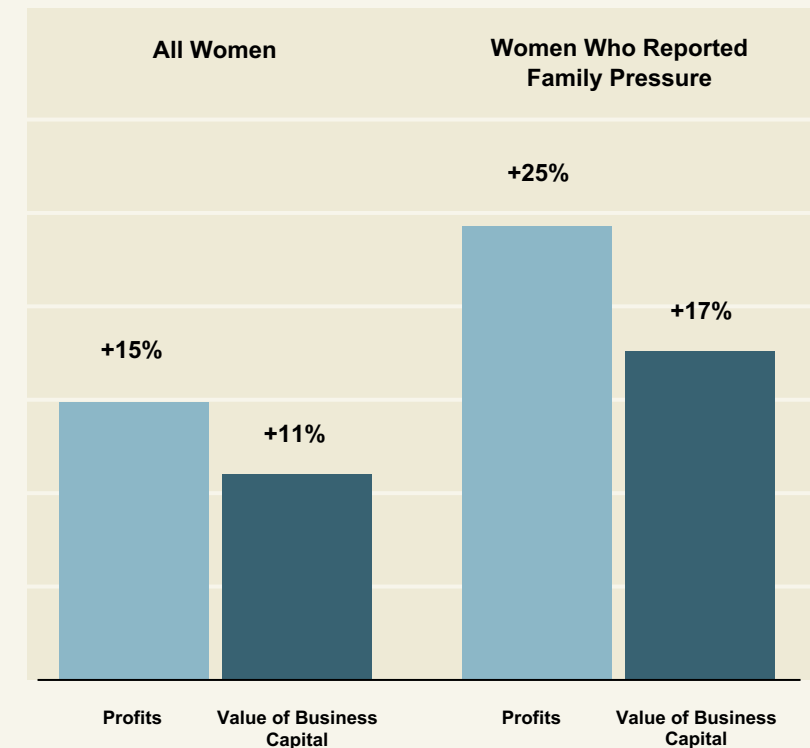
Safety

After ruling out alternative hypotheses, the author's evidence suggests that the mobile money account was used as a way to safely and privately store money.

Women who received the loan via a mobile money account did not use the account for deposits but did hold significant balances on the account.

- About 13% made deposits.
- On average, 7% of the loan value was held in the account 30 days after loan disbursement.

Women Whose Loans Were Automatically Deposited into Their Mobile Money Account vs. Cash Payments



MOBILE MONEY AND THE LABOR MARKET: EVIDENCE FROM DEVELOPING COUNTRIES

Authors: Chiara De Gasperin, Valentina Rotondi, and Luca Stanca

Journal: University of Milano—Bicocca, Department of Economics, Working Paper (2019)

Intervention: Mobile Money

Mechanism: Occupational Mobility

Outcome: Labor

Research Design: The study explores the impact of mobile money on employment outcomes in eight countries. The study uses a quasi-experimental design and draws on the Financial Inclusion Insights survey's employment and DFS usage variables.

Survey Dates: 2014–2016

Countries: Kenya, Nigeria, Tanzania, Uganda, Bangladesh, India, Pakistan, Indonesia

Sample: 116,532 employed individuals

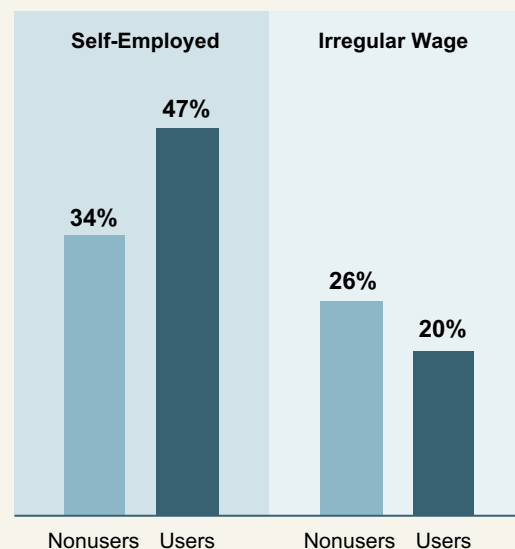
Context: One of the 2030 sustainable development goals is “promoting [...] employment and decent work for all.”

Contribution: The study shows how mobile money relates shifting from irregular to regular work across countries.

Descriptive Statistics

Mobile money users are more likely to be self-employed rather than have an irregular wage. Nonmobile money users are more likely to have an irregular wage than be self-employed.

Mobile Money and Employment Outcomes



Impact

Mobile Money Use and Employment

Mobile money use is positively and significantly related to the probability of being self-employed. Using mobile money increases the probability of being self-employed by 1.5% compared to nonmobile money users. The effect of mobile money use on self-employment is comparable to the effect of living below the poverty line on self-employment.

Mobile money use is negatively and significantly related to the probability of receiving an irregular wage. Using mobile money decreases the probability of having irregular wages by 6.5% compared to nonmobile money users. The effect of mobile money use on self-employment is comparable to the effect of having insurance on irregular wages.

Likelihood of
Self-Employment

+0.75%

Likelihood of
Irregular Wages

6.5%

Impact

Female Mobile Money Use and Employment

Female mobile money users are 7.6% more likely to be self-employed than female nonmobile money users and 6.3% more likely than male nonmobile money users. (There is a strong association between mobile money and female self-employment.)

Female mobile money users are 7% less likely to experience irregular wages than female nonmobile money users and 4.8% less likely than male nonmobile money users. (There is a strong association between mobile money and regular wages for males).

Likelihood of Being Self-Employed (Female MM Users)

+7.6%

vs. Female
Non-MM Users

+6.3%

vs. Male
Non-MM Users

Likelihood of Irregular Wages (Female MM Users)

−7.0%

vs. Female
Non-MM Users

−4.8%

vs. Male
Non-MM Users

ON HER OWN ACCOUNT: HOW STRENGTHENING WOMEN'S FINANCIAL CONTROL AFFECTS LABOR SUPPLY AND GENDER NORMS

Authors: Erica M. Field, Rohini Pande, Natalia Rigol, Simone G. Schaner, and Charity Troyer Moore
Journal: National Bureau of Economic Research Working Paper (2019)

Intervention: Direct Deposit

Mechanism: Labor Force Participation

Outcome: Labor Supply

Research Design: The study examines if control of earnings can incentivize work for women in India. The study experimentally varies whether a woman's wages for an existing work program, Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), are deposited directly into her individual account or continued to be deposited into the male household head's account (status quo). Women were randomly assigned to one of four intervention arms: (1) received bank account; (2) received bank account plus training; (3) received bank account and direct deposit; (4) received bank account, direct deposit, and training.

Survey Dates: November 2013–January 2014 (baseline), August–September 2015 (short run), and April–October 2017 (long run)

Country: India

Sample: 5,851 married couples in which the wife worked for a government program and did not have an individual bank account

Context: Districts studied had severe gender inequities; 36% of women able to travel outside village compared to the 48% national average.

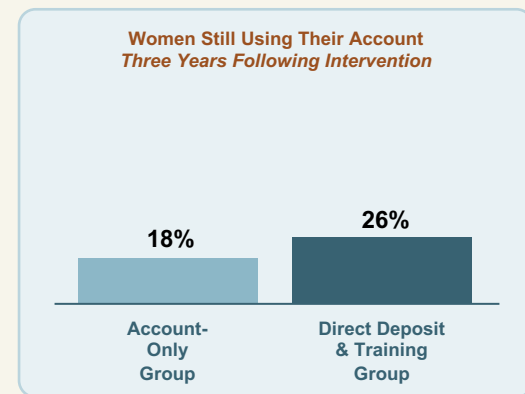
Contribution: The study tracks long-term impacts of the work program on the labor market and gender norms, which are important since these impacts may not be immediately meaningful.

Impact

Account Use

The intervention altered women's control over their earnings by increasing the number of women with their own individual accounts.

Three years following the intervention, 26% of women in the direct deposit and training group still used their account compared to 18% of women in the account-only group.

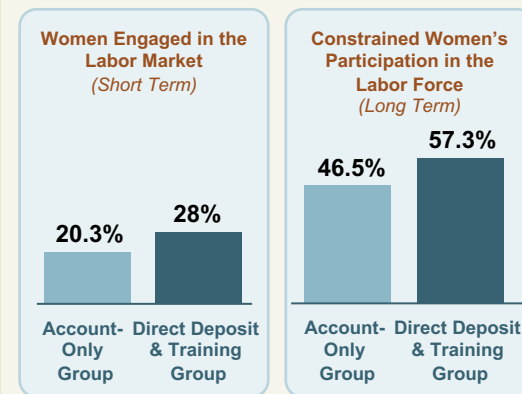


Impact

Labor Market Participation

Direct deposit and training drew women into the labor market. In the short run, 28% of women in the direct deposit and training group were engaged in the labor market compared to 20.3% of women in the account-only group.

Constrained women, women whose husbands are more likely to subscribe to gender norms, increased their participation in the labor force to 57.3% relative to 46.5% of women in the account-only group. Additionally, these effects persisted three years following the intervention.

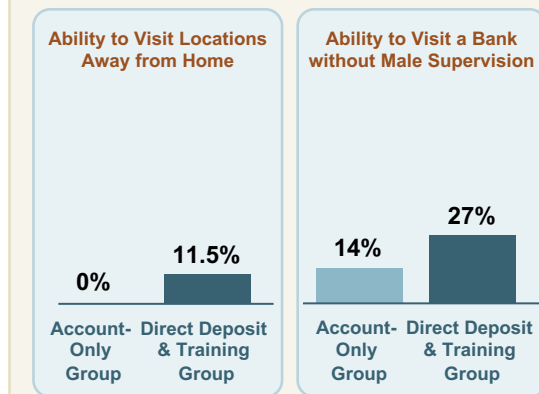


Impact

Agency

The intervention catalyzed agency among constrained women. Following the intervention, 11.5% of constrained women in the direct deposit and training group reported the ability to visit locations away from home compared to 0% of the constrained women in the account-only group.

Specifically for bank visits, 27% of constrained women in the direct deposit and training group could visit a bank without male supervision compared to 14% of constrained women in the account-only group.



PAYMENT MECHANISMS AND ANTIPOVERTY PROGRAMS: EVIDENCE FROM A MOBILE MONEY CASH TRANSFER EXPERIMENT IN NIGER

Authors: Jenny C. Aker, Rachid Boumnijel, Amanda McClelland, and Niall Tierney

Journal: *Economic Development and Cultural Change*, 2016

Intervention: Mobile Money

Mechanism: Mobile Money Government-to-Person Transfer

Outcome: Women's Mobility, Women's Time Savings, Household Spending, Spending on Children

Research Design: The study examines the impact of mobile money on economic outcomes in Niger. The study uses a randomized controlled trial of an unconditional cash transfer program issued following the 2009/2010 drought and food crisis. The two treatment arms include: (1) individuals who receive the cash transfer in an envelope and are also given a mobile phone, (2) individuals who receive the cash transfer via mobile money. The control group includes individuals who receive the cash transfer in an envelope.

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 seven 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: The study 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 0.78 more types of goods.

Compared to households that received a mobile phone, along with the cash in hand, mobile money transfer recipients purchased 0.85 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 0.28–0.51 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 third 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 et al. "Payment Mechanisms and Antipoverty Programs: Evidence from a Mobile Money Cash Transfer Experiment in Niger" (2016)

POVERTY AND MIGRATION IN THE DIGITAL AGE: EXPERIMENTAL EVIDENCE ON MOBILE BANKING IN BANGLADESH

Authors: Jean N. Lee, Jonathan Morduch, Saravana Ravindran, Abu S. Shonchoy, and Hassan Zaman

Journal: American Economic Journal: Applied Economics (2021)

Intervention: Mobile Money

Mechanism: Occupational Mobility

Outcome: Women's Labor Migration

Research Design: The study examines if mobile technology can reduce inequality in Bangladesh. The study employs a randomized controlled trial. The treatment group includes poor, rural households and family members who have migrated to cities, who are trained to use mobile money, and who receive support to set up a bKash account, a mobile banking platform.

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: The study examines the impact of mobile money as a facilitating mechanism between rural-urban migration pairs.

Impact

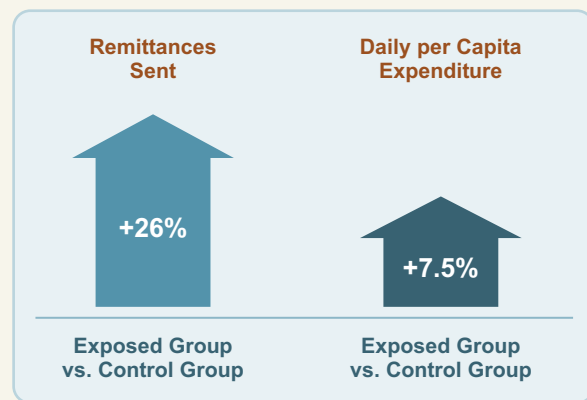
Total Remittances

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 that in 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.

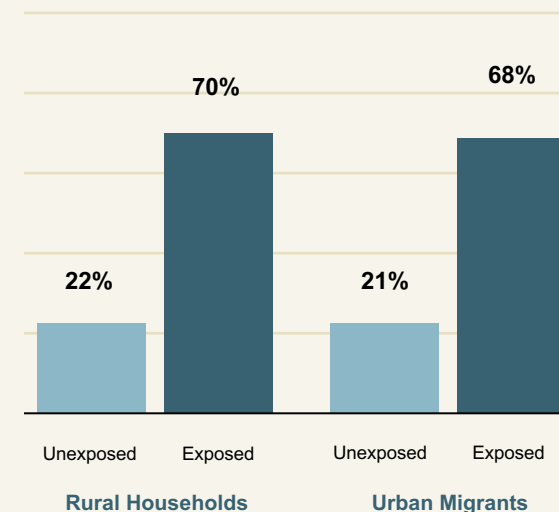
Female migrant workers increased work hours by 12% per day, and female garment workers increased work hours by 14% per day.

Impact

Mobile Banking Disaggregated by Location

- Exposed rural households were 48 percentage points more likely to use bKash than the control group.
- Urban migrants exposed to the intervention were 47 percentage points more likely to use bKash than the unexposed group.

Likelihood of Using bKash



THE COST OF CONVENIENCE? TRANSACTION COSTS, BARGAINING POWER, AND SAVINGS ACCOUNT USE IN KENYA

Authors: Simone Schaner

Journal: *Journal of Human Resources* (2016)

Intervention: ATM Card

Mechanism: Transaction Costs

Outcome: Savings

Research Design: The study examines if high transaction costs associated with savings can help individuals protect their savings from the demands of others in Kenya. The study uses a randomized controlled trial. Married couples are given the option to enroll in up to three savings accounts: a joint account, a men's account, or a women's account. The treatment group was provided an ATM card, which reduced the transaction costs associated with withdrawing money from the savings account. Treatment participants are taught how to use the savings accounts and ATM cards.

Survey Dates: July and September 2009, with a follow-up three years after baseline

Country: Kenya

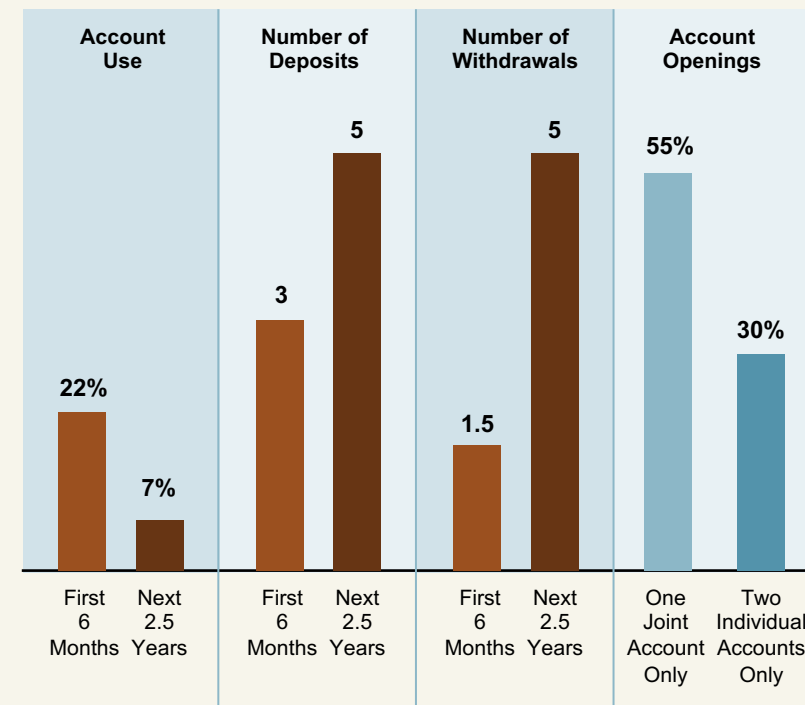
Sample: 749 couples, which resulted in 1,114 savings accounts

Context: In Kenya, men tend to be the primary decision-makers, whereas women tend to be the primary savers; however, this does not imply that women decide how much to save.

Contribution: Low-cost savings accounts differentially affect genders due to differences in bargaining power. Thus, high-cost savings devices allow women to maintain control over their savings.

Descriptive Statistics¹

About 98% of participants used at least one savings device, with informal devices being most used. At baseline, 32% of men had a bank account compared to 12% of women.



Impact

Transactions

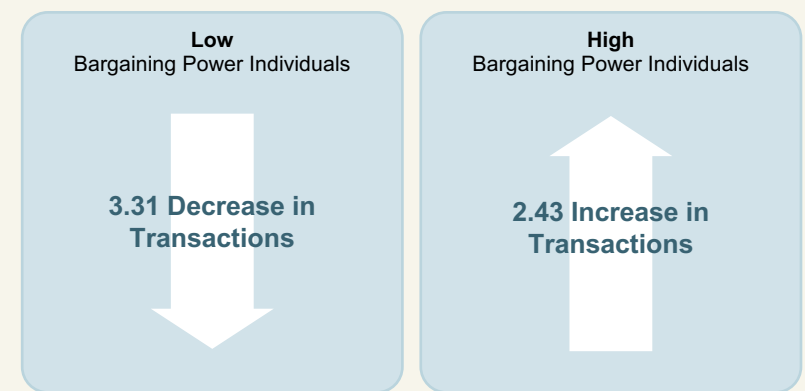
The overall ATM card treatment (combining joint and individual accounts) increased transactions by 62% compared to the control group.

ATM Treatment Differed by Account Type

The impact of the ATM treatment differed by account type, causing both welfare gains and welfare losses. Joint accounts and men's accounts experienced an increase in account use (significant effect) associated with the low transaction cost intervention, whereas women experienced a decrease in account use (insignificant effect).

Differential Gender Impact Driven by Bargaining Power²

Impact of ATM Cards by Bargaining Power



1. Summary statistics for ATM-eligible control group. 2. Bargaining power is proxied using an index of demographic characteristics including income, education, literacy, and age relative to spouse.

THE EFFECT OF PROMOTING SAVINGS ON INFORMAL RISK SHARING: EXPERIMENTAL EVIDENCE FROM VULNERABLE WOMEN IN KENYA

Authors: Felipe Dizon, Erick Gong, and Kelly Jones

Journal: *Journal of Human Resources* (2020)

Intervention: Mobile Money Account

Mechanism: Velocity of Transfers & Breadth of Support Network, Behavioral Nudges

Outcome: Savings, Consumption Smoothing

Research Design: The study examines the effect of saving on risk sharing within vulnerable populations in Kenya. The study employs a randomized controlled trial. Using survey data, researchers identify bilateral informal risk-sharing agreements between vulnerable women within the sample. These women are individually randomized into either the control or treatment group. The treatment group receives a free M-Pesa account specifically labeled for savings, weekly SMS reminders about savings goals, and zero transaction fees for the first 12 weeks of the intervention.

Survey Dates: February 2014 and September 2014

Country: Kenya

Sample: 627 vulnerable women (sex workers, widows, divorcees, and the never-married)

Context: All participants were M-Pesa users and many had balances for savings in their accounts.

Contribution: The study estimates welfare effects of saving on the account holder, as well as the risk-sharing partner.

Impact

Risk Sharing

In the presence of negative shocks, the treatment group reduced transfers. Relative to risk-sharing partners that were both assigned to the control group, risk-sharing partners where both partners were assigned to the intervention group reduced transfers received by 81% and risk-sharing partners where one partner was assigned to the intervention group reduced transfers received by an average of 69%. These results suggest that savings is leading to substitution away from informal risk-sharing agreements. Additionally, the authors also find that the use of participant's own savings to cope with shocks did not come at the expense of risk-sharing partners.

Savings reduced transfers received among those who experienced a negative shock

Both risk-sharing partners in intervention group

–81%

One risk-sharing partner in intervention group

–69%

Impact

Usage

The adoption rate during the intervention was 62%. After the intervention ended in June 2014, mean cumulative deposits continued to increase linearly for adopters.

Adopters' linear increases in cumulative deposits suggested that adopters do not require an account that earns interest, has zero transaction costs, or requires weekly SMS messages to continue using it.

Impact

Spillover

Savings treatment had a positive direct effect and a zero spillover effect on welfare. Food security increased by 15% relative to the control group, and subjective well-being increased by 13% relative to the control group.

Food Security
Relative to Control Group

+15%

Subjective Well-Being
Relative to Control Group

+13%

THE LONG-RUN POVERTY AND GENDER IMPACTS OF MOBILE MONEY

Authors: Tavneet Suri and William Jack
Journal: *Science* (2016)

Intervention: Mobile Money

Mechanism: Occupational Mobility

Outcome: Savings, Consumption Smoothing, Women's Labor

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

Poverty

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

★ 194,000 Households ★
Lifted Out of Extreme Poverty

185,000 Female-Headed Households
Switched into Business or Retail

Increase in Agent Density

Impact

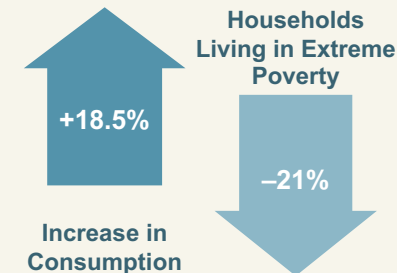
Consumption Growth

Female-headed households experienced an 18.5% increase in consumption due to an increase in agent density.³

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%.³

Welfare Changes to Female-Headed Households Due to Increases in Agent Density



Impact

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%.³

Savings

Female-headed households increased their financial savings by 22% due to the increase in agent density.³

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. 3.These results extrapolate the impacts derived from the sample to all households in Kenya. Suri and Jack. "The Long-Run Poverty and Gender Impacts of Mobile Money" (2016).



FUTURE RESEARCH

FUTURE RESEARCH (1 OF 2)

Based on the identified gaps in the evidence, future research may endeavor to answer the following questions.

Velocity of Transfers & Breadth of Support Network

- Does the improved ability to draw on informal support networks enabled through DFS benefit men and women equally?
- Does the informal support network enabled through DFS crowd out any other networks that are more important to WEE?
- Can DFS foster any particular support network that is more helpful for WEE?

1

Occupational Mobility

- How do DFS lead to occupational mobility for women, and what are positive and negative effects of this occupational change?
- Are effects of DFS on occupational mobility different for men and women, and why?

2

Labor Force Participation

- How might DFS complement other economic empowerment initiatives targeting women particularly around labor/employment?

3

Transaction Costs

- How do women prioritize DFS' transactional cost advantages compared to other benefits, such as the opportunity cost of time saved?
- How are the benefits of DFS' reduced transaction costs distributed between men and women?

4

Behavioral Nudges

- Do DFS reduce mental costs and improve women's mental health or welfare in a way that can be identified?
- Are there DFS-induced behavioral changes that contribute to women's bargaining power or enactment of preference? How can those be strengthened for fostering WEE?
- Are there behavioral biases that are particularly relevant for women in poor households that DFS can help overcome?

5

FUTURE RESEARCH (2 OF 2)

Based on the identified gaps in the evidence, future research may endeavor to answer the following questions.

Privacy

- In general, do DFS increase women's privacy over financial information? Are there particular product features or added interventions that can enhance women's privacy via DFS?
- How does DFS-enabled privacy over different types of financial information (presence of funds, timing and size of transfers, uses of funds, etc.) yield different impacts on WEE?
- Can the potential privacy offered by DFS lead to intra-household conflicts in the general population or in certain subgroups of women? If so, are there ways to design DFS products to mitigate these negative consequences?

6

Opportunity Cost of Time

- Does DFS-enabled time savings empower women?
- What type of DFS are more likely to benefit women in terms of time savings?
- How do women reallocate their time savings between economic activities, unpaid work, and leisure?
- How can research be designed to separately identify the impact of time savings from other sources of DFS' impact on WEE? For example, commuting to a location to access finance could be more costly to women both in terms of opportunity cost and in terms of security risks or social costs of violating social norms on mobility.

7

Physical Mobility & Systematic Discrimination

- Do DFS encourage women to overcome social norms constraining physical mobility, for example, by normalizing travel to and interaction with male mobile money agents?
- Do DFS relax the need for physical mobility in accessing services differently between men and women?
- Does relaxing the need for physical mobility to access financial services (besides time saved) enable women to engage in any new activities to increase WEE, such as trading, home production, etc.?
- Do DFS reduce discrimination, as postulated by the theories above? If so, are the results more consistent with taste-based or statistical discrimination?
- Are DFS providers (e.g., mobile money agents) more or less likely to discriminate against women than traditional financial service providers (e.g., banks)?
- What can DFS providers do to reduce discrimination toward women (in lending decisions, agent networks, etc.)?

8

Safety

- How do increases/decreases in safety resulting from DFS affect women and men differently?
- How do safety considerations differ across DFS platforms, such as mobile money and ATM cards?
- Can design features, such as biometric identifiers, or complementary intervention, such as training on safely using DFS, increase safety for women compared to men?

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