Cross-Product Spillovers in Attitudes Towards Finance

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Abstract

We study the impact of being introduced to a new financial product on attitudes towards other formal and informal financial products. We conduct an RCT in Rwanda where participants are randomly assigned to receive a cash grant either in the form of cash or a transfer to a new financial product, a mobile-money-linked savings account, that strictly dominates both mobile money and traditional savings accounts. We find that being introduced to the new dominant product adversely affects people's perceptions of other formal financial products.

JEL Classification: A11, O16.

Keywords: Mobile money, Rwanda, fintech adoption.

Very Preliminary Analysis, Do Not Cite or Circulate

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1 Introduction

Adoption of formal financial products remains relatively low in the developing world [Demirgüç-Kunt et al., 2022]. While fixed costs of adoption are frequently cited as barriers to financial inclusion, attitudes and beliefs about finance also play an important role in the limited usage of these products. For instance, a lack of trust in financial institutions as well as commonly held views about financial products being too complicated or expensive can slow down adoption.

How would these attitudes change when people are exposed to new financial products? This question is particularly policy-relevant since governments around the world are increasingly putting in place policies that introduce people to basic financial products and integrate them to the formal financial system. For instance, the Indian government opened 255 million basic savings accounts for its citizens via the Pradhan Mantri Jan Dhan Yojna program [Agarwal et al., 2017] and the Mexican government introduced debit cards as a part of the Oportunidades cash transfer program to make accessing formal bank accounts easier [Bachas et al., 2021]. Recently, Rwanda made it mandatory for all merchants to accept mobile money in the early stages of the COVID-19 pandemic and the National Bank of Rwanda waived fees associated with mobile money transfers [Bizimungu, 2021]. These policies improve financial inclusion mechanically by forcing people to adopt the product in question, but could they also have an impact by changing attitudes towards other financial products?

In order to change people's beliefs about various financial products, it is important to understand how individuals form these beliefs and the extent to which they spill over to other products. One potential mechanism these beliefs might be formed is that consumers weight certain characteristics, such as convenience, trustworthiness or price, based on their past experiences with the product or similar products. For instance, if a customer associates a payment app with prior inconveniences, they may place greater weight on convenience compared to other attributes. It is also possible that consumers associate all financial products with similar experiences and lump them into one category (in marketing/psychology research, this is called *categorization*).[1]

This means that updated beliefs about one financial product may affect beliefs about others. Being introduced to an extremely convenient new financial product might make the convenience feature of *all* financial products more salient, causing consumers to view existing (less convenient) financial products more negatively than before even without

[1]See Loken et al. [2008] for a review and Bordalo et al. [2025] for a recent formalization in behavioral science/economics.

any changes to these products. Alternatively, these beliefs can be formed independently for each financial product (in which case these products would not form a joint category). In the former case, introducing people to one form of financial product either improves or prevents the adoption of other financial products. In the latter case, however, since beliefs are independent, the inertia against adoption of financial products would be harder to break.

Our goal is to test whether beliefs about financial products are formed jointly or independently - that is, whether people have a mental "category" for financial products. We study whether being introduced to a new financial product changes people's preferences towards existing products. Specifically, we study how being introduced to MoKash, a mobile-money-linked savings product affects people's attitudes towards existing formal financial products and informal financial solutions, such as a savings groups. We do this in the context of a population of people with some, but limited, exposure to formal financial products by conducting a randomized controlled trial (RCT) where we provide cash grants to people, but randomize the delivery format of the grants.

MoKash is a simple, text-message-based service built on top of the existing mobile money infrastructure by MTN, a mobile operator, and NCBA, a commercial bank. MoKash allows users of mobile money to earn interest and unlocks access to loans. The interest rates earned by depositors (who can withdraw their money at any time) typically exceed those offered by banks on fixed-term deposits and are generally perceived as more convenient than those offered by banks. Essentially, they offer convenient access to formal saving and borrowing and can be considered a product that dominates existing alternatives, offering the convenience of mobile money combined with the interest offered by banks.[2]

MoKash usage is low in Rwanda. In our sample of relatively high-financial-inclusion people, baseline usage was approximately 20%. It must be noted that every person in our sample had a formal bank account because the university requires one for tuition payments and a mobile money account due to rising popularity in Rwanda as a result of the pandemic. Because of this, everyone in our sample already has some familiarity with formal financial products. However, people generally perceived banks to be slow and expensive, and for the parts of our sample located within Kiziba refugee camp (we describe our sample in more detail below), visiting a bank physically involves a long journey (at least 45 minutes each way), which has a significant monetary cost.

[2]Our project initially aimed to study mobile money adoption. This was based on a research proposal drafted in early 2020, prior to COVID-19, when mobile money usage in Rwanda was far from universal. However, the government's policies to introduce mobile money during the pandemic led to near universal adoption in our sample. This led us to shift our focus to MoKash, which has low adoption rates, and still provides a relevant first exposure to formal financial tools for saving and borrowing.

Simply comparing attitudes of people who use MoKash and those who do not is likely to yield biased estimates of the true effect of adoption because people do not randomly use MoKash. People who use MoKash could be more likely to look at other financial products more favorably. Therefore we conduct an RCT in which introduction to MoKash is randomized. In this RCT, we divide subjects into three arms: a cash grant arm where participants receive cash, a MoKash arm where they receive an equivalent transfer to a MoKash account and a MoKash + incentives arm where participants receive a transfer to a MoKash account with the promise of a bonus payment if they can show us that they have maintained a minimum balance on their MoKash account.

We run our RCT at Kepler, an educational NGO and university in Rwanda, with the subjects being students at Kepler. We work with students at two of Kepler's campuses, one in Kigali and the other at Kiziba refugee camp. The students in Kigali are relatively well-off, whereas the students in Kiziba are all from refugee backgrounds. All students across both campuses have bank accounts as these are required by Kepler and almost all use mobile money, but very few have significant exposure to other formal financial products.

Our goal is to study how being introduced to a new financial product affects attitudes and usage of existing ones. We focus on three dimensions of attitudes, as indicated in our pre-registered research proposal:

- Preferred financial products for saving and borrowing. The idea behind these outcomes is that we want to measure which tools participants find most useful. As our sample consists of students, we expect that usage of savings and borrowing products would be relatively low, so we focus on preferences in hypothetical scenarios. However, we also look at actual usage as a secondary outcome.
- Attitudes towards risk and debt. The idea behind these outcomes to capture broader attitudes towards finance.
- Perceptions towards various formal and informal financial tools, including their convenience, trust, and difficulty. These outcomes capture specific dimensions of attitudes towards specific product categories.

We examine whether these attitudes change for participants based on their assigned treatment group. As mentioned above, we also pre-registered secondary outcomes related to the usage of specific financial products. Finally, we pre-registered separate tests for people with ex ante low financial inclusion, such as refugees. As the preliminary results

for this sample are very similar to the main sample, we do not present them separately in this version.

We find that receiving the MoKash transfer (that dominates existing products) tended to result in worse views of existing formal financial products. That is, people who received a grant in the form of a transfer to the MoKash account instead of in cash tend to perceive mobile money and banks as being more expensive, less convenient and more difficult to use than those who did not. This may be driven by a contrast effect, where the MoKash account offers the benefits of mobile money and a formal bank account without the disadvantages of either. We also find some evidence that treated participants move away from banks, towards MoKash, as their preferred saving tool, though this effect is not statistically significant in every specification.

We also find no effect on preferred borrowing tools or account balances across MoKash, mobile money and bank accounts. Similarly, we find no changes in risk- or debt-aversion.

Why might a new financial product change attitudes towards other financial products? One hypothesis is that people may *categorize* all financial products into one product category in their mind (see Bordalo et al. [2025] and Loken et al. [2008] for more details on categorization). As financial products serve a similar use case, people may consider them to be in the same mental category, with formal financial products being closer to each other than informal ones for instance. Being introduced to a new financial product may make certain features of products more salient. In this case, being introduced to MoKash, which is convenient and earns interest, may make the fact that mobile money does not earn interest and that traditional banks are inconvenient more salient to users, which then causes them to negatively update their perceptions of these products.

Being introduced to or using a financial product may also affect other attitudes that are not directly related to products. For instance, being introduced to a financial product might also cause changes in the very broad mental category of "finance". The introduction of a new product with positive associations into this category might cause consumers to update their views on all products in the category positively. An implication is that people may for instance hold less negative views about debt than they did before (Paaso et al. [Forthcoming], among other papers, show that people's attitudes towards debt tend be very negative).

Our paper is related to several strands of literature. First, it contributes to studies documenting how experiences with one financial product can spill over into others or alter preferences. For instance, Gurun et al. [2018] and Celerier and Tak [2024] find that being exposed to fraud (through one institution) leads to lower use of other formal financial

products, even many years later. Brown et al. [2016] find that early-life exposure to financial institutions leads to better credit market outcomes and financial inclusion, though this effect may not be driven solely by attitudes. A large literature in marketing has studied the impact of credit cards on spending (see *e.g.* Prelec and Simester [2001]). Hong et al. [2020] show that the expansion of AliPay, a Chinese payment app, increases stock market participation by altering risk preferences. These effects can also be seen beyond financial outcomes. For example, stock ownership can affect political views [Kaustia et al., 2016, Jha, 2015] and risk attitudes [Dalton et al., 2020].

We also contribute to the literature on fintech and financial inclusion. Prior work in development economics has primarily focused on how new financial products, such as mobile money, can enhance financial inclusion by lowering transaction costs associated with delivering financial services [Donovan, 2012, Suri and Jack, 2016] or improving information sharing [Ouyang, 2021]. While these factors are important, there may be additional ways that exposure to a new financial product can change attitudes towards existing ones. For instance, Bachas et al. [2021] find that after the Mexican government began making cash transfers via debit cards, recipients reported higher levels of trust in the issuing banks. Given the global efforts by governments to increase financial inclusion through the introduction of basic financial services, it is crucial to understand the potential implications of adopting financial products. In particular, our paper studies whether being introduced to a basic transactional financial product makes individuals more receptive to adopting other products for saving and borrowing.

Finally, our paper is related to the literature on the unintended consequences of financial inclusion. One important concern associated with financial inclusion in developing countries is over-indebtedness which is often cited as a serious problem leading to negative outcomes such as deteriorating health, higher divorce rates, and job loss [Fanta and Makina, 2019]. Naidoo [2016] presents several case studies illustrating how easy access to bank accounts may inadvertently reduce overall value by diverting time from other valuable activities. Moreover, it has been argued that financial inclusion may trigger a financial crisis by accelerating credit expansion to the poor [García and José, 2016]. We contribute to this literature by showing how forced inclusion in a specific financial product may reduce the usage of other financial products, resulting in an ambiguous overall effect on financial inclusion.

The structure of this paper is as follows: In the next section, we discuss the details of our experimental setup. We then provide (**preliminary**) results, followed by a brief conclusion.

2 Experimental Details

We conducted the experiment between November / December 2022 and July 2023, preceded by a pilot in October 2022. The study was conducted at Kepler's Kigali and Kiziba campuses. We initially enrolled about 500 participants in Kigali and 100 in Kiziba, though because of attrition our final sample consists of about 360 participants. **Note: We plan to analyse whether there is differential attrition**

We collected baseline data at the launch of the survey. We then collected intermediate outcome data in January 2023 and April 2023. The goal of this intermediate data collection is to study dynamics in the development of our outcome variables - our primary analyses are based on data collected in July 2023.

2.1 Setting

2.1.1 Experimental partner

The study took place at Kepler's campuses. Kepler is an educational NGO offering degrees from Southern New Hampshire University, involving remote learning combined with on-the-ground support. Kepler also recently received accreditation as a university and started offering its own degree programs. Teaching at Kepler focuses on professional skills, and its graduates are generally sought after by employers in Rwanda. Kepler's main campus is located in Kigali, the capital of Rwanda, and Kepler has a secondary campus at Kiziba refugee camp in Western Rwanda. Refugees at the camp are mostly Congolese though the students at Kepler are normally of the age where they would have been born in the refugee camp and lived there their entire lives.

We invited all Kepler students enrolled in October 2022 to participate in our study. As the Kigali campus is larger than Kiziba, we capped participation in Kigali at 550 while inviting all Kiziba students to enroll. Students were told that they would participate in research on attitudes towards financial products and would be paid for their time and offered snacks.

2.1.2 Pre-treatment financial inclusion

Kigali is well-served by financial institutions, with most Rwandan banks and all mobile money operators having branches in the city. In addition, many microfinance institutions

offer savings and loan products. Kiziba refugee camp on the other hand has no bank branches. The nearest bank branches are about 45 minutes by motorcycle, though both banks and microfinance institutions send agents to the camp regularly. Mobile money agents are prevalent in the camp.

Almost everyone in our sample uses a bank account, with pre-treatment usage being slightly higher in the Cash arm than the other treatment arms. Similarly, almost everyone in our sample uses mobile money. However, only 20% of the sample uses MoKash for savings.

2.2 Treatment assignment

We quasi-randomly assigned all participants to one of three experimental conditions. Although we initially planned to conduct the randomization using a computer, logistical issues led to it being performed manually by Kepler.

In Kigali, all students were invited into a large room after which they were assigned to three different rooms by Kepler staff (see below). Due to a miscommunication, late-comers were assigned to the two larger rooms, which happened to be the *MoKash* and *MoKash plus incentive* treatment arms. While this represents an obvious threat to our randomization protocol, we fortunately do not observe major differences in pre-treatment observables between the treatment groups. **Note: We have "replicated" our main results with a diff-in-diff - this is currently not in the paper but will help alleviate these concerns somewhat**

In Kiziba camp, all students were also invited into a large room and divided into three groups at random.

The three experimental conditions students were assigned to were:

Cash: Participants in this group were paid in cash at the end of every wave.

MoKash: Participants in this condition were told to open an account with MTN's mobile-money-linked savings product, MoKash. We then transfered money to their mobile money accounts and instructed them to deposit this money into their MoKash account immediately. The deposit was supervised.

MoKash + incentive to save: Participants in this account were paid as in the MoKash condition, but were also told that they would be given an unspecified bonus during every wave if they could show us a minimum balance on their MoKash account. The minimum

balance was 15000 RWF (roughly 15 euros at the time of the experiment), or half of the wave 1 payment.

In our analyses, we generally pool the two MoKash treatment arms into one.

In all conditions, the initial cash grants were 30k RWF (about 30 Euros at the time of the experiment) with payments of 5k to 10k RWF for all intermediate survey waves and 20k RWF at the end of the survey. For context, the average salary of a *graduate* of Kepler Kigali is about 250k RWF per month, meaning that the grant was fairly substantial for students in Kigali and very significant for students in Kiziba.

2.3 Experimental protocol

First wave

All students who accepted the invitation to participate in the research were invited into classroom's on the campuses. In these classrooms, students were asked to count up such that numbers 1 were assigned to the cash condition, 2 to the MoKash condition and 3 to the MoKash with incentives condition (late arrivals were assigned to conditions 2 and 3).

Each group was then led to a separate classroom where participants were asked to read and sign a consent form and informed about the amount they would be paid throughout the research project (they were not informed about the method of payment). Participants then filled in a survey containing our baseline questions. They then received payment.

Subsequent waves

After the first wave, participants who had participated were invited to subsequent waves with an invitation that specified a room (based on their group). In each room, a survey was administered, followed by payments.

2.4 Deviations from pre-registration

We deviate from our pre-registered experimental protocol in one key way. Due to constraints on Kepler's side, we were unable to randomize assignment to treatment groups in advance by computer. Instead, subjects were assigned to their treatment group by Kepler staff. The process involved calling all students into a room and then having them count up. People were assigned into rooms based on their number, i.e. every third person

ended up in each group. Latecomers were assigned to the two MoKash arms due to a misunderstanding, leading to these groups having more participants.

In the balance table, we show that there are no significant differences in pre-treatment covariates between the groups.

We also included participants from our pilot waves in the main study. We made this decision after collecting baseline data for our entire sample but before collecting any post-treatment data. We did this to maximize sample size given concerns about attrition.

3 Methodology and results

3.1 Key variable definitions

Our analysis focuses on three groups of primary outcomes.

3.1.1 Perceptions of other financial products

We measure people's attitudes towards other financial products (other than MoKash). We focus on three formal providers of financial services and one kind of informal financial institution: traditional mobile money, traditional banks, microfinance institutions and informal savings groups. We also ask questions about perceptions of cash (riskiness etc.).

As each provider provides a different set of services, we create separate indexes of perceptions for each one of them. For instance, mobile money is primarily used for transaction (despite people commonly using it to save), a bank can provide both transactions, savings and borrowing, savings groups can help with both savings and borrowings and so on. While in retrospect, this inconsistency is clearly not optimal, we are focusing on changes in these perceptions over time, which are hopefully less affected by this.

Each item is measured with a 1-5 scale (disagree completely - agree completely) of agreement towards the following statements)

- Trust (measured with the statement "I trust x (for instance, *I trust microfinance institutions*)." We also include the statements "I don't trust x to send money" for mobile money and banks as well as specific subquestions on mobile money providers and agents (we reverse the coding of this statement)

- Difficulty of usage (measured with the statement "dealing with x is complicated" for banks and microfinance institutions and "x is complicated" for mobile money and savings groups)[3]
- Price (measured with the statements "borrowing from x is expensive" for banks and microfinance institutions as well as "sending money via x is expensive" for mobile money and banks)

We take all responses (reversing the codings for certain statements so that positive perceptions of a product always represent a 1) and create an index (1-5) for each product category.

3.1.2 Preferred way to save and borrow

We first study whether the treatment affects the way in which respondents save. In Rwanda, access to formal risky investments such as the stock market is very rare. For most people, the only ways to earn a return on savings are from depositing money in a bank account, a mobile bank account or depositing money in an informal savings group which lends it out within the community. In wave 1, we asked respondents whether they had savings and if so, how did they keep these savings. As savings rates among students were relatively low, also asked: *If you had to save 50k RWF for a predictable expense in 6 months, how would you do it?* with several options (formal and informal).

We also study whether being introduced to the new financial product affects the way in which people would prefer to borrow money. Do they shift borrowing from informal to formal institutions? In wave 1, we asked respondents whether they had borrowed money and if so, from where. As with the savings questions, we then rephrased the question to be more hypothetical and instead asked: *If you had to borrow 200k because of an unexpected emergency, how would you do it?* and offered several options, including informal ones (family, savings group) and formal ones (mobile bank, bank) and an "other" category.

3.1.3 Attitudes towards debt and risk

We also hypothesize that being introduced to a product that unlocks easy savings and borrowing options might change people's attitudes towards borrowing and their risk attitudes [Hong et al., 2020]. We measure debt aversion with the question: *Please state*

[3]We also have separate items about difficulty for using banks and mobile money to transfer funds

your level of agreement with the following statement: I am uncomfortable with taking on debt and with 1 meaning disagree completely and 5 meaning agree completely. The average response to this question prior to our treatment was about 3.6, suggesting that our respondents are generally uncomfortable with using debt. For risk aversion, we use the question *Are you in general a person who takes risks or do you try to evade risks?* where 1 denotes "I never take risks" and 5 denotes "I always take risks". We flip the coding of this variable in several tests so that 5 is the risk and debt averse answer.

3.2 Results

Next, we present the results of our analyses. Our sample consists of participants who participated in the first and final waves of the survey. We begin with a pre-treatment summary statistics table, showing no differences between the control and the treatment groups. We then present a basic univariate differences-in-means analysis for all our outcome variables in wave 4, followed by regression analyses for each outcome separately.

3.2.1 Summary statistics and pre-treatment covariate balance

We present pre-treatment summary statistics for key variables in our analysis in Table 1. The sample is generally balanced across key covariates, though our *Cash* treatment arm is more likely to use both banks and mobile money ex ante. We do not see significant differences in perceptions of financial products or demographics, other than perhaps the *Cash* treatment having slightly fewer refugees.

3.2.2 Univariate analysis

In Table 2, we present a similar summary statistics table at the end of wave 4. This table provides a high-level overview of all of our key outcome variables.

There are no significant differences across most outcomes, but we see that both Treatment arms appear to have worse perceptions of banks and mobile money (the other formal financial products) than the control arm. The next sections focus on formally testing whether these differences hold in a multivariate setting.

3.2.3 Perceptions indexes

We then turn to a multivariate analysis of our perceptions-index variables. We run an ANCOVA analysis (McKenzie [2012] shows that this has significant power gains over differences-in-differences, though the results are very similar in a differences-in-differences setup) where we regress various outcome variables (described below) on a person's treatment status, controlling for a range of covariates as well as the pre-treatment value of the outcome variable.

We estimate the following equations in our ANCOVA analyses:

$$Y_{i,4} = \beta_0 + \beta_1 \times Treated_i + \beta_2 \times Controls + \beta_3 \times Y_{i,1} + \epsilon_i$$

Where Y denotes the perceptions index for a given product (Banks in columns 1-2, Mobile Money in columns 3-4, Microfinance in columns 5-6 and Savings groups in columns 7-8). We control for the wave 1 measure of the outcome variable for each product.

Treated is a dummy that equals 1 if the participant was assigned to either the *MoKash* or *MoKash and Incentive* groups and *Controls* denotes a set of individual-level controls such as the socioeconomic status and financial literacy.

We repeat the regressions twice, in Table 3 and Table 4. Table 3 presents the results for participants *who did not use MoKash prior to our experiment* and Table 4 presents the results for the full sample.

We also present the results graphically in Figure 1, where we plot the mean of the perceptions indexes for each product both before and after treatment. The results are in line with the ANCOVA results and specifically show that the changes are driven by changes in our Treated groups as opposed to the Cash arm. Figure 2 presents the dynamics of these changes - we see an immediate gap between the treated and cash arms which widens slightly in the final wave.

We see that in both samples, receiving MoKash is associated with worsening perceptions of Banks and Mobile Money, but not of informal financial products. The magnitude is equal to a 0.25 and 0.32 (banks and mobile money) unit change on a scale of 1-5, which are roughly 10% and 20% of the pre-treamtent means for the respective products.

We also run a differences-in-differences analysis. This analysis helps alleviate concerns that problems in the randomization process might have affected our results by focusing on within-person changes. The results are presented in Table 5 and are very similar to

the ANCOVA results above.

3.2.4 Preferred saving and borrowing tool

Next, we test whether participants' preferred tools for saving and borrowing changed as a result of our treatment. For the preferred saving tool, we have data from all waves. For the preferred borrowing tool, we are unfortunately constrained in that we did not collect these data in wave 1. We therefore repeat our ANCOVA analyses for the preferred saving tool, but run a cross-sectional regression on the wave 4 outcome for the preferred borrowing tool.

The results are presented in Figures 3 and 4. We see immediately that there are no differences whatsoever in the preferred borrowing tool, and we omit the regression table confirming this from our paper. However, we see that participants may have shifted their preferences towards MoKash as a saving tool and away from banks.

We test this formally in Table 6, where we regress a dummy for whether a given product is a participant's preferred saving tool for a predictable expense on treatment status. The odd-numbered columns focus on participants who did not use MoKash prior to our treatment whereas the even-numbered columns present resutls for the full sample. We see a statistically significant change away from banks and statistically insignificant changes towards MoKash and Mobile Money.

As with the perceptions indexes above, we also run a differences-in-differences analysis to help alleviate concerns that problems in the randomization process might have affected our results . The results are presented in Table 7 and, as above, are very similar to the ANCOVA results.

3.2.5 Risk and debt aversion

We also test whether our treatment affects the risk and debt aversion of our participants. For these outcomes, we have access to pre- and post-treatment data. We present the results graphically in Figure 5.

There are no significant differences between the various treatment groups on either measure. We omit a formal regression analysis confirming this for space reasons.

3.2.6 Use of financial products

Finally, we look at the usage rates of financial products in our sample. We do this by looking at the account balances our participants have across the three formal tools in our research, MoKash, mobile money and their bank account.

We ask participants how much money they have in their accounts with a categorical question with five options:

- Under 10k
- 10k-20k
- 20k-40k
- 40k-60k
- Over 60k

We regress the account balance (categorical) on treatment status in Table 8. The outcome in the first two columns is the participant's MoKash balance, the outcome in columns 3-4 is their mobile money balance and the outcome in columns 5-6 is their bank account balance. The sample in odd-numbered columns is those who did not use MoKash prior to the treatment. While we see that the *Treated* coefficient is positive in columns 1 and 2 (indicating higher MoKash balances) and negative in columns 3-6 (indicating lower balances on other formal tools), none of the coefficients is statistically significant. We present the results graphically in Figure 6, where we plot a histogram of the balance (category) by treatment and similarly see a weak effect where the treated are slightly more likely to use MoKash.

4 Discussion and Conclusion

We study the impact of being introduced to a new financial product, MoKash, on attitudes towards other financial products. We do this by conducting an RCT where subjects in Rwanda are given cash grants either in the form of cash or a transfer to a mobile bank account. The new product strictly dominates existing products - it offers the same or higher interest than banks while also being considerably more convenient whereas it is built on the same platform as mobile money but pays interest.

We find strong evidence that being introduced to MoKash leads to worse perceptions of existing financial products and weak evidence of a change in preferences for saving tools. Our key finding is that there is evidence for "contrast effects" in attitudes towards financial products, suggesting that there are cross-product spillovers in attitudes towards financial products.

We do not find any evidence for changes in usage rates, but this may be driven by either there being no effect due to inertia, a lack of power or simply the fact that the students in our sample do not have much use for formal financial products at this stage in their lives.

It is important to highlight the drawbacks of our approach. First, the fact that randomization did not go as planned creates an obvious concern. Despite the failed randomization, we find that out sample is generally well-balanced across pre-treatment covariates. We also find that our main results hold in a differences-in-differences setup, where concerns about differences across participants are important only if we expect them to vary across time and treatment status. Another concern may be that participants figured out the purpose of our study and tried to cater their answers to us. At the end of wave 4, we asked participants what they thought the experiment was about. Participants across ALL treatment arms generally said it was about their attitudes towards mobile money.[4] In addition to this, views about mobile money worsened instead of improved. Finally, one concern might be spillovers across the various treatment arms, which would bias us against finding a result. It is possible that our results understate the true magnitude of the spillovers.

[4]We are working on a formal test of this with GenAI classification of the answers.

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Table 1
Baseline Summary Statistics

This table provides baseline (pre-treatment) summary statistics for key variables used in our analyses. In the difference columns, 1 refers to the cash treatment, 2 refers to MoKash and 3 refers to MoKash + Incentives. All of the "Use of Financial Products" variables are dummies and they are not exclusive (i.e. a person may use financial products for multiple purposes). They also refer to whether the respondent has *ever* used the financial product for a certain purpose, not whether they regularly use them for that purpose. The Attitudes variables (other than "perceptions indexes") are on a 1-5 scale, with 1 denoting "Strongly disagree" and 5 denoting "Strongly agree." The perceptions indexes average out all perceptions of any given financial product and are coded such that 1 represents favorable perceptions (higher trust, higher convenience, lower price etc.) and 5 represents unfavorable perceptions. SES denotes the student's family's socioeconomic status and is based on Rwanda's Ubudehe categories, which are based on income, urbanity and ownership of land. "mm" in the final attitudes questions refers to mobile money. Financial literacy is defined as the number of questions answered correctly on a "big 3 + 1"-style financial literacy test.

	(1)	(2)	(3)	(4)		(5)		(6)	
	Cash	MoKash	Mokash and Incentive	Diff 1 vs 2		Diff 1 vs 3		Diff 2 vs 3	
	mean	mean	mean	b	se	b	se	b	se
Demographics									
Male Dummy	0.51	0.57	0.55	-0.06	(0.07)	-0.04	(0.07)	0.02	(0.06)
SES = Refugee	0.19	0.24	0.28	-0.05	(0.06)	-0.08	(0.06)	-0.04	(0.05)
SES = 1 (Lowest)	0.08	0.04	0.01	0.04	(0.03)	0.06*	(0.03)	0.02	(0.02)
SES = 2	0.13	0.21	0.10	-0.08	(0.05)	0.02	(0.05)	0.10*	(0.04)
SES = 3	0.56	0.49	0.54	0.07	(0.07)	0.02	(0.07)	-0.05	(0.06)
SES = 4 (Highest)	0.04	0.02	0.06	0.02	(0.02)	-0.02	(0.03)	-0.04	(0.02)
Wave 1 Financial literacy (0-4)	2.31	2.36	2.29	-0.05	(0.12)	0.02	(0.12)	0.07	(0.11)
Use of Financial Products									
Use Bank: To receive waves	0.75	0.68	0.73	0.07	(0.07)	0.02	(0.06)	-0.05	(0.06)
Use Bank: For storage	0.96	0.81	0.83	0.15**	(0.05)	0.13**	(0.05)	-0.02	(0.05)
Use Bank: To receive transfers	0.92	0.80	0.82	0.11*	(0.05)	0.09	(0.05)	-0.02	(0.05)
Use Bank: To send money	0.69	0.57	0.66	0.12	(0.07)	0.04	(0.07)	-0.09	(0.06)
Used bank (1 month): To make a payment	0.68	0.64	0.64	0.04	(0.07)	0.04	(0.07)	-0.00	(0.06)
Use Bank: To participate in a savings group	0.32	0.30	0.27	0.01	(0.07)	0.05	(0.07)	0.03	(0.06)
Use Bank: To buy financial products	0.32	0.23	0.28	0.09	(0.07)	0.03	(0.07)	-0.05	(0.05)
Used bank (1 month): Other	0.11	0.05	0.09	0.06	(0.04)	0.02	(0.04)	-0.03	(0.03)
Use MM: To store money	0.95	0.83	0.82	0.12*	(0.05)	0.13**	(0.05)	0.01	(0.05)
Use MM: To receive wages	0.74	0.58	0.65	0.16*	(0.07)	0.08	(0.07)	-0.08	(0.06)
Use MM: To receive transfers	0.97	0.95	0.87	0.02	(0.03)	0.11*	(0.04)	0.08*	(0.03)
Use MM: To send payment	0.99	0.90	0.87	0.09*	(0.04)	0.12**	(0.04)	0.03	(0.04)
Used MM (1 month): To make a payment	0.90	0.85	0.85	0.05	(0.05)	0.06	(0.05)	0.01	(0.04)
Use MM: Take or repay loans	0.36	0.39	0.35	-0.03	(0.07)	0.01	(0.07)	0.04	(0.06)
Use MM: Participate in savings group	0.36	0.30	0.30	0.05	(0.07)	0.05	(0.07)	0.00	(0.06)
Use MM: To buy financial products	0.60	0.52	0.50	0.08	(0.07)	0.10	(0.07)	0.02	(0.06)
Use MM: Other	0.14	0.09	0.12	0.05	(0.04)	0.02	(0.05)	-0.03	(0.04)
Pre-treatment: Uses MoKash for Saving	0.22	0.21	0.20	0.01	(0.06)	0.02	(0.06)	0.00	(0.05)
Perceptions Indexes (1 - Best, 5 - Worst)									
Perceptions index: Banks	2.32	2.36	2.45	-0.04	(0.11)	-0.13	(0.10)	-0.09	(0.09)
Perceptions index: mobile money	1.77	1.76	1.88	0.01	(0.08)	-0.10	(0.08)	-0.12	(0.07)
Perceptions index: Microfinance	2.88	2.86	3.12	0.01	(0.13)	-0.24	(0.13)	-0.25**	(0.10)
Perceptions index: Informal savings groups	3.00	2.99	3.05	0.01	(0.09)	-0.05	(0.09)	-0.06	(0.07)
Attitudes (1 - Disagree Completely, 5 - Agree Completely)									
Dealing with a bank is complicated	2.81	2.51	2.78	0.30	(0.16)	0.03	(0.15)	-0.27*	(0.12)
Sending money via bank is slow	2.39	2.55	2.61	-0.16	(0.16)	-0.22	(0.15)	-0.06	(0.13)
Sending money via bank is difficult	2.09	2.22	2.27	-0.13	(0.15)	-0.17	(0.15)	-0.05	(0.12)
Sending money via bank is expensive	2.61	2.66	2.64	-0.05	(0.17)	-0.03	(0.16)	0.03	(0.14)
I don't trust a bank to send money	1.71	1.85	1.96	-0.13	(0.13)	-0.24	(0.13)	-0.11	(0.11)
Dealing with a mm is complicated	1.75	1.60	1.73	0.15	(0.12)	0.03	(0.12)	-0.12	(0.10)
Sending money via mm is slow	2.19	2.12	2.41	0.07	(0.15)	-0.21	(0.16)	-0.28*	(0.13)
Sending money via mm is expensive	1.58	1.66	1.71	-0.08	(0.12)	-0.12	(0.11)	-0.04	(0.10)
Sending money via mm is difficult	1.44	1.40	1.44	0.04	(0.09)	0.00	(0.10)	-0.04	(0.07)
I don't trust a mm to send money	1.88	2.00	2.10	-0.12	(0.14)	-0.21	(0.14)	-0.10	(0.11)
Uncomfortable with taking on debt	3.60	3.80	3.59	-0.20	(0.17)	0.01	(0.17)	0.21	(0.14)
I am someone who avoids risk	3.77	3.57	3.55	0.19	(0.11)	0.22	(0.12)	0.03	(0.09)
Risk Aversion (5 = Risk Averse)	2.23	2.43	2.45	-0.19	(0.11)	-0.22	(0.12)	-0.03	(0.09)
Observations	77	136	143	213		220		279	

Table 2
Wave 4 Univariate Differences

This table provides univariate differences in key variables at the end of the final wave of data collection. In the difference columns, 1 refers to the cash treatment, 2 refers to MoKash and 3 refers to MoKash + Incentives. The "Preferred saving" variables denote the respondent's answer to the question "If you had to save 50k RWF (about 50 EUR) for a predictable expense in 6 months, how would you do it?" The "Preferred borrowing" variables denote the respondent's answer to the question "If you had to borrow 200k RWF for an unexpected expense, how would you do it?"

	(1)	(2)	(3)	(4)		(5)		(6)	
	Cash	MoKash	Mokash and Incentive	Diff 1 vs 2		Diff 1 vs 3		Diff 2 vs 3	
	mean	mean	mean	b	se	b	se	b	se
Use of Financial Products									
Used bank (1 month): To withdraw money	0.51	0.60	0.66	-0.10	(0.07)	-0.15*	(0.07)	-0.05	(0.06)
Used bank (1 month): To make a payment	0.39	0.32	0.30	0.07	(0.07)	0.09	(0.07)	0.02	(0.06)
Used bank (1 month): Other	0.27	0.25	0.24	0.02	(0.06)	0.03	(0.06)	0.01	(0.05)
Used bank (1 month): To make a deposit	0.39	0.37	0.36	0.02	(0.07)	0.03	(0.07)	0.01	(0.06)
Used MM (1 month): To make a payment	0.79	0.68	0.77	0.11	(0.06)	0.02	(0.06)	-0.09	(0.05)
Used MM (1 month): To withdraw money	0.70	0.71	0.71	-0.01	(0.07)	-0.00	(0.06)	0.01	(0.05)
Used MM (1 month): To make a deposit	0.56	0.53	0.58	0.03	(0.07)	-0.02	(0.07)	-0.05	(0.06)
Used MM (1 month): Other	0.30	0.27	0.27	0.03	(0.06)	0.03	(0.06)	0.01	(0.05)
Preferred Methods of Saving									
Preferred saving: Bank	0.52	0.40	0.43	0.12	(0.07)	0.09	(0.07)	-0.02	(0.06)
Preferred saving: Savings group	0.09	0.10	0.09	-0.00	(0.04)	0.00	(0.04)	0.00	(0.03)
Preferred saving: MM	0.16	0.25	0.17	-0.09	(0.06)	-0.02	(0.05)	0.08	(0.05)
Preferred saving: MoKash	0.22	0.25	0.31	-0.03	(0.06)	-0.09	(0.06)	-0.06	(0.05)
Preferred borrowing: Family	0.70	0.75	0.77	-0.05	(0.06)	-0.07	(0.06)	-0.02	(0.05)
Preferred borrowing: Bank	0.31	0.26	0.28	0.05	(0.06)	0.03	(0.06)	-0.02	(0.05)
Preferred borrowing: Savings group	0.21	0.19	0.16	0.02	(0.06)	0.05	(0.05)	0.03	(0.05)
Preferred borrowing: MoKash	0.23	0.26	0.24	-0.02	(0.06)	-0.01	(0.06)	0.01	(0.05)
Preferred borrowing: Other	0.03	0.01	0.03	0.02	(0.02)	-0.00	(0.02)	-0.02	(0.02)
Perceptions Indexes (1 - Best, 5 - Worst)									
Perceptions index: Banks	2.56	2.85	2.84	-0.29*	(0.12)	-0.28*	(0.11)	0.01	(0.09)
Perceptions index: mobile money	2.14	2.43	2.37	-0.30*	(0.12)	-0.24	(0.12)	0.06	(0.11)
Perceptions index: Microfinance	3.13	3.22	3.22	-0.09	(0.14)	-0.09	(0.14)	-0.01	(0.10)
Perceptions index: Informal savings groups	2.99	3.11	3.10	-0.12	(0.10)	-0.11	(0.10)	0.01	(0.08)
Attitudes (1 - Disagree Completely, 5 - Agree Completely)									
Dealing with a bank is complicated	2.92	3.01	3.10	-0.09	(0.16)	-0.18	(0.14)	-0.09	(0.12)
Sending money via bank is slow	2.61	2.98	2.83	-0.37*	(0.15)	-0.21	(0.15)	0.15	(0.12)
Sending money via bank is difficult	2.34	2.71	2.66	-0.37*	(0.15)	-0.32*	(0.15)	0.05	(0.13)
Sending money via bank is expensive	2.82	3.07	3.06	-0.26	(0.16)	-0.24	(0.16)	0.01	(0.13)
I don't trust a bank to send money	2.13	2.48	2.55	-0.35*	(0.16)	-0.42**	(0.15)	-0.07	(0.13)
Dealing with a mm is complicated	2.00	2.51	2.29	-0.51**	(0.16)	-0.29	(0.15)	0.23	(0.13)
Sending money via mm is slow	2.39	2.53	2.56	-0.14	(0.16)	-0.17	(0.16)	-0.03	(0.14)
Sending money via mm is expensive	1.92	2.26	2.20	-0.34*	(0.15)	-0.27	(0.14)	0.06	(0.13)
Sending money via mm is difficult	1.97	2.23	2.29	-0.25	(0.16)	-0.31	(0.17)	-0.06	(0.14)
I don't trust a mm to send money	2.39	2.64	2.53	-0.25	(0.16)	-0.14	(0.15)	0.11	(0.13)
Uncomfortable with taking on debt	3.22	3.23	3.13	-0.01	(0.16)	0.09	(0.17)	0.10	(0.13)
I am someone who avoids risk	3.69	3.55	3.52	0.14	(0.12)	0.16	(0.12)	0.03	(0.10)
Risk Aversion (5 = Risk Averse)	2.31	2.45	2.48	-0.14	(0.12)	-0.16	(0.12)	-0.03	(0.10)
Observations	77	136	143	213		220		279	

Table 3
Perceptions Index ANCOVA - Non-users

This table presents regression results for the restricted sample (people who did not use MoKash prior to our experiment) where the outcome variable is the "Perceptions index" for various financial product categories (1 - positive perceptions, 5 - negative perceptions). The perceptions index is created by averaging all perceptions-related variables for each financial product. Wave 4 denotes the final wave of data collection, the *Treated* variable pools both of our treatments (*MoKash* and *MoKash and Incentive*). The omitted category is those people who received cash.

	Banks		Mobile Money		Microfinance		Savings Groups	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	0.257**	0.245**	0.317***	0.330***	0.089	0.128	0.117	0.096
	(0.108)	(0.111)	(0.112)	(0.113)	(0.147)	(0.150)	(0.094)	(0.096)
Pre-treatment bank perceptions	0.384***	0.390***						
	(0.067)	(0.069)						
Pre-treatment mobile money perceptions			0.408***	0.414***				
			(0.090)	(0.089)				
Pre-treatment microfinance perceptions					0.245***	0.245***		
					(0.079)	(0.081)		
Pre-treatment savings group perceptions							0.247***	0.257***
							(0.060)	(0.060)
Wave 1 Financial literacy (0-4)=1		0.501*		0.355**		0.896***		0.198
		(0.273)		(0.146)		(0.320)		(0.177)
Wave 1 Financial literacy (0-4)=2		0.552**		0.518***		0.836***		0.390**
		(0.270)		(0.141)		(0.306)		(0.160)
Wave 1 Financial literacy (0-4)=3		0.548**		0.555***		0.806***		0.458***
		(0.269)		(0.146)		(0.303)		(0.158)
Wave 1 Financial literacy (0-4)=4		0.681**		0.414*		0.728**		0.302
		(0.278)		(0.240)		(0.303)		(0.221)
Socioeconomic status=1		-0.231		0.187		0.365		-0.152
		(0.215)		(0.267)		(0.326)		(0.218)
Socioeconomic status=2		0.074		0.080		0.286		0.149
		(0.153)		(0.180)		(0.203)		(0.131)
Socioeconomic status=3		0.054		0.211*		0.270*		0.076
		(0.112)		(0.119)		(0.143)		(0.108)
Socioeconomic status=4		0.112		-0.000		0.171		0.236
		(0.197)		(0.242)		(0.247)		(0.192)
Male Dummy=1		0.205**		0.228**		0.177		0.209**
		(0.090)		(0.099)		(0.112)		(0.083)
Constant	1.669***	0.973***	1.362***	0.588***	2.413***	1.264***	2.237***	1.667***
	(0.182)	(0.316)	(0.179)	(0.208)	(0.241)	(0.390)	(0.207)	(0.253)
Observations	286	285	286	285	286	285	286	285

Table 4
Perceptions Index ANCOVA - Full Sample

This table presents regression results for the entire sample where the outcome variable is the "Perceptions index" for various financial product categories (1 - positive perceptions, 5 - negative perceptions). The perceptions index is created by averaging all perceptions-related variables for each financial product. Wave 4 denotes the final wave of data collection, the *Treated* variable pools both of our treatments (*MoKash* and *MoKash and Incentive*). The omitted category is those people who received cash.

	Banks		Mobile Money		Microfinance		Savings Groups	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	0.214**	0.195**	0.248**	0.259**	0.055	0.081	0.106	0.091
	(0.096)	(0.098)	(0.102)	(0.101)	(0.132)	(0.134)	(0.086)	(0.087)
Pre-treatment bank perceptions	0.428***	0.438***						
	(0.058)	(0.059)						
Pre-treatment mobile money perceptions			0.474***	0.483***				
			(0.079)	(0.079)				
Pre-treatment microfinance perceptions					0.243***	0.241***		
					(0.070)	(0.072)		
Pre-treatment savings group perceptions							0.223***	0.231***
							(0.057)	(0.056)
Wave 1 Financial literacy (0-4)=1		0.378		0.259		0.540		0.156
		(0.243)		(0.246)		(0.446)		(0.201)
Wave 1 Financial literacy (0-4)=2		0.518**		0.522**		0.547		0.448**
		(0.234)		(0.241)		(0.439)		(0.189)
Wave 1 Financial literacy (0-4)=3		0.418*		0.395		0.432		0.454**
		(0.236)		(0.244)		(0.433)		(0.190)
Wave 1 Financial literacy (0-4)=4		0.734***		0.354		0.410		0.272
		(0.274)		(0.307)		(0.447)		(0.237)
Socioeconomic status=1		-0.253		0.269		0.516		-0.096
		(0.233)		(0.279)		(0.345)		(0.191)
Socioeconomic status=2		0.165		0.161		0.306*		0.066
		(0.128)		(0.152)		(0.165)		(0.109)
Socioeconomic status=3		0.117		0.244**		0.218*		0.016
		(0.101)		(0.106)		(0.129)		(0.093)
Socioeconomic status=4		0.090		0.042		0.018		0.156
		(0.185)		(0.180)		(0.245)		(0.140)
Male Dummy=1		0.231***		0.233***		0.195*		0.168**
		(0.081)		(0.089)		(0.102)		(0.073)
Constant	1.602***	0.928***	1.293***	0.566**	2.436***	1.655***	2.326***	1.816***
	(0.165)	(0.284)	(0.156)	(0.280)	(0.224)	(0.501)	(0.202)	(0.265)
Observations	361	360	361	360	361	360	361	360

Table 5
Perceptions Index Differences-in-Differences

This table presents regression results where the outcome variable is the "Perceptions index" for various financial product categories (1 - positive perceptions, 5 - negative perceptions). The perceptions index is created by averaging all perceptions-related variables for each financial product. Wave 4 denotes the final wave of data collection, the *Treated* variable pools both of our treatments (*MoKash* and *MoKash and Incentive*). All regressions include respondent fixed effects. The sample consists of people who did not use MoKash prior to our treatment.

	Banks	Mobile Money	Microfinance	Savings Groups
	(1)	(2)	(3)	(4)
wave=4	0.238**	0.302***	-0.063	0.294**
	(0.094)	(0.108)	(0.107)	(0.146)
Treated=1 × wave=4	0.211*	0.300**	0.163	-0.055
	(0.111)	(0.124)	(0.120)	(0.164)
Individual Fixed Effects	Yes	Yes	Yes	Yes
Observations	570	570	570	570
R^2	0.705	0.678	0.604	0.626

Table 6
Preferred Saving Tool - ANCOVA

This table presents regression results where the outcome variable is a dummy that takes the value of 1 if a person's answer to the question *If you had to save 50k RWF for a predictable expense in 6 months, how would you do it?* in Wave 4 is a bank (columns 1-2), an informal group (cols 3-4), mobile money (5-6) and MoKash (7-8). The *Treated* variable pools both of our treatments (*MoKash* and *MoKash and Incentive*).

	Banks		Informal Group		Mobile Money		MoKash	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated	-0.141**	-0.102	0.022	0.004	0.040	0.059	0.083	0.051
	(0.071)	(0.063)	(0.041)	(0.037)	(0.056)	(0.046)	(0.059)	(0.055)
Pre-treatment: Bank	0.174***	0.183***						
	(0.061)	(0.055)						
Pre-treatment: Informal Group			-0.011	0.070				
			(0.052)	(0.055)				
Pre-treatment: Mobile Money					0.121**	0.139***		
					(0.061)	(0.053)		
Pre-treatment: MoKash							0.106	0.112*
							(0.077)	(0.068)
Wave 1 Financial literacy (0-4)=1	0.118	0.150	-0.173	-0.312	0.028	0.097	0.053	0.073
	(0.246)	(0.223)	(0.216)	(0.196)	(0.245)	(0.181)	(0.235)	(0.170)
Wave 1 Financial literacy (0-4)=2	0.120	0.101	-0.172	-0.285	-0.039	0.034	0.127	0.171
	(0.240)	(0.218)	(0.214)	(0.195)	(0.240)	(0.175)	(0.231)	(0.165)
Wave 1 Financial literacy (0-4)=3	0.096	0.096	-0.122	-0.252	-0.002	0.060	0.045	0.104
	(0.240)	(0.218)	(0.215)	(0.196)	(0.240)	(0.175)	(0.230)	(0.164)
Wave 1 Financial literacy (0-4)=4	0.122	0.130	-0.164	-0.298	-0.036	0.043	0.106	0.136
	(0.276)	(0.248)	(0.222)	(0.201)	(0.259)	(0.192)	(0.255)	(0.190)
Socioeconomic status=1	-0.145	-0.088	-0.088**	-0.105**	0.198	0.253*	0.021	-0.067
	(0.151)	(0.146)	(0.040)	(0.042)	(0.187)	(0.152)	(0.159)	(0.123)
Socioeconomic status=2	0.129	-0.003	0.054	0.050	-0.050	-0.022	-0.137	-0.033
	(0.099)	(0.087)	(0.067)	(0.058)	(0.082)	(0.068)	(0.086)	(0.079)
Socioeconomic status=3	0.170**	0.091	-0.036	-0.030	-0.062	-0.015	-0.088	-0.061
	(0.073)	(0.066)	(0.043)	(0.038)	(0.063)	(0.054)	(0.067)	(0.059)
Socioeconomic status=4	-0.106	-0.128	-0.004	0.025	0.062	0.048	0.067	0.066
	(0.121)	(0.116)	(0.108)	(0.089)	(0.152)	(0.114)	(0.173)	(0.138)
Male Dummy=1	0.084	0.077	-0.037	-0.032	-0.052	-0.019	-0.007	-0.030
	(0.058)	(0.052)	(0.036)	(0.032)	(0.050)	(0.043)	(0.053)	(0.048)
Observations	285	360	285	360	285	360	285	360

Table 7
Preferred Saving Tool - Differences-in-Differences

This table presents regression results where the outcome variable is a dummy that takes the value of 1 if a person's answer to the question *If you had to save 50k RWF for a predictable expense in 6 months, how would you do it?* in Wave 4 is a bank (columns 1-2), an informal group (cols 3-4), mobile money (5-6) and MoKash (7-8). The *Treated* variable pools both of our treatments (*MoKash* and *MoKash and Incentive*). All regressions include respondent fixed effects. The sample consists of people who did not use MoKash prior to our treatment.

	Banks	Savings Group	Mobile Money	MoKash
	(1)	(2)	(3)	(4)
wave=4	0.143	-0.159**	-0.063	0.063
	(0.087)	(0.065)	(0.063)	(0.063)
Treated=1 × wave=4	-0.147	0.150**	-0.009	0.045
	(0.096)	(0.070)	(0.074)	(0.073)
Individual Fixed Effects	Yes	Yes	Yes	Yes
Observations	570	570	570	570
R^2	0.602	0.508	0.575	0.556

Table 8
Account Balance Regressions

This table presents regression results where the dependent variable is the participant's balance in a given financial instrument (categorical variable). The outcome variable is on a 1-5 scale, where 1 denotes a balance below 10k RWF, 2 denotes 10-20k, 3 denotes 20-40k, 4 denotes 40-60k and 5 over 60k. *Treated* is a variable that pools both of our *MoKash* and *MoKash + Incentive* treatments. The sample in columns 1, 3, and 5 is respondents who did not have a MoKash account before treatment whereas the sample in columns 2, 4 and 6 is the entire sample.

	MoKash		Mobile Money		Bank	
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	0.092	0.098	-0.104	-0.050	-0.148	-0.130
	(0.159)	(0.145)	(0.171)	(0.148)	(0.202)	(0.182)
Wave 1 Financial literacy (0-4)=1	0.811***	0.885***	0.767**	0.681**	0.969***	1.103***
	(0.219)	(0.211)	(0.309)	(0.283)	(0.238)	(0.210)
Wave 1 Financial literacy (0-4)=2	1.071***	1.011***	0.723***	0.712***	1.082***	1.198***
	(0.191)	(0.162)	(0.268)	(0.255)	(0.206)	(0.158)
Wave 1 Financial literacy (0-4)=3	0.880***	0.744***	0.682**	0.592**	0.937***	0.863***
	(0.175)	(0.154)	(0.273)	(0.259)	(0.184)	(0.141)
Wave 1 Financial literacy (0-4)=4	1.225***	0.979***	0.690*	0.475	1.396***	1.131***
	(0.417)	(0.343)	(0.391)	(0.344)	(0.477)	(0.383)
Socioeconomic status=1	-0.815***	-0.496*	-0.462	-0.290	-0.403	-0.216
	(0.242)	(0.283)	(0.361)	(0.312)	(0.476)	(0.368)
Socioeconomic status=2	-0.323	-0.219	-0.254	-0.290	-0.393	-0.265
	(0.241)	(0.214)	(0.226)	(0.194)	(0.269)	(0.245)
Socioeconomic status=3	-0.352*	-0.445***	-0.427**	-0.468***	-0.258	-0.170
	(0.194)	(0.170)	(0.175)	(0.152)	(0.220)	(0.194)
Socioeconomic status=4	0.265	0.435	-0.102	-0.220	0.221	0.418
	(0.520)	(0.440)	(0.458)	(0.328)	(0.492)	(0.414)
Male Dummy=1	0.004	0.027	0.087	0.169	0.062	0.166
	(0.143)	(0.129)	(0.130)	(0.116)	(0.166)	(0.150)
Obs.	269	343	284	359	274	347
R2	0.0473	0.0614	0.0363	0.0498	0.0294	0.0371

Figure 1: Perceptions Index

This figure shows the mean perception indices for three groups before and after treatment. The figure on the left includes the full sample, while the figure on the right focuses solely on participants who had not used MoKash before the experiment.

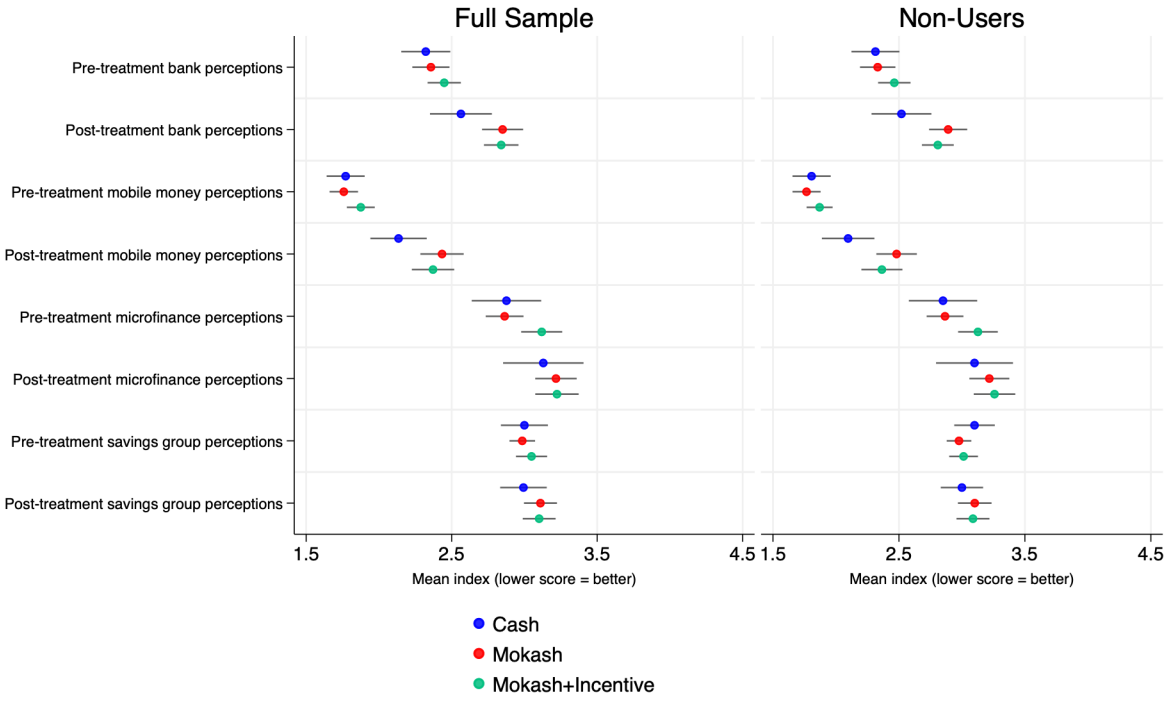


Figure 2: Perceptions Dynamics

This figure illustrates the evolution of mean perception indices for the entire group throughout the experiment. The blue line represents the mean perception index for the cash group, while the red line indicates the mean perception index for the participants in the two MoKash treatment groups (pooled). The Y-axis is the perceptions index, where 5 denotes the worst perceptions and 1 the best perceptions. The sample is those participants who did not report using MoKash prior to our treatments.

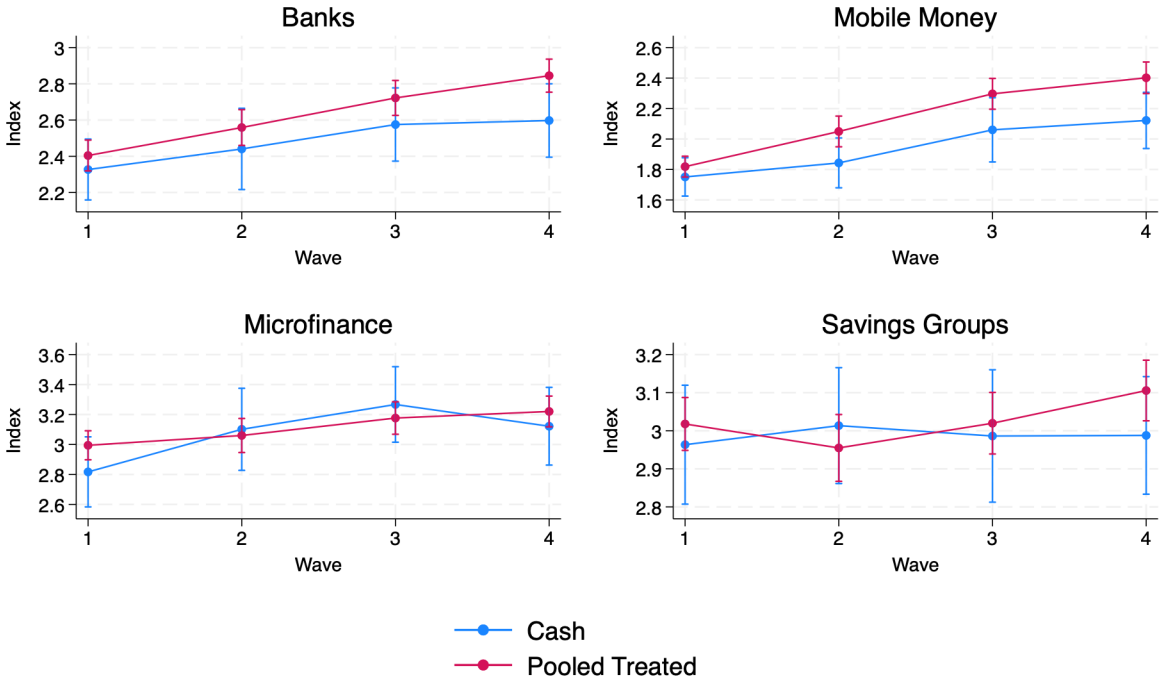


Figure 3: Preferred Saving Tools

This figure presents the proportion of participants selecting each possible tool as their preferred savings device ("If you had to save 50k RWF for a predictable expense in 6 months, how would you do it?"), divided by timing (pre- and post-treatment) as well as treatment group.

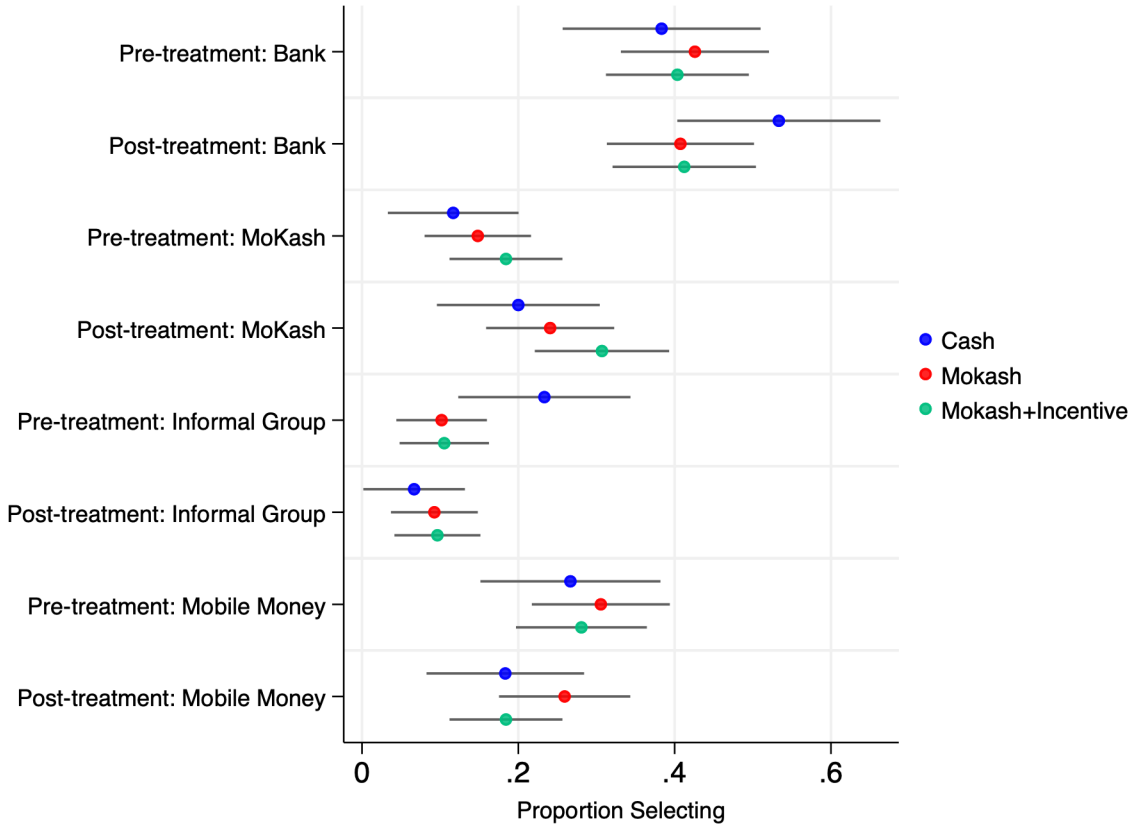


Figure 4: Preferred Borrowing Tools

This figure presents the proportion of participants selecting each possible tool as their preferred savings device ("If you had to borrow 200k RWF for an emergency, how would you do it?"), divided by treatment group (unfortunately, we did not elicit this measure pre-treatment). The sample in odd-numbered columns (1, 3, 5 and 7) consists of participants who did not use MoKash prior to our experiment whereas the sample in even-numbered columns is the full sample.

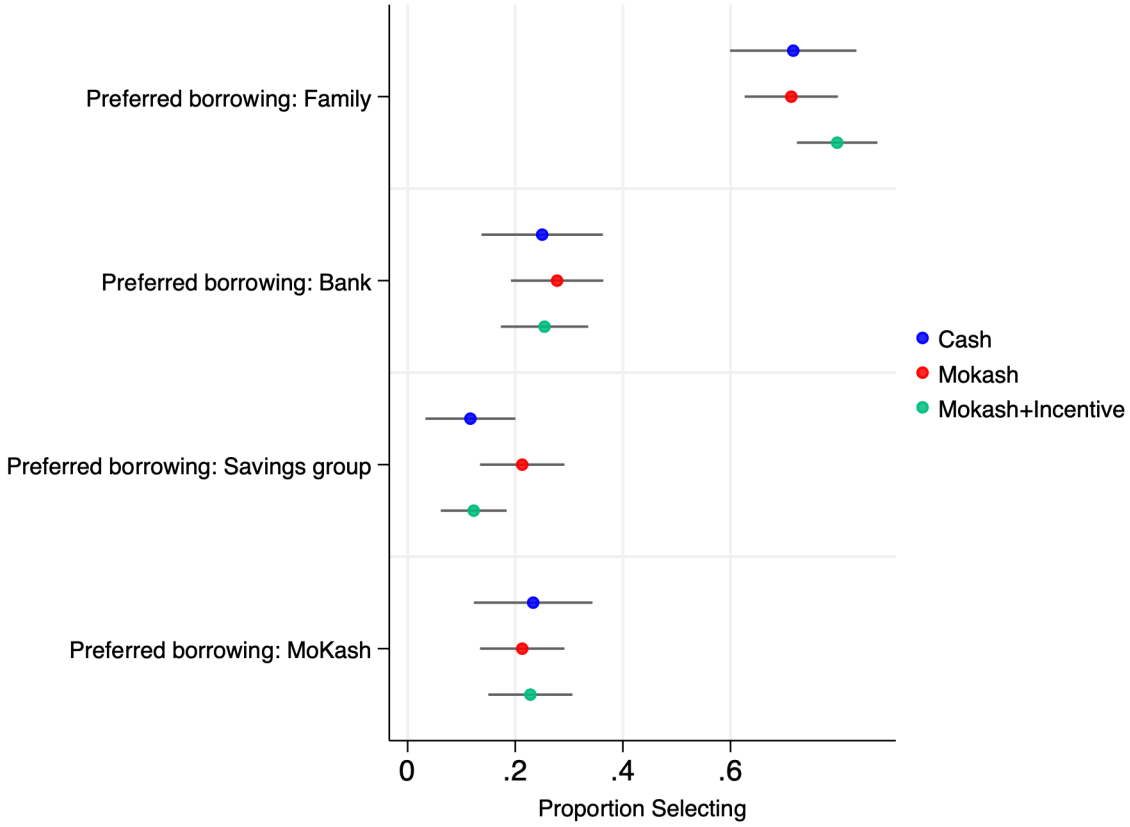


Figure 5: Risk and Debt Aversion

This figure plots risk aversion and debt aversion measures before (Pre) and after (Post) our treatment. The figure on the left covers the full sample whereas the figure on the right only includes those participants who did not use MoKash prior to our treatment.

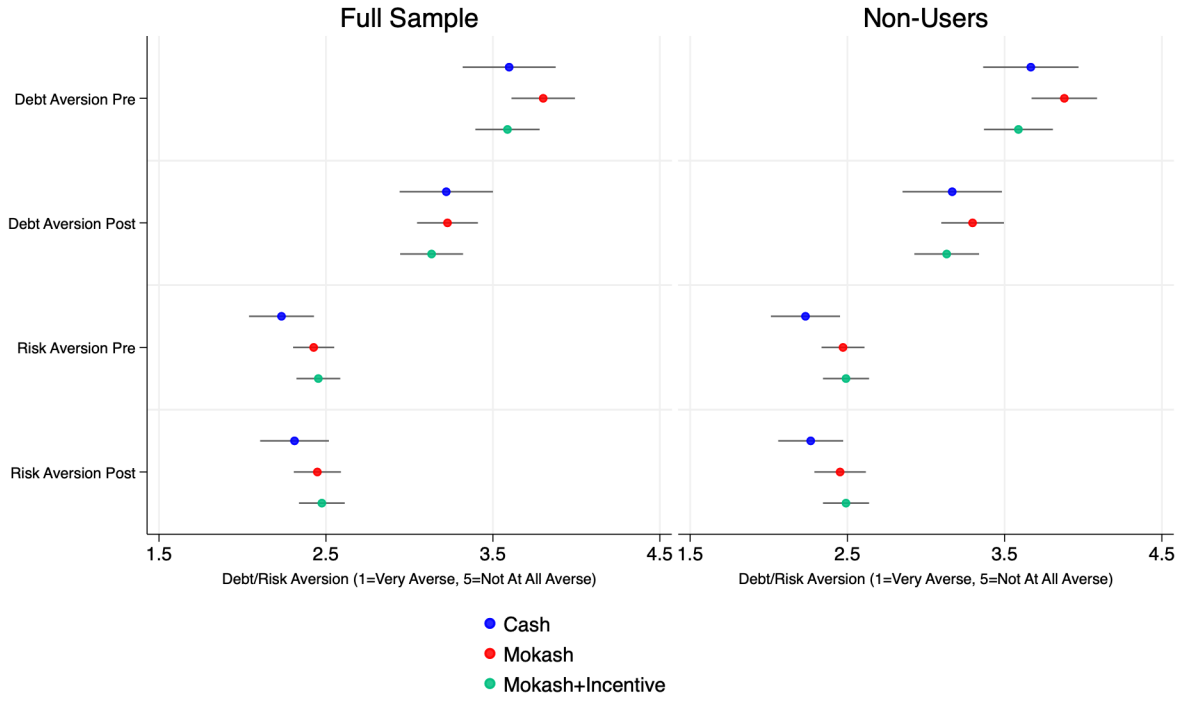


Figure 6: Balances

This figure plots the distribution of account balances across various formal financial products. The balance variable is on a 1-5 scale, where 1 denotes a balance below 10k RWF, 2 denotes 10-20k, 3 denotes 20-40k, 4 denotes 40-60k and 5 over 60k. *Pooled Treated* group pools both of our *MoKash* and *MoKash + Incentive* treatments. The sample is participants who had not used MoKash prior to the treatment.

