

Edutainment, Savings and Empowerment in Rural Areas of Peru

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Abstract

This paper presents the results of a randomized five-episode soap opera that promotes prosavings attitudes, trust in financial institutions and female empowerment among women from poor, rural areas of the Peruvian highlands. Using administrative bank data, the results show a significant increase in savings balances 1.5 and 2 years after the intervention concluded, as well as some evidence that the older cohort of women recipients benefited the most. Treated women also showed improved prosavings attitudes, in particular, an increased value of savings for emergency expenditures. The soap opera does not seem to increase trust in financial institutions but does empower women within the household. Treated women became more involved in economic decisions, increased non-agricultural earnings, and spent less time in domestic chores.

Key Words: Financial Inclusion, Trust, Savings, Soap Operas, Women, Empowerment

JEL Classification Codes: O10, D80

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1. Introduction

It is widely accepted that “banking the unbanked” or increasing the participation in the formal financial sector in the developing world can serve as a gateway to a broader range of opportunities and help countries achieve development objectives. The problem is that increasing financial inclusion has proven rather difficult. One-third of adults in the world, representing nearly two billion people, are still not part of the formal financial system. Furthermore, the fact that almost two thirds of them are women makes the lack of financial inclusion an even more complex issue, as a significant gender gap significantly hinders women from being able to effectively control their financial lives and empower them. This gap is more acute in neglected, poor, isolated, and rural areas (e.g., Gertler, et al. 2016; Chong, et al., 2020).²

Many individuals prefer to withdraw whatever bank funds they have including their government cash transfers as soon as they are available to keep the funds in informal groups, livestock, or even, literally, under the mattress (Karlan, et al., 2014). However, there is recognition that formal bank use may be increased even among the poor as long as some key factors can be addressed in particular, knowledge gaps, lack of trust, social constraints, and behavioral biases (Karlan, et al., 2014).³ There is some evidence that shows that individuals in developing countries have a latent demand for bank use, reflected on the fact that people typically have some monetary surplus that is employed in non-essential expenditures (Banerjee and Duflo, 2007); but saving for any larger purchase or investment is difficult and especially so for women, as family members pressure them to use their resources as they come (Frisancho and Valdivia, 2025). Saving in a bank

² Bank account ownership does not mean bank account use. While banked individuals worldwide reach more than 70 percent of the eligible population, the number drops to less than 48 percent once one considers the extent of inactive or “dormant” bank accounts (Dupas et al., 2018). An example is India, where despite a recent government effort to increase financial inclusion, out of more than 200 million accounts opened in financial institutions, three quarters were still inactive years later (Agrawal, et al., 2018).

³ Please, see: <https://www.cgap.org/topics/collections/womens-financial-inclusion>.

account may help individuals, and in particular women, increase control of their resources as it makes it more difficult for her partner and other relatives to know about any surplus she may have (Anderson and Baland, 2002; Ashraf et. al., 2010)⁴. In recent years, edutainment has proven promising in helping change behavior by constructing role models that can connect to traditionally excluded audiences⁵. A key element of this tool is its persuasion effect through the identification of characters and story, while connecting positive practices to informational gaps, trust improvement, and social change (Karlan, et al., 2014). Closeness to the reality of the audience is important to impact self-image and attitudes (La Ferrara, 2016).

This paper contributes to the literature by evaluating an edutainment field experiment. The authors create, produce, and show a five-episode soap opera in poor rural areas of the Peruvian Andes, and test whether empowerment, trust, and pro-savings messages can help improve economic decisions. In particular, the study finds that the soap opera is successful in terms of capturing interest, promoting pro-savings attitudes as well as economic empowerment. Consistent with the messages of the soap opera, the study also finds that women become more involved in economic decisions, reflected in an increase in their non-agricultural earnings as well as in their spending less time in domestic chores. More importantly, as part of the intervention, this research is able to monitor the bank transactions of all the individuals involved in the field experiment, which allows to observe actual monetary movements at the individual level, and not just perceptions or self-reported assessments. The study finds positive average treatment effects on bank balances one year-and-a-half as well as two years after the intervention concluded, which

⁴ Chong and Valdivia (2022) show that at least 50 percent of the women in Peruvian rural areas want to save more than their husbands, and almost 30 percent see the need to keep her money outside of the household.

⁵ DellaVigna and La Ferrara (2015) define edutainment, as the process of purposely designing and implementing a media message to both entertain and educate, to affect the audience's knowledge, attitudes, and behavior.

represent an increase in savings of at least 8.5 percent. When looking at the monthly treatment effects, the study finds no significant impact on younger women, but finds a positive and statistically significant impact on older women, as those aged 40 or older increased their savings account balances by 3 to 5 dollars soon after viewing the soap opera.

This research takes careful consideration of the soap opera design, including the characters, idiosyncrasies, storylines, and related elements, so that they closely resemble the reality of the targeted audience. The study organizes viewing sessions in the individuals' villages and uses the local public school or other village public building along with the help of previously trained facilitators, community leaders and program officials. The focus of the research are the recipients of the main Peruvian Conditional Cash Transfer (CCT), *Juntos*, which is targeted to households with incomes below the poverty line. *Juntos* provides a monthly subsidy of 100 Peruvian soles (around 35 US dollars) disbursed every two months and deposited directly to individual savings accounts created at the Government-owned bank to the name of the female spouse of the head of the household. A relevant reason for targeting this group is because while “banked by default”, the vast majority of recipients withdraw their transfers as soon as they receive them, likely because of lack of trust in institutions (e.g., Cortez and Kim, 2012; Fiszbein and Schady, 2009).⁶

The edutainment tools applied have been used in other contexts. For instance, La Ferrara et. al., (2012) show a negative long-term impact of soap operas on fertility in Brazil; Kearney and Levine (2015) find a negative impact of a television show on teenage births in the United States. Jensen and Oster (2009) find a positive causal link between television on women's empowerment in India, and Banerjee, et al., (2019) use a soap opera to find a link on risky sexual behavior and

⁶ The target of the intervention are *Juntos* beneficiaries to whom the Government was able to create bank accounts for so that their CCTs could be deposited there. In other areas of the country some beneficiaries still receive cash instead, as in some areas bank branches are not available or have not yet opened. Undoubtedly, focusing on those who have formal banking access is easier than those who still receive cash.

domestic violence in Nigeria. This research is closest to Berg and Zia (2017) who focus on whether edutainment can help in financial education. They focus on debt management and gambling messages delivered through a soap opera with a storyline featuring a character that borrows excessively, gambles, and falls into a debt trap. Their main analysis employs self-reported outcomes in an endline survey conducted four months after the intervention. They also employ administrative data on the number of calls received to a national debt counseling helpline featured in the soap opera. Overall, they show improvement in financial knowledge and find an increase in the likelihood of borrowing through formal channels and a greater likelihood to borrow for productive purposes as well as a decrease in the propensity to gamble.⁷ Unlike Berg and Zia (2017) this study has access to the records of every single transaction of the Government bank in which the conditional cash transfer is deposited for each single woman in the sample.⁸ These data are available for the period that runs twelve months prior to the intervention to twenty-four months after the intervention concluded. These data significantly improve the quality of the outcome variables by avoiding the sole reliance on self-reporting endline surveys.

The rest of the paper is organized as follows. Section 2 presents some basic Peruvian institutional background. Section 3 describes the process used to produce the soap. Section 4 presents the data and the methodological framework. Section 5 presents the results, and in Section 6 provides some likely mechanisms. Finally, Section 7 presents some relevant discussion and final remarks.

⁷ Boyd and Diez-Amigo (2023) also use edutainment elements in a financial education intervention of a for-profit, microfinance institution targeted to adult women in Peru by way of modules structured as short stories of made-up local women along with the use of custom-designed dolls and portable stages to illustrate explanations and engage the audience. They observe a positive impact on savings in the implementing microfinance institution. They do not observe any short-term impact on credit, income, assets, consumption, poverty, or female empowerment.

⁸ In the vast majority of cases, this account is the only formal bank account that these women have.

2. Intervention

The intervention was designed to target female beneficiaries of the Program Juntos, the Peruvian CCT program, in the Andean rural areas, specifically in the department of Huancavelica, one of the poorest in the country⁹. Rural areas in Peru have long been neglected, something that can be traced back to centuries old institutional arrangements dating back to Spanish colonialism. Today, this is reflected in the fact that they are associated with lower educational attainment, higher poverty rates and lower trust (Dell, 2010). It is also compounded by the presence of terrorist activity in the area during the 1980s and early 1990s (CVR, 2004)¹⁰. The psychological costs of long-term government neglect have been drastic, in particular in terms of the loss of trust in institutions, optimism and hope including reduction in empowerment (e.g. Martinez, et al., 2019; Roychowdhury, 2021; Kim, et al., 2012; Schneider, et al., 2011).

In this context, the study includes the writing and producing of a five-episode soap opera of twenty minutes each episode, that included embedded messages promoting positive attitudes and behaviors including trust in institutions, female economic and non-economic empowerment, and pro-savings messages with the overarching goal of incentivizing the use of the formal bank accounts by the beneficiaries of the national CCT program, *Juntos*. About 80% of the beneficiaries receive their bimonthly transfer via deposits in their Banco de la Nacion (BN) accounts but they

⁹ The poverty rate in Peru is currently around 30 percent, but regional disparities are very large and range from 7 percent in Ica to 44 percent in Cajamarca, the poorest department in the country. Huancavelica, the area of interest, also experiences among the highest poverty levels in Peru, as around 40 percent of the population live under the poverty line. For additional reference, the poverty rate in the department of Lima stands at around 25 percent. Gender gaps in poverty and the labor market are extremely large too. For instance, women's labor force participation is nearly 25 percentage points lower than the men's labor force participation (World Bank, 2024). Please, see Appendix A1 to visualize the geographical location of the intervention.

¹⁰ It is estimated that around 70,000 people died as a result of this terrorist violence (CVR, 2004).

are not used for savings as they withdraw all their money right after the transfer is made¹¹. Thus, a key objective was to “bank the unbanked” women not only *de jure*, but *de facto*. In order to do this, the study embedded specific messages in each of the different episodes of the soap opera and made sure that they were both internally consistent within the intervention as well as with the overall government objective of increasing access and use of formal banking institutions.¹² This endeavor was supported with the help of a specialized team of experts with experience in the production of media material in developing countries, including techniques to best embed fiction with the types of messages that were sought to be introduced in the soap opera. In addition, the research also assembled a consultative group of experts with whom the authors met regularly and whose members possessed experience in the promotion of financial inclusion and were knowledgeable in dealing with areas of institutional neglect¹³.

The soap opera was titled *Josefa*, the name of the main character, a young woman in her early twenties who represents the average resident of the Peruvian southern highlands, the targeted intervention area. The overall theme was “classic soap opera” in the sense that the story was focused on the daily emotional and economic struggles of the main character in order to provide for her family in the context of a love story filled with drama as well as emotional ups and downs¹⁴.

¹¹ See Banco de la Nación (2014) for the identification of the mechanisms used by the BN to make the transfer to the social program’s beneficiaries. Gertler et. al. (2016) confirms that most beneficiaries withdraw the totality of the transfer as soon as they receive it.

¹² <https://www.gob.pe/institucion/midis/noticias/1479-midis-promueve-la-inclusion-financiera-desde-sus-programas-sociales-e-intervenciones>.

¹³ The consultative group of experts was chaired by one of the co-authors of this study and it included high-level officials from both the Ministry of Social Inclusion (MIDIS) and *Juntos*, the government agency in charge of the national conditional cash transfer, as well as members of Proyecto Capital, the main funding partner, Instituto de Estudios Peruanos, a nationally recognized Peruvian NGO.

¹⁴ Most of the interactions occur between the main character, Josefa, a young adult, and her older, more experienced sister, who challenges Josefa to overcome her problems. Crucially, there was careful use of the language so that they closely resemble the reality of the targeted audience, making the main characters switch to Quechua, the native tongue in the area of intervention, whenever they were comfortably at home (in the kitchen) or when touching delicate topics. More details about the prosavings messages included in

At the end, Josefa finds economic success and personal happiness, while also finding some validation within her local community. While the overall context of the soap opera is one of trust in institutions, the specific messages embedded in the episodes are (i) precautionary savings are important, (ii) women can be empowered and independent and (iii) women can achieve their entrepreneurial dreams with support of financial institutions.

After almost one year of story development, pre-production and casting, the shooting of *Josefa* was done during the third quarter of 2013 and the final, fully edited version of the five-episode soap opera was ready for viewing by mid-2014 and as such the viewing sessions were programmed in weekly sessions mostly throughout August of that year. The group viewing sessions were organized in coordination with the Ministry of Social Inclusion (MIDIS), the ministry that operates all social programs in Peru. They took place in the villages where the beneficiaries reside in order to minimize travel distance from their homes and thus, facilitate and maximize attendance. An important element in the organization of the weekly viewing sessions was that the study included a standard protocol where invitation cards were sent to all women registered as beneficiaries in the National Conditional Cash Program *Juntos* in the treatment villages. This was done two weeks in advance through the community representative along with the program's local officer¹⁵. A reminder was sent two or three days before the first viewing session. The study hired fourteen facilitators for five weeks and provided training in a two-day workshop that included specific guidelines to follow in order to facilitate the discussions after the viewing of each soap opera episode. They were all local residents who held degrees in the social sciences or communications,

the soap opera are provided in Appendix A3. The story line can also be captured through the trailer in <http://www.grade.org.pe/proyectos/mini-novelas-educacion-financiera-y-promocion-del-ahorro/>. The full soap opera episodes are available upon request.

¹⁵ The representative (*madre líder*) was a highly respected woman from the community. The local officer (*gestor*) was a key resource, as this individual would help with all tasks related to logistics.

were fluent in Quechua, the predominant language in the area, and had experience working in rural areas with women¹⁶. The facilitators were provided with a film projector, laptop, and speakers, which they used to show each episode, with the help from local authorities who were previously identified and contacted prior to the intervention in order to secure a viewing space, typically the local school or health center, among others. The facilitators were carefully trained about the procedures to follow during the sessions. First, they were instructed to coordinate with *Juntos* local agent to restrict attendance to those women registered as beneficiaries in the treated village¹⁷. For the session itself, they were trained to greet the attendees before proceeding to show the soap opera episode. After the showing, they held a brief discussion about the messages of the episode, which followed a scripted pattern. Finally, they ended the viewing session with an invitation to return and watch the next soap opera episode.

The authors selected 150 eligible communities in four provinces in the department of Huancavelica, one of the poorest in the country¹⁸. The villages were chosen based on population size, poverty level, access to electricity and financial infrastructure. In particular, the eligible villages had to have at least 150 households, access to electricity, and be served by the Conditional Cash Program *Juntos*, as well as receive their transfers through direct deposits to the bank account

¹⁶ The other official language in Peru is Spanish.

¹⁷ These procedures eliminated the possibility that the viewing sessions ended up shown in the control villages, as well as minimized the likelihood that females from the control villages attended a viewing session in a neighboring treated village. Admittedly, the study could not avoid that the messages of the soap opera might have been transmitted to females in control villages through informal exchanges with those that attended the sessions in treated villages. If such information generated behavioral changes in control villages, the estimates might be biased downward and should be interpreted as a lower bound. Having said this, it should be said that the theory of change clearly emphasizes the importance of the visual exposure to the messages as a key behavioral mechanism.

¹⁸ The specific provinces intervened are Tayacaja, Acobamba, Churcampa and Huancavelica. This is shown in Figure A1.1. Also, please see Figure A1.2 to visualize the distribution of treated and control villages within the study area.

opened for them by the government¹⁹. For obvious reasons, access to electricity in the village location where the soap was to be shown was a necessary condition for the intervention. The 150 eligible rural villages were randomly assigned to two treatment arms or a control group within each of the 28 districts²⁰. The first treatment group consisted of women invited to a viewing session. The second treatment group was similar, but also included a game with in-kind prizes for those who correctly answered questions on the characters, the storyline, and the pro-saving messages. The game was announced at the moment of the first invitation and reminded at every viewing session. The aim was to understand if such an incentive would help increase attendance to the viewing sessions. Interestingly, the second treatment arm did not work as intended, as participants preferred that the value of the prizes be distributed among them all to which facilitators obliged²¹. Since there was no difference in attendance rates, and such rates were actually very high in all five sessions, the analysis was performed with the pooled sample of both treatment groups. In addition, the randomization was stratified by district.²² The 150 eligible villages involved 6383 female participants registered as beneficiaries of *Juntos*, where 4220 of them belonged to the 100 communities that were invited to the viewing sessions for *Josefa*, while 2163 beneficiaries in 50 villages were part of the control group.

¹⁹ Unsurprisingly, the vast majority of women would make full withdrawals of their transfers every deposit period, which for all practical purposes rendered their accounts dormant, a typical occurrence in many developing countries (Rhyne and Kelly, 2018).

²⁰ The study generated 100 runs of the randomization and checked for balance across treatment arms at the village level using census data on access to education and health infrastructure, and distance to the district capital. The study then randomized the number of each run, and inspected them to select the first one that showed no imbalances across the three arms and control for these census variables in the estimation of the treatment effects (Bruhn and McKenzie, 2009).

²¹ This was strongly preferred although the resulting amount to each would be very small.

²² Within the treated area the study excluded (i) villages that received cash transfers via physical carriers to keep full consistency in the intervention as well as (ii) some villages prioritized by *Juntos*, which were targeted to test innovations to the cash transfer program. By doing this the study avoided any likelihood that *Juntos* officials might try to overcompensate their own treatments in the villages assigned to the control group in the study, which may endanger the attribution strategy.

3. Data and Empirical Strategy

This research employs two key sources of information. First, the study performs a household survey one year after the viewing sessions occurred²³. The questionnaire included socio-economic characteristics, perception, attitudes, and knowledge with respect to savings and credit transactions, as well as measures on vulnerability, trust, and empowerment. The survey was applied to a random sample of 2274 *Juntos* beneficiaries (an average of 15 per village), 147 community leaders and 33 program officials²⁴. Second, thanks to an agreement with BN and MIDIS, this research was able to access the records of all the bank transactions performed by the women in the study sample 11 months prior to the intervention (August 2014) and up to 23 months after it²⁵.

As mentioned above, this information allows to observe actual money balances in each individual account where the government transfer was deposited every two months. This information and related analysis complement and hopefully improve existing studies that mostly rely on self-reported answers (e.g., Berg and Zia, 2017). The study focuses on end-of-the-month balances, although the number of days until the first withdrawal after the cash transfer was also considered, as well as the size of the first withdrawal. End-of-month balances can serve as a proxy for assessing the impact of the soap opera on individual savings, although variations in this

²³ However, no baseline survey was collected due to lack of funds. The balance analysis provided shows variables that are time-invariant and some others that come from administrative data sources (Please, see Table 2).

²⁴ The sample frame, which was adjusted by village population size, was females registered as beneficiaries of *Juntos* by January 2014.

²⁵ The authors signed a written agreement with MIDIS that included a strictly enforced protocol in order to guarantee the confidentiality of the information. The study collected these administrative data for all women registered as *Juntos* beneficiaries as of January 2014. These data were already matched with the BN database, which was used to disburse the monetary transfers. Transactions were collected for a total of 6,349 accounts. It should be mentioned that 11 percent of those accounts stopped receiving a transfer at some point after, but they were kept in the database and registered all their transactions (also, please see footnote 28).

measure may also result from a substitution effect, that implies reduced reliance on other formal banking institutions or informal mechanisms such as holding cash at home or investing in jewelry.

The lack of a baseline survey conditions the specification that the study uses to estimate the effects of the treatment on outcome variables, as it cannot control for the level of such variables at baseline. This research uses the differences in treatment-control based on the randomly allocated intention to treat (ITT). The study shows the effects of the treatment, having been invited to the viewing sessions and pooling the two treatment groups, as mentioned above. The comparison between treatment and control groups allows one to estimate ITT impacts of being exposed to *Josefa*. The empirical approach uses the following specification:

$$Y_{ijkm1} = \alpha + \beta T_{jk} + \gamma X_{ijkm0} + \delta_k + \eta_m + \varepsilon_{ijk} \quad (1)$$

where Y_{ijk1} denotes an outcome variable for a woman i residing in village j , which belongs to district k and is overseen by local program coordinator (*gestor*) m , at time 1 (follow up), T_{jk} is a dummy variable that takes the value one if the woman resides in a village j of district k that was assigned to the viewing session of *Josefa*. X_{ijk0} is the vector of stratifiers used in the randomization, δ_k are district fixed effects, η_m are local coordinator fixed effects and ε_{ijk} is the error term²⁶. Thus, β is the effect of the intervention. The study assumes that the error term is uncorrelated across villages but not within them²⁷.

²⁶ A local coordinator (*gestor*) fixed effect was included given his/her potential importance in the way the treatment is received by the beneficiaries. Notice that *gestores* and districts are not perfectly matched. A *gestor* might operate in more than one district, and in the sample 13 out of 37 do so. While estimating (1), observations with missing data on the control variables are also included; they are assigned a zero as well as a corresponding dummy variable to identify the adjustment. Attrition is not analyzed considering that there is no baseline survey and non-response rates were minimal in the survey and not different between treatment and control groups.

²⁷ Survey questions allow the testing of impacts for a variety of outcomes, some of them connected to each other. Thus, the results of different tests are included, one using the regular p-values, but also one adjusted using a Romano-Wolf stepdown correction to avoid false positives due to the multiple hypothesis testing bias.

For the bank transaction data, this study enjoys two important advantages: First, the sample is larger than the survey sample, as these data were collected for all registered beneficiaries in treatment and control villages. Second, the available data include information for both before and after the intervention, which allows to control for baseline levels in vector X as well as to move from specification (1) to an ANCOVA specification that can potentially increase the precision of the ITT estimator (McKenzie, 2012; Bruhn and McKenzie, 2009). In fact, the study has all the monetary transactions performed under BN accounts, so that the analysis can compare end-of-the-month balances for a period of 34 months, 11 before the treatment and 23 after it. As such, it is possible to estimate the monthly treatment effects using the following specification²⁸:

$$Y_{ijt} = \alpha + \sum_{\tau \in \Lambda} [\gamma_{\tau} d_{t}^{\tau} + \beta_{\tau} (d_{t}^{\tau} * T_{jk})] + \delta_i + \varepsilon_{ijt} \quad (2)$$

where $\Lambda = -11, -10, \dots, -1, 1, \dots, 23$, and $\tau = 0$ for August 2014. In turn, Y_{ijt} denotes balance accounts for a woman i in village j at time t ; d_t is a monthly time indicator, T_{jk} is a dummy variable that takes the value one if the woman belongs to village j in district k that was assigned to the viewing session of *Josefa*, δ_i are individual fixed effects and ε_{ijt} is the error term. Thus, β_t is the effect of the intervention on a given month, and the error term is assumed to be uncorrelated across villages but not within them.

4. Findings

While the study took the utmost care to tailor the soap opera to match the cultural sensitivities, desires and needs of the intended audience in order to optimize their interest, it is impossible to predict the actual interest of the edutainment tool on the targeted group. The viewing sessions were very successful as, on average, 75 percent of the invited individuals did attend them. Perhaps, even

²⁸ As mentioned above, all the women registered as Juntos beneficiaries were followed by January 2014. Thus, the sample is a balanced panel, as the sample also includes those women that stopped receiving the transfer at some point after the treatment (please, see footnote 25).

more remarkably, the results did not show any attrition from one viewing session to the next. If anything, the study found the opposite result: the share of invited individuals attending increased from viewing session to viewing session, from around 70 percent in session one, to nearly 85 percent in session five. This is consistent with the rates of recollection of characters, the storyline, and pro-savings messages one year after the episodes were shown (please, see Table 1). The average female in the treatment villages recalled 3 out of 11 features of the soap opera, including the characters and the storyline. With respect to the embedded savings messages, the average woman recalled forty percent of the key messages, and especially the ones related to (i) saving a portion of income for unexpected situations (74 percent), (ii) keeping savings in a trusted place (37 percent), saving for emergencies (22 percent), and keeping control of one's expenses (34 percent).

The differences between treatment and control groups twelve months prior to the intervention show that the sample is rather balanced and not statistically different in most variables of interest, including age, education, language spoken at home, distance of the village to the district capital, and bank account balances (please, see Table 2)²⁹. Savings balances appear a bit higher for the control group, but the difference with respect to the treatment group is not statistically significant at standard levels when adjusting standard errors for within-village correlation.

Monetary Balances and Savings

The study first uses an ANCOVA approach in specification (1) and reports the treatment effects for three indicators: the end-of-the-month account balance, time until first withdrawal and the amount of the first withdrawal several months after the exposure to the *Josefa* (please, see

²⁹ As mentioned above it was not possible to apply a baseline survey, so the variables included in Table 2 correspond to time-invariant individual characteristics plus some administrative variables at the village and individual level.

Table 3). The analysis finds a positive Average Treatment Effects (ATE) on the bank account balance around one year-and-one-half (17 to 19 months) after the intervention concluded. Remarkably, the study also finds a positive ATE on bank monetary balances two years (21 to 23 months) after the intervention was concluded³⁰. This research finds that the point estimates yield a positive and statistically significant sign for the full sample. At around 1.5 years after the intervention, the ATE is US 3.6 dollars, while the effect is around US 2 dollars two years after the intervention. Notice that the balance for the control group suggests there is high seasonality in the savings balances, as the savings for the control group are twice as large by the second year (US 24.4 dollars) compared to those reported after 1.5 years (US 12.2 dollars)³¹. Such seasonality implies that the treatment effect is relatively much more relevant when resources are scarce (1.5 years), as they represent a 29% increase in the savings balance. In turn, the treatment effect represents only 8.5% increase for those months in which resources appear relatively abundant (2 years). Admittedly, the observed effect on end-of-the-month savings balances may be the result of a delay in the withdrawal of the conditional cash transfer by individuals, rather than an actual increase in savings. This research finds evidence to such regard when using an ANCOVA approach, the standard estimate for this purpose³². After 18 months, the treated women take an extra 1.9 days to make their first withdrawal, and the amount withdrawn does not change. Notice that control women take an average of 10.8 days to make their first withdrawal, and it is on average of US 69 dollars (please, see bottom panels of Table 3).

³⁰ The study reports three-months average effects considering high volatility and seasonality.

³¹ 23 months after the interventions brings us to July 2016, around the end of the harvest season (resource abundant), while 17 months brings us to December or January, by the end of the planting season (resource scarce).

³² When using a differences-in-differences estimator the analysis finds a slight increase in the number of days to withdraw the transfer (1.6 days). However, back-of-the-envelope calculations show that the increase in days is not consistent with the observed increase in balances and further support the idea of additional savings.

However, as indicated in section 2, this research has access to the full bank data for each individual woman in both treatment and control groups, which allows to estimate monthly treatment effects between August 2013, 11 months before the first viewing session took place and July 2016, 23 months after the final viewing session was shown. This research uses monthly data from BN individual accounts during the full period of analysis, using specification (2). The findings are shown in Figure 1.³³ The study shows the monthly treatment effects and their corresponding 95 percent confidence interval. In addition, dots in the figures indicate that the estimated impact is statistically significant at the ten percent level of confidence or higher. When observing post-treatment effects for the full sample in Panel (a) the study finds that the estimated impacts of end-of-the month savings balances, while generally positive, are mostly non statistically significant. Rather remarkably, however, the impact of the intervention is substantially different when age cohorts are considered. This is shown in Panels (b) and (c) also in Figure 1. This research finds that for the younger age cohort, defined as women that are forty years old or less at the time of intervention, the end-of-the month point estimates are mostly negative, and in the vast majority of the cases the corresponding impacts post treatment are statistically insignificant at conventional levels. However, in the case of the older age cohort, defined as women of age forty or above, the findings are dramatically reversed. Not only are almost all the end-of-the-month point estimates positive, but they are also statistically significant in half of the number of tracked months after the intervention was concluded. Furthermore, the positive impacts appear very early and show an

³³ The study also shows the specific monthly estimates associated with the dots in Figure 1 (please, see Table A2.1). It is important to note that the estimates show treatment effects for all months despite the fact that cash transfers occur every two months only. However, this research also includes findings where estimates and treatment effects are performed for the disbursement months only (Please, see Table A2.2 and Figure A2.1). These results confirm that treatment effects tend to be statistically significant only for the older cohort.

increasing pattern. While in the first semester post-treatment the impacts hover at around three dollars, by the third semester after treatment such savings balance reaches around five dollars.³⁴

Attitudes

The exposure to *Josefa*'s embedded messages may contribute to changing critical attitudes related to savings, including precautionary motives, such as potential emergencies when the individual is faced with unexpected financial situations. The treatment clearly impacted attitudes toward savings, as demonstrated by the findings one year after the intervention when women are asked whether (i) they are willing to save on their own, (ii) have any regrets about spending, (iii) have an interest in saving more than their partners, (iv) save their money outside the household and (v) whether they are willing not to spend their money immediately after receiving it (please, see Table 4). Based on the methodology described in the previous section, the research constructs a "Pro-Savings" attitude index, based on the responses to the five questions above after standardizing at the control group mean. Women assigned to treatment are 6.4 percentage points more likely to report that they are able to save by themselves, 10.7 percentage points more likely to report having regrets after spending money on things that are not necessary, and 15.4 percentage points more likely to avoid spending immediately any cash surplus that they may have. In other words, the intervention appears to show that women became more aware that superfluous spending

³⁴ While this research is unable to provide an empirical explanation for these divergent results, it can provide some plausible hypotheses. Older women in the Peruvian highlands greatly suffered from terrorist violence when growing up, something that did not occur to the younger generation. This may have scarred these generational cohorts differently in terms of trusting institutions. In addition, younger women may not have been impacted by the soap operas because they are more used to technology and the Internet. As such, they might not be used to watching soap operas, but may prefer to watch YouTube channels or similar tools in general, the more intensive use of technology among younger generations may have played a role. When varying the cutoff age between older and younger women (35 to 45 years of age) very similar results are found.

may need to be controlled³⁵. More importantly, the Pro-Savings index is also statistically significant at conventional values and shows that women assigned to treatment increase their likelihood towards saving by 0.245 standard deviations (please, see Table 4).

In addition, the study shows results on risk coping strategies when cash is needed (500 new soles or around 140 US dollars), which is consistent with the soap opera storyline on the importance of precautionary motives for savings as well as on the relevance of keeping funds in a trusted place (please, see Table 5). Treated individuals are 8.9 percentage points more likely to prefer using their own savings in emergencies. Also, those exposed to treatment are 15.5 percentage points less likely to ask their relatives or friends for a loan, something associated with lack of planning for risk coping. The effect in the use of savings implies a 62 percent increase with respect to the control group (14.8 percent).

5. Exploring Possible Mechanisms

As mentioned above, the messages embedded in the soap opera focus on four key themes: a precautionary savings motive, trust in financial institutions, empowerment, and entrepreneurship. Whereas above, the study shows that soap operas do help change attitudes and perceptions regarding precautionary savings, the impact on the latter three have remained unexplored.

This research also shows the estimated average treatment effects of the soap opera on trust (please, see Panel A in Table 6) It finds a positive sign of the coefficient that reflects trust in financial institutions, which is the one directly promoted in the soap opera. In this case the study finds that those exposed to the soap opera increased their trust in banks and financial institutions

³⁵ Interestingly, the study also finds that women increase the likelihood of hiding money that they want to save by 3.6 percentage points, although the coefficient is not statistically significant. In general, the study also tends to find that the impacts tend to be somewhat larger for younger beneficiaries, although the differences by age fail to be statistically significant at conventional levels. These results are available upon request.

in 0.12 standard deviations, although this research finds that the corresponding coefficient fails to be statistically significant at standard levels of confidence. Interestingly, when testing trust in non-financial institutions, which were not directly promoted in the soap opera messaging, the study finds that the sign of the estimated average treatment effects is negative and statistically non-significant. Similarly, the full composite index of trust is also negative and statistically non-significant³⁶.

The study also shows the estimated average treatment effects for variables that are typically associated with female empowerment, including economic and non-economic decisions as well as time spent on domestic chores and productive activities (please, see Panel B in Table 6). Economic decisions include occupation, credit and savings, as well as increased control over resources as a result of empowerment. Non-Economic decisions relate to participation in household related choices that are not economic or financial, for instance, fertility, health, and education. The study finds no statistically significant impact of the soap opera on non-economic decisions³⁷. However, the study finds a positive and statistically significant effect on economic decisions when measured one year after the last viewing session was shown. The effect is about 0.12 standard deviations. In addition, this research finds that with respect to time allocation the signs of the corresponding coefficients are consistent with the messages of the soap opera, with women allocating more time to productive activities and less time to domestic chores. While both these effects fail to be statistically significant, they do point towards the right direction.

³⁶ The indexes that were constructed are based on the two most positive answers. That is, the variable is equal to 1 if the woman indicates to trust (i) “much” or (ii) “very much” the corresponding institution, and 0 otherwise.

³⁷ The study finds that treatment is statistically insignificant on all the variables that compose the non-economic decisions variable, including those associated with reproductive rights, health and education of children, as well as self-reported life satisfaction.

Finally, the study focuses on whether the field experiment leads to any income effects. The analysis finds an increase in the participation of non-agricultural sources namely, wage labor (please, see Panel C in Table 6). Treated households increased their non-agricultural wage labor from 23 dollars to 37 dollars per year, which although relatively large in absolute terms, should be kept in perspective, as it is an annual amount. In addition, the study also finds a decrease in the participation in agricultural activities, but the effect fails to be statistically significant at standard levels. Interestingly, it appears that the soap opera incentivizes the targeted population to work harder, albeit not in an entrepreneurial capacity. This might occur because of risk averse issues related to changing from wage labor to self-employment and also to the fact that making such a transition may take time³⁸.

6. Summary and Conclusions

It is widely believed that participation in the formal financial sector is a necessary condition in order to reach several significant development objectives of societies, including many of the United Nations' Sustainable Development goals.³⁹ Policymakers have pursued different policies to increase financial inclusion and use in developing countries, but how exactly to go about this is still open to debate. In particular, interventions in chronically neglected, poor, and rural areas have been disheartening. This, in spite of the fact that the poor have a latent demand for savings, which is reflected in that they do have some seasonal surplus that tends to be used in non-essential expenditures (Banerjee and Duflo, 2007). In recent years, edutainment has proven particularly promising in helping change behavior of the poor by constructing popular role models that can

³⁸ The above is consistent with the fact that the study does not find any statistically significant impact on self-employed earnings. These results are not reported but are available upon request.

³⁹ Financial inclusion has been identified as a critical enabler for eight out of the seventeen Development Goals established by the United Nations (<https://www.uncdf.org/financial-inclusion-and-the-sdgs?ref=hackernoon.com>)

connect to traditionally excluded audiences. This tool may help improve issues that lay at the intersection of lack of trust, informational gaps, and social constraints.

This study randomized a short soap opera on financial inclusion and usage targeted to poor women from rural areas. While the soap opera that was implemented was successful in terms of capturing interest, promoting pro-savings attitudes as well as increasing female economic empowerment, this research is also able to monitor actual money balances using bank data, something that had not been done in the past. This research finds positive average treatment effects on bank balances one year-and-a-half as well as two years after the intervention concluded, which represent an increase in savings of between 8.5 percent to 29 percent, the range likely due to seasonality. When looking at the monthly treatment effects, this research finds that the older cohort of women responds well to the soap opera, which is reflected in an observed positive and increasing savings balances pattern after the intervention. This, however, is not the case with the younger cohort of women.

While true that fixed costs of producing edutainment-related material may be relatively high, the findings show that doing so may be a good investment especially as edutainment appears to be an effective policy tool that can help policymakers reach very large numbers of people and where the marginal cost of providing the product tends to be very low, compounded by the fact that this tool may help policymakers deal with what are sometimes considered “intractable” issues, including financial use in developing countries.

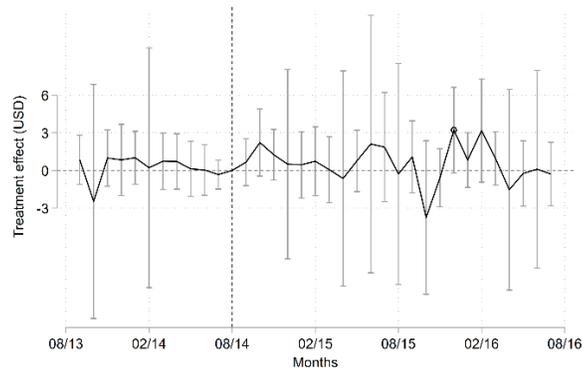
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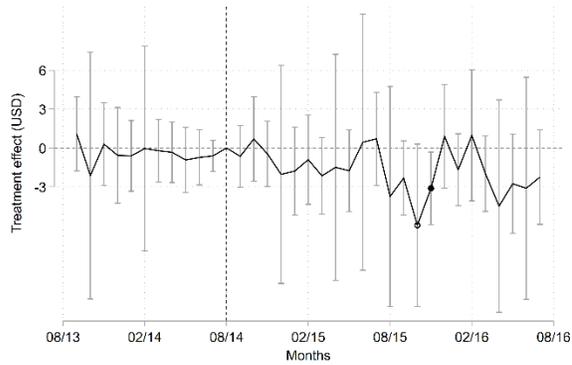
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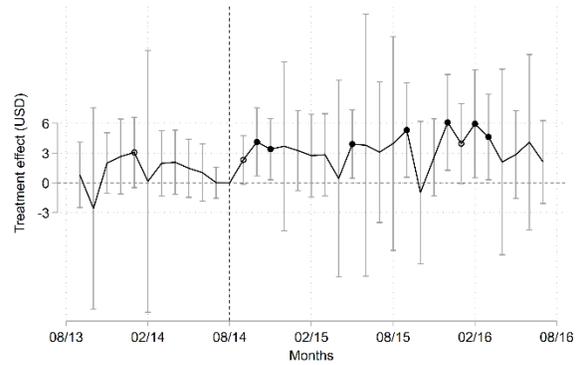
Figure 1. Treatment effects – End-of-the-Month Savings Account Balances



(a) Overall



(b) Younger



(c) Older

Source: Authors' own calculations based on monthly transaction data from the Banco de la Nación (BN) accounts of individuals in the study sample.

Note: All amounts are expressed in US dollars using the average exchange rate from Aug 2014 (month of intervention) and were winsorized at the 1% level. All regressions include individual and time fixed effects. Standard errors clustered at the village level. 95% confidence intervals shown as capped vertical lines and significance levels denoted by either a solid (5%) or hollow (10%) circle.

Table 1. Soap Opera Recall Levels

	Observations	Mean
Characters or Storyline		
Average Number	1127	3.111
At Least Three	1127	0.549
At Least Six	1127	0.128
Embedded Messages		
Average Number	1127	2.020
Save for the Unexpected	1127	0.744
Keep Savings in Trusted Place	1127	0.371
Save for Emergencies	1127	0.219
Saving Allows Investment	1127	0.074
Keeping Control of Expenses	1127	0.335

Source: Authors' own calculations based on primary data collection.

Note: The number of recalled characters and storyline are based on a maximum of eleven items.

Table 2. Socio-Economic Characteristics at Baseline

	Obs.	Control	Treatment	p-value (T-C)
Age	2271	39.550 (0.437)	40.218 (0.305)	0.211
No Education	2270	0.237 (0.022)	0.238 (0.014)	0.985
Primary education	2270	0.590 (0.021)	0.573 (0.016)	0.512
Secondary education or higher	2270	0.173 (0.022)	0.189 (0.015)	0.522
Language at home (Quechua = 1)	2271	0.701 (0.046)	0.695 (0.034)	0.917
Distance of Village to district capital (kms)	2271	48.148 (13.312)	46.292 (13.368)	0.732
Savings Account Balance in USD (8/13-7/14)	26494	14.051 (1.289)	12.105 (0.658)	0.181

Source: Authors' own calculations based on primary data collection and monthly transaction data from the Banco de la Nación (BN) accounts of individuals in the study sample.

Notes: Savings account balance means are winsorized. District capitals are where Banco de la Nación branches are typically located. Clustered standard errors at the village level in parentheses.

Table 3. Bank transaction data: Monetary Balances and Cash Withdrawals

	Obs.	Control Mean	ATE
Savings Balance (USD):			
17-19 months after intervention	19032	12.240 (1.534)	3.591*** (0.965)
21-23 months after intervention	19012	24.387 (1.853)	2.064* (1.060)
Days Until First Withdrawal:			
6 months after intervention	6238	14.678 (0.593)	0.155 (0.440)
18 months after intervention	5912	10.810 (0.775)	1.865*** (0.504)
Amount of First Withdrawal (USD):			
6 months after intervention	6238	69.791 (0.743)	-1.095 (0.798)
18 months after intervention	5912	69.035 (0.620)	-0.262 (0.655)

Source: Authors' own calculations based on monthly transaction data from the Banco de la Nación (BN) accounts of individuals in the study sample.

Notes: Savings balance estimations were performed as a single regression that includes observations from both 17-19 and 21-23 months after the intervention. To estimate the effects for each time grouping, a dummy variable representing the time groupings was interacted with the treatment indicators, the controls, and the fixed-effects. After sixty days without any withdrawals, the amount is set to zero and time until withdrawal is set to sixty days. Baseline values taken six months before the intervention. All currency amounts are expressed in US dollars using the average exchange rate PEN/USD of August 2014 (month of the intervention) and are winsorized at the one percent level. All regressions control for the dependent variable at baseline, distance in kilometers to the district capital, number of health centers, schooling, and number of the Juntos conditional cash transfers beneficiaries on the village, and include fixed effects for district and local coordinator. Clustered standard errors at the village level in parentheses. (*) denotes significance levels (* 10%, ** 5%, *** 1%) based on unadjusted p-values.

Table 4. Women’s Financial and Savings Attitudes (ATE Estimates)

	Obs.	Control Mean	ATE
Pro-Savings Standardized Index	2271	-0.000 (0.100)	0.245**§ (0.098)
Saves money on her own (%)	2271	0.507 (0.044)	0.064* (0.038)
Regret after spending money (%)	2271	0.488 (0.050)	0.107** (0.046)
Wants to save more than husband (%)	2271	0.523 (0.044)	0.019 (0.040)
Has to save separately outside (%)	2271	0.284 (0.038)	0.045 (0.042)
Does not spend immediately (%)	2271	0.359 (0.045)	0.154***§§§ (0.039)

Source: Authors’ own calculations based on primary data collection.

Notes: The study asks how much women agree or disagree with the statements of the table above. The variables were constructed based on the proportion of people who agreed. The Pro-Savings attitude index is based on all the questions included in the table after standardization at the control group mean. All regressions control for distance in kilometers to the district capital, number of health centers, schooling, and number of the Juntos conditional cash transfers beneficiaries on the village, and include fixed effects for district and local coordinator. Clustered standard errors at village level in parentheses. (*) denotes significance levels (* 10%, ** 5%, *** 1%) based on unadjusted p-values; (§) denotes significance levels (§ 10%, §§ 5%, §§§ 1%) based on Romano-Wolf FWER-corrected p-values.

Table 5. Risk Coping When Cash Is Needed (ATE Estimates)

	Obs.	Control Mean	ATE
Use own savings (%)	2271	0.148 (0.025)	0.089*** (0.031)
Sell anything (%)	2271	0.311 (0.038)	0.035 (0.032)
Lower expenses (%)	2271	0.040 (0.011)	0.008 (0.016)
Apply for a Loan:			
Financial Institution (%)	2271	0.054 (0.014)	-0.006 (0.010)
Non-Financial Institution (%)	2271	0.004 (0.003)	0.004 (0.005)
Family and Friends (%)	2271	0.529 (0.044)	-0.155***§§ (0.032)
Government (%)	2271	0.008 (0.004)	-0.005 (0.005)
Not possible (%)	2271	0.121 (0.023)	-0.004 (0.022)

Source: Authors' own calculations based on primary data collection.

Notes: The study asks how much women agree or disagree with the statements of the table above. The variables were constructed based on the proportion of people who agreed. The Pro-Savings attitude index is based on all the questions included in the table after standardization at the control group mean. All regressions control for distance in kilometers to the district capital, number of health centers, schooling, and number of the Juntos conditional cash transfers beneficiaries on the village, and include fixed effects for district and local coordinator. Clustered standard errors at village level in parentheses. (*) denotes significance levels (* 10%, ** 5%, *** 1%) based on unadjusted p-values; (§) denotes significance levels (§ 10%, §§ 5%, §§§ 1%) based on Romano-Wolf FWER-corrected p-values.

Table 6. Female Empowerment, Earnings and Trust

	Obs.	Control Mean	ATE
A. Trust:			
Trust index	2271	0.000 (0.084)	-0.057 (0.076)
Trust in financial institutions	2271	0.000 (0.062)	0.118 (0.080)
Trust in non-financial institutions	2271	0.000 (0.084)	-0.107 (0.070)
B. Participation in:			
Non-Economic Decisions	2271	-0.000 (0.037)	0.017 (0.065)
Economic Decisions	2271	0.000 (0.037)	0.117**§ (0.058)
Use of time:			
Productive Activities (hours/week)	2271	36.266 (0.672)	0.627 (1.251)
Domestic Chores (hours/week)	2271	26.789 (0.508)	-2.161 (1.316)
C. Household earnings:			
Agricultural Wage Labor	2267	115.856 (14.182)	-2.492 (10.300)
Non-Agricultural Wage Labor	2270	23.613 (5.268)	14.395*** (5.447)

Source: Authors' own calculations based on primary data collection.

Notes: The trust index is a composite z-score calculated by taking the mean of 11 standardized dummy variables and restandardizing to a mean of 0 and a standard deviation of 1 for the control group; each of these dummy variables is associated to a specific kind of institution or group of people and takes the value of 1 if the respondent indicated that she quite trusts them or trusts them a lot. The sub-indices perform the same calculation for the 1 and 10 dummies corresponding to each respective subset. The variables "non-economic decisions" and "economic decisions" are standardized indices. The index for economic decisions was constructed from a set of items about who makes the decisions involving the use of money and how it is spent. Earnings and hours were winsorized at one percent. All amounts are expressed in US dollars using the average exchange rate PEN/USD for August 2014 (month of intervention). All regressions control for distance in kilometers to the district capital, number of health centers, schooling, and number of the Juntos conditional cash transfers beneficiaries on the village, and include fixed effects for district and local coordinator. Clustered standard errors at village level in parentheses. (*) denotes significance levels (* 10%, ** 5%, *** 1%) based on unadjusted p-values; (§) denotes significance levels (§ 10%, §§ 5%, §§§ 1%) based on Romano-Wolf FWER-corrected p-values. Notice that q-values are calculated only for self-employed and wage sub-categories.

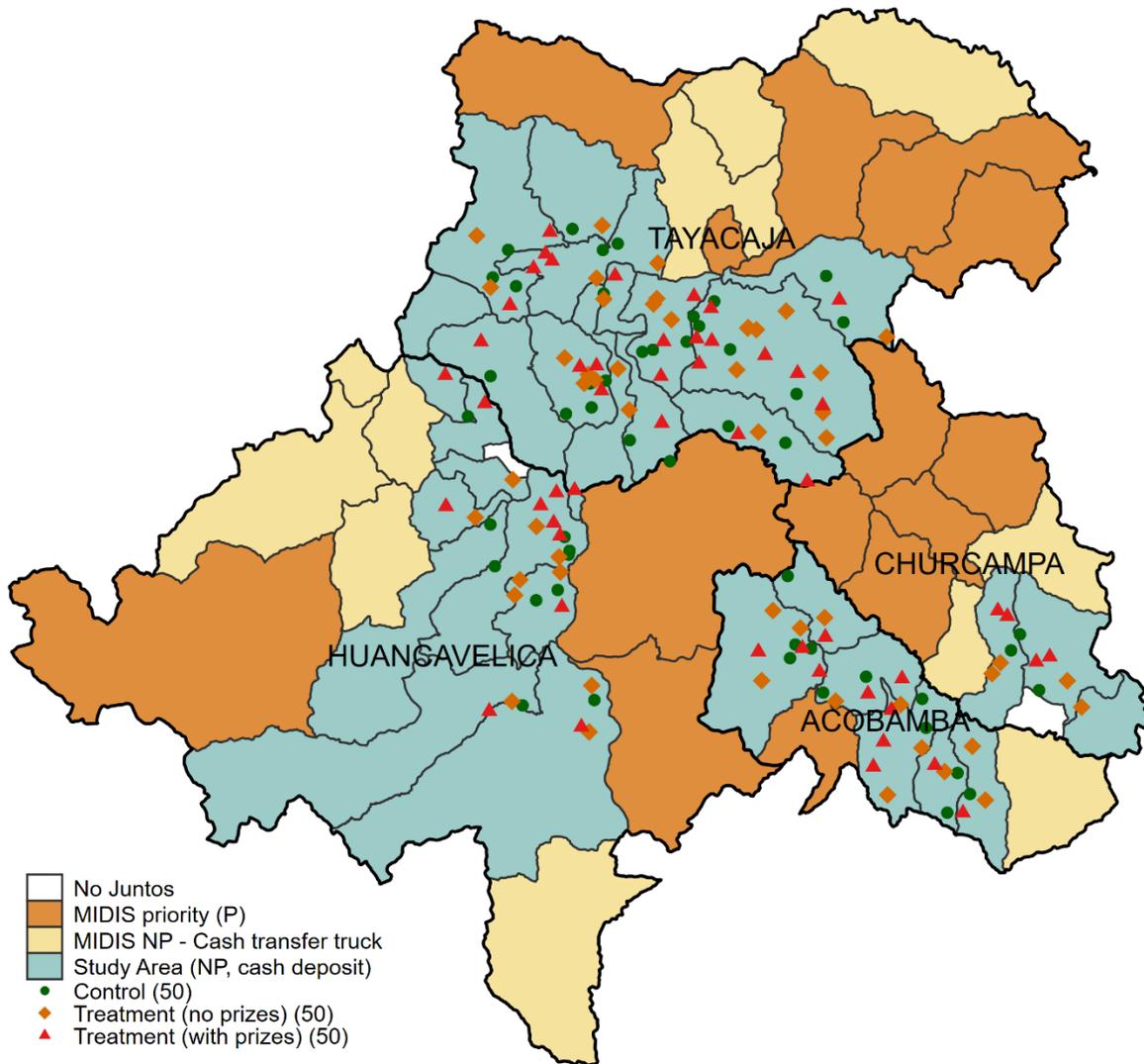
Appendix A1: Geographic Details

Figure A1.1. Area of Study - Huancavelica



Source: Authors' own elaboration.

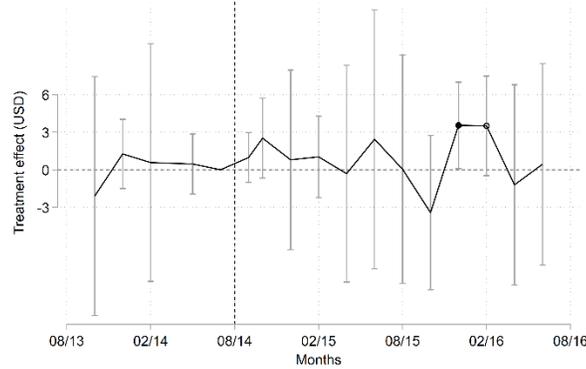
Figure A1.2. Geographic Distribution of Treatment and Control Villages



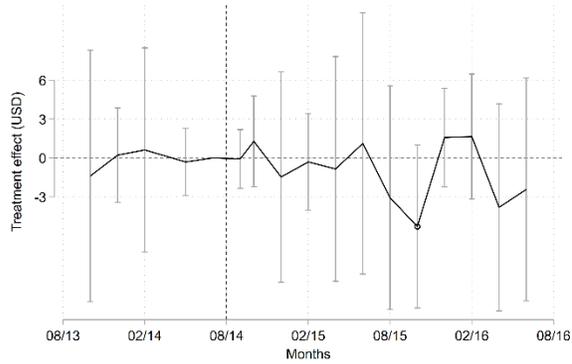
Source: Authors' own elaboration based on the randomized treatment assignment of villages defined in agreement with the Ministry of Development and Social Inclusion (MIDIS).

Appendix A2: Additional Results on Account Balances

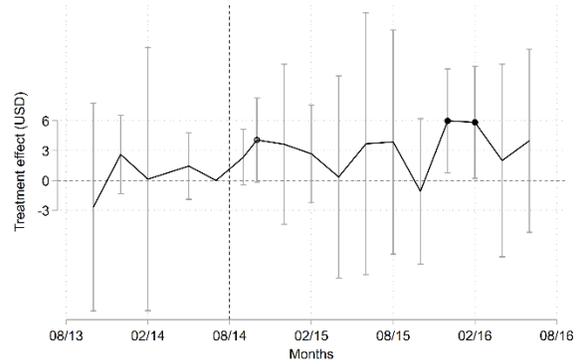
Figure A2.1. Treatment effects – End-of-the-Month Savings Account Balances (Disbursements months only)



(a) Overall



(b) Younger



(c) Older

Source: Authors' own calculations based on monthly transaction data from the Banco de la Nación (BN) accounts of individuals in the study sample.

Note: The study includes the months during which JUNTOS payments were made, only. All amounts are expressed in US dollars using the average exchange rate from Aug2014 (month of intervention) and were winsorized at the 1% level. All regressions include individual and time fixed effects. Standard errors clustered at the village level. 95% confidence intervals shown as capped vertical lines and significance levels denoted by either a solid (5%) or hollow (10%) circle.

Table A2.1. End-of-Month Treatment Effects - Account Balances

Months after intervention	Control	ATE	ATE by Generation		P-Value Younger-Older
			Younger	Older	
-11	8.21 (1.81)	0.84 (0.99)	1.08 (1.45)	0.80 (1.67)	0.907
-10	19.20 (4.13)	-2.48 (4.72)	-2.13 (4.82)	-2.59 (5.13)	0.881
-9	8.10 (1.76)	0.99 (1.14)	0.30 (1.62)	1.99 (1.54)	0.438
-8	9.95 (2.00)	0.84 (1.44)	-0.57 (1.87)	2.65 (1.91)	0.186
-7	7.24 (1.43)	1.02 (1.07)	-0.61 (1.38)	3.05* (1.79)	0.114
-6	78.67 (4.06)	0.22 (4.84)	-0.04 (3.99)	0.14 (6.68)	0.969
-5	8.89 (1.64)	0.73 (1.13)	-0.21 (1.22)	1.96 (1.66)	0.216
-4	8.25 (1.44)	0.71 (1.12)	-0.34 (1.18)	2.06 (1.64)	0.160
-3	9.02 (1.45)	0.13 (1.11)	-0.93 (1.27)	1.46 (1.48)	0.137
-2	8.21 (1.35)	0.04 (1.02)	-0.74 (1.07)	1.02 (1.46)	0.233
-1	11.23 (2.10)	-0.33 (0.58)	-0.62 (0.60)	0.01 (0.79)	0.413
1	11.36 (1.78)	0.66 (0.95)	-0.65 (1.21)	2.31* (1.24)	0.057
2	75.30 (1.28)	2.23 (1.35)	0.69 (1.64)	4.12** (1.74)	0.091
3	10.75 (1.84)	1.25 (1.02)	-0.46 (1.28)	3.38** (1.56)	0.054
4	33.81 (3.98)	0.50 (3.82)	-2.04 (4.26)	3.68 (4.30)	0.141
5	12.29 (1.87)	0.45 (1.34)	-1.79 (1.72)	3.24 (2.04)	0.058
6	77.91 (1.38)	0.73 (1.39)	-0.91 (1.74)	2.73 (2.11)	0.171
7	11.23 (1.41)	0.06 (1.33)	-2.16 (1.50)	2.82 (2.09)	0.040
8	40.10 (3.28)	-0.64 (4.34)	-1.50 (4.41)	0.42 (5.02)	0.590
9	11.38 (1.49)	0.76 (1.24)	-1.76 (1.59)	3.90** (1.74)	0.013
10	62.62 (3.81)	2.11 (5.20)	0.44 (5.00)	3.78 (6.68)	0.522
11	18.14 (2.49)	1.86 (2.20)	0.71 (1.82)	3.08 (3.59)	0.475
12	47.12 (3.13)	-0.28 (4.46)	-3.75 (4.30)	3.96 (5.45)	0.041
13	10.88 (1.23)	1.08 (1.45)	-2.32 (1.45)	5.31** (2.41)	0.003
14	24.35 (2.90)	-3.75 (3.10)	-5.97* (3.17)	-0.99 (3.63)	0.070
15	10.45 (1.64)	-0.58 (1.17)	-3.12** (1.42)	2.57 (1.96)	0.022
16	16.01 (1.87)	3.22* (1.73)	0.90 (2.03)	6.08** (2.44)	0.064
17	8.87 (1.33)	0.83 (1.11)	-1.69 (1.41)	3.94* (2.04)	0.034
18	18.68 (2.10)	3.18 (2.08)	0.97 (2.56)	5.94** (2.76)	0.131
19	9.17 (1.40)	0.96 (1.07)	-1.99 (1.47)	4.61** (2.18)	0.027
20	40.72 (3.43)	-1.54 (4.05)	-4.49 (4.15)	2.09 (4.73)	0.065
21	10.92 (1.63)	-0.24 (1.32)	-2.77 (1.93)	2.84 (2.23)	0.084
22	50.81 (3.30)	0.10 (3.99)	-3.11 (4.34)	4.08 (4.47)	0.051
23	11.39 (1.73)	-0.29 (1.28)	-2.25 (1.85)	2.09 (2.11)	0.150

Source: Authors' own calculations based on monthly transaction data from the Banco de la Nación (BN) accounts of individuals in the study sample. Notes: All amounts are expressed in US dollars using the average exchange rate PEN/USD of August 2014 (month of the intervention) and are winsorized at the one percent level. All regressions include individual and time fixed effects. Clustered standard errors at the village level in parentheses. (*) denotes significance levels (* 10%, ** 5%, *** 1%) based on unadjusted p-values.

**Table A2.2. End-of-Month Treatment Effects - Account Balances
(Disbursements months only)**

Months after intervention	Control	ATE	ATE by Generation		P-Value Younger-Older
			Younger	Older	
-10	19.20 (4.13)	-2.10 (4.83)	-1.39 (4.91)	-2.67 (5.28)	0.688
-8	9.95 (2.00)	1.26 (1.40)	0.21 (1.84)	2.61 (1.99)	0.356
-6	78.67 (4.06)	0.57 (4.80)	0.61 (3.99)	0.13 (6.69)	0.923
-3	9.02 (1.45)	0.46 (1.21)	-0.31 (1.31)	1.45 (1.69)	0.311
1	11.36 (1.78)	0.98 (1.01)	-0.08 (1.15)	2.32 (1.42)	0.128
2	75.30 (1.28)	2.52 (1.61)	1.28 (1.77)	4.06* (2.14)	0.205
4	33.81 (3.98)	0.79 (3.63)	-1.47 (4.11)	3.63 (4.07)	0.183
6	77.91 (1.38)	1.03 (1.65)	-0.31 (1.88)	2.67 (2.48)	0.294
8	40.10 (3.28)	-0.32 (4.38)	-0.85 (4.39)	0.35 (5.14)	0.741
10	62.62 (3.81)	2.44 (5.23)	1.12 (5.10)	3.68 (6.66)	0.627
12	47.12 (3.13)	0.04 (4.62)	-3.07 (4.36)	3.86 (5.70)	0.073
14	24.35 (2.90)	-3.43 (3.12)	-5.30* (3.18)	-1.09 (3.70)	0.138
16	16.01 (1.87)	3.54** (1.75)	1.57 (1.93)	5.98** (2.64)	0.131
18	18.68 (2.10)	3.51* (2.01)	1.64 (2.44)	5.83** (2.85)	0.218
20	40.72 (3.43)	-1.21 (4.05)	-3.82 (4.05)	2.00 (4.89)	0.116
22	50.81 (3.30)	0.44 (4.07)	-2.43 (4.35)	3.99 (4.66)	0.087

Source: Authors' own calculations based on monthly transaction data from the Banco de la Nación (BN) accounts of individuals in the study sample.

Notes: The study includes the months during which JUNTOS payments were made, only. All amounts are expressed in US dollars using the average exchange rate PEN/USD of August 2014 (month of the intervention) and are winsorized at the one percent level. All regressions include individual and time fixed effects. Clustered standard errors at the village level in parentheses. (*) denotes significance levels (*10%, ** 5%, *** 1%) based on unadjusted p-values.

Appendix A3: Storyline and Pro-Savings Messages

Josefa's story line was developed by Antorcha, a firm specialized in generating visual content, in coordination with a team of experts in financial inclusion in rural Peru. The team decided it would be a story about personal development combined with a love story where the main character was a young female beneficiary of Juntos, named Josefa. The savings culture and communal solidarity were defined as key elements of the character's personal development and social success. The positive messages, pro-savings and pro-conditionalities, would be transmitted through the interaction between Josefa and her older sister, Rufina, who had already achieved some elements of social success, and who decides to help Josefa with her struggles by teaching her the key values she found useful. The scripts for each of the five episodes were also discussed and approved by the CG, including the definition of the key pro-savings messages in each episode, as follows:

- 1) It is important to save some of the money you earn/have, no matter how small (buy only what you really need, avoid spending all).
- 2) Risks of non-financial savings (need to keep savings in safe place)
- 3) Always keep some savings for unexpected expenses/emergencies.
- 4) Savings are key for future welfare-improving investments (advantages of partnering for social and economic community enterprises).
- 5) Planned savings can help achieve great goals and a better future