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International Center for Public Policy Andrew Young School of Policy Studies Georgia State University Atlanta, Georgia 30303 United States of America

Phone: (404) 413-0235 Fax: (404) 651-4449 Email: paulbenson@gsu.edu Website: http://icepp.gsu.edu/

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#### Soap Operas and Pro-Savings Attitudes in Poor Rural Areas of Peru

Alberto Chong and Martin Valdivia\*

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#### Abstract

We wrote, produced, and implemented a randomized intervention of a five-episode soap opera focusing on attitudes related to trust and savings. It was shown to females living in poor and violence-scarred rural areas and who received the national conditional cash transfer. We find that one year after the intervention treated females significantly improve their attitudes towards savings, especially as a precautionary motive, which is consistent with the intended message of the intervention.

Keywords: edutainment, soap operas, savings, Peru, trust, women

JEL Classification Codes: O10, D80

<sup>&</sup>lt;sup>\*</sup> Chong (Corresponding Author): E-mail: achong6@gsu.edu; Department of Economics, Georgia State University: 14 Marietta St, Room 516, Atlanta, GA, USA and Department of Economics, Universidad del Pacífico, Av. Salaverry 2020, Lima, Perú. Valdivia E-mail: martin.valdivia@drsinternational.org; Grupo Análisis de Desarrollo (GRADE), Av. Grau 680, Barranco, Lima, Perú. We are grateful to the Program *Todas Cuentan* and to PEP Research Network for financial support. We thank Lorena Alcázar, Matthew Bird, Elena Caballero, Cecilia Cebrecos, Maria Cristina Gutiérrez, Dean Karlan, Jason Kerwin, Claudia Martínez, Luisa Zanforlin and seminar participants at Grupo Análisis para el Desarrollo, International Development Research Center, PEP Research Network, Universidad Católica de Chile, University of Minnesota, University of Ottawa, and the World Bank. Luis Iberico, Guadalupe Montenegro, Walter Noel, Juan Pablo Ocampo, Jorge Orozco, and Emilia Palacio provided very valuable research assistance. The project received IRB approval from Universidad del Pacífico. The authors declare no conflict of interests. All remaining errors are ours.

#### 1. Introduction

Whereas "banking the unbanked" has long been a critical objective in development economics, it has also been considered only a first step in the broader objective of increasing financial inclusion in poor countries. This is illustrated by the fact that while *de jure* banking account ownership has increased significantly in the developing world, *de facto* it has not meant much. A significant share of individuals in developing countries, especially those living in poor, rural areas, tend not to trust the financial system and would rather perform transactions informally (World Bank, 2022). Trust is an essential element of financial transactions in which people exchange money for promises (Karlan et al., 2014). A reason why individuals may not keep their savings in banks is that they may not trust them and worry that the money will not be available whenever they want it, or that the bank might commit fraud, charge hidden fees and place restrictions on access to their funds (Galiani et al., 2022).

Peru, our country of interest for this study, is no exception to the above. Among those living in poor rural areas, the mean trust levels on the banking system are low. Only 48 percent trusts banks and only 36 percent trust bank staff. Furthermore, 54 percent believe that their money is safer at home than in a bank and 71 percent believe that it is safer to purchase animals as a store of value than to keep money in a bank (Gertler et al., 2016; Galiani et al., 2022). In fact, lack of trust appears to be a key reason why recipients of government cash transfer programs quickly withdraw most of the funds deposited in their bank accounts by the program at the beginning of each pay period (Chong and Valdivia, 2023).<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Lack of trust is further compounded by the fact that the country suffered from brutal terrorist violence in those same poor, rural areas during the early 1980s and early1990s (Albertus, 2020). It has been shown that such pervasive violence contributes to the destruction of trust due to the loss in the individuals' optimism, hope and networks (e.g., Martinez, et al., 2019; Roychowdhury, 2021).

Recent research has shown that edutainment, the idea that media can be entertaining while conveying useful educational and informational messages, may have the potential to help target difficult development-related objectives including those related to financial inclusion (e.g., Berg and Zia, 2017; La Ferrara, 2016). Edutainment may impact behavior in different ways. First, it can provide new information to induce people to adjust their beliefs. Second, it may impact the desirability of certain actions and objects. Third, the time spent on media is time not spent in other activities, which may help impact outcomes (La Ferrara, 2016)

In the context above, we pursue a field experiment where we write, produce, and show a fiveepisode short soap opera in poor rural areas of Peru that seeks to instill confidence and trust by providing positive embedded messages related to the importance of keeping savings in a safe, secure place, such as a bank as well as on related attitudes and perceptions towards savings.<sup>2</sup> In particular, we emphasize on the role of precautionary savings and its importance for emergencies including its potential as a risk coping mechanism. Our research targets the beneficiaries of the main Peruvian Conditional Cash Transfer (CCT), "*Juntos*", a government program that provides a monthly subsidy of around 35 US dollars, which is disbursed bi-monthly and is deposited to individual bank accounts that were specifically created for the adult women of the household. Our main finding is that when randomizing the showing of our soap opera and measure impacts one year after the last viewing session of the soap is shown, we obtain causal evidence that women improve their attitudes on the banking system as well as on the importance of savings, especially as precautionary and risk coping motives.

<sup>&</sup>lt;sup>2</sup> Media and communication experts did provide substantial support to this endeavor. Please, see Appendix 1 for additional details.

Our paper is organized as follows. Next section describes our field intervention Section 3 describes the data and the empirical strategy. Section 4 describes our findings and Section 5 provides a brief discussion and some final remarks.

#### 2. Intervention<sup>3</sup>

We wrote, designed, and produced a five-episode soap opera that included embedded messages promoting positive attitudes and behaviors related to trust in banking institutions and pro-savings messages with emphasizing the role of savings for emergencies as well as for situations of economic risk.<sup>4</sup> The title of our soap opera is *Josefa*, the first name of the main character, a young woman that resembles an average resident of one of the targeted communities of the Peruvian southern highlands, one of the poorest, most neglected, and violence-scarred in the country. The overall theme was "classic soap opera" in the sense that the episodes deal with 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 downs, as in any typical soap opera. At the end, our main character, Josefa, does find economic success and personal happiness.

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 our five-episode soap opera was ready for viewing by mid-2014 and as such the viewing sessions were programmed throughout August of that year. We organized group viewing sessions in the localities where the beneficiaries reside in order to minimize travel distance from their homes and thus, facilitate and

<sup>&</sup>lt;sup>3</sup> This section shares similar content with an analogous section of Chong and Valdivia (2023). It is included in detail for the sake of self-containment. It is important to mention that whereas both studies apply the same basic intervention, the papers are fully independent and study different issues.

<sup>&</sup>lt;sup>4</sup> We assembled a consultative group of experienced experts to help us design a culturally sensitive edutainment tool that reflected the values of the targeted areas and was sensible to their needs and wants of the population so that the embedded messages in the episodes are internally consistent within our intervention as well as externally consistent with the overall government strategy.

maximize attendance. An important element in the organization of the weekly viewing sessions was that we implemented a standard protocol. We sent invitation cards to all women registered as beneficiaries in the National Conditional Cash Program Juntos in the treatment localities two weeks in advance through the community representative along with the program's local officer.<sup>5</sup> A reminder was sent two or three days before the first session. We also trained fourteen facilitators, which consisted of a two-day workshop to provide them with guidelines for facilitating the discussions after viewing each soap opera episode. They were all local residents who held degrees in the social sciences or communications, were fluent in Quechua, the predominant language in the area, and had experience working in rural areas with women.<sup>6</sup> The facilitators were provided with a film projector, laptop, and speakers, which they used to show each episode, with the help from local authorities whom we previously identified and contacted prior to the intervention in order to secure a viewing space, typically the local school or health center, among others.<sup>7</sup> The facilitators would greet attendees and proceed to show the soap opera episode. After the showing, they would engage the attendees with a brief discussion about the episode and its key pro-saving messages following a scripted pattern. Finally, they ended the viewing session with an invitation to return and watch the next soap opera episode.

We selected 150 eligible communities in four provinces in the department of Huancavelica, one of the poorest in the country. 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*,

<sup>5</sup> The community representative *(madre lider)* was a highly respected woman from the community. The program's local officer *(gestor)* was a key resource, as this person would help with logistics.

<sup>&</sup>lt;sup>6</sup> Along with Spanish, Quechua is the other official language in Peru.

<sup>&</sup>lt;sup>7</sup> The soap opera trailer is here: http://www.grade.org.pe/proyectos/mini-novelas-educacion-financiera-y-promociondel-ahorro/. All the episodes are available upon request. Appendix 1 provides a detailed summary of the storyline of *Josefa*. Appendix 2 shows some pictures that show the basic characters of our five-episode soap.

as well as receive their transfers through direct deposits to the National Bank account. As mentioned above, the vast majority of women would typically make full withdrawals of their government transfers every period, which for all practical purposes rendered their accounts dormant, a typical occurrence in many developing countries (Galiani et al., 2022). 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, fifty villages to each one. The first treatment group consisted of women invited to a viewing session. The randomization was stratified by district. 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.

#### 3. Data and Empirical Strategy

We did not use a baseline survey, which conditioned our econometric specification to estimate impacts on savings attitudes, as we cannot control for the level of such variables at baseline.<sup>8</sup> We use a difference in treatment-control based on the randomly allocated intention to treat (ITT) and show the effects of the treatment, having been invited to the viewing sessions. The comparison between treatment and control groups allows to estimate ITT impacts of being exposed to the soap opera as follows:

$$Y_{ijk1} = \alpha + \beta T_{jk} + \gamma X_{ijk0} + \delta_k + \varepsilon_{ijk}$$
<sup>(1)</sup>

where  $Y_{ijk1}$  denotes an outcome variable for a woman i residing in village j, of district k at time 1 (follow up),  $T_{jk}$  is a dummy variable that takes the value one if the woman resides in a village j,

(1)

<sup>&</sup>lt;sup>8</sup> Budget considerations impeded us to do a baseline survey.

district k that was assigned to the viewing session of our soap opera.  $X_{jk0}$  is the vector of stratifiers used in the randomization,  $\delta_k$  is the district fixed effect and  $\varepsilon_{ijk}$  is the error term. Thus,  $\beta$  is the effect of the intervention, and the error term is assumed to be uncorrelated across villages but not within them. As mentioned above, we evaluate the impact of this intervention using several indicators related to attitudes related to savings and risk coping strategies during emergencies.

In the context of our study, it should be emphasized that testing multiple outcomes using (1) independently increases the probability of rejecting a true null hypothesis for at least one outcome above the significance level used for each test (Chong and Valdivia, 2023). Thus, we first adjust the estimated p-values to test whether our treatment has an impact on the family of outcomes associated to knowledge, perceptions and attitudes by using a mean standardized treatment effect (Kling et al., 2007). To do this we define a summary measure  $_{X^*}$  as the unweighted average of all standardized outcomes of a family. We obtain that  $Y^* = \sum_k Y_k^* / k$ , where  $Y_k^* = (Y_k - \mu_k)/\sigma_k$ , where

 $Y_k$  denotes the outcome variables within each family, where a larger value is better for the household. Standardization is done using mean and variance for the control group at baseline. Thus, the mean and standard deviation of  $\beta$  in (1) for  $Y^*$  allows us to test whether treatment had an overall positive effect on the corresponding family of outcomes. In addition, we follow Anderson (2008) and compute the q-values associated to the False Discovery Rate (FDR) approach. Finally, we do apply a household survey one year after the viewing sessions occurred that includes questions on basic socio-economic characteristics, perception, attitudes, and

knowledge related to savings and related financial transactions. The survey was applied to a random sample of 2274 *Juntos* beneficiaries, an average of fifteen per village.<sup>9</sup>

#### 4. Findings

While we took the utmost care to tailor our soap opera to match the cultural sensitivities, desires and needs of our intended audience in order to optimize their interest, it is impossible to predict the actual interest of our edutainment tool on the targeted group. The viewing sessions were very successful as, on average, 75 percent of the invited individuals, did attend to them. Perhaps, even more remarkably, we did not observe any attrition from one viewing session to the next. If anything, we found the opposite result: the share of invited individuals increased from viewing session to viewing session, from around 70 percent in session one, to nearly 85 percent in session five.

Related to the above, Table 1 shows that the recollection of characters, the storyline and prosavings messages, one year after the viewing sessions was also high. The average female in the treatment localities recalled 3 out of 11 features of the soap opera, including the characters and the storyline. With respect to our 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).

<sup>&</sup>lt;sup>9</sup> We also apply analogous surveys to147 community leaders as well as to 33 program officials. The findings of these additional surveys are available upon request. Overall, these additional surveys corroborate the findings presented in this research.

	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

#### **Table 1. Soap Opera Recall Levels**

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

Table 2 shows the differences between treatment and control groups and confirms that the sample is balanced, as shown by the fat that there are no statistically significant differences in the variables of interest, including age, education, language spoken at home, distance of the village to the district capital and violence in the district.

	Control	Treatment	p-value (T-C)
Age	39.550 (0.215)	40.218 (0.401)	0.181
No Education	0.237 (0.029)	0.238 (0.019)	0.983
Primary education	0.590 (0.025)	0.573 (0.020)	0.584
Secondary education and higher	0.173 (0.033)	0.189 (0.016)	0.523
Language at home (Quechua = l)	0.701 (0.093)	0.695 (0.082)	0.820
Distance of village to district capital (kms) Violence in District (High = 1)	48.148 (13.312) 0.530	46.292 (13.368) 0.570	0.732

Table 2. Socio-Economic Characteristics at Baseline

(0.215) (0.197) 0.564

Notes: Means are Winsorized. Clustered standard errors at agency level in parentheses

As mentioned above, the expectation of our intervention is that 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. Table 3 shows that treatment clearly impacted attitudes toward savings. This table presents results one year after the intervention when we ask whether (i) women 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. Based on the methodology described in the previous section, we also construct 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 6.6 percentage points more likely to report that they are able to save by themselves, 8.1 percentage points more likely to report having regrets after spending money in 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 may need to be controlled.<sup>10</sup> More importantly, our Pro-Savings index is also statistically significant at conventional values and shows that women assigned to treatment increase their likelihood towards saving by 23 percentage points.

<sup>&</sup>lt;sup>10</sup> Interestingly, we also find that women increase the likelihood to hiding money that they want to save by 3.6 percentage points, although the coefficient is not statistically significant. In addition, in general, we also tend 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.

	Control Mean	ATE
Saves money on her own (%)	0.507	0.066*
	(0.018)	(0.039)
Regret after spending money (%)	0.488	0.081*
	0.018)	(0.047)
Wants to save more than husband (%)	0.523	0.022
	(0.018)	(0.041)
Has to save separately outside (%)	0.284	0.036
	(0.017)	(0.046)
Does not spend immediately (%)	0.359	0.154**§§
• • • • • •	(0.018)	(0.040)
Pro-Savings Standardized Index	0.000	0.225*
	(0.037)	(0.103)

# Table 3. Women's Financial and Savings Attitudes(ATE Estimates)

We asked how much women agree or disagree with the statements of the table above. We built our variables 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 include fixed effects for the Juntos local coordinator, distance to the district capital, number of health centers, schooling, and number of beneficiaries on the village. Clustered standard errors at village level are in parentheses. (\*) denotes statistically significant levels (\* p < 0.05 \*\* p < 0.01 and \*\*\* p < 0.001) and are based on unadjusted p-values. § denotes statistical significance level (§ p < 0.05 §§ p < 0.01 and \*\*\* §§§ p < 0.001) based on sharpened FDR q-values.

In addition, Table 4 shows results on risk coping strategies when cash is needed (500 new soles or around 200 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. Treated individuals are 9.2 percentage points more likely to prefer using their own savings in emergencies. Also, those exposed to treatment are 13.5 percentage points less likely to ask their relatives or friends for a loan, something associated to 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).

	Control Mean	ATE
Use own savings (%)	0.148	0.092**§
	(0.014)	(0.031)
Sell anything (%)	0.311	0.047
	(0.017)	(0.032)
Lower expenses (%)	0.040	0.009
	(0.007)	(0.018)
Apply for a Loan:		× ,
Financial Institution (%)	0.054	0.008
	(0.008)	(0.010)
Non-Financial Institution (%)	0.004	0.004
	(0.003)	(0.005)
Family and Friends (%)	0.529	-0.135**§§
5	(0.018)	(0.035)
Government (%)	0.008	-0.004
	(0.003)	(0.004)
Not possible (%)	0.121	-0.007
	(0.011)	(0.022)

## Table 4. Risk Coping When Cash Is Needed<br/>(ATE Estimates)

We asked how much women agree or disagree with the statements of the table above. We built our variables 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 include fixed effects for the Juntos local coordinator, distance to the district capital, number of health centers, schooling, and number of beneficiaries on the village. Clustered standard errors at village level are in parentheses. (\*) denotes statistically significant levels (\* p < 0.05 \*\* p < 0.01 and \*\*\* p < 0.001) and are based on unadjusted p-values. § denotes statistical significance level (§ p < 0.05 §§ p < 0.01 and \*\*\* §§§ p < 0.001) based on sharpened FDR q-values.

#### 5. Discussion and Final Remarks

One-third of adults or around two billion people in the world are still unbanked and almost two thirds of them are women. 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.<sup>11</sup> Policymakers have

<sup>&</sup>lt;sup>11</sup> Financial inclusion has been identified as a critical enabler for seven out of the seventeen Sustainable Development Goals established by the United Nations (World Bank, 2022).

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 surplus that tends to be used in non-essential expenditures (Banerjee and Duflo, 2007). In addition, a significant share of poor individuals in developing countries tend not to trust the formal financial system and would rather perform financial transactions, big and small, informally, using funds saved, literally, under the mattress rather than use funds from the formal financial system (Karlan et al., 2014).

In recent years, edutainment has proven particularly promising in helping change behavior of the poor by constructing popular role models that can 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. Closeness to the reality of the intended audience may be key to impact the self-image, which may be important to change corresponding attitudes (La Ferrara, 2016). We contribute to the literature by evaluating an edutainment field experiment where we design, produce, and show a short soap opera as a tool to increase active financial inclusion in women by instilling trust in the financial system by showing them the importance of savings, so that they can interact confidently with banking institutions. We find that one year after the intervention treated females significantly improve their attitudes towards savings, especially as a precautionary motive, which is consistent with the intended message of the intervention. Our results show that edutainment tools may help policymakers deal with what sometimes are considered "intractable" issues, including financial inclusion as well as financial use in developing countries.

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#### **Appendix 1. Soap Opera Storyline**

The production of *Josefa* was substantially supported by a well-known Peruvian audiovisual firm, Antorcha Comunicaciones, which has vast experience in the development of media material that combine fiction with messages that promote positive social attitudes or behaviors among different target groups. We hired this firm and worked together in the writing and production of our soap opera along with a multidisciplinary Consultative Group (please, see footnote 4) to help us define the pro-savings embedded messages and the most effective storyline of *Josefa*.

The first step was for Antorcha to transmit to the Consultative Group some basic knowledge about producing soap operas, which was followed by an agreement on a protocol for the collaboration. The Consultative Group then commissioned a qualitative study to learn about the characteristics of the Conditional Cash Transfers beneficiaries and its communities in the targeted location for our study (four provinces of Huancavelica, one of the poorest departments in Peru), including basic characteristics about their knowledge, perceptions and practice related to sound saving strategies, either formal or informal, including the way people connect to their social aspirations and role models. The results of this study were intensively discussed in two workshops, which helped us define the concept for the full soap opera story, which would be delivered in episodes.

The next two workshops allowed for lively exchanges on the exact concept related to the story, which was decided to be delivered in five episodes of twenty minutes each).<sup>12</sup> It was decided that it would be a story about personal development combined with a love story where the main character would be a young female beneficiary of the government conditional cash transfer, *Juntos*, and it was agreed that she would be named *Josefa*.

<sup>&</sup>lt;sup>12</sup> The decision of five episodes of twenty minutes per episode was mainly the result of budget considerations.

The savings culture as defined as a key element 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, a character who had already achieved some elements of social success, and who decides to help Josefa with her struggles by teaching her key values that she found useful. The scripts for each of the five episodes were also discussed and approved by the Consultative Group including the definition of the key pro-savings messages in each episode, as follows:

- 1. It is important to save money for the unexpected, no matter how small.
- 2. It is important to keep savings in safe, trusted place.
- 3. One should always keep some savings for emergencies.
- 4. Savings are key for future welfare-improving investments
- 5. Planned savings can help achieve great goals and a better future.



Appendix 2. Main Characters of the Soap Opera