

On the Radio: Effectiveness of the Viva Seguro Financial Education Program*

Catherine Rodríguez, Fabio Sánchez y Sandra Zamora[∞]

Abstract

Through a randomized control trial this paper estimates the impact that a radio broadcasted financial education program has on the knowledge and behavior of its listeners. Viva Seguro, the program evaluated, is specialized on topics related with the risks individuals face and how to correctly address them including strategies related with savings and insurance. TTT and ITT estimations reveal that giving financial education through such mass media channel has a positive causal impact on the knowledge of risks individuals face and the number of insurance they know exist. No effect however is found on the knowledge of specific concepts of insurance, individual's attitudes towards them, their savings behavior nor the number of insurance they bought. These results are congruent with the program's structure and time devoted to each subject suggesting that, if correctly designed, mass media can be a cost effective mechanism through which the knowledge of individuals regarding insurance can be enhanced.

Key words: financial education, radio, insurance, randomized control trial (RCT)

JEL Code: I20, I25

* We thank Fasescolda, FUNDASEG and Microinsurance Innovation Facility from the ILO for financing this project as well as the four radio stations from RCN Group, Lotería de Bogota, Processa S.A.S. and Datexco that made the evaluation design possible. We specially thank Alejandra Diaz for her outstanding dedication and patience administrating the implementation of this project. We thank the valuable comments received at the 10th International Microinsurance Conference, Mexico (2014). All errors are ours. Corresponding author: cathrodr@uniandes.edu.co.

[∞] Catherine Rodríguez, Department of Economics, Universidad de los Andes
Fabio Sánchez, Department of Economics, Universidad de los Andes
Sandra Zamora, Department of Economics, Universidad de los Andes

En la radio: Efectividad del Programa de Educación Financiera Viva Seguro

Catherine Rodríguez, Fabio Sánchez y Sandra Zamora

Resumen

A través de un novedoso experimento aleatorio controlado este trabajo estima el impacto de Viva Seguro, un programa de educación financiera que cubre los temas de gestión de riesgos y seguros, en variables relacionadas con el conocimiento, las actitudes y el comportamiento real de los individuos que lo recibieron. El programa Viva Seguro fue transmitido en dos estaciones de radio en Colombia que tienen como público objetivo oyentes de familias de bajos y medianos ingresos. Los oyentes de estas estaciones de radio comprenden nuestro grupo de tratamiento. El grupo de control está compuesto por los oyentes de otras dos estaciones de radio de características similares y de la misma empresa de radiodifusión escogidos y encuestados en los mismos momentos que el grupo de tratamiento. A través del uso de información de datos panel sobre los grupos de tratamiento y de grupo control encontramos que la educación financiera brindada a través de la radio tiene un impacto causal positivo en el conocimiento de los riesgos que enfrentan los individuos y el número de seguro que saben que existen en el mercado. Sin embargo, no se encuentran impactos significativos en el conocimiento de conceptos específicos de seguros, las actitudes de los individuos hacia ellos, su comportamiento de ahorro, ni el número de seguros que han comprado. Estos resultados son congruentes con la estructura y el tiempo dedicado a cada tema dentro del programa lo que sugiere que, si se diseñan correctamente, los medios de comunicación pueden ser un mecanismo costo eficaz a través del cual se puede mejorar el conocimiento sobre los riesgos y los seguros de las personas.

Palabras clave: educación financiera, radio, seguros, experimento aleatorio controlado (RCT)

Código JEL : I20, I25

1. Introduction

Financial education is a subject whose interest in the academia and policy arena has significantly increased in recent years. At least three facts provide ground to the special attention this topic should have. First, education is and always will be a fundamental factor for development. In the special case of financial education, efforts to effectively provide it to individuals is particularly important given that it is now clear that the knowledge of these topics among the adult population worldwide is scarce at best (Atkinson and Messy, 2012; Xu and Zia, 2012). Second, the type, complexity and number of financial products available in the market have significantly increased in recent years. Yet, the uptake and usage of these products is low and studies have found it is correlated with the financial knowledge individuals have (Fernandes *et al.*, 2014). Third, financial education programs and resources devoted to them have also increased around the world. In many countries, the financial sector is obliged by law to invest a minimum amount of money on these programs and many governments, as a complement, have developed national financial education strategies (OECD, 2014). Understanding if these investments are cost effective is thus necessary.

Despite its importance, there exist little evidence on the causal impact that these programs have both on financial knowledge and behavior of individuals. The limited studies to date suggest that traditional financial education interventions have on average weak effects on behavior and its effects on knowledge are smaller than others obtained in seemingly comparable domains as shown by the recent meta-analysis from Fernandes *et al.* (2014). Moreover, as argued by Spader *et al.* (2009), the traditional delivery mechanisms based usually on workshops, only allows to reach individuals who intentionally seek for instruction leaving behind those who are probably most in need of it. These small impacts, united with the low take up rates that traditional financial education programs face, further implies that they rarely pass a cost benefit analysis either. Karlan *et al.* (2014) conclude that the traditional programmatic approach to financial education is misguided and stakeholders should consider alternative delivery channels, the timing in which they are offered and their content.

Innovative forms for the design and dissemination of financial education are thus in need. This paper evaluates the potential benefits that one such format can have: financial education broadcasted through the radio. Under a novel randomized control trial we estimate the impact that the financial education radio program “*Viva Seguro*” has on knowledge, attitudes and behavior around risks and insurance of its listeners in Colombia. Implemented by the Insurance Association of Colombia (Fasecolda, for its Spanish acronym) and its sister foundation (FUNDASEG), *Viva Seguro* seeks to promote in low and medium urban individuals in the country, through 36 one hour carefully designed episodes, an increased awareness of the risks they are subject to, improve their knowledge on

appropriate strategies to deal with them and increase their knowledge and attitudes towards insurance products. By using radio as an alternative delivery channel Viva Seguro has the potential to reach more individuals as it reduces the opportunity cost of attending traditional workshops, reduces problems of trust and confidence of customers towards financial institutions and could potentially serve individuals who will not seek such education since they are not aware of the lack of sufficient information they have and the benefits insurance can bring to them (Spader et al., 2009).

For the purpose of this evaluation four popular urban radio stations from one of the major communication networks in the country were selected. In two of them, the treatment radio stations, *Viva Seguro* was aired in late 2011 while in the other two radio stations the regular programming was maintained. Before the program was broadcasted a fidelity contest was designed and publicized in all four radio stations where individuals were motivated to participate and become eligible to win different awards just by listening to their radio stations in a specific hour of the day. All those interested in the contest had to register themselves and answer a 30 minute questionnaire designed especially for this evaluation. While *Viva Seguro* was aired, in order to motivate listeners, daily prizes were delivered in the four radio stations through random calls to the registered participants were simple questions related with topics or songs played that day in each station were asked. The final major prize of the contest was delivered approximately six months after the last chapter of the education program was aired and in order to participate in it contestants needed to answer a follow up survey. Through this randomized incentivized design we were able to collect baseline and follow-up information on 430 individuals who took part of the fidelity contest and listened to their usual radio stations, either the randomly chosen treatment or the control radio stations. In total, 225 individuals listened to the program and comprise the treatment group while the remaining 205 comprise the control group.

The design and information collected allow us to estimate both the casual intent to treat as well as the treatment on the treated impact of listening to the *Viva Seguro* program on the radio. Results suggest that using mass media as a delivery channel for financial education is effective. We find that six months after the program was broadcasted listeners of *Viva Seguro* increased their knowledge on the type of risks they could be subject to; their perceived capacity in order to identify and deal with such risks; as well as the number and type of insurance products they know are available in the market. No impact however was found on specific knowledge of insurance concepts such as the premium, deductible or how and where to make a specific complaint. Similarly, no effect on attitude towards insurance take-up or whether they save or not for emergency was found. It must be noted however that a careful analysis on the content and time spent on each topic in the *Viva Seguro* program could explain these results. For example, while more than 50 per cent of the

episodes were dedicated to the discussions of the risks and insurance products, only three episodes were dedicated to insurance concepts and their meanings.

Our paper differs from the others in the financial education literature due to the content *Viva Seguro* provides to its listeners. While the vast majority of the studies to date analyze financial literacy programs related to savings, budgeting, credits and banks, *Viva Seguro* provides information on risks and insurance. The evidence on the causal impact of financial education programs covering these topics is limited and the only notable exceptions include Gaurav et al. (2010), Cai *et al.* (2015) and Tower and McGuinness (2011). Yet, the latter one is not based on an RCT design while the first two studies, based on RCT designs, concentrate exclusively on agricultural insurance products delivered through traditional delivery channels. *Viva Seguro's* content is more general covering ten different insurance products with poor urban individuals as its main target audience. As such, the design and scope of the program seek to provide knowledge to a more general population through a simple to understand curriculum.

Although previous evaluations have provided evidence on the power that mass media communication have in contexts such as family planning (Rogers et al., 1999; La Ferrara et al., 2012), intergroup prejudice and conflict (Paluck, 2009), politics (Strömberg, 2004; Gentzkow, 2006) and education (Kearney and Levine, 2015; Jensen and Oster, 2009) among others, the knowledge on its effectiveness on financial education programs is limited.¹ Spader et al. (2009), Berg and Zia (2013) and Tower and McGuinness (2011) are, to the best of our knowledge, the only three studies that analyze the causal impact of such alternative mass media interventions. All three studies find that, as in the *Viva Seguro* case, mass media can be an effective delivery mechanism that causally impacts financial knowledge and behavior. However, our analysis differs from theirs in that while the first two concentrate on the impact of televised soap operas the third one, that also studies radio impacts, is not based on an RCT design. Although television nowadays have higher penetration rates in prime time hours compared to radio programing, the latter have lower costs, allows easier program segmentation according to the characteristics of the target population, at the moment interaction with listeners and can be heard while individuals are engaged in other activities (Díaz y Pinzón, 2011).

The reminder of the paper is organized in seven additional sections. Section two briefly describes the Colombian financial education context and the history and content of the *Viva Seguro* financial education radio program. Section three describes the experimental design while section four the data obtained for this evaluation. Section five summarizes the estimation strategies undertaken and the main results obtained. Finally, section six concludes.

¹ DellaVigna and La Ferrara (2015) provide a recent literature review on the economic and social impact of the media on these other areas.

2. *Viva Seguro*

The present study takes place in Colombia, a middle income country with low levels of financial inclusion. According to data from Global Findex (2015) while on average 41 and 63 per cent of the poorest 40 percent of individuals in Latin American and other upper middle-income countries have an account with a formal financial institution, in Colombia this percentage reaches only 24. In relation with the insurance market, Bruhn *et al.* (2013) show that micro-insurance is the financial product with higher uptake in the Colombian population. According to their national representative survey 30 per cent of the individuals surveyed report having one of such products compared with 25 per cent who report owning a savings account. The authors though suggest that this high prevalence could suggest confusion on the term. Bruhn *et al.* (2013) also show that compared with individuals from other countries surveyed in a similar setting, Colombians scored the highest in terms of budgeting and achievement orientation. Yet they also had the lowest scores in questions related with interest rates concepts.

The Colombian government has, for the past decade, recognized the importance of improving financial access and knowledge of low income individuals. Regarding financial education in 2009 it was obliged by law that all financial institutions should invest a minimum amount of resources on the development and dissemination of financial education programs. Insurance companies in the country are subject to such requirement and to comply with it in 2010 they created the Financial Education Committee at Fasecolda. All the presidents of the insurance companies in the country unanimously voted to leave the design and main dissemination strategies of financial education on insurance on the hands of this Committee contributing the funds required for its development. Although each insurance company continues to offer guidance and education to their clients, it can be stated that Fasecolda is the leading centralized promoter of the financial education on insurance topics in Colombia

Even before it was obliged by law and the Financial Education Committee was created Fasecolda started to develop the contents of an insurance financial education program tailored for low income individuals in the country. In 2008, after a process that took almost one year and included experts opinions as well as focus groups, surveys and the implementation of several pilots the program "Risk management and insurance: protect your family's future" was adapted from the Global Financial Education Program led by Microfinance Opportunities and Freedom from Hunger. The final content of the adapted program seek to provide specific knowledge and tools that should contribute low income individuals in five main aspects: i) increase their awareness of risks; ii) improve their behavior against them; iii) increase their knowledge on insurance and improve their perceptions towards them with the intention that they can; iv) make better decisions and be more informed about risk management, and finally; v) improve their behavior against

the risks and decrease their vulnerability to the occurrence of events unexpected to generate them severe financial shocks.

Initially the content of this program was delivered through traditional workshops training almost 6,000 low income individuals between 2009 and 2010. Motivated to reach a greater number people, the Financial Education Committee at Fasesolda decided to adapt the original program for it to be broadcasted through radio. According to Díaz y Pinzón (2011) even though a national study of mass media concluded that the most used channel of low income households was TV with a penetration of 96% compared to a penetration of 64% for radio, the latter channel was chosen for three main motives. First, airing a long specialized content program was more cost effective in radio than in TV given the higher rates charged in the latter for both program production and airing. Second, the idea that radio programs could be listened while individuals are engaged in other activities throughout the day and that they allowed an easier interaction with their listeners also constituted an important advantage. Finally, radio programs allowed a more flexible design in the program facilitating the incorporation of educational content combined with additional entrainment segments that could include drama and music among others.

The adaptation of the original program to be broadcasted through radio was undertaken with the support of Fasesolda's communications area, the directors of each specific insurance area in Fasesolda and representatives from insurance companies. The design followed the recommendations of experts on the communication area that suggested the use of a special language that could capture the attention of the listeners and include a varied content that assured a dynamic and entertaining program that offers useful information for consumers on risk management decision-making.² This process created the *Viva Seguro* radio financial education program comprised of 35 episodes with an estimated duration of 41 minutes each. The program was designed to be broadcasted daily for seven consecutive weeks. The curriculum of the program, which is presented in Table 1, is divided into five key themes: (i) Risks recognition and which one has happened to you? How did they affect your pocket? What were your responses and how effective were they? (ii) Financial instruments in order to deal with emergencies (iii) Types of insurance in the market (iv) Know your policy and (v) Consumer protection. A careful analysis on the content of the program and the time devoted to each theme is important. As can be observed by far the two themes that covered most of the episodes were those related to the type of risks individuals could be exposed to and the type of insurance products available in the market. In total 18 of the 35 episodes were exclusively dedicated to these two topics. The episodes devoted to savings, specific insurance concepts or the rights of customers were fewer ranging from one to maximum of three episodes.

² According to Diaz (2011) the design of the content followed suggestion of Tremblay (1974), Grover and Miller (1976) and Radio Farm.

Table A1 in the Appendix explains in detail the general structure of each daily episode which was designed to have a specific structure that assured listeners were at the same time entertained and informed. In particular each episode was divided into 18 different segments that combined a review of topics covered in previous episodes, brief talk with experts on a given theme, a soap opera of the subject of the day, interviews with listeners, daily contest and songs related to the topics discussed each particular day.

3. Experimental Design

The randomized control trial for the impact evaluation of the *Viva Seguro* financial education radio program is based on a listener encouragement design.³ The timeline of the experiment occurs in two broad stages. In the first stage only two radio stations in Bogota - one treatment and one control - were selected into the experiment. In the treatment radio station the *Viva Seguro* financial education program was broadcasted, while in the control radio station its normal programming continued. In a second stage, four additional radio stations in two different cities - Barranquilla and Pereira - were added into the design in order to increase sample size and power of the evaluation. As in the case of Bogota, in each of the two additional cities included we selected one radio station as treatment and the other one as control.

All six radio stations belong to one of the largest communication networks in the country (RCN) and all have as main audience low and medium income households in their respective city. Although they are mainly music radio stations, variety programs are sometimes included in their daily programming and the central administration at RCN agreed for the airing of *Viva Seguro* for the seven weeks it lasted in the three treatment radio stations. As detailed in Table 2, the program was aired during the mornings in the time slot between 9:00am to 11:00am depending on the city. In Bogota the program was aired from August 8th until September 27th 2011; while in Barranquilla and Pereira it was aired from October 24 to December 15th 2011. Given that the six radio stations chosen only have a local frequency reach, the overlap in the timing and dates of the broadcasting of the financial education radio program across the three different cities does not pose a significant threat of contamination.

In order to attract regular listeners of each radio station from whom we could estimate the impact of listening to the program a special listener fidelity contest was designed and promoted in all six radio stations.⁴ The contest was simple: listeners of each radio station

³ The initiative for the implementation of an impact evaluation study of the program came from Fasesolda itself and the insurance companies associated to it. Fasesolda obtained financial support from Microinsurance Innovation Facility and the Bill and Melinda Gates Foundation. Then, the research team and Fasesolda together designed the evaluation strategy described in this section.

⁴ The contest in Bogota was also aired in a third radio station of the group: Antena 2.

(treatment and control) were invited to register in a contest were they would have the opportunity to compete in daily raffles and a final jackpot to be played six months after the last episode of *Viva Seguro* was aired. In order to be able to participate in such contests interested listeners had to: i) register by calling a toll free number given in the contest promotion; ii) answer a 30 minute questionnaire (baseline questionnaire); iii) listen to a specific radio station in the specific hours were the *Viva Seguro* financial education program was aired, and; iv) answer a second 30 minute questionnaire six months after the last episode of *Viva Seguro* was aired (follow-up survey) and before the final jackpot was given.

The two radio stations chosen in Bogota were Amor Stereo and La Cariñosa. The fidelity contest was aired between May 23rd and August 3rd of 2011 in which listeners who subscribed would have the opportunity to participate in two different contests. First, they could participate on daily contests were simple questions regarding the programing aired on each specific day were asked and if correctly answered they could win COP\$ 30.000 pesos (aprox US\$16) to be spent on supermarkets.⁵ Second, six months afterwards those listeners who answered the follow-up survey could participate in a lottery with a final jackpot of four \$ 500.000 pesos (aprox US\$267) prizes to also be spent on supermarkets. This lottery was to be carried out through *La Loteria de Bogota*, one of the most famous and serious lottery firms in the country. The promotion of the contest and the collection of baseline information ended on August 3rd 2011 and the *Viva Seguro* broadcasting started in Amor Stereo on August 8th 2011 leaving La Cariñosa as the control radio station. In this first stage of the experiment we were able to collect baseline information on 428 individuals who completed the telephone baseline survey.

Both the low number of individuals from which we had baseline information and the initial results of the daily contests led to three important decisions. First, Fasecolda and the research team decided to extend the experiment to the cities of Pereira and Barranquilla. In each of these cities we selected two radio stations from RCN and assigned which one would broadcast the financial education program. We tried to choose radio stations that were as similar as possible as those from Bogota and hence also served low and medium income individuals, the target population of *Viva Seguro*. As detailed in Table 2 whenever possible we included sister radio stations. For instance, in the case of Pereira we also selected La Cariñosa (the control radio station in Bogota) and purposely chose it as the treatment radio station in this second city. Second, in order to increase the number of individuals in the experimental design weekly prizes were increased to COP\$100.000 pesos (aprox US\$54). The dates of the contest promotion and airing of the program are detailed in Table 2. In this second stage we were able to obtain baseline information from 409 individuals in Pereira and only 109 from Barranquilla. The low number of individuals in this third city united

⁵ Raffles actually gave away “food stamps” that listeners could use in various supermarkets in the city.

with the high attrition rate observed in the follow up survey for them implies that in this evaluation only information from those listeners from Bogota and Pereira are taken into account.

The last episode of *Viva Seguro* for this random control trial aired on December 15th, 2011. Six months afterwards the follow up survey was conducted via telephone to all registered participants from which we had baseline information. After this information was collected the *Loteria de Bogota* was designated to be in charge of raffling and delivering the final jackpot among those who complied with all the contest requisites.

4. Data

Data for this evaluation was collected through two 30 minute telephone surveys interested participants had to answer in order to be eligible to participate in the weekly contests and the final jackpot. We collected baseline information before the *Viva Seguro* program was aired and a follow up survey conducted six months after the last episode was broadcasted. The survey was designed by the research team and Fasesolda following the guidelines of the OECD and the previous experience Fasesolda had on the subject. The surveys had in total 49 questions divided into four main sections. The first section asked questions that measured the level of knowledge listeners had on the risks they could be subject to and insurance products available in the market. This section also asked respondents questions related with specific concepts of insurance products such as the definition of what the premium, deductibles or exclusions meant. Questions related with the attitude towards insurances products were also included, asking individuals whether they thought they could afford to buy insurance products and if they thought they were necessary to deal with potential risks they could be subject to. Section two included questions regarding the individuals' perceived capabilities in understanding the risks they were subject to, buying the appropriate insurance product and comprehend the details in the insurance contracts. The third section asked questions related with actual behaviors such as the number of insurance products each listener had, if they had bought any insurance in the past six months, if they were interested in buying additional insurance products and whether they saved and for which purposes they did so. Finally, section four asked basic socioeconomic characteristics of the individuals.

In total, we collected baseline and follow up information on 430 individuals. Of them, 150 were registered through one of the two radio stations that broadcasted the *Viva Seguro* financial education program and therefore comprise our intent to treat population. As detailed, the population towards which *Viva Seguro* was designed for was low educated and income individuals who the evidence worldwide show they are most in need of increasing financial knowledge. Hence, when selecting the radio stations to be part of the experiment, we analyzed their target audiences and selected those that met our interest. The first two

columns of Table 3 show that indeed the population of interest was reached by depicting the average socioeconomic characteristics of individuals in the treatment and control groups at baseline. Most of the listeners who registered in the contest are women (72%) with an average age of 48 years and 70% have low levels of education attaining as a maximum secondary level or lower. Moreover 64 per cent of the individuals report earning less than the minimal wage at the time (approx. US\$270 dollars). In regards to occupations, 39% report that they work, 37% report they are dedicated to household chores while the other 23% report they are either studying, are unemployed or have retired among others.

Importantly, column 3 of the same table provides evidence on the balance obtained through our experimental design. For the vast majority of the socioeconomic characteristics we do not see any significant difference between the averages of the two groups. However, the treatment group has a higher percentage of women and not surprisingly then a higher proportion of individuals that report household chores as their main activity. This could in principle also explain differences on the proportion of individuals that only attained primary education and those who own either a car or a motorcycle. The regressions will take into account these differences.

The last columns of Table 3 compare the socioeconomic characteristics of attriters and non attriters in the experiment. Analyzing if there are differences among them is important because we had a 48 per cent of attrition which can be in part explained by the fact that surveys were carried out by telephone and not in person. As detailed by Angrist and Lavy (2002) a high attrition rate does not necessarily impair the internal validity of a given experiment. The important fact is that there is no clear bias between those who attrite and those who do not. As can be observed, attrition does appear to be random except in three characteristics. Attriters are in a larger proportion two years younger women without motorcycle. No difference however in education, occupation or income across individuals exist.

5. The impact of *Viva Seguro*

Given the randomized design here described, the balance between individuals in both the treatment and control groups and the baseline and follow up information available we can estimate two impacts of interest of the radio broadcasting of *Viva Seguro*: intent to treat (ITT) and treatment on the treated (TTT). The nature of the data also implies that the estimation strategy is straight forward and will be based on standard ordinary least squares and instrumental variable regressions of a difference-in-difference form respectively.

a. Intent to treat effects (ITT)

The main hypothesis of this paper is that broadcasting through radio financial education programs could increase the cost effectiveness of such initiatives by reaching a wider audience – including those who probably would not attend traditional workshops – and if effective increasing knowledge and changing behavior of individuals. The estimation of ITT effects will provide information if radio listeners of stations that offer this type of programming will indeed benefit from them. Given the randomized design of this evaluation the specification used in order to evaluate its impact is given by:

$$Outcome_{i,c,t} = \alpha_0 + \alpha_1 RTRS_i + \alpha_2 T + \alpha_3 RTRS_i * T + \beta X_i + \varepsilon_{i,t} \quad (1)$$

Where $Outcome_{i,c,t}$ is the outcome of interest for individual i in city c and period t , $RTRS_i$ represents a dummy variable equal to one if individual i registered to the listeners contest through one of the two treatment radio stations that broadcasted the *Viva Seguro* program and zero otherwise. Similarly, T is a dummy variable equal to one in follow-up and zero in baseline. The matrix X_i contains individual's socioeconomic characteristics such as age, education, working status, average income and city of residence. The inclusion of these variables should not change the estimated ITT effects given the RCT design, yet they could increase the precision of the estimation. Results with and without these covariates are therefore presented. Moreover, in the results below summarized we also estimate a fixed effects model in which instead of the baseline socioeconomic characteristics we include individual fixed effects (ρ_i) in the estimations. Finally, $\varepsilon_{i,t}$ represents individual errors that are assumed to be iid. Under this strategy our coefficient of interest is α_3 that estimates the impact that being a regular listener of any of the two radio stations that broadcasted *Viva Seguro* has on the outcomes of interest.⁶

Table 4 summarizes the main ITT effects obtained through this evaluation. The first column in the table enumerates the nine outcomes of interest while the other three columns present the coefficient associated to the difference in difference interaction, the ITT effects, for each of them under three different estimations. The coefficients from the first models were obtained under a specification that includes as controls the basic variables of any standard difference-in-difference approach; those from the second model were obtained by including the socioeconomic characteristics of individuals collected at baseline and finally, those from the third model present those obtained in specifications that include fixed effects at the individual level. That is the table presents the α_3 obtained from 27 different regressions.

⁶ This interpretation of the coefficient holds if one assumes that those who registered in the contest promoted for this evaluation through a given radio station are indeed their regular listeners.

The first outcome of interest evaluated is the knowledge individuals have on the possible risks they are exposed to. The telephone survey asked individuals at baseline and follow up to enumerate the number of risks they thought they could be exposed to. On average individuals mentioned 1.46 risks. Eighty-two percent mentioned between one and two risks while seven percent of them were not able to identify any. The maximum number of risk mentioned at baseline was five. For all three specifications, results indicate that being a listener of the radio station that broadcasted the *Viva Seguro* financial education program increases the knowledge on the number of risks one can identify. Under the fixed effect estimation, results from Model 3, indicate that the total number of risks identified by these individuals increased in 0.38 six months after the last episode of *Viva Seguro* was broadcasted. This implies an effect of 25 percent of the mean number of risks individuals in the control group knew at baseline or 0.48 of its standard deviation.

The second outcome of interest is the number of insurance products individuals know there exist. On average, individuals from the control group correctly mentioned 1.9 different insurance products at baseline with a standard deviation of 1.66. In this case almost 13% of individuals did not know any insurance while the maximum number of correctly mentioned insurance products was 17. The ITT effects suggest that after the financial education program was broadcasted, listeners from the treatment radio stations increased their knowledge on insurance products available in the market in 0.49. This increase corresponds to 25 per cent of the mean in the control group and 0.3 of its standard deviations.

Being a listener of radio stations that broadcasted *Viva Seguro* does not increase the general knowledge on specific concepts of insurance contracts. The baseline and follow-up surveys asked individuals to correctly identify the definition of specific concepts of insurance contracts such as premiums, deductibles and exclusions through multiple choice questions. Results indicate that listeners from these radio stations have low levels of knowledge regarding this topic. On average individuals at baseline could correctly answer only 2.15 of a total of 7 knowledge questions. Almost 12% of them did not answer any question correctly, 23% and 26% only answered one and two questions correctly respectively, while only one person answered correctly all seven questions. In order to evaluate the effect that being a listener of the treatment radio station had on this type of knowledge we constructed a variable indicating the total number of questions correctly answered by each individual. As can be observed, the coefficients associated with the ITT effects are all positive but relatively small. More importantly they are not significantly different from zero suggesting there is no impact on general knowledge of insurance concepts. Table A2 in the appendix present the results having each individual knowledge question as independent variable. As can be observed listeners of the treatment radio

stations only increased their knowledge on what an insurance claim refers to compared to those listeners from the control stations.

Being a listener of radio stations that broadcasted *Viva Seguro* does not increase the attitudes towards insurance nor the perceived capabilities of understanding insurance contracts either as shown from the lack of significance of the DID coefficients presented in Table 4. Using the information collected at baseline and follow-up we constructed two indexes that summarize the answers on attitudes and capabilities towards insurance as the average of responses in all questions on each specific theme respectively. No impact is found in these indexes nor in most of the individual questions asked to the listeners as detailed in tables A3 and A4 in the appendix. Being a listener of a radio station that broadcasted the financial insurance education program increased the probability that an individual considers that the income they have is enough to save for emergencies and their perceived capabilities of understanding an insurance contract.

As detailed by Fernandes et al. (2015) financial education programs rarely have any impact on changing actual behavior of individuals. The results obtained in this impact evaluation go in hand with the general findings on the literature. As detailed in the last three outcomes analyzed in Table 4, listeners from radio stations that broadcasted *Viva Seguro* do not have a higher probability of increasing general savings, savings for emergencies nor buying additional insurance products. We cannot reject the hypothesis that the ITT effect on behavior of broadcasting *Viva Seguro* is equal to zero.

Taken together results suggest that using radio as a delivery channel to provide financial education on insurance for low educated individuals have a significant impact on knowledge but no impact on attitudes and perceived capabilities towards insurance, nor on behavior around savings or insurance acquisition. Regarding knowledge, even though significant results were obtained only on the number of risks individuals are exposed to, the type of insurance on the market and the knowledge of what an insurance claim is, it's important to analyze why this might have been the case. Analyzing the structure of *Viva Seguro* and the topics treated in each of its 35 episodes the results found in this evaluation seem reasonable. Of the 35 chapters that the program had almost 47% of them are dedicated to explaining to the listener the types of risks they could be subject to and the type and number of insurance products that exist in the market. Results thus suggest that programs should devote a significant amount of time and episodes on the specific knowledge it wants to provide in order to have a significant impact on their listeners.

b. Treatment on the treated effects (ITT)

In the follow-up survey conducted in 2012 we specifically included a question where we asked individuals whether they had listened to the *Viva Seguro* financial education program

broadcasted through radio the previous year. As expected, not all listeners that subscribed through the treatment radio station listened to it while some listeners from the control stations actually did. Specifically, 80 and 38 percent of the individuals who registered through a treatment and control radio station respectively listened to *Viva Seguro*. Estimating the impact that doing so had on the knowledge, attitudes, capabilities and behavior of these individuals – the TTT effect – requires another estimation strategy. Individuals who actually listened to the program have intrinsic non-observable characteristics that if not controlled for will bias the coefficient of interest.

The random design of this evaluation provides the natural instrument that will allow us to obtain the causal effect that *Viva Seguro* brought to its listeners through an IV methodology. Specifically, we estimate:

$$ListenedVS_i = \delta_0 + \delta_1 RTRS_i + \delta_2 T + \delta_3 RTRS_i * T + \delta X_i + \vartheta_{i,t} \quad (2)$$

$$ListenedVS_i * T = \delta_0 + \delta_1 RTRS_i + \delta_2 T + \delta_3 RTRS_i * T + \delta X_i + \vartheta_{i,t} \quad (3)$$

$$Outcome_{i,c,t} = \gamma_0 + \gamma_1 \widehat{ListenedVS}_i + \gamma_2 T + \gamma_3 \widehat{ListenedVS}_i * T + \gamma X_i + \varphi_{i,t} \quad (4)$$

Where $ListenedVS_i$ is a dummy variable equal to one if the individual listened to the *Viva Seguro* financial education program and zero otherwise. The other variables are defined as before.

Table 5 summarizes the main results from the first stage estimation using the original radio station through which individuals registered to the contest as an instrument under all three models (DID with and without socioeconomic controls and fixed effects) . As can be observed having registered through a treatment radio station significantly increases the probability that an individual actually listened to *Viva Seguro*. All the coefficients of interest are highly significant and the Kleibergen-Paap rk Wald F statistic is above the standard values needed to assure a strong first stage. Under the fixed effects at the individual level model, being registered through a treatment radio station increases the probability of listening to the financial education program in 80 percentage points.

Table 6 presents the TTT effects of listening to *Viva Seguro*. As in the ITT case, positive and significant effects are obtained only for the knowledge on the number of risks they could be subject to and the type of insurance products available in the market. As expected, TTT effects are larger than ITT effects previously estimated. Under the fixed effects estimation model, six months after the last episode of *Viva Seguro* was broadcasted, listeners of the radio program increased their knowledge on the number of probable risks and insurance products there exist in 0.55 and 0.68 standard deviations respectively. However, no effect is found for other outcomes of interest suggesting that listening to the *Viva Seguro* radio financial education programs was not enough to change attitudes, perceived capabilities nor behavior regarding to savings and insurance acquisition. As in the case of ITT the

specific structure of the episodes of the program and the time devoted to each topic in them could explain the results here obtained.

6. Conclusions

Innovative forms for the design and dissemination of financial education are in need. The effectiveness of these programs in changing both knowledge and behavior of recipients must increase. Similarly, these programs should be able to reach a wider population, especially those individuals who are probably most in need of increasing their financial knowledge and who could in fact be the ones who are not being served by them. The delivery of these programs through mass media channels such as TV or radio could be a cost effective alternative. Even though the power such media channels have in other outcomes have been previously demonstrated, the causal evidence they can have on financial knowledge and behavior is scant.

Through a randomized control strategy this paper adds to the literature by estimating the impact that broadcasting a financial education program through radio can have on the knowledge, attitudes, capabilities and behavior around risk and insurance products. The *Viva Seguro* program, designed for low educated individuals as its main target audience, was broadcasted in two radio stations in Colombia in late 2011. Under a listener encouragement design we obtained baseline and follow-up information for listeners from both treatment and control radio stations allowing us to estimate ITT and TTT effects. We find that being a listener of a radio station that transmits the educational program increases their knowledge on risks and insurance products in 0.48 and 0.3 standard deviations respectively. Actual listening to the program increases these impacts to 0.55 and 0.68 standard deviations. No effect was found in the attitudes, capabilities or behavior around insurance. The results obtained go in hand with the structure of the program which devoted more than 50 per cent of the total number of episodes to the topics of risks and insurance products available to cover for them. Given that the follow-up survey was conducted six months after the last episode of the program was aired these result show the medium term impacts it brought.

Our results give a clear policy recommendation. Broadcasting financial education programs on the radio can increase the knowledge of people if sufficient time is dedicated to the topic one wants to educate on. Changing behavior, as is the case with most financial education programs, however is much more difficult. In this particular case the evidence suggests that listening to specialized programs on the radio will not change it (c.f. Spader, 2009). This however leaves open the question of whether changing the structure of the program could increase causal effects on the other outcomes of interest too.

7. References

- Atkinson, A. & F. Messy (2012), "Measuring Financial Literacy: Results of the OECD /International Network on Financial Education (INFE) Pilot Study", OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing. <http://dx.doi.org/10.1787/5k9csfs90fr4-en>
- Berg, G., & Zia, B. (2013). Harnessing emotional connections to improve financial decisions: evaluating the impact of financial education in mainstream media. World Bank Policy Research Working Paper, (6407).
- Bruhn, M., Reddy, R., Tan, C. (2013). Financial capability in Colombia: results from a national survey on financial behaviors, attitudes, and knowledge. Report of International Bank for Reconstruction and Development – The World Bank.
- Cai, Jing & Alain De Janvry & Elisabeth Sadoulet, (2015). "Social Networks and the Decision to Insure," American Economic Journal: Applied Economics, American Economic Association, vol. 7(2), pages 81-108, April.
- DellaVigna, S. & E. Ferrara, 2015. "Economic and Social Impacts of the Media," NBER Working Papers 21360, National Bureau of Economic Research, Inc.
- Díaz, P. & M. Pinzón (2011). Educación financiera en Seguros en Colombia: Experiencias, lecciones y perspectivas. En Perspectivas del Sector Asegurador, Fasceolda 35 años.
- Fernandes, D., Lynch Jr, J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. Management Science, 60(8), 1861-1883.
- Gaurav, S., Cole, S., & Tobacman, J. (2010). A randomized Evaluation of the impact of financial literacy on rainfall insurance take-up in Gujarat. ILO Microinsurance Innovation Facility Research Paper, (1).
- Gentzkow, M. (2006) Television and Voter Turnout. Quarterly Journal of Economics. CXXI (3).
- Karlan, D., & Aishwarya Lakshmi Ratan & Jonathan Zinman, 2014. "Savings by and for the Poor: A Research Review and Agenda," Review of Income and Wealth, International Association for Research in Income and Wealth, vol. 60(1), pages 36-78, 03.
- Kearney, M. & P. Levine, 2015. "Early Childhood Education by MOOC: Lessons from Sesame Street," NBER Working Papers 21229, National Bureau of Economic Research, Inc.
- Jensen, R., & Oster, E. (2009). The power of TV: Cable television and women's status in India. The Quarterly Journal of Economics, 124(3), 1057-1094.
- La Ferrara, E., Chong, A., & Duryea, S. (2012). Soap operas and fertility: Evidence from Brazil. American Economic Journal: Applied Economics, 1-31.

OECD. (2014). OECD/INFE Progress report on financial education. Organization for Economic Development and Cooperation, Paris: France.

Paluck, E. L. (2009). Reducing intergroup prejudice and conflict using the media: a field experiment in Rwanda. *Journal of personality and social psychology*, 96(3), 574.

Rogers, E. M., Vaughan, P. W., Swalehe, R., Rao, N., Svenkerud, P., & Sood, S. (1999). Effects of an entertainment-education radio soap opera on family planning behavior in Tanzania. *Studies in family planning*, 30(3), 193-211.

Spader, J., Ratcliffe, J., Montoya, J., & Skillern, P. (2009). The bold and the bankable: How the *Nuestro Barrio* telenovela reaches Latino immigrants with financial education. *Journal of Consumer Affairs*, 43(1), 56-79.

Strömberg, D. 2004. "Radio's Impact on Public Spending," *The Quarterly Journal of Economics*, MIT Press, vol. 119(1), pages 189-221, February.

Tower, C., & McGuinness, E. (2011). A friend indeed: An evaluation of an insurance education radio campaign in Kenya. *Microfinance Opportunities*.

Xu, L., & Zia, B. (2012). Financial literacy around the world: an overview of the evidence with practical suggestions for the way forward. *World Bank Policy Research Working Paper*, (6107).

Table 1. Curriculum of the program "Viva Seguro"

No week	Central theme	Monday	Tuesday	Wednesday	Thursday	Friday
1	Risks recognition and which one has happened to you?, How did they affect your pocket? How did you respond and how effective was the answer?	1. Introduction	2. Death	3. Sickness and invalidity	4. Unemployment	5. Personal and transit accidents
2		6. Fire, earthquake, flood	7. Theft	8. Occupational hazards: accidents and diseases.	9. Credit against emergencies	10. Saving for emergencies
3	Financial instruments to deal with emergencies.	11. The insurance. Introduction	12. Savings and insurance for emergencies	13. How they work and basic concepts	14. How they work and basic concepts	15. Life insurance
4	Types of insurance	16. Funeral insurance	17. Personal accident insurance	18. Unemployment insurance	19. Mandatory Car insurance (SOAT)	20. Fire and earthquake insurance (home)
5		21. Theft insurance	22. Occupational hazards insurance	23. Small and Medium Enterprise	24. Health insurance and its difference with the governments health programs	25. Read your policy carefully. Additional benefits of insurance
6	Know your policy	26. Exclusions, periods of lack and other frequent features	27. Questions to ask your advisor	28. What defines the price of your insurance?	29. How to make a claim?	30. Rights of the insured
7	Protection to the consumer	31. Duties of the insured	32. How to submit a complaint?	33. The financial consumer advocate	34. What we learned?	35. What we learned?

Source: FASECOLDA, 2011

Table 2. Registry and Airing of Viva Seguro

City	Registry into the fidelity contest	Airing of Viva Seguro	Time Frame of Viva Seguro	Treatment Radio Station	Control Radio Station
Bogotá	May 23, 2011 – August 3, 2011	August 8, 2011 - September 27, 2011	10:00 am - 11:00 am	Amor Stereo 1.340 AM - 96.3 FM	La Cariñosa 610 AM
Barranquilla	September 12, 2011 – October 19, 2011	October 24, 2011 – December 15, 2011	9:15 am - 10:00 am	El Sol 1.550 AM	Radio Uno 95.6 FM
Pereira	September 24, 2011 – October 12, 2011	October 24, 2011 – December 15, 2011	10:30am - 11:15am	La Cariñosa 1.210 AM	Radio Uno 94.7 FM

Table 3. Test for balance and random attrition

Variable	Balance			Attrition		
	Control	Treatment	Difference	Non Attriters	Attriters	Difference
Female	0.625 (0.029)	0.826 (0.031)	-0.202***	0.695 (0.022)	0.764 (0.021)	-0.069**
Age	48.946 (0.793)	49.745 (1.150)	-0.798	49.224 (0.653)	47.241 (0.729)	1.982**
Married	0.382 (0.029)	0.406 (0.040)	-0.024	0.391 (0.024)	0.375 (0.024)	0.015
Single	0.239 (0.025)	0.24 (0.035)	-0.001	0.239 (0.021)	0.260 (0.021)	-0.021
Other status	0.378 (0.029)	0.353 (0.039)	0.025	0.369 (0.023)	0.364 (0.024)	0.006
Primary education	0.275 (0.026)	0.373 (0.039)	-0.098**	0.309 (0.022)	0.332 (0.023)	-0.022
No education	0.021 (0.009)	0.02 (0.011)	0.001	0.021 (0.007)	0.007 (0.004)	0.013*
Secondary education	0.471 (0.029)	0.406 (0.040)	0.064	0.449 (0.024)	0.462 (0.025)	-0.013
Technical education	0.161 (0.022)	0.12 (0.026)	0.040	0.147 (0.017)	0.149 (0.017)	-0.003
University/Graduate	0.071 (0.015)	0.08 (0.022)	-0.008	0.074 (0.013)	0.049 (0.011)	0.025
Income: 0-US\$250	0.339 (0.028)	0.36 (0.039)	-0.021	0.346 (0.023)	0.376 (0.024)	-0.029
Income: US\$250-US\$500	0.303 (0.027)	0.293 (0.037)	0.010	0.3 (0.022)	0.258 (0.021)	0.042
Income: US\$500-US\$1,000	0.186 (0.023)	0.22 (0.034)	-0.034	0.197 (0.019)	0.223 (0.021)	-0.026
Income: Above US\$1,000	0.064 (0.015)	0.06 (0.019)	0.004	0.063 (0.012)	0.074 (0.013)	-0.011
Observations	280	150		430	407	

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3. Test for balance and random attrition

Variable	Balance			Attrition		
	Control	Treatment	Difference	Non attriters	Attriters	Difference
Works	0.414 (0.029)	0.333 (0.038)	0.081	0.386 (0.023)	0.402 (0.024)	-0.017
Household chores	0.321 (0.028)	0.44 (0.041)	-0.118**	0.362 (0.023)	0.391 (0.024)	-0.028
Other	0.264 (0.026)	0.226 (0.034)	0.037	0.251 (0.021)	0.206 (0.020)	0.045
Has cable TV at home	0.703 (0.027)	0.706 (0.037)	-0.003	0.704 (0.022)	0.714 (0.022)	-0.010
Has internet at home	0.403 (0.029)	0.366 (0.039)	0.037	0.391 (0.023)	0.3611 (0.023)	0.029
Owns a car	0.1 (0.018)	0.053 (0.018)	0.047*	0.083 (0.013)	0.073 (0.013)	0.010
Owns a motorcycle	0.032 (0.010)	0.08 (0.022)	-0.048**	0.048 (0.010)	0.078 (0.013)	-0.029*
Observations	280	150		430	407	

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4. ITT effects of the radio broadcasting of *Viva Seguro* on different outcomes of interest

<i>Dependent variable</i>	<i>Controls' average at baseline</i>	<i>Models</i>		
		(1)	(2)	(3)
Number of risks identified	1.525	0.385*** (0.113)	0.394*** (0.114)	0.385*** (0.113)
Number of insurance products known	1.957	0.492*** (0.182)	0.490*** (0.176)	0.492*** (0.168)
Total score obtained in knowledge of insurance concepts	2.268	0.051 (0.208)	0.0616 (0.188)	0.051 (0.165)
Attitude towards insurance	0.542	0.010 (0.021)	0.008 (0.021)	0.010 (0.019)
Perceived capabilities and knowledge of insurance	0.629	0.047 (0.032)	0.045 (0.030)	0.047* (0.027)
Save	0.321	-0.049 (0.064)	-0.041 (0.059)	0.049 (0.051)
Save for emergencies	0.057	-0.027 (0.032)	-0.020 (0.032)	-0.026 (0.031)
Number of new insurance bought in the last 6 months	0.000	0.003 (0.041)	-0.0016 (0.0408)	0.003 (0.041)
Interest in buying insurance	0.186	0.038 (0.061)	0.039 (0.060)	0.038 (0.053)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		860	858	860
Number of individuals		430	430	430

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table 5. First Stage – Listening to Viva Seguro financial education program

VARIABLES	(1)		(2)		(3)
	Listen VS*Follow up	Listen VS	Listen VS*Follow up	Listen VS	Listen VS*Follow up
Registered through treatment radio station*Follow up	0.424*** (0.0438)	0 (0.0620)	0.425*** (0.0427)	0.00284 (0.0587)	0.805*** (0.0325)
Registered through treatment radio station	0*** (0)	0.424*** (0.0438)	-0.0769*** (0.0215)	0.271*** (0.0533)	
R-squared	0.466	0.164	0.486	0.228	0.430
F test - First stage	186.93	93.47	417.53	18.93	615.10
Socioeconomic characteristics	NO	NO	YES	YES	NO
Individual Fixed effects	NO	NO	NO	NO	YES
Observations	848	848	846	846	848
Number of individuals	424	424	424	424	424

- (1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.
- (2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).
- (3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table 6. TTT effects on different outcomes of interest

<i>Dependent variable</i>	<i>Controls' average at baseline</i>	<i>Models</i>		
		(1)	(2)	(3)
Number of risks	1.663	0.891*** (0.268)	0.458*** (0.114)	0.442*** (0.113)
Number of Insurance they Know	2.394	1.115** (0.435)	1.110*** (0.410)	1.115*** (0.389)
Average level of Knowledge of insurance concepts	2.588	0.122 (0.497)	0.150 (0.445)	0.122 (0.392)
Attitude towards insurance	0.557	0.026 (0.050)	0.022 (0.049)	0.026 (0.045)
Perceived Capabilities and knowledge of insurance	0.629	0.119 (0.075)	0.110 (0.073)	0.119* (0.067)
Save	0.368	-0.125 (0.153)	-0.104 (0.139)	-0.125 (0.122)
Save for emergencies	0.0501	-0.063 (0.078)	-0.047 (0.076)	-0.063 (0.075)
Number of New insurance bought in the last 6 months	0.000	0.019 (0.097)	0.008 (0.095)	0.019 (0.097)
Interest in buying insurance	0.178	0.090 (0.144)	0.094 (0.144)	0.090 (0.127)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		848	846	848
Number of individuals		424	423	424

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table A1. Structure of the radio program

No.	Section	Minutes	Seconds	Observations
1	Pre-recorded presentation	0	15	Song that identifies the program
2	Welcome	3	0	Reviewing general, previous episode and structure of the day
3	It can happen to you too	3	0	Three brief interviews
4	Commercial information	0	15	Commercial
5	We talk with the expert 1	6	0	Expert topic macro
6	Song 1	3	30	Related to the theme of the day
7	Secure notes	0	30	Curious Notes: "Did you know...?"
8	SOAP Opera	3	0	On the topic of the day
9	Learn, participate and win	2	0	Contest of the day
10	Cases and things	3	0	Three brief interviews
11	Song 2	3	30	Related to the theme of the day
12	Commercial information	0	15	Commercial
13	We talk with the expert 2	6	0	Micro expert psychologist, anthropologist, academic
14	Live safe, quiet living,	1	30	Recommendations on the topic of the day
15	Are you safe? Write to us	0	30	Contacts
16	Song 3	3	30	Related to the theme of the day
17	Conclusion and parting	1	30	Conclusions. The following program presentation
18	Pre-recorded farewell	0	15	Song that identifies the program
	TOTAL TIME	41	30	

Source: FASECOLDA, 2011

Table A2. ITT effects of the radio broadcasting of Viva Seguro on the knowledge of specific insurance concepts

<i>Knowledge question asked</i>	<i>% of controls with correct answer</i>	<i>Registered through treatment station * Follow up</i>		
		(1)	(2)	(3)
An insurance premium is	26.43%	-0.019 (0.059)	-0.018 (0.06)	-0.0188 (0.059)
An insurance claim is....	40.71%	0.125* (0.067)	0.126* (0.067)	0.125** (0.058)
A deductible is	18.57%	-0.003 (0.056)	-0.002 (0.055)	-0.00357 (0.051)
An exclusion is.....	32.50%	-0.003 (0.063)	-0.005 (0.059)	-0.00333 (0.053)
If your insurance company violates your rights you.....	6.43%	-0.042 (0.053)	-0.035 (0.051)	-0.0421 (0.049)
If you buy a policy that ensures for flooding. Does it protect your home against all damages? (YES/NO)	50.00%	0.024 (0.071)	0.0262 (0.069)	0.0236 (0.061)
Obligatory and voluntary vehicle insurance provides the same coverage? (YES/NO)	52.14%	-0.029 (0.070)	-0.0306 (0.066)	-0.0295 (0.059)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		860	858	860
Number of individuals		430	429	430

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table A3. ITT effects of the radio broadcasting of Viva Seguro on the attitude towards insurance

<i>Questions</i> <i>On a scale from 1 to 10 were 1 means you completely disagree and 10 you completely agree:</i>	<i>Mean of control group</i>	<i>Registered through treatment station * Follow up</i>		
		(1)	(2)	(3)
You are able to pay for insurance.	4.457	0.087 (0.488)	0.0635 (0.461)	-0.0188 (0.059)
Your income is enough to save for emergencies.	6.150	1.049** (0.482)	1.060** (0.481)	0.125** (0.058)
Insurance is required only if there is someone sick.	5.967	-1.094** (0.516)	-1.076** (0.511)	-0.00357 (0.051)
You feel prepared against risks.	5.089	0.367 (0.452)	0.295 (0.452)	-0.00333 (0.053)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		860	858	860
Number of individuals		430	429	430

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table A4. ITT effects of the radio broadcasting of Viva Seguro on the perceived capabilities on insurance

<i>Question</i> <i>On a scale from 1 to 10 were 1 is never and 10 is always you are capable of:</i>	<i>Mean of control group</i>	<i>Registered through treatment station * Follow up</i>		
		(1)	(2)	(3)
Identify the risks your family faces	6.653	0.585 (0.409)	0.571 (0.402)	0.585 (0.400)
Choose an insurance product according to your needs	5.935	0.295 (0.447)	0.242 (0.431)	0.295 (0.417)
Adopt strategies against risks	6.500	0.345 (0.418)	0.31 (0.414)	0.345 (0.377)
Understand the concepts in an insurance contract	6.061	0.682 (0.445)	0.667 (0.429)	0.682* (0.363)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		860	858	860
Number of individuals		430	429	430

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table A5. TTT effects of the radio broadcasting of Viva Seguro on the knowledge of specific insurance concepts

<i>Knowledge question asked</i>	<i>% of controls with correct answer</i>	<i>Listen treated station * Follow up</i>		
		(1)	(2)	(3)
An insurance premium is	26.43%	-0.0515 (0.142)	-0.0502 (0.142)	-0.0515 (0.141)
An insurance claim is....	40.71%	0.292* (0.160)	0.294* (0.159)	0.292** (0.141)
A deductible is	18.57%	0 (0.133)	0.00512 (0.129)	0 (0.121)
An exclusion is.....	32.50%	-0.00657 (0.148)	-0.0115 (0.138)	-0.00657 (0.125)
If your insurance company violates your rights you.....	6.43%	-0.0965 (0.124)	-0.0792 (0.120)	-0.0965 (0.118)
If you buy a policy that ensures for flooding. Does it protect your home against all damages? (YES/NO)	50.00%	0.0561 (0.169)	0.0624 (0.164)	0.0561 (0.144)
Obligatory and voluntary vehicle insurance provides the same coverage? (YES/NO)	52.14%	-0.0713 (0.175)	-0.0715 (0.163)	-0.0713 (0.141)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		848	846	848
Number of individuals		424	423	424

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table A6. TTT effects of the radio broadcasting of Viva Seguro on the attitude towards insurance

<i>Questions</i> <i>On a scale from 1 to 10 were 1 means you completely disagree and 10 you completely agree:</i>	<i>Mean of control group</i>	<i>Registered through treatment station * Follow up</i>		
		(1)	(2)	(3)
You are able to pay for an insurance.	6.653	0.217 (1.154)	0.146 (1.105)	0.217 (0.901)
Your income is enough to save for emergencies.	5.935	2.582** (1.171)	2.610** (1.159)	2.582** (1.197)
Insurance is required only if there is someone sick.	6.500	-2.634** (1.243)	-2.586** (1.212)	-2.634** (1.163)
You feel prepared against risks.	6.061	0.896 (1.067)	0.723 (1.058)	0.896 (0.956)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		848	846	848
Number of individuals		424	423	424

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-

Table A7. TTT effects of the radio broadcasting of Viva Seguro on the perceived capabilities on insurance

<i>Question</i> <i>On a scale from 1 to 10 were 1 is never and 10 is always you are capable of:</i>	<i>Mean of control group</i>	<i>Registered through treatment station * Follow up</i>		
		(1)	(2)	(3)
Can you identify the risks facing your family?	6.653	1.486 (0.969)	1.438 (0.962)	1.486 (0.937)
Can you choose a secure according your needs?	5.935	0.754 (1.066)	0.600 (1.063)	0.754 (0.982)
Can you take strategies to prepare against risks?	6.500	0.800 (0.983)	0.708 (0.968)	0.800 (0.885)
Can you understand concepts about insurance policy?	6.061	1.700 (1.054)	1.653* (1.003)	1.700** (0.862)
Socioeconomic characteristics		NO	YES	NO
Individual Fixed effects		NO	NO	YES
Observations		848	846	848
Number of individuals		424	423	424

(1) Results present coefficients obtained from a standard OLS regression of a difference in difference form without additional controls.

(2) Results present coefficients obtained from a standard OLS regression of a difference in difference form with additional baseline socioeconomic characteristics including gender, age, level of schooling, marital status, income levels, possession of car or motorcycle, city, and provision of public service (TV and internet).

(3) Results present coefficients obtained from a fixed effect at the individual level estimation model.

Robust standard errors in parentheses - *** p<0.01, ** p<0.05, * p<0.1-