





# COLOMBIA IN MOTION

2010 - 2013 - 2016

The changes in the life of households based on the Colombian Longitudinal Survey (ELCA) by Universidad de los Andes.



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Lina María Castaño Mesa  
(compiler)

<http://encuestalongitudinal.uniandes.edu.co>

**CENTRO DE ESTUDIOS SOBRE DESARROLLO ECONÓMICO (CEDE)**  
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COLOMBIA IN MOTION  
2010 - 2013 - 2016

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The Colombian Longitudinal Survey by the Universidad de los Andes (ELCA by its acronym in Spanish), is the first survey of this type that has been undertaken in Colombia, and that has, to date, three rounds: the baseline in 2010, the first follow-up round in 2013, and the second follow-up round in 2016. The project is being developed by the Department of Economics and its objective is to contribute to research on the country by using unique sources of information that allow for a more precise analysis to be undertaken on the dynamics of households and the changes in their quality of life over time. Over a decade, ELCA aims to follow more than ten thousand households in urban and rural zones in Colombia; until now there have been six follow-up years.

This source of information is extremely valuable for Colombia as it provides a panel of households from which a more in-depth study of phenomena can be undertaken. This permits better public policies to be designed based on evidence. ELCA allows the following to be analyzed: household's dynamics, child development (for example anthropometric measurements and language), vulnerability in the face of shocks and mechanisms that households

have to react, the dynamics of property and land and agricultural production for small producers, and the perception of the post-conflict context.

Colombia in movement 2010-2013-2016 is the third volume of a series that began with the baseline characterization of households in 2010 and that now presents the results of ELCA's second follow-up round six years later. The data were gathered during the first half of 2016. The country now has a film with three episodes that capture the dynamics of Colombian households.

From its conception until its implementation and publication, it was an ambitious effort and the result of a collaborative work between a group of people and institutions that are dedicated to constructing rigorous scientific knowledge in the country.

We would first like to thank the almost ten thousand households that took part in ELCA's sample. They are the center of this project; thanks to their participation and patients for welcoming us into their homes every three years, for their trust, and continuity in the process each round has been a success and the country can count on valuable information to be able to make decisions.

Second, we would like to thank the institutions that contributed financially and made ELCA's third round in 2016 a reality: the Universidad de los Andes, the National Planning Department, the Éxito Foundation, the Bolívar-Davivienda Foundation, the Colombian Institute of Family Wellbeing, and Transportadora de Gas Internacional (TGI). The efforts made and results in obtaining funds to finance ELCA are due to the constant commitment of Ana María Ibañez, who was Dean of the Faculty of Economics between 2010 and 2016, and Raquel Bernal, who was director of the Center for Studies on Economic Development (CEDE for its acronym in Spanish) between 2012 and 2017.

Third, we would like to thank all those people who have supported the design and technical implementation of ELCA from within the Universidad de los Andes from its beginning and who have also contributed to the production and publication of this book. First, ELCA's Academic Committee, which has included throughout these six years Carmen Elisa Flórez, Alejandro Gaviria, Ximena Cadena, Raquel Bernal, Adriana Camacho, Juan Camilo Cárdenas, Leopoldo Fergusson, Ana María Ibañez, Rafael Santos, Fabio Sánchez, Ximena Peña, Catherine



→ Gladys Campo and Luis Eduardo Palacios, sat from right to left, with some of their grandchildren and great-grandchildren. They are one of the largest families in ELCA.

Rodríguez, Andrés Moya, Christian Jaramillo, Renata Pardo, and Lina Castaño. We would also like to thank Luis Carlos Gómez for his technical support with the sample design.

Additionally, we would like to thank Lina María Castaño who diligently directed the whole project from 2016, and Mercedes Tibavisco, Nicolas Fuertes, and María Alejandra Galeano, who supported the implementation and follow-up of the survey field work, and Nathali Barón and Clara Gutiérrez, who have worked tirelessly to stay in permanent contact with the households in the sample. We would also like to thank Renata Pardo, who was ELCA's director between 2014 and 2016 and who led the review of the questionnaire and the pilot tests. Additionally, we would like to thank John Germán Ortegón and David Bautista for their help in redesigning the webpage and disseminating the information through networks and the Communications and Brand Office at Universidad de los Andes, particularly Carolina Mora, Andrés Ruiz Zuluaga, Diego Pinzón Másmela, Margarita Arteaga Cuartas, Gonzalo Manrique Torres, Alejandro Gómez Niño, Felipe Cazares, Judy Pulido Castro, and Jeimmy García who have made videos about people's lives who are part of ELCA as well as all the audiovisual monitoring and disseminating the

survey. We also give special thanks to the Uniandes Publications team who made this publication a reality.

In order to gather information from the second follow-up, we were once again supported by the company Sistemas Especializados de Información (SEI S.A.). We would like to give SEI a special mention as it is due to their good operational organization and their excellent supervisors, surveyors, and those in charge of applying different instruments of the survey, we obtained excellent coverage results. It is worthwhile mentioning that, on average, each field team visited every household on average six times to complete the application of ELCA. Particular thanks to Yezid Botiva, Yamile Palacio, Diana García, Gabriel Ramírez, María Rosa Reyes, and Hanner Sánchez for their dedicated and responsible efforts. Finally, a special thanks to Mara Minski for her help with the training and interpretation of ELCA children's language measurement.

We would like to take this opportunity to express our deep thanks to the directors of the Universidad de los Andes who have always helped this project based on the premise that from academia it is fundamental to contribute to scientific research that aids the best design possible of public policies in Colombia, and therefore, to improving the quality



→ María Alicia Torres and her adopted son Felipe García come back from milking and cutting grass for their cows in the late afternoon in a farm in Susa (Cundinamarca).

of life of Colombian households.

This book is a first overview that seeks to continue incentivizing national and international researchers to explore data from ELCA. As such it looks to promote an informed and rigorous debate in the country regarding how to design better public policies in Colombia. Under this framework, the information from the rounds is available online; the website has been visited more than 227 thousand times since it was created and the databases have been download more than 2,900 times. To date, the faculty has published 4 books, 19 CEDE documents, and 8 ELCA newsletters.

We invite you to visit the website  
<https://encuestalongitudinal.uniandes.edu.co/en/>  
 by scanning the QR code/





→ Thirteen year-old Mayerly Consuelo Saba, daughter of Segundo Saba and Nubia Calderón lives in a rural area in Simijaca (Cundinamarca) and was one of the girls interviewed by ELCA.





→ 2017. Alba Robayo, her husband Rodrigo Octavio Ballesteros, and her two children Sara (12 years-old) and Cristián Ballesteros (8 years-old) in front of their home in Buenavista (Boyacá).



# CHAPTER 1

## INTRODUCTION TO THE COLOMBIAN LONGITUDINAL SURVEY BY THE UNIVERSIDAD DE LOS ANDES (ELCA BY ITS ACRONYM IN SPANISH): A SIX-YEAR PANEL STUDY – 2010-2013-2016<sup>1</sup>

MERCEDES TIBAVISCO  
LINA MARÍA CASTAÑO



→ Three years ago, in 2014, Alba Robayo, Rodrigo, and their two daughters Sara (9 years-old) and Cristián (5 years-old) in front of their home in Buenavista (Boyacá). Their livelihood comes from agriculture.

→ The Faculty of Economics at the Universidad de los Andes began designing the longitudinal survey in 2007. Between 2007 and 2010, together with a group of national and international experts,<sup>2</sup> it was decided that the survey will follow the course of twelve years: the head of the household, their spouse, and children under the age of ten in around ten thousand rural and urban households. Thus, the Colombian Longitudinal Survey by the Universidad de los Andes - ELCA, was born. Its purpose was to contribute to gaining a better understanding of certain dynamics, including the following: children's development, members of the household's socioeconomic conditions, actions taken to deal with shocks and their impacts in the mid and long-term, land tenure and production in rural areas, changes in the labor market, the construction of social capital, and social and political behavior.

In the period between the ELCA baseline in 2010 and the second round of monitoring in 2016, the country went through important changes, such as the phenomenon of La Niña -that affected more than 80% of the country's municipalities-, the design and implementation of public policy that deals with comprehensive care in early childhood (known as 'From zero to forever' or 'De cero a siempre' in

- .....→
1. The ELCA modules were revised in 2015 by an academic committee led by: Renata Pardo, Raquel Bernal, Juan Camilo Cárdenas, Leopoldo Fergusson, Ana María Ibañez, Adriana Camacho, Fabio Sánchez, Andres Moya, and Rafael Santos. Karim Fajury and Nicolás Fuertes were ELCA research assistants who helped with the process. Also, we would like to thank the support provided by the National Planning Department (DNP for its acronym in Spanish) for reviewing and pilot testing this follow-up.
  2. For more information, see: <https://encuestalongitudinal.uniandes.edu.co/en/elca/academic-committee>

Spanish), the approval of the victims and land restitution law (Law 1448 of 2011), and the negotiations between the Colombian Government and the FARC-EP guerrillas, the diverse cease-fire agreed between the parties, and the signing of the Peace Agreement, among others: all shown in Figure 1.1.

### 1.1. THE ELCA 2010 AND 2013

ELCA's sample<sup>3</sup> is comprised of 10,800 households: 6,000 urban and 4,800 rural. The urban households are representative on a national level for socio-economic strata 1 – 4 and for five (5) geographic regions: Bogotá, the Central region, the Eastern region, the Atlantic region, and the Pacific region (the Andean Pacific municipalities are not included). The rural households are representative for small farm producers for (4) micro-regions: Atlántica Media, Cundiboyacense, Eje Cafetero, and Centro-Oriente.

The baseline was established in 2010: 10,164 households were surveyed (5,446 urban and 4,718 rural). To accomplish this task the university contracted approximately 80 people including surveyors, supervisors, and psychologists who were in charge of the children's anthropometric and cognitive tests. The book *Colombia in Motion 2010* presents a descriptive analysis of the households in topics such as: poverty and wealth conditions, negative shocks and the coping strategies households adopt, access to and use of health services, the labor market, the status of children, and ownership of land in rural areas.<sup>4</sup>

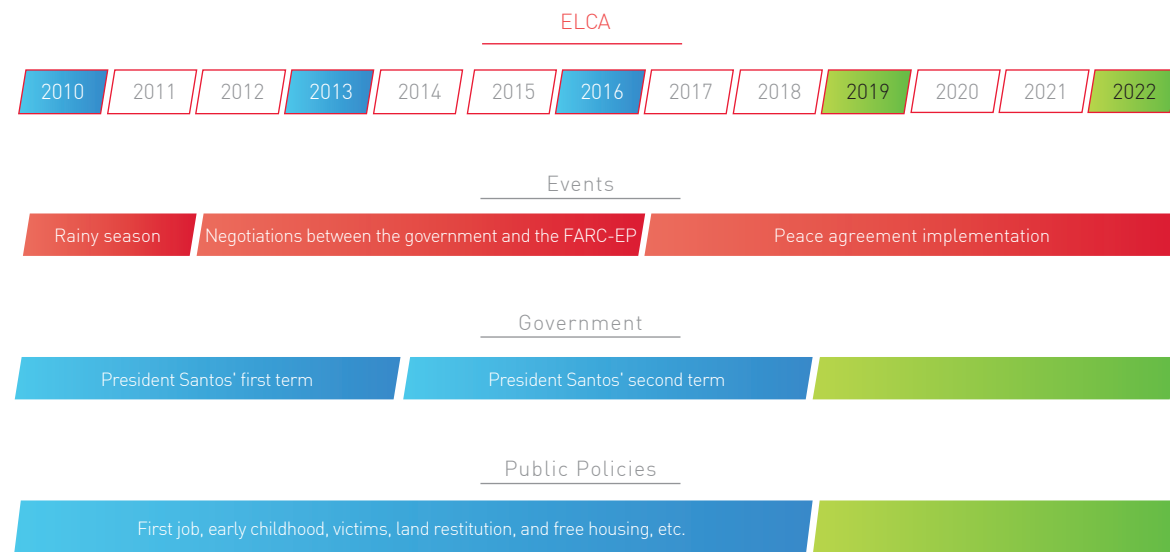
.....→

3. The sample is probabilistic, stratified, multistage, and cluster, with a selection of municipalities based on demographic and socioeconomic characteristics.

4. To access the book, please click on the following link: <https://encuestalongitudinal.uniandes.edu.co/en/publications/colombia-in-motion/2011>

**FIGURE 1.1.**

THE MAIN CHANGES IN THE COUNTRY IN THE SIX YEARS SINCE THE ELCA BEGAN



Source: Authors' own calculations

In the period between the ELCA baseline in 2010 and the second round of monitoring in 2016, the country went through important changes, such as the phenomenon of La Niña -that affected more than 80% of the country's municipalities-, the design and implementation of public policy that deals with comprehensive care in early childhood (known as 'From zero to forever' or 'De cero a siempre' in Spanish), the approval of the victims and land restitution law (Law 1448 of 2011), and the negotiations between the Colombian Government and the FARC-EP guerrillas.

The first round of monitoring was undertaken in 2013, which covered 9,261 actual household surveys (4,681 urban and 4,580 rural), and, on this occasion, the firm Sistemas Especializados de Información –SEI S.A was contracted to gather the survey data. This allowed to undertake an analysis of the changes that had taken place between 2010 and 2013 regarding the people being monitored.<sup>5</sup> The book *Colombia in Motion 2010-2013* contains the following information for this period: the household's dynamics, their vulnerability and actions taken to deal with shocks, poverty effect, access to social programs, the evolution of children and young people for different developmental elements, an analysis of Colombian public policy, levels of participation and prosocial behavior, and changes in terms of access to land and use of time.

The usefulness of this information has also allowed different studies to be undertaken, which have explored subjects such as: the role that access to and formality regarding land tenure have on a household's wellbeing, effects the armed conflict has had on rural producers and the decisions they make in these contexts, the importance of investing in roads to improve standards of living in rural areas, the gap in children's oral development on both a socioeconomic level and by zone, as well as the strategies that could be more effective to improve equality, and the role that access to savings and credit have on mitigating household shocks, among others.<sup>6</sup>



→ The Álvarez Tapia family live on a plot of land in houses they built themselves in Chinú (Córdoba) with their 13 children between 0 and 16.

## 1.2. ELCA 2016

The second round of monitoring was undertaken in 2016, and there were some adjustments to the design of the survey: the purpose of which was to capture the life-cycle stage of the households (the development of children and young people) as well as relevant information on the changes in the country between 2013 and 2016. This was specifically related to the peace process with the FARC-EP guerrillas. Changes made to the questionnaire were piloted in the second half of 2015 in three municipalities and to 99 households (39 urban

and 60 rural). The results allowed for adjustments to be made for the final design of the modules and the tests applied according to the follow up children (as a Longitudinal Survey children have been getting older) in the second ELCA follow-up round. Table 1.1 shows the changes that have been made in the tests for the children being followed.<sup>7</sup>

The 2016 follow-up round took place between May and October of this year so that the municipalities and households were visited during the same months as the baseline, which is particularly important in rural micro-regions due to the periodicity

.....→

5. The ELCA 2010 and 2013 databases can be downloaded for free at <https://encuestalongitudinal.uniandes.edu.co/es/datos-elca/>. There are two units that have restricted access: children and lands. How to request access is included in the access policy.
6. The publications, newsletters, and research carried out by the ELCA can be found at: <https://encuestalongitudinal.uniandes.edu.co/es/publicaciones/articulos-publicados>.
7. The children who were monitored were less than ten years old in 2010 and they were the children, stepchildren, or grand-son/ daughter of the head of the household and their spouse.

**TABLE 1.1.**  
TESTS AND MEASUREMENTS OF THE CHILDREN BEING FOLLOWED-UP

Tests	2010	2013	2016
Anthropometric (size and weight)	0-4 years	0-5 years	6-11 years
Verbal ability PPVT	3-9 years	3-9 years	6-16 years
Socio-emotional: ASQ:SE		0-6 years	
Socio-emotional: SDQ			6-16 years

Source: Authors' own calculations



→ The Álvarez Tapia family children in 2014 in Chinú (Córdoba). The family's income mainly comes from a pool hall called La Esperanza, which is run by Inés Álvarez - the grandmother head of the household.

of the crops. On this occasion, the firm Sistemas Especializados de Información –SEI S.A was contracted again to gather the survey data.

There were 66 operatives working in the field who were organized into twelve work groups. Each group was led by a supervisor under whom worked four (4) surveyors and one (1) evaluator. The evaluator was in charge of giving the followed-up children the different tests (anthropometric, SDQ, and PPVT tests).

### 1.2.1. HOUSEHOLD COVERAGE

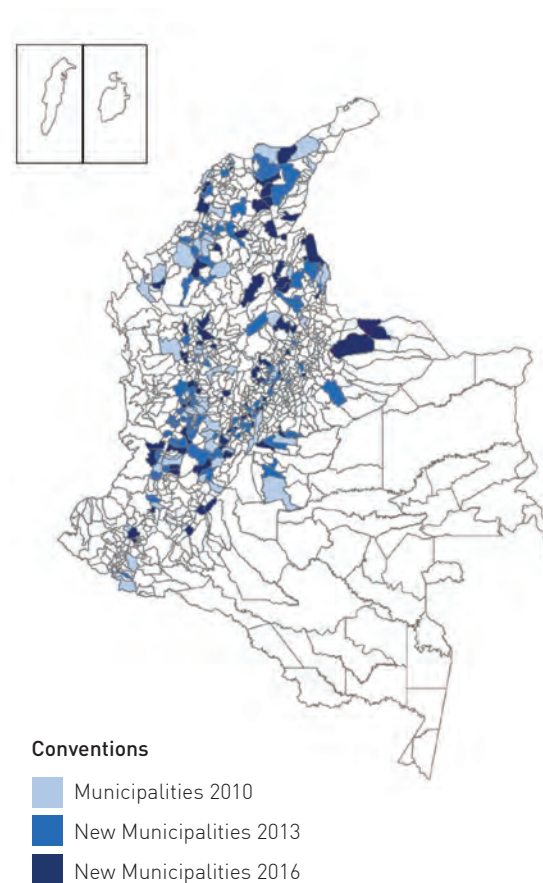
The total sample for follow-up in 2016 consisted of 9,853 households; this included the 10,164 baseline households -minus 334 households made up of senior citizens over 64 or households that had no children-, and an additional 23 rural households. The distribution of the sample was 5,275 urban households and 4,578 rural households. As this is a longitudinal survey, the people being followed-up were surveyed in their current place of residence in order to know, if they continue to live in or if they have left their household, if they have joined another household, and/ or if they have migrated. However, for reasons relating to cost and economies of scale, households and individuals were not included in the survey if they were living in municipalities 'far away' from those which were visited between 2010 and 2013. 'Far away' refers to those municipalities that are more than ninety minutes

away using public transport from those visited in previous rounds.

However, despite this follow-up constraint due to migration, the number of municipalities to be visited increased from 183 in 2013 to 235 in 2016: an increase of 28.4%. The baseline sample was for 80 municipalities, which implied that in six years, there were three times as many municipalities to visit. Figure 1.2 shows the geographic distribution of the sample in each one of the rounds: the lightest color represents the baseline municipalities and the darkest color represents the municipalities that were visited as a result of migrations in each subsequent round. The dynamics of the mobility of the sample for a longitudinal study means that there are more territorial entities being visited that have ten or less follow-up households; in 2010, there were only two, in 2013 this number increased to 106, and in 2016 to 155 (please see Table 1.2).

One important issue is that, to maintain the representativeness of the ELCA with regards to the baseline, it is necessary to reduce churn –or the loss of households and individuals– in the sample. In 2016, there was a positive balance with 89.5% of households being covered. This is the result of, among other factors: the different monitoring strategies (call center, text messages); the organized and methodical operation in the field (some households were visited up to six times); and the incentives that were given to the individuals and households monitored.<sup>8</sup>

**FIGURE 1.2.**  
GEOGRAPHIC DISTRIBUTION OF THE SAMPLE



Source: ELCA 2010, 2013 and 2016.

**TABLE 1.2.**  
MUNICIPALITIES IN THE SAMPLE BY RANGE OF NUMBER OF HOUSEHOLDS

Range of number of households	Municipalities		
	2010	2013	2016
Less than 10	2	106	155
Between 10 and 50	23	26	32
Between 50 and 100	30	28	24
More than 100	25	23	24
<b>TOTAL</b>	<b>80</b>	<b>183</b>	<b>235</b>

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

This result shows that although the sample grew substantially in geographic terms, as well as in other aspects, churn was only 10.5% in six years. As Table 1.3 shows, we estimated that between the 2010-2013 rounds of monitoring the churn rate was 6% and between 2013-2016 it was 4.8%. When observing behavior by zone, we can see that the largest coverage is from those households that, in the baseline, are located in a rural micro-region (96.6%) compared to those that are located in an urban zone (83.3%). There was a total of 4,394 nationally representative urban households in stratus 1 to 4 within the following regions: Atlantic, Pacific<sup>9</sup>, Central, Eastern, and Bogota; and a total of 4,424 representative rural households comprised of small producers in four micro-regions (Atlántica Media, Eje Cafetero, Cundiboyacense, and

8. The Fundación Éxito has been one of the ELCA's permanent partners; once a month Éxito's vouchers are raffle among the surveyed households, which intends to incentivize the households keeping their information up to date.  
9. As mention in Colombia in Motion 2010 and Colombia in Motion 2010-2013, ELCA is representative for Pacific region but do not include the Andean Pacific municipalities due to cost related issues.

**TABLE 1.3.**  
SURVEY COVERAGE OF HOUSEHOLDS BY ZONE

Baseline zone	2010	2013		2016		Attrition rate	
	Baseline (1)	Surveyed households (2)	Coverage % (3)	Surveyed households (4)	Coverage % (5)	2010-2013 % (6)	2013-2016 % (7)
Urban	5.275	4.681	88,7	4.394	83,3	11,3	6,1
Rural	4.578	4.580	100,0	4.424	96,6	0,0	3,4
<b>TOTAL</b>	<b>9.853</b>	<b>9.261</b>	<b>94,0</b>	<b>8.818</b>	<b>89,5</b>	<b>6,0</b>	<b>4,8</b>

Source: ELCA 2010, 2013, and 2016. Authors own calculations

Note: Column 1 presents the households that were followed-up in the sample according to the zone they were in 2010. Column 2 shows the households surveyed in 2013, including those that had divided, so the number is greater than in column 1 because the division of households was greater than the loss of households in the period. Columns 3 and 5 are the percentage of coverage for each year with respect to the baseline. Column 4 shows the households surveyed in 2016, including the divided households (679 households). Columns 6 and 7 show the attrition rate or loss of homes between each round.



→ In 2017, José Petro sees the photo taken by ELCA's team in 2014 in which he appears with his daughters Consuelo and Violeta in the previous visit to Cereté (Córdoba).

Centro-Oriente). In total, from all the zones, 536 households have migrated from a rural micro-region to an urban area, and 72 households from an urban to a rural area.

When undertaking an analysis on an urban and rural micro-region level using the baseline, as shown in Table 1.4, we found that for urban areas, the highest coverage is in the Atlantic region (99%) and the lowest is in Bogota (68.6%). This could be due to the high spatial mobility of households in the capital, either because people migrate to other municipalities or because they frequently move within the city, which makes it more difficult to find them in the next follow-up round. For the rural micro-regions, we found that in the Atlántica Media region, coverage reaches 108.6% due to the high number of divided households, and the lowest is the Eje Cafetero with 86.5%, which is a zone that is characterized by many people migrating. It is important to note that in 2016 we managed to re-establish households that could not be located in 2013. There was a total of 351 re-established households: 65.8% were in urban zones, particularly in the Eastern region.

### 1.2.2. PEOPLE BEING FOLLOWED-UP

Evaluation of ELCA's coverage, taking into account the individuals chosen for follow-up as part of the panel data, shows that, for 2016, coverage was 78.2%, and it was greater in the rural micro-regions (83.9%) than in the urban regions (72.8%).

**TABLE 1.4.**  
HOUSEHOLD COVERAGE BY REGION 2010-2016

	2010	2013	2016	Coverage 2010-2016 %	Re-established 2013-2016
<b>URBAN HOUSEHOLDS</b>	5.275	4.681	4.394	83,3	<b>231</b>
- Atlantic Region	1.107	1.067	1.096	99,0	49
- Eastern Region	1.074	947	910	84,7	60
- Central Region	1.098	937	852	77,6	44
- Pacific Region	1.081	1.016	908	84,0	31
- Bogotá	915	714	628	68,6	47
<b>RURAL HOUSEHOLDS</b>	4.578	4.580	4.424	96,6	<b>120</b>
- Atlántica Media Region	1.134	1.178	1.232	108,6	27
- Cundi-boyacense Region	1.176	1.158	1.117	95,0	34
- Eje Cafetero Region	1.170	1.123	1.012	86,5	42
- Centro-Oriente Region	1.098	1.121	1.063	96,8	17
<b>TOTAL</b>	<b>9.853</b>	<b>9.261</b>	<b>8.818</b>	<b>89,5</b>	<b>351</b>

Source: ELCA 2010, 2013, and 2016. Authors own calculations

Also, as shown in graph 1.1, coverage was slightly higher for children than for heads of the household or spouses in 2010 (79.7% and 77.5%, respectively). Table 1.5 presents the data, by round, for the total number of people surveyed: in 2016, 35,713 people were surveyed, 17,525 in urban areas and 18,188 in rural areas (baseline zone). From the total of survey individuals, 19,769 were monitored by the ELCA: 13,146 heads of the household and spouses and 6,623 children. Changes in households over time -such as the arrival of new members due to birth, migration, or the creation of new families- led to

4,687 new people being surveyed as context members.<sup>10</sup> Although the objective is to have panel data for individuals who have been chosen for follow-up, due to household conformation over time, over the six years of monitoring, the ELCA found 3,201 context members who have been in each of the three measurements.

Table 1.6 presents the people being followed-up in the survey for whom there is information in each of the three rounds (2010-2013-2016). The balanced panel data has data from the different ELCA



→ 2014. From left to right, Consuelo Petro with her father José Petro and her sister Violeta Petro. They have looked after their father in a farm in Cereté (Córdoba) since their mother died.

modules, for 18,933 people: 8,807 in the baseline were surveyed in an urban zone and 10,126 in a rural micro-region. When dividing by follow-up criteria, in 2010 there was a total of 6,343 children who were less than 10 years old and 12,592 heads of the household or their spouses.

In 2016, 5,499 people for follow-up could not be found.<sup>11</sup> Graph 1.2 shows that the main reasons for not surveying or loss of households were: 38% rejection, 36% households could not be found by the different monitoring strategies, and 16% could not be found in a municipality within the geographic range of the operation.

One way to check if the loss of a sample can lead to a bias in the results is to compare the answers in some of the indicators between those people who

10. *Context members* are those members of the household who, when the survey was first being carried out, were not chosen to be monitored. This corresponds to individuals who were not in the households when the surveys were carried out in 2010 and 2013.

11. Between 2013 and 2016, 836 people were re-established in the survey who could not be found in the 2013 round.

**TABLE 1.5.**  
PEOPLE INTERVIEWED IN HOUSEHOLDS BEING FOLLOWED-UP BY BASELINE ZONE

	Total	Urban	Rural Micro-regions
<b>1. Total people surveyed in 2010</b>	<b>43.198</b>	<b>22.179</b>	<b>21.019</b>
1.1. Total follow-up people	25.268	12.852	12.416
1.1.1. Heads and spouse	16.953	8.793	8.160
1.1.2. Children	8.315	4.059	4.256
1.2. Context people	17.930	9.327	8.603
<b>2. Total people surveyed in 2013</b>	<b>39.913</b>	<b>19.644</b>	<b>20.269</b>
2.1. Total follow-up people	21.841	10.458	11.383
2.1.1. Heads and spouse	14.604	7.119	7.485
2.1.2. Children	7.237	3.339	3.898
2.2. Context people	18.072	9.186	8.886
2.2.1. New context people	6.134	3.551	2.583
<b>3. Total people surveyed in 2016</b>	<b>35.713</b>	<b>17.525</b>	<b>18.188</b>
3.1. Total follow-up people	19.769	9.351	10.418
3.1.1. Heads and spouse	13.146	6.293	6.853
3.1.2. Children	6.623	3.058	3.565
3.2. Context people	15.944	8.174	7.770
3.2.1. New context people	4.687	2.769	1.918
3.2.2. People who have been in the context since 2010	3.201	1.785	1.416

Source: ELCA 2010, 2013, and 2016. Authors own calculations



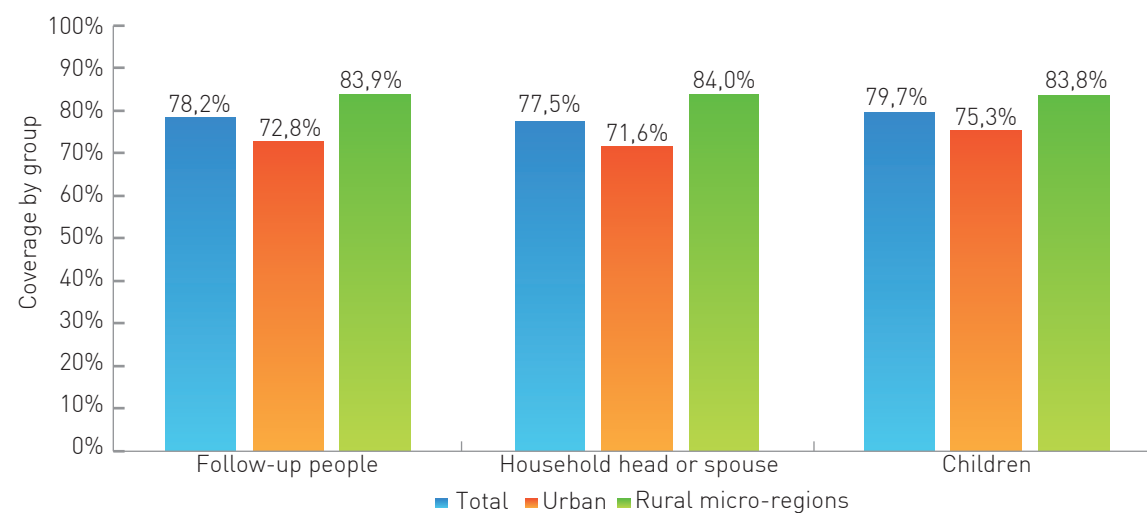
**TABLE 1.6.**  
PEOPLE INCLUDED IN THE PANEL DATA IN EACH ROUND

Follow-up criteria	People in the panel 2010-2013-2016		
	Total	Urban	Rural
Head of the household	7.237	3.523	3.714
Spouse or partner	5.353	2.411	2.942
Children	6.343	2.873	3.470
<b>TOTAL</b>	<b>18.933</b>	<b>8.807</b>	<b>10.126</b>

Source: ELCA 2010, 2013, and 2016. Authors own calculations

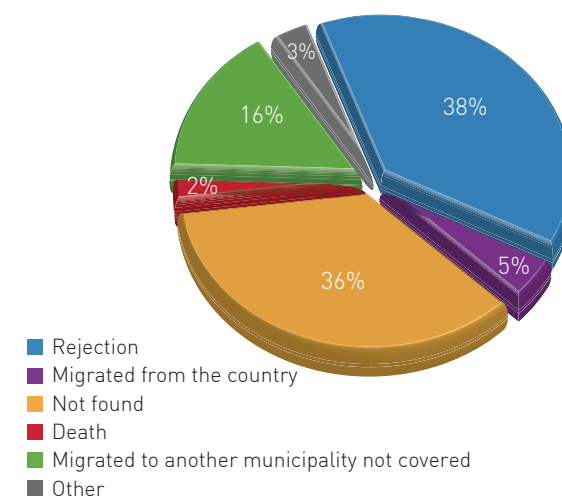
Note: Relationship and zone corresponds to 2010

**GRAPH 1.1.**  
COVERAGE BY ZONE AND SAMPLE OF PEOPLE FOR FOLLOW-UP



Source: ELCA 2010-2013-2016

**GRAPH 1.2.**  
MAIN REASONS FOR HOUSEHOLD LOSS IN 2016



Source: ELCA 2010-2013-2016

were surveyed in 2016 and those who were not. To do so, the baseline information should be used and then it should be checked if there are characteristics that are statistically different between the respondents and non-respondents (Duncan & Kalton, 1987). Three indicators were taken into consideration for this analysis: (i) average years of education, (ii) age and, (iii) per capita annual expenditure. Table 1.7 shows the results and if they are statistically significant. In general, the people who were included but who were not surveyed in 2016 had studied for longer and had a higher annual expenditure. In other words, the sample could be biased towards the less educated and those with a lower standard of living – measured by expenditure. When we analyzed by zone, we found that in the urban zones this is only true for the average years of education. For the rural micro-regions, the people are slightly younger and more educated with higher expenditure levels. It is important to note that in this zone the levels of education are very low in both cases.

The strategies used to correct the possible bias for non-response include: rethinking the survey in the areas in which it has become less precise, making adjustments to the longitudinal weighting factors so that they take into account these changes, the use of balance panel data (people who took part in each of the three rounds) for analysis, among others. This implies that for the next follow-up round it should be taken into consideration the possibility of a refreshment of the sample and an adjustment to the longitudinal weighting factors.



→ 2014. María Alicia Torres, her husband Octavio Ballesteros, and their adopted son Felipe García live in Susa (Cundinamarca). Every day the donkey brings the milk that has been taken from her cows.

**TABLE 1.7.**

COMPARISON OF THE CHARACTERISTICS OF THE PEOPLE SURVEYED IN 2016 COMPARED WITH THOSE IT WAS NOT POSSIBLE TO SURVEY

Total	People being followed-up		
	Surveyed 2016	Not surveyed 2016 (lost)	Significance
People being followed-up	19.769	5.499	
Average years of education	5,37	6,76	***
Average age	30,52	30,6	
Per capita annual expenditure	3.553.094	4.685.043	***
Urban	People being followed-up		
	Surveyed 2016	Not surveyed 2016 (lost)	Significance
People being followed-up	9.351	3.501	
Average years of education	7,28	8,14	***
Average age	30,94	31,38	
Per capita annual expenditure	5.567.525	6.069.719	
Rural Micro-regions	People being followed-up		
	Surveyed 2016	Not surveyed 2016 (lost)	Significance
People being followed-up	10.418	1.998	
Average years of education	3,63	3,97	***
Average age	30,15	29,06	*
Per capita annual expenditure	1.758.257	1.952.390	*

Source: ELCA 2010, 2013, and 2016. Authors own calculations

Note: The comparison of characteristics is according to information from the baseline and takes into consideration the weighting-factors. The significance levels are signaled as \*to10%, \*\*to 5%, and \*\*\* to 1%.

### 1.2.3. SURVEYING THE ELCA COMMUNITIES

In order to control for the characteristics of the communities to which the households in ELCA's samples belong, the survey has a module called 'community', which will be given to at least two leaders in the particular area. They could be community, religious, educational, or social leaders. The questionnaire asks about topics such as infrastructure, public services, institutional supply, shocks, and problems that the community face. Additionally, for the rural micro-regions, questions were included relating to land conflicts and agricultural markets.

This survey was given in the neighborhood or rural settlement with at least five ELCA households. In 2010, there were a total of 792 'community' surveys, 568 in urban areas (71.7%) and 224 in rural areas (28.3%). For the first follow-up in 2013, there is information available for a total of 975 communities: 547 from urban areas (56.1%) and 428 from rural areas (43.9%) of which 755 can be use as panel data with 2010. In the second follow-up, 970 communities were surveyed: 693 can be used as panel data during the three years, 483 in urban zones (69.7%) and 210 in rural zones (30.3%).



→ 2017. Three years later, María Alicia Torres and her son Felipe García continue to live in Susa (Cundinamarca). The family's income comes from agriculture and livestock. Her brother-in-law Germán Ballesteros is on the right (wearing a hat) with a farm laborer.

The ELCA is the only longitudinal survey in the country that has had two follow-up rounds and coverage during the 2010-2016 period.

### 1.3. FIRST ANALYSIS OF ELCA'S SIX-YEAR FOLLOW-UP

The ELCA is the only longitudinal survey in the country that has had two follow-up rounds and coverage during the 2010-2016 period.<sup>12</sup> This information allows for panel data to be constructed for both households and individuals, which, unlike cross-sectional data has the advantage that the differences observed in households and individuals are not the result of the differences in the composition of the population. They, instead, allow for more precise indicators to be generated for the changes in the country during the last six years.

ELCA's information allows researchers to understand and clarified household transitions; their determinants; the effect of decisions made -for example attending or not-attending a school-; migration; the use of land; and the ways of responding to shocks, as well as their consequences on quality of life. This book presents a first approximation of the analyses that are possible as a result of the richness of information that the ELCA has to offer after two follow-up rounds.

Each chapter shows how the longitudinal information allows, like never before in Colombia, for transitions in households over a period of six (6) years to be understood. The chapters focus on specific topics that do not exhaust the many questions that



→ 2014. In Copacabana (Antioquia), Liliana María Herrera takes her granddaughter to skating classes every day. By 2017, the girl had stopped attending these classes.

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12. The country does have a longitudinal study that focuses on topics relating to social protection. The Longitudinal Study for Social Protection (ELPS by its acronym in Spanish) was undertaken by the DANE and, to date, its baseline year was 2010 and only some regions were followed-up in 2015.



→ 2017. In Copacabana (Antioquia), José Fernando Mejía and his wife Liliana María Herrera spend a lot of time with their grandchildren Nicole and Emanuel; they always spend the afternoons together while their parents are at work.

can be answered with the ELCA, future research to be undertaken, and the importance of this as a baseline for the post-conflict process currently taking place in the country.

In Chapter 2, Carmen Elisa Flórez, María Alejandra Galeano, Nicolás Fuertes, and Lina María Castaño address the issue of adolescent motherhood using a life course approach. The purpose of this chapter

is to analyze, based on ELCA longitudinal information, the effect socio-cultural factors that change throughout life on an individual, interpersonal, and context level have on the probability of becoming a

mother for females between 12 and 19 years old. They study used a population of women who were between the ages of 15-24 in 2016, and it incorporated follow-up women included in the study as well as those who were context members of the households during the three rounds<sup>13</sup>. The results shown in this chapter are a first approximation, thanks to the longitudinal richness of the ELCA, of the analysis of topics as complex as the determinants and factors associated with early motherhood in Colombia.

In Chapter 3, Ana María Ibañez and Julian Arteaga use the unique opportunity that the ELCA offers to study the reasons for the country's high levels of migration, the characteristics, and the possible consequences. The chapter analyses the migration strategies in households, the characteristics of those who migrate, potential factors that could explain the decision to migrate; and the prior and subsequent conditions to the decision to migrate were evaluated. The chapter also examines the potential returns from migration and how these are related to the migration strategies and the change in the occupational sector. This is only one example of the potential the survey has to analyze migration in Colombia and the studies comparing the conditions in which migrants and non-migrants live.

In Chapter 4, Rafael Santos analyses the module on shocks, which are problems or events that effect households involved in the ELCA's economy. This chapter evaluates factors such as how vulnerable households are, what the most frequent shocks are depending on where the households are located (rural or urban areas), and the relationship between level of wealth and vulnerability. These analyses demonstrate how a survey such as the ELCA is an important input to be able to understand household's insurance mechanisms, vulnerability according to household characteristics, and access to measures that make a household more resilient to different shocks.

In Chapter 5, Adriana Camacho and Yabra Muvdi undertake a descriptive analysis of the evolution of poverty between 2010 and 2016, taking into consideration the possibility that the panel data show the transitions in the households' living conditions. As part of this analysis, they estimate the incidence of monetary poverty and also take a broader approach that uses the multidimensional poverty index (MPI) for Colombia and the wealth index.<sup>14</sup> The purpose of this chapter is to answer questions that are not only about the net changes in the indicators, as cross-sectional surveys do, but also questions it is possible to answer with longitudinal information such as the ELCA. For example, *Have more people fallen into poverty than those who have escaped it? Is*

*access to public services better? and, Has participation in government social programs changed or not?* This analysis shows the possibilities, after two follow-up rounds, of evaluating the effect of the social programs and the different household events on changes in living conditions.

In Chapter 6, Catherine Rodríguez and Nicolás Fuertes, have addressed one of the most central and innovative topics that the ELCA has dealt with since it began: children and young people. They have constructed a data panel to undertake a study on the condition of their health, education, child labor, social capital, consumer habits, risks, expectations, dreams, and life plans. The analysis in the chapter shows how the longitudinal information allows some of the most significant changes that children and young people in the sample have experienced to be understood from 2010 and then six years after in 2016. This is an example of how important the ELCA is as an input for the development of public policies for children and young people in the country.

In Chapter 7 Rachid Laajaj and Freddy Felipe Parra-Escobar undertook a descriptive analysis of the structure of rural property in the four ELCA microregions and the possible relationship with the productive decisions that households make (access to credit and productive investments). This chapter

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13. Information was collected for all members of the household, regardless of whether they were included in the follow-up; however, the units to be reviewed in more detail were only undertaken with the subjects who were part of the longitudinal follow-up. This implies that the women in all the units were included as well as those who were not, or known as "context".

14. The wealth index was estimated from 2010 in the ELCA and it corresponds to a multivariate indicator for household's ownership of durable assets.

also reviews the possible transmission of inequality in access to land on the cognitive development of future generations. ELCA's rural module is a unique opportunity to carry out an in-depth analysis of household's changes in rural micro-regions that are associated with rural development policies in the process of being implemented under the framework of the peace agreement with the FARC-EP.

In Chapter 8, Paula Juliana Sarmiento and Juan Camilo Cárdenas explore dynamics associated

with prosocial behavior<sup>15</sup> for the ELCA households and individuals. The chapter looks at the dimensions related to participation, help, and trust, and it explores some phenomena that can be concluded about the factors that can explain the reason for these behaviors in Colombian households. It also analyzes the possible effect of either belonging to or not belonging to State programs and individual's participation.<sup>16</sup>

In Chapter 9, Leopoldo Fergusson, Andrés Moya, and Francisco Eslava examine two dimensions of

the political behavior in Colombian households': the way and the degree to which they relate to politics, undertaking a longitudinal analysis of the patterns and characteristics between 2013 and 2016.<sup>17</sup> In 2016, they also included questions on Colombian households' perspectives and attitudes regarding the peace process between the government and the FARC-EP. One of the topics included is the perspective that the effect that the peace process has on the standards of living and the actions that individuals are willing to undertake to achieve reconciliation, particularly with ex-combatants from this armed group.

15. Prosocial behavior is an individuals' capacity to get involved in activities that, as they are outside the market and its relationship with the state, provide others in the community with wellbeing or constructs what is known as "social capital".

16. This chapter was written with help from the Bolívar Davivienda Foundation.

17. In 2013, for the first time in the ELCA, a module was included on behavior and politics in which questions were added about electoral behavior and interest, identification with parties and candidates, and degree of interest in politics, etc. In 2016, this was once again included to undertake longitudinal follow-up.



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→ Yomaira Tapias Álvarez lives with her mother Inés María Álvarez in Chinú (Córdoba). When ELCA visited her in 2017, her daughter Isabela Álvarez Tapias was only one year and two months old and was still being breastfed.





→ Paola Pino Palacios is seventeen years-old and she became pregnant when she was only fifteen. She appears in the photo with her son, two year-old Alan Yared, and they live in Barrancabermeja with her grandparents.

## CHAPTER 2

# EARLY MOTHERHOOD: AN APPROACH THAT TAKES INTO CONSIDERATION THE EFFECT OF FACTORS THROUGHOUT LIFE

CARMEN ELISA FLÓREZ  
LINA MARÍA CASTAÑO  
NICOLÁS FUERTES  
MARÍA ALEJANDRA GALEANO<sup>1</sup>



→ The Álvarez Tapias family children are not allowed to play pool, but they have invented their own game and play marbles at home in Chinú (Córdoba).

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1. We would like to thank Catherine Rodríguez for her comments.

## 2.1. INTRODUCTION

Early motherhood has been a considerable public health problem both in terms of its level of impact and the negative effects it has in both the short and long-term: not only for the child but also for the young mother (Flórez & Soto, 2006). Colombia, as well as a large number of Latin American countries, saw a growing trend in the adolescent fertility rate during the 1990s and the beginning of the 2000s: it increased from 70 to 90 per thousand births for adolescents between 15-19 years old (Flórez, 2011). However, since 2005, there has been a decreasing trend, nonetheless after ten years levels had not decreased to those observed in 1990, in 2015 there was an adolescent fertility rate of 75 per thousand (MinSalud - Profamilia, 2017). The same trend was also observed in the prevalence of adolescent motherhood, which can be measured by the percentage of adolescents between 15-19 who are either mothers or pregnant with their first child: this increased from 12.8% in 1990 to 20.5% in 2005, but the figure then dropped to 17.3% in 2015 (Flórez, 2011; MinSalud-Profamilia, 2017).

There are several studies that analyze the social and economic determinants of adolescent motherhood

in Colombia (Barrera & Higuera, 2003; Flórez et al., 2004; Flórez & Soto, 2006; Flórez, & Soto, 2013; Gaviria, 2000; Ordoñez & Murad, 2000; Vargas, Henao, & González, 2004). In general, the results indicate that adolescent fertility is a complex phenomenon; there are sociocultural determiners that have different levels of influence: there are individual, interpersonal, and contextual factors. The following factors are important on the individual level: level of education, access to Sexual and Reproductive Health (SRH) and family planning, and perceptions on maternity and on the opportunities for social mobility. The following factors are important on the interpersonal level: the household's socio-economic level, the family structure and domestic violence, the amount of communication with parents, parental supervision, and social and parental rules. Important macro contextual factors include the supply of quality SRH services, the SRH education policy, social rules on maternity and on when to begin sexual relations, and characteristics of the community of residence. Some studies emphasize the effect social and cultural factors have on both an interpersonal and contextual level; these have possibly been underestimated due to the large number of studies that have focused on individual factors (Flórez, 2011).

Despite the importance of the results from studies available, the majority are based on cross-sectional information, and, as such, are subject to intertemporal problems as social and cultural variables are observed when the survey is carried out; however, the maternity itself occurred in the past. The ideal



→ Sixteen year-old Camila (left) and fourteen year-old Karina Ramírez help their grandmother Inés María Álvarez with the cleaning at the La Esperanza pool hall. Karina helps her mother Yomaira Tapias to look after Isabela.

situation would be for the variables to refer to the moment that the event itself occurs, which is only possible if there is longitudinal information (follow-up or historical).<sup>2</sup> In terms of follow-up longitudinal information, the Colombian Longitudinal Survey by the Universidad de los Andes -ELCA is an information source that allows a first approximation of the factors associated with early motherhood. This chapter endeavors to advance understanding of adolescent pregnancy by taking a life course approach. It is our objective to analyze the effect that sociocultural factors on an individual, interpersonal, and contextual level, which change throughout life, have on the probability of being a mother between 12 and 19 years old, for a group of females who were between 15-24 years old in 2016. This was the third ELCA's follow-up round.<sup>3</sup>

The chapter has five sections including this introduction. The second section describes the methodology: from the conceptual framework to the selection of variables for the model that is used in the analysis. The

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2. There is only one study in Colombia that has used historical information to analyze adolescent fertility: this was undertaken in 2003 by the Research Center for Economic Development (CEDE for its acronym in Spanish) at the Universidad de los Andes.
  3. This chapter will not include girls aged between 12 and 14 as the incidence of teenage pregnancy within the sample in this range is very low: almost non-existent.

third section focuses on describing the characteristics of the population being analyzed. The fourth section presents the results of the model for the factors associated with early pregnancy. Lastly, the fifth section summarizes the conclusions.

## 2.2. METODOLOGY

### 2.2.1. CONCEPTUAL FRAMEWORK

The concept of adolescence depends on the era and culture; however, this chapter will use the definition that is commonly used, which refers to the period between 10 and 19 years old during which there are a series of biological and psychosocial changes that are associated with the transition between childhood and adulthood (Vargas, 2017).

Fertility can be expressed using the specific fertility rate<sup>4</sup> or the prevalence of motherhood. Based on the type of information that was gathered in the ELCA, the prevalence of motherhood was used, or, in other words, the prevalence of adolescents who are already mothers or are pregnant with their first child.

According to the literature on the subject, we recognize that fertility, based on the analysis of associated factors, is determined by distal and proximal factors. For early pregnancy, the proximal factors are mainly limited to the beginning/ frequency of sexual relations and the efficient use of birth control (Flórez & Soto, 2013). Distal factors affect

fertility both directly and indirectly through the proximal determinants. To analyze the distal factors, we used a social determinants of health approach, according to which the determinants are not confined to individual characteristics; they instead include factors that are associated with the physical, sociocultural, political, and economic environment within which the individual lives and develops (Braveman, Egerter, & Williams, 2011). Based on an ecological approach, the distal factors are organized into levels of influence: intrapersonal or individual factors (socioeconomic, demographic, and psychological variables), interpersonal factors (variables belonging to the primary groups such as family, peers, and social support networks), and contextual factors (community, institutional, and political variables).



→ Twelve year-old Sara Ballesteros comes home from school in Buenavista (Boyacá). She likes to accompany and help her father Rodrigo to harvest courgettes, blackberries, gulupa, avocado, and other crops that they have on their farm.

4. The fertility rate measures the ratio between the number of births from females who are a particular age or who belong to an age group, that occurs over a period of time (either a year or several years), per 1000 females who are this particular age or belong to this age group.

## 2.2.2. THE MODEL OF ANALYSIS

We use the discrete-time risk model with which we estimate the probability that a female will have her first child before she is 20 years of age. There are two advantages of this approach. First, it allows independent variables to be included that vary over time (such as age, school attendance, etc.); and secondly, it allows for the problem of censored observations on the right to be addressed: those females who, to date, are not yet twenty and we have no way of knowing if they will have their first child before they reach this age.

We use a logistic regression model in which the dependent variable is yes/no in terms of whether the female has had her first child at every age from 12 until completing 19 years or until the moment she is surveyed, if she is under 20. When the female has her first child, she is removed from the model. For example, an adolescent who was 17 years old when the survey was being carried out, who had her first child at 15, provided four observations: three that indicated she did not have her first child at 12, 13, or 14, and an observation indicating that the event took place when she was 15 years old. In the case that a 17 year-old has not had her first child at the time of the survey, the observation is censored and provides five observations, which indicate that the birth of her first child did not take place when she was 12, 13, 14, 15, or 16 years old (17 is not included because the year has not yet finished). According to the logistic model, the expected cumulative

probability that an adolescent  $i$  will have her first child at age  $t$  can be estimated in the following way:

$$h_{it} = \exp(a_i + X_i' \beta + u) / 1 + \exp(a_i + X_i' \beta + u) \quad (1)$$

Where  $h_{it}$  is the conditional probability that the female  $i$  will give birth to her first child at time  $t$ , given this has not happened previously;  $a_i$  is a function of age (a variable that changes over time),  $X_i$  is the vector of covariates (including those that change over time); and  $\beta$  is the corresponding parameter vector.

## 2.2.3. THE POPULATION AND VARIABLES OF ANALYSIS

The data for the analysis was taken from the baseline (2010) and the two ELCA follow-up rounds (2013 and 2016). We identified the females who were in the age bracket between 15 and 24 in 2016; this included all the females in the study (both follow-up and context), who were surveyed all three times. In total, there were 967 females from urban areas and 987 females from the rural micro-regions: 60% of the females from urban areas and 69% females from rural micro-regions were under twenty: in other words, they are adolescents, and the rest are between 20 and 24 (Graph 2.1).<sup>5</sup>

Females were observed for six years from 2010 to 2016. The age at which they began to be observed



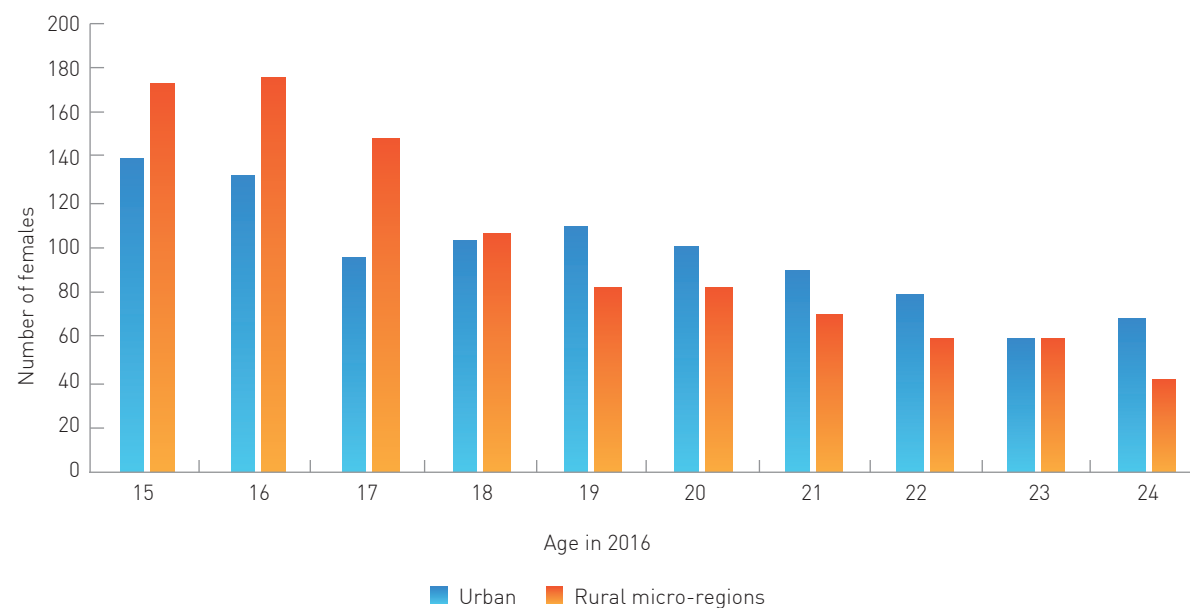
→ Alba Robayo left her job as salesperson in an agricultural inputs shop and now works in what she always dreamed of doing: teaching children. She set up a nursery school for comprehensive care in early childhood at her house in Buenavista (Boyacá).

changed depending on their actual age. The youngest age at which they were observed was 12 years-old, and the oldest was 18. Each age cohort contributed by providing different observations. Table 2.1 shows the distribution of females according to the age at which they began to be observed for each current age or the time at which the second follow-up started (2016). As expected, the survey began to observe the older females later, but they were observed for a longer period of time. Conversely, the younger females who were either 15 or 16 were only

5. For the analysis in this chapter, the zone where people live (urban/ rural) is set according to what was observed in the baseline (2010).



**GRAPH 2.1.**  
NUMBER OF WOMEN BY AGE IN 2016 BY ZONE



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

observed for 3 or 4 years. Females under the age of 20 who had not yet had their first child in 2016 are censored observations on the right because we do not know if they will have their first child before they turn 20. Table 2.1 also shows the percentage of censored observations by age. As expected, the percentage of censored observations reduces with age: by 19, 90.3% of females from urban areas and

75.7% of those from rural micro-regions have not had their first child.

The dependent variable (yes/ no first child) is constructed from the age at which the woman had her first child or the age at the last available round of the survey if she still has not had a child. Due to the information available in the ELCA, in terms of proximate

determinants, it is only possible to know the woman's marital status over time; it is not possible to identify other factors relating to the proximate determinants of fertility (sexual relations and use of contraceptives). This limitation jointly captures the direct and indirect effects on distal factors and most probably generates the model's lack of explanatory power.

In terms of distal factors, the information available in the ELCA allows us to construct the following variables by level, which have been identified in other studies as determinant factors of early pregnancy:

- Factors on the individual level: Marital status, relationship with the head of the household, and level of education. These are all variables that change over time.
- Factors on an interpersonal level: Type of home, size of home, if the home has suffered a family shock (death of the head of the household or their spouse, loss of a job, or something similar), and if the household has suffered a shock due to displacement (due to disaster or violence),<sup>6</sup> which are variables that change over time. Also, we include the level of education that the mother of the female has and the household wealth tertile in 2010 (baseline), which are variables that are fixed over time.
- Factors on a contextual level: Size of the municipality, if there is a community health center, and if there is a secondary school in the community. These are all variables that change over time.

6. The shocks are calculated based on the value of the said variable in the round immediately after the reference year: for 2011 and 2012 the value is taken from the year 2013, and for the 2014 and 2015 the value is taken from 2016. This implies that this variable is not accumulative and that the persistence of shocks is a three-year period.

**TABLE 2.1.**

DISTRIBUTION OF FEMALES BY AGE AT WHICH THEY STARTED TO BE OBSERVED ACCORDING TO CURRENT AGE AND ZONE

Age from which they were observed (in 2010)	Current age (in 2016)									
	15 years	16 years	17 years	18 years	19 years	20 years	21 years	22 years	23 years	24 years
Urban										
12 years	100.0%	100.0%	100.0%	94.4%	2.9%					
13 years				5.6%	96.8%	12.6%				
14 years					0.3%	85.4%	14.0%			
15 years						2.0%	84.4%	6.9%		
16 years							1.6%	92.1%	3.5%	
17 years								1.0%	94.9%	7.0%
18 years									1.6%	76.8%
19 years										16.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	139	131	94	102	108	99	89	78	59	68
% females with teenage pregnancy	0.0%	4.4%	7.7%	9.2%	9.7%	7.1%	18.1%	14.1%	10.7%	7.1%
% censored	100.0%	95.6%	92.3%	90.9%	90.3%					
Rural Micro-regions										
12 years	100.0%	100.0%	100.0%	98.9%	6.9%					
13 years				1.1%	91.9%	7.5%				
14 years					1.3%	90.8%	9.4%			
15 years						1.6%	88.7%	5.7%		
16 years							1.9%	91.1%	4.6%	
17 years								3.2%	95.4%	11.1%
18 years										88.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
N	172	174	148	105	81	81	69	59	58	40
% females with teenage pregnancy	3.2%	7.2%	8.8%	21.3%	24.3%	19.8%	23.0%	27.4%	25.2%	19.6%
% censored	96.8%	92.8%	91.2%	78.7%	75.7%					

Source:: ELCA 2010, 2013, and 2016. Authors' own calculations

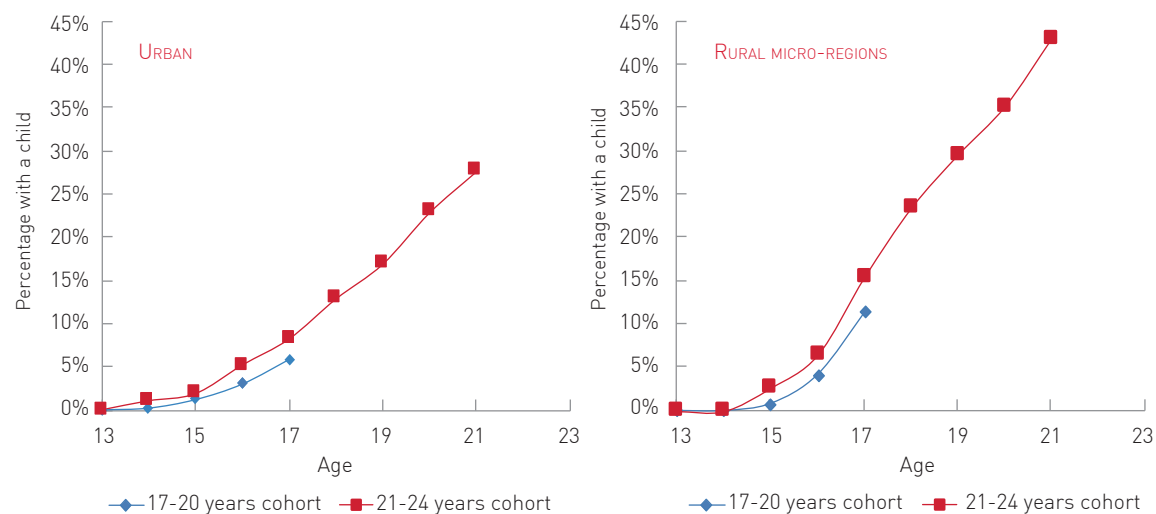
### 2.3. CHARACTERIZATION OF THE FEMALES UNDER STUDY

There is a lower prevalence of pregnancy for females living in urban areas than there is for females living in rural micro-regions for every age between 15 and 24 (Graph 2.2). This not only implies that adolescent girls are becoming pregnant at younger ages in rural areas, but also that there is also a higher incidence, which is confirmed by the results of previous studies (MinSalud-Profamilia, 2017). Moreover, Graph 2.2 also indicates that there is a lower prevalence of pregnancy in the younger cohort (17-20) than there is in the older cohort (21-24). This is consistent with the results from the Demographics and Health Survey (DHS), which indicates that the adolescent fertility rate and the prevalence of adolescent pregnancy began to reduce from 2005 (MinSalud-Profamilia, 2017).

Table 2.2 presents the frequency of individual factors and the bivariate descriptive statistics for adolescent pregnancy. It can be seen that that the females in the study are, for the most part, single in 2016: 92% of females living in urban areas and 85.7% of females living in rural micro-regions were single. However, as expected, the percentage of females who at one time had a partner increases over time as they get older and get partners. Moreover, the results confirm previous findings regarding patterns of marriages/ partnerships that happen at a younger age in the rural areas. Similarly, based on

**GRAPH 2.2.**

PERCENTAGE OF WOMEN WITH AT LEAST ONE CHILD BY AGE AND COHORT ACCORDING TO ZONE



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

the ages of the females who were studied, the majority live in households in which they are daughters/ stepdaughters (at least 89% in the urban areas and 84% in the rural areas), which is something that does not really change over time. However, females' level of education increases significantly, particularly in the rural micro-regions: in 2010 45.7% of females living in urban areas and 65.4% living in rural micro-regions had finished primary school or less; while, in 2016, only 1.8% and 5.1%,

respectively, of females only had this level of education. This is consistent with the fact that, in 2010, the females were six years younger, and, also, that there have been advances in the Colombian education system's coverage.

Furthermore, the bivariate descriptive statistics of the individual factors for early pregnancy show marked differences for marital status and for level of education, especially in the rural micro-regions.

**TABLE 2.2.**

DISTRIBUTION OF FEMALES AND PREVALENCE OF ADOLESCENT PREGNANCY ACCORDING TO INDIVIDUAL FACTORS BY ELCA ROUND, AND BY ZONE

Individual factors		2010		2013		2016	
		Distribution	Adolescent pregnancy	Distribution	Adolescent pregnancy	Distribution	Adolescent pregnancy
<b>URBAN</b>							
Marital status	Single			97.1%	1.4%	92.6%	2.9%
	Married, partnership, other			2.9%	52.9%	7.4%	13.0%
	Total			100.0%	2.9%	100.0%	3.6%
Relationship with head of the household	Head or spouse	0.9%	79.4%	0.8%	5.6%	1.1%	0.0%
	Daughter or stepdaughter	89.1%	1.0%	90.4%	2.6%	88.8%	3.6%
	Other relationship	10.0%	0.8%	8.8%	6.0%	10.1%	4.5%
	Total	100.0%	1.6%	100.0%	2.9%	100.0%	3.6%
Education	Primary or less	45.7%	0.3%	9.3%	1.2%	1.8%	5.0%
	Basic/ Secondary	15.2%	3.4%	51.3%	2.9%	23.8%	3.8%
	Middle level or higher	39.1%	2.5%	39.4%	3.3%	74.4%	3.6%
	Total*	100.0%	1.6%	100.0%	2.9%	100.0%	3.6%
N		967					
<b>RURAL MICRO-REGIONS</b>							
Marital status	Single			93.9%	2.1%	85.7%	5.2%
	Married, partnership, other			6.1%	36.8%	14.4%	22.4%
	Total			100.0%	4.2%	100.0%	7.7%
Relationship with head of the household	Head or spouse	1.7%	46.1%	1.5%	26.9%	2.7%	1.4%
	Daughter or stepdaughter	86.6%	1.3%	86.6%	4.2%	84.0%	8.0%
	Other relationship	11.5%	5.8%	12.0%	1.6%	13.3%	9.0%
	Total	100.0%	2.6%	100.0%	4.2%	100.0%	7.7%
Education	Primary or less	65.4%	1.8%	15.7%	5.0%	5.1%	13.3%
	Basic/ Secondary	9.3%	4.9%	58.8%	3.1%	36.3%	7.9%
	Middle level or higher	25.4%	3.5%	25.6%	6.3%	58.5%	7.1%
	Total	100.0%	2.6%	100.0%	4.2%	100.0%	7.7%
N		987					

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Table 2.3 summarizes the descriptive characteristics for the interpersonal factors. It can be seen that the majority of females (at least 60% living in urban environments and 77% in rural micro-regions) live in households where there are two parents. However, there are less households with two parents between 2010 and 2016, which is consistent with the evidence from available studies that indicated an increase in households with only one parent due to the increase in the divorce and separation rate (Flórez & Rodríguez, 2016). Table 2.3 also reports the mothers of the studied females' level of education, which is a variable that is fixed over time. It can be seen that the education level of mothers of females who live in urban areas is higher than that of those who live in rural micro-regions: 77.4% of females in rural micro-regions have mothers who only have a primary level of education; this figure is only 34% in urban areas.

Family shocks between ELCA rounds (death of the head of the household or their spouse, or separations/ divorces) are more common in the micro-regions than in urban zones, and they become more frequent over time: in 2016, close to 25% of females living in urban areas and 34% living in rural micro-regions suffered a family shock. The same behavior was observed for shocks caused by displacement (either a natural disaster or violence): in 2016, 7.6% of females living in urban areas and 32.5% living in rural micro-regions suffered a shock caused by displacement.



→ Thirteen year-old María Isabel García answers the tests that were given to children in ELCA. She lives in Bogotá, and her parents earn their livelihood from a market stall in Corabastos.

**TABLE 2.3.**  
DISTRIBUTION OF FEMALES AND PREVALENCE OF ADOLESCENT PREGNANCY ACCORDING TO INTERPERSONAL FACTORS BY ELCA ROUND, AND BY ZONE

Interpersonal factors		2010		2013		2016	
		Distribution	Adolescent pregnancy	Distribution	Adolescent pregnancy	Distribution	Adolescent pregnancy
URBAN							
Type of household	Single parent	35.3%	1.5%	34.6%	3.9%	37.9%	3.9%
	Two parents	64.7%	1.7%	65.5%	2.3%	62.1%	3.5%
	Total	100.0%	1.6%	100.0%	2.9%	100.0%	3.6%
Mother's education	None	2.7%	2.6%	2.7%	5.5%	2.7%	10.0%
	Some primary education	18.3%	0.3%	18.3%	1.8%	18.3%	2.5%
	Full primary education	13.0%	3.8%	13.0%	5.2%	13.0%	6.4%
	Some secondary education	19.2%	3.7%	19.2%	4.3%	19.2%	5.3%
	All secondary education	21.7%	1.1%	21.7%	3.4%	21.7%	4.3%
	Further education	25.2%	0.1%	25.2%	0.6%	25.2%	0.2%
	Total*	100.0%	1.6%	100.0%	2.9%	100.0%	3.5%
Family shock	No	85.5%	1.8%	74.4%	2.6%	72.2%	4.0%
	Yes	14.5%	0.7%	25.6%	3.8%	24.8%	2.7%
	Total	100.0%	1.6%	100.0%	2.9%	100.0%	3.6%
Displacement shock	No	98.8%	1.5%	92.4%	2.6%	92.4%	3.7%
	Yes	1.2%	12.1%	7.6%	6.2%	7.6%	2.5%
	Total	100.0%	1.6%	100.0%	2.9%	100.0%	3.6%
Wealth tertile	Low	38.1%	2.0%	28.2%	6.5%	31.1%	5.2%
	Middle	33.5%	1.6%	38.7%	1.1%	34.1%	3.6%
	High	28.5%	1.2%	33.0%	1.9%	34.9%	2.4%
	Total	100.0%	1.6%	100.0%	2.9%	100.0%	3.6%
N		967		967		967	
*N		898		898		898	
RURAL MICRO-REGIONS							
Type of household	Single parent	17.5%	2.5%	19.0%	4.4%	22.9%	7.6%
	Two parents	82.5%	2.6%	81.0%	4.2%	77.2%	7.7%
	Total	100.0%	2.6%	100.0%	4.2%	100.0%	7.7%
Mother's education	None	9.4%	2.2%	9.4%	4.6%	9.4%	10.1%
	Some primary education	39.2%	3.1%	39.2%	4.2%	39.2%	11.4%
	Full primary education	28.8%	2.3%	28.8%	4.0%	28.8%	5.5%
	Some secondary education	16.7%	2.9%	16.7%	4.7%	16.7%	5.3%
	All secondary education	4.3%	1.2%	4.3%	4.8%	4.3%	0.0%
	Further education	1.7%	4.3%	1.7%	0.0%	1.7%	0.0%
	Total*	100.0%	2.7%	100.0%	4.2%	100.0%	7.9%
Family shock	No	83.2%	2.7%	70.9%	4.5%	66.1%	8.1%
	Yes	16.8%	2.2%	29.1%	3.6%	33.9%	7.0%
	Total	100.0%	2.6%	100.0%	4.2%	100.0%	7.7%
Displacement shock	No	99.4%	2.6%	74.1%	4.2%	68.5%	6.6%
	Yes	0.6%	0.0%	25.9%	4.3%	31.5%	10.1%
	Total	100.0%	2.6%	100.0%	4.2%	100.0%	7.7%
Wealth tertile	Low	35.8%	2.7%	35.8%	4.9%	33.7%	11.9%
	Middle	33.3%	3.5%	31.1%	4.6%	32.0%	5.2%
	High	30.9%	1.4%	33.2%	3.2%	34.3%	5.8%
	Total	100.0%	2.6%	100.0%	4.2%	100.0%	7.7%
N		987		987		987	
*N		937		937		937	

Source: ELCA 2010, 2013, and 2016. Authors' own calculations



→ In 2014, sixteen-year old Antonia Peláez Rincón dreamt of studying music and playing the cello. By 2017, her dream had changed and she now wants to become a scientist.

Both the rural and urban females in the study belong to households from the three wealth tertiles, and there is no specific concentration: there is roughly a third in each tertile, and there are no important changes over time.

The bivariate descriptive statistics for the interpersonal factors relating to early pregnancy that are presented in Table 2.3 show a negative relationship with the mother's level of education and with the wealth tertile, which confirms the results from previous studies. The mother's education, as well as household wealth, has been a factor that has been widely recognized as a determinant of early pregnancy. Conversely, a family shock does not

show a relationship with early pregnancy; however, a shock caused by displacement shows a positive relationship in the rural micro-regions: the prevalence of early pregnancy is higher for females who have experienced a shock due to displacement than for those who have not.

Table 2.4 presents the contextual descriptive factors. It can be seen that the majority of females who live in urban areas lived in intermediate sized municipalities (more than 50%) or large sized municipalities (close to 40%) during the time of the study; however, females from rural micro-regions lived in small municipalities (around 30%) and in intermediate sized municipalities (69%). Despite a high percentage (40%) of females having lived in the four big cities<sup>7</sup> during the time in which the observation took place, they have lived in communities in which they have not had complete access to health care centers or to secondary education. 62% have lived in communities that do not have health care centers, and 50% do not have a secondary school. Females from rural micro-regions have been seriously limited in terms of their supply of healthcare and education. At least 90% lived in communities without a healthcare center and 80% in communities without a secondary school.

The bivariate descriptive statistics for the contextual factors of early pregnancy indicate a negative relationship with the size of the municipality, particularly in urban areas and if there is a healthcare center and secondary school, especially in the rural micro-regions.

## 2.4. FACTORS ASSOCIATED WITH PREGNANCY BASED ON A LONGITUDINAL APPROACH

As was noted in the methodology section, in order to estimate the effect that the different factors have on early pregnancy, we estimated a discrete risk model (logit). The model was estimated in stages: first we included the set of variables for individual factors (model 1), then we included the interpersonal factor variables (model 2). Lastly, we included the set of variables for the contextual factors (model 3). The models were estimated separately for both the urban areas and the rural micro-regions. Table 2.5 presents the marginal effects; the standard errors are presented in brackets.

The results indicate that in both the urban areas as well as the rural micro-regions, the set of individual factors (the female's age, civil status, and education level) are variables that have significant effects. In terms of having a child, as age increases, the probability increases; there is a higher probability for married females/ females with partners/ than there is for single females, and the probability decreases with an high school education or higher. These effects are higher in urban zones than in rural micro-regions. The marginal effects of these variables tend to reduce when interpersonal and contextual factors are included, but they do not lose significance. This suggests an important direct effect from this set of variables.

.....→

7. Municipalities that have more than 1 million inhabitants.

**TABLE 2.4.**

DISTRIBUTION OF FEMALES AND PREVALENCE OF ADOLESCENT PREGNANCY ACCORDING TO CONTEXTUAL FACTORS BY CLS ROUND, AND BY ZONE

Contextual factors		2010		2013		2016	
		Distribution	Adolescent pregnancy	Distribution	Adolescent pregnancy	Distribution	Adolescent pregnancy
<b>URBAN</b>							
Size of municipality (population)	Less than 25,000 habitants	4.9%	1.9%	4.6%	3.1%	4.4%	6.9%
	From 25,000 to 1,000,000 habitants	56.6%	1.5%	56.5%	3.4%	51.9%	4.4%
	More than 1,000,000 habitants	38.5%	1.8%	38.9%	2.2%	43.7%	2.4%
	Total	100%	1.62	100%	2.9%	100%	3.6%
Community has a health center	Yes	29.2%	1.8%	24.7%	2.5%	36.8%	4.0%
	No	70.8%	0.6%	75.3%	4.2%	63.2%	4.3%
	Total*	100.0%	0.9%	100.0%	3.8%	100.0%	4.2%
Community has a secondary school	Yes	45.7%	1.4%	37.8%	2.4%	48.6%	4.7%
	No	56.3%	0.4%	62.2%	4.6%	51.4%	3.7%
	Total	100.0%	0.9%	100.0%	3.8%	100.0%	4.2%
N		967		967		967	
*N		542		542		542	
<b>RURAL MICRO-REGIONS</b>							
Size of municipality (population)	Less than 25,000 habitants	32.3%	1.8%	30.2%	2.6%	29.4%	4.4%
	From 25,000 to 1,000,000 habitants	67.7%	3.0%	68.9%	5.0%	68.6%	9.2%
	More than 1,000,000 habitants	0.0%	0.0%	1.1%	0.0%	2.0%	4.9%
	Total	100%	2.58	100%	4.2%	100%	7.7%
Community has a health center	Yes	10.3%	0.5%	7.8%	3.5%	6.3%	5.1%
	No	89.7%	1.0%	92.2%	3.4%	93.7%	7.6%
	Total*	100.0%	1.0%	100.0%	3.4%	100.0%	7.4%
Community has a secondary school	Yes	19.1%	0.3%	17.8%	2.4%	17.9%	6.7%
	No	80.9%	1.1%	82.3%	3.6%	82.1%	7.6%
	Total	100.0%	1.0%	100.0%	3.4%	100.0%	7.4%
N		987		987		987	
*N		686		686		686	

Source: ELCA 2010, 2013, and 2016. Authors' own calculations



**TABLE 2.5.**

LOGIT MODEL FOR THE PROBABILITY OF HAVING A CHILD DURING ADOLESCENCE. MARGINAL EFFECTS.  
FEMALE BETWEEN 15-24 YEARS. URBAN AND RURAL MICRO-REGIONS.

VARIABLE		URBAN			RURAL MICRO-REGIONS		
		Model (1)	Model (2)	Model (3)	Model (1)	Model (2)	Model (3)
		mfy dydx	mfy dydx	mfy dydx	mfy dydx	mfy dydx	mfy dydx
Individual factors	Age	0.007*** (0.001)	0.006*** (0.001)	0.006*** (0.001)	0.008*** (0.001)	0.005*** (0.001)	0.004*** (0.001)
	Marital status (Married, partner, other)	0.254*** (0.061)	0.255*** (0.067)	0.254*** (0.072)	0.120*** (0.032)	0.060** (0.024)	0.056** (0.025)
	Relationship (Head or spouse)	-0.005 (0.004)	-0.002 (0.005)	0.001 (0.008)	-0.004 (0.006)	-0.001 (0.004)	-0.003 (0.002)
	Relationship (other)	0.008 (0.006)	0.001 (0.005)	0.001 (0.005)	-0.002 (0.004)	0.005 (0.005)	0.006 (0.006)
	Education (Basic secondary)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.010*** (0.004)	0.005 (0.004)	0.000 (0.003)
	Education (Middle level or higher)	-0.006** (0.003)	-0.005* (0.003)	-0.003 (0.003)	-0.007** (0.003)	-0.004 (0.002)	-0.004* (0.002)
Interpersonal factors	Type of household (Single parent)		0.004 (0.003)	0.004 (0.003)		0.002 (0.003)	0.000 (0.002)
	Mother's education (Some primary education)		0.005 (0.007)	0.017 (0.014)		0.004 (0.004)	0.000 (0.003)
	Mother's education (Full primary education)		0.008 (0.008)	0.012 (0.011)		0.002 (0.005)	-0.001 (0.003)
	Mother's education (Some secondary education)		0.020* (0.011)	0.031* (0.017)		0.015 (0.012)	0.005 (0.006)
	Mother's education (Full secondary education)		0.019* (0.011)	0.030* (0.017)		-0.002 (0.007)	-0.002 (0.004)
	Mother's education (Higher education)		0.003 (0.008)	0.008 (0.012)			

(Continue...)

**TABLE 2.5.**

LOGIT MODEL FOR THE PROBABILITY OF HAVING A CHILD DURING ADOLESCENCE. MARGINAL EFFECTS.  
FEMALE BETWEEN 15-24 YEARS. URBAN AND RURAL MICRO-REGIONS. (...Continuation).

VARIABLE		URBAN			RURAL MICRO-REGIONS		
		Model (1)	Model (2)	Model (3)	Model (1)	Model (2)	Model (3)
		mfy dydx	mfy dydx	mfy dydx	mfy dydx	mfy dydx	mfy dydx
Interpersonal factors	Family shock (Yes)		-0.002 (0.002)	-0.002 (0.002)		0.002 (0.003)	0.003 (0.003)
	Displacement shock (Yes)		-0.003 (0.003)	-0.002 (0.004)		-0.004 (0.002)	-0.003* (0.002)
	Poorest tertile		0.006** (0.003)	0.004 (0.003)		0.001 (0.003)	0.001 (0.002)
	Richest tertile		0.001 (0.003)	-0.001 (0.003)		0.002 (0.003)	0.002 (0.003)
	Size of household (Number of people)		0.001** (0.001)	0.001** (0.001)		0.000 (0.000)	-0.000 (0.000)
Contextual factors	Municipality (25,000 to 1 million)			0.002 (0.003)			-0.002 (0.002)
	Municipality (4 main cities)			-0.000 (0.004)			
	Health center in the community (Yes)			0.001 (0.003)			-0.003 (0.002)
	Secondary school in the community (Yes)			-0.006** (0.003)			-0.001 (0.002)
	Observations	3.857	3.552	3.064	4.122	2.146	1.931

Standard errors in brackets

\*\*\* p<0.01. \*\* p<0.05. \* p<0.1

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

For the group of variables belonging to the interpersonal factor, it can be seen that the level of wealth has a positive effect on the probability of early pregnancy in urban areas but not in rural micro-regions. This could be related to the evidence from available studies, which indicates that in these urban areas there is a higher level of average wealth but also a higher level of inequality; in rural areas there is more poverty but they are more homogeneous. Contrary to what would have been expected, the mother's education does not show important effects on rural micro-regions; however, there is a positive effect for urban areas.

For the group of variables relating to the contextual factor: there being a secondary school in the community in which the female lives has a negative effect on the probability of early pregnancy, but only in urban areas.

In summary, the results from the models that take a longitudinal approach are consistent with the results from previous studies that highlight the importance of marital status, the female's level of education, and the household's level of wealth in terms of early motherhood. Moreover, the supply of services is important, especially in terms of education, which translates into a greater opportunity to attend a school and, thus, lesser probability of early pregnancy.



→ As a child, Daniela Cruz Rodríguez dreamt of becoming a model, but her dreams have changed over time. She now wants to be a football player or go to university. She lives in Simijaca (Cundinamarca).

The results indicate that in both the urban areas as well as the rural micro-regions, the set of individual factors (the female's age, civil status, and education level) are variables that have significant effects.

## 2.5. CONCLUSIONS

The information from the ELCA allows us to carry out a first longitudinal approximation for factors associated with early pregnancy in Colombia. The data show, as do other surveys (MinSalud - Profamilia, 2017), a reduction in the prevalence of adolescent pregnancy over time. Although it has been reduced in younger cohorts, there is a greater prevalence in the rural micro-regions than in urban zones; this is lower the higher the young person's level of education, and in urban zones the better living conditions (measured by wealth index) reduce the probability of pregnancy before the age of twenty.

These results reinforce other studies' findings, and this is important to be able to generate public policy based on evidence to reduce the prevalence of early pregnancy for young people. Prevention

strategies and the creation of protective environments should be different depending on the zone in which they are implemented due to the prevalence in rural micro-regions. Additionally, factors such as education that help to prevent the phenomenon should be given priority, not only to increase school attendance but also due to the positive benefit that a higher level of education has on young people.

These conclusions should be analyzed taking into account the limitations of the model and the analysis that this chapter presents. These limitations are associated with: topics that are not included in this survey as the sample includes all the females that are part of the panel data and not only those who are part of the follow-up. Regarding the topics not taken into a count, lacking information on distal factors of fertility (beginning of sexual relations and use of contraceptive methods) it can only be

observe the direct effects of these. For the sample used, we do not have complete information for all females; those who were included in the follow-up were asked more questions than the context group, for example: when they first got married, interaction with parents, habits, expectations, and health conditions.

The results presented in this chapter are, therefore, an approximation. We hope that this is a first step towards more comprehensive exercises that can be undertaken with this vast amount of longitudinal information. Finally, the next round of the ELCA is an opportunity to not only have more information that allows proximal factors of fertility to be analyzed -such as sexual relations and the use of contraceptives-, but it also presents the possibility to carry out research on both early pregnancy and on early parenthood.

Prevention strategies and the creation of protective environments should be different depending on the zone in which they are implemented due to the prevalence in rural micro-regions. Additionally, factors such as education that help to prevent the phenomenon should be given priority, not only to increase school attendance but also due to the positive benefit that a higher level of education has on young people.

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→ Yondó [Antioquia] lies opposite to Barranca on the other side of the Magdalena River. This is where the Palacios Campo family looks for farm work.





→ 2017. Elva Marina Santander Morales, a teacher, walks the streets of Nuevo Gramalote (Norte de Santander), where she will be given her new house.



## CHAPTER 3

# MIGRATION IN ELCA: WHO MIGRATES, WHY, AND WHAT ARE THE POTENTIAL BENEFITS?

JULIÁN ARTEAGA  
ANA MARÍA IBÁÑEZ



→ In December 2010, the rainy season caused a fault which destroyed Gramalote (Norte de Santander). Today, the only thing that remains standing among the ruins is the church's tower.

→ Colombia is truly a country in movement. Between 2010 and 2016, more than a fifth of households interviewed in the three rounds of the Colombian Longitudinal Survey by the Universidad de los Andes (ELCA) migrated at least once to another municipality or rural municipal settlement. The high rates of immigration from ELCA households are characteristic of Colombia. Lucas (2015) estimates that the percentage of migrants in the world and Latin America is 11.7% and 18%, respectively. In Colombia, this figure reaches 36.3%: one of the highest in the world.

Migration is an option and a strategy that households use to try to overcome poverty, mitigate the impact of negative shocks, seek better opportunities, and escape violence. The flow of migrants from rural to urban areas are also part of the country's economic development process. The high wage gaps between the urban and rural areas, the better opportunities, and the better social services that cities offer attract migrants who contribute to making labor markets more dynamic, increasing the demand for goods, progressing to more advanced stages of economic development, and ultimately the growth of the country (Lucas 1997).

This chapter analyzes ELCA household migration in 2010, 2013, and 2016. It first examines the households' migration strategies and the characteristics of the migrants and then examines the potential returns of migration and how they are related with the migration strategy and the change in the occupational sector.

ELCA offers a unique opportunity to analyze and understand why there are high rates of migration, the characteristics of migration, and their potential consequences. A six-year follow up of the same households allows for the same families to be spatially monitored -as they move throughout Colombia- as well as identify what factors can explain the decision to migrate, and evaluate their conditions both before and after migrating. Until now, no Colombian survey has allowed for a detailed follow-up of migration, which has consequently limited understanding of the causes and its returns. Cross-sectional surveys, for example, do not allow it to be established if the higher income from a migrant household is because of the migration or if the migration happens because the household has a higher income, which works as a facilitating factor. As ELCA collects information both before and after the migration, this permits the causes and consequences of the migration to be untangled. This chapter undertakes a primary descriptive exploration into these topics.



→ Gladys Campo is 68 years-old and has been displaced due to violence. She came to Barrancabermeja with her eight children at the end of the 1980s. She appears in the photo with one of her granddaughters.

ELCA offers a unique opportunity to analyze and understand why there are high rates of migration, the characteristics of migration, and their potential consequences. A six-year follow up of the same households allows for the same families to be spatially monitored -as they move throughout Colombia- as well as identify what factors can explain the decision to migrate, and evaluate their conditions both before and after migrating.

### 3.1. MIGRATION BETWEEN 2010 AND 2016: RATES, DESTINATIONS, AND POSSIBLE REASONS

This chapter concentrates on two types of migration: migration as investment and migration to mitigate shocks. Migration can be seen as an investment strategy motivated by the expectation of increasing wages in the destination. This decision involves migrating to regions with work opportunities, which are generally located in the country's urban areas, and, required investments to finance the cost of the move and the cost of living in the new location before finding work. As such, low-income houses that have restricted access to financial markets cannot resort to this strategy despite the high long-term returns and the added benefits to the country's economy (Munshi & Rosenzweig 2016).

Furthermore, migration can be a strategy to mitigate the negative consequences brought about by shocks such as extreme climatic events, the loss of a harvest, or unemployment (Kleemans 2014). After having faced a reduction in their income due to an adverse shock, some -or even all members- of the household can migrate to compensate the decline in its income. As the homes are facing precarious situations, this type of migration is usually shorter in duration, to closer destinations, and there are generally less returns. Families resort to this type of migration due to a lack of more efficient risk-



→ Gladys Campo has been a victim of forced displacement twice in her life: the first because of her poverty in Cauca in the 1960s and the second due to paramilitary violence in the Magdalena Medio area in the 1980s.

management mechanisms such as access to financial markets or formal insurance. Thus, greater access to financial markets or insurance will reduce migration to mitigate shocks and promote investment migration.

ELCA's rural sample shows high rates of migration. One out of every three homes moved to another municipality or rural municipal settlement at least once in the period between 2010-2016 (see Table 3.1). By 2013, 20.2% of households had migrated

since 2010: three quarters to another rural area -either another rural municipal settlement within the same municipality or in another municipality- and a third to urban areas. These percentages are similar in 2016: 21% of households migrated between 2013 and 2016, 65% of which migrated to rural areas and 35% to urban areas.

Migration was primarily between rural areas; this type of migration to similar and close rural areas is low cost, but probably produces low returns. It is probable that rural-rural migration is a response to negative shocks that the household had to confront while migration to urban areas is motivated by searching for better opportunities; this will be explored in the following paragraphs.

One group of households is highly mobile and migrated in both periods. 31.3% of rural ELCA households migrate, and from this number, 31.4% migrate in two periods. Between 2013 and 2016, a third of those who migrated in the two periods returned to the municipality they left in 2010. These figures suggest that, for a significant number of households, migration could be a relatively recurrent decision in the search for a better standard of living.

Urban households migrate substantially less frequently: close to 9% of urban households that were surveyed in the three rounds changed residence to another municipality<sup>1</sup> on at least one occasion. The majority of these moves (81% in 2013 and 77.4% in

1. Unlike the definition for the rural sample, the urban households that moved to another community within the same municipality are not considered to have migrated.

**TABLE 3.1.**  
RATES OF PERMANENT MIGRATION

A. Rural Households	Number of Households	
Total	4.287	
Migrants 2013	864	20,15%
Rural	653	75,58%
Urban	211	24,42%
Migrants 2016	901	21,02%
Rural	586	65,04%
Urban	315	34,96%
New Migrants 2016	479	11,17%
Total Migrants 2010-2013-2016	1.343	31,33%
Migrants in 2013 who migrate once again	422	31,42%
Migrants in 2016 who return	128	14,21%
Return/ who migrate once again		30,33%
B. Urban Households	Number of Households	
Total	4.131	
Migrants 2013	212	5,13%
Rural	41	19,34%
Urban	171	80,66%
Migrants 2016	226	5,47%
Rural	51	22,57%
Urban	175	77,43%
New Migrants 2016	161	3,90%
Total Migrants 2010-2013-2016	373	9,03%
Migrants in 2013 who migrate once again	65	17,43%
Migrants in 2016 who return	28	12,39%
Return/ who migrate once again		43,08%

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

2016) were to other urban areas. Although they are less frequent than in the rural sample, they tend to move significantly larger distances. The high level of migration to other urban areas suggests that the principal objective of urban household migration is based on investment decisions rather than mitigating shocks. This could be the result of the urban population having less economic restrictions as they have higher income and more access to credit markets. However, it is curious that around 20% of urban migrants move to rural areas; the motive for these households' migration is unclear. It could be that they were originally rural households that temporarily migrate to urban areas to mitigate shocks, and they are returning to their municipality of origin. This chapter does not answer these questions; however, the following paragraphs do explore possible reasons for the migration strategies that all households take.

In addition to permanent migration, some people migrate temporarily and then return home. Temporary migration is defined in the survey as a move by any member of the household to another municipality for a period of more than six months. When one of the members of the household is sent to another place for a short period of time, the households reduce risk and ensure relatively stable levels of income as they diversify the opportunities and the probability of shocks happening (Stark & Bloom 1985). The rates of temporary migration for ELCA's urban and rural sample are shown in Table 3.2. This rates oscillate between 3.5% for urban households

in 2016 and 8.7% for rural households in 2013. On average, this type of temporary migration lasts for between 15 and 19 months. The two main reasons for temporary migration are, according to answers from both rural and urban household, the search for work opportunities, and the head of the household and their spouse separating.<sup>2</sup> Moreover, the search for better opportunities to study is the reason for temporary migration for around 14% of rural migrations and 5% of urban migrations. The armed conflict was a reason for temporary migration for about 7% and 5.4% of urban and rural homes, respectively.

Based on the georeferenced locations of the homes in each of the rounds, it is possible to estimate the linear distance that separates a household from its place of residence three years ago. The averages are presented in Graph 3.1. Rural households migrate shorter distances than urban households; for example, between 2013 and 2016, the average distance of rural households that migrated to urban areas was 70 km, but for urban households it was 89 km. As is mentioned in previous paragraphs, the households from the rural sample primarily migrate to rural areas, and these migrations are generally to places that are close by. For the period between 2010 and 2013, the average distance of rural migrations to other rural areas was 8.9 km, and between 2013 and 2016 it was 15.1 km.

The maps in Figure 3.1 illustrate the migration of these households and the changes in their spacial

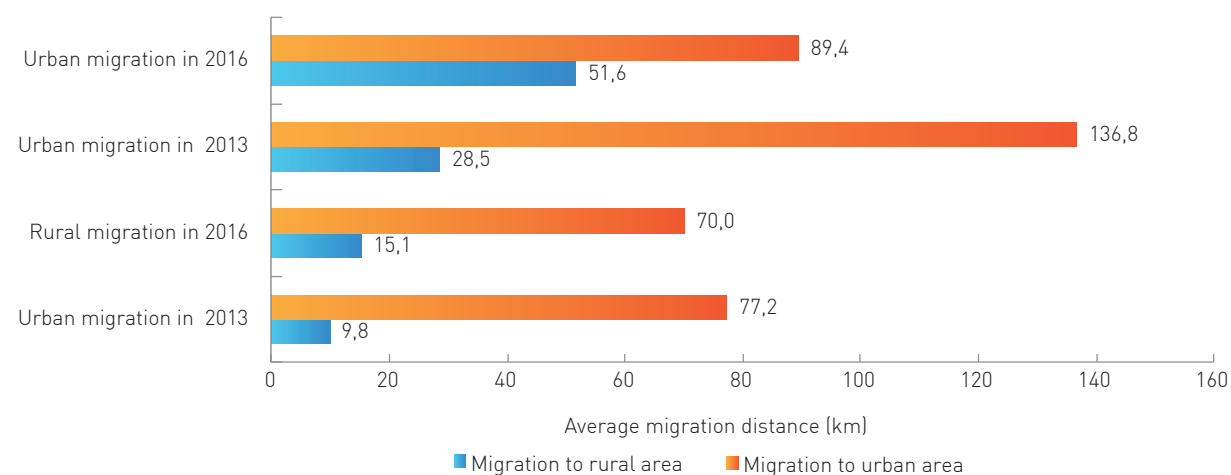
**TABLE 3.2.**  
RATES OF TEMPORARY MIGRATION

	Rural Households	Urban Households
Temporary household migration between 2010 and 2013	8,74%	5,39%
Average migration duration (Months)	18,88 (9,75)	18,95 (10,30)
Temporary household migration between 2010 and 2013	6,62%	3,46%
Average migration duration (Months)	16,6 (9,47)	15,26 (9,00)

Standard deviation in brackets

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

**GRAPH 3.1.**  
MIGRATION DISTANCES TRAVELED

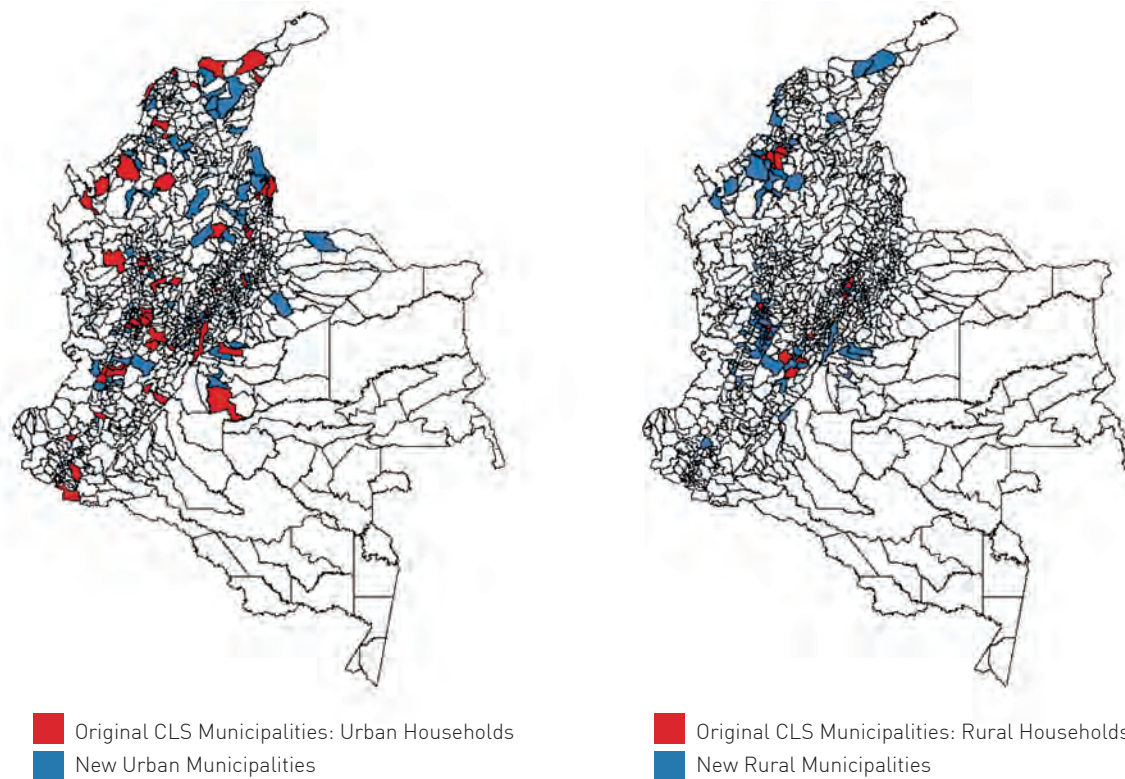


Source: ELCA 2010, 2013, and 2016. Authors' own calculations

.....→

2. To calculate these percentages, the option to move house was eliminated as this only happens when the head of the household migrates.

**FIGURE 3.1.**  
ELCA MUNICIPALITIES



distribution throughout the six years; we can arrive at four conclusions from these maps. First, this distribution corroborates that urban migration is less frequent and covers larger distances than rural migration. Households from the urban sample have scattered throughout the whole country; however, the municipalities of origin in 2010 are usually gravitational centers for migration. Second, the long-distance migrations are almost all to urban zones. Very few households incur the costs of moving so far from their original home to move to a rural area. Third, rural households seem to be more restrained in their migration. These households usually move to closer rural areas, and, when they migrate to urban areas, it is to close municipalities near the original rural municipal zone. Therefore, the map shows a dispersion that centers around the original municipalities in the 2010 sample.

### 3.2. WHO MIGRATES?

Migration strategies –their frequency, destination, and distance– suggest that households have different motives. Migration could be an effective strategy to increase the household’s income, to diversify risk, or to mitigate the impacts from negative shocks. The high risks associated with agricultural output, and the general lack of credit and insurance markets in rural regions can explain why there are high rates of rural to rural migration. Thus, this section seeks to characterize the migrants and evaluate if –in comparison with those

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

households that decide not to migrate- there are differences in their conditions previous to migrating that allow for the migration to be explained.

In order to identify migrants' profiles, we estimate the probability of migrating between 2010 and 2013 -controlled by household characteristics in 2010- and, also, the probability of migrating between 2013 and 2016 -controlled by household characteristics in 2013-. These estimations identify the correlations between household characteristics and the probability of migration. Tables 3.3 and 3.4 show the results from the estimations for the marginal effects that each variable has on the probability of migration.

Rural migrants are, more probably, households that have male heads, more young people, and lower education levels. Also, they are households with higher wealth indexes and with a lower frequency of problems related to accessing credit. Reporting problems accessing credit is associated with a 5.4% lower probability of migrating. This result suggests that financial restrictions could be an obstacle for rural households to migrate.

The profile of urban migrants is similar: households that have male heads and young members. The probability of migrating does not seem to be correlated with the work conditions of the head or their spouse. However, it is important to be cautious with the results as the urban sample of migrants is small, which reduces how precise the indicators are and the capacity to make statistical inferences.



→ Luis Eduardo Palacios is 72 and lives in Barrancabermeja. When his health allows, he works as a security guard or in other jobs such as a transportation assistant.

**TABLE 3.3.**  
**PROBIT: MARGINAL PROBABILITY FOR RURAL HOUSEHOLDS**

	Migration between 2010 and 2013	Migration between 2013 and 2016
Number of people between 0 and 5	0.0318*** (0.00870)	0.0286*** (0.0106)
Number of people between 6 and 17	-0.00118 (0.00550)	0.0103* (0.00583)
Number of people between 18 and 65	-0.0217*** (0.00716)	-0.00420 (0.00840)
Number of people higher than 65	-0.0336** (0.0142)	-0.00766 (0.0142)
Female head of the household	-0.0454*** (0.0167)	-0.00523 (0.0181)
Age head of the household	-0.000714 (0.000636)	-0.00299*** (0.000659)
Highest household education (years)	0.000978 (0.00246)	-0.00721*** (0.00262)
Total consumption (millions per year)	-0.000351 (0.00142)	-0.000304 (0.00185)
Household suffered a shock between the two waves	-0.0140 (0.0159)	0.0358** (0.0158)
Suffered a natural disaster between the two waves	-0.0824*** (0.0155)	0.0291 (0.0438)
Suffered a drought between the two waves	-	-0.121*** (0.0158)

(Continue...)

The households that are members of organizations are 1.8% less likely to migrate; coming from a municipality with less than 20,000 inhabitants means that the household is 3.7% more likely to migrate.

The previous results also allow us to explore the relationship between the incidence of negative shocks and the decision to mitigate these shocks. These results are not causal, but they suggest potential causal relationships that could be explored in future research. Having suffered a natural disaster in the past three years is associated with a lower probability of migrating for both rural and urban homes (see tables 3.3 and 3.4). More specifically, rural households that have encountered extreme climatic events caused by La Niña (wetter than normal conditions) between 2010 and 2013, and by El Niño (droughts) between 2013 and 2016 show less probability of migrating. Having encountered wetter than normal conditions in 2010 and 2013 is associated with an 8.2% reduced probability of migrating than those who did not. In turn, rural homes that have suffered from problems relating to drought between 2013 and 2016 had a 12.1% less probability of migrating. The lower probability of rural households migrating due to extreme climatic shocks can be the result of a considerable drop in their income and some serious financial restrictions that impede them from migrating. Moreover, suffering from any other type of shock is correlated with a higher probability of migrating for both samples, which suggests migrating to mitigate shocks. However, as will be explained in the following sec-



**TABLA 3.3.**

PROBIT: MARGINAL PROBABILITY FOR RURAL HOUSEHOLDS (...Continuation).

	Migration between 2010 and 2013	Migration between 2013 and 2016
Covariated violence shocks between the two waves	0.0301* (0.0168)	0.00696 (0.0187)
Standardized size of land	-0.00117 (0.00418)	0.00370 (0.00333)
Sale of land	-0.0686 (0.0469)	0.0728 (0.0528)
Invested in land	-0.0141 (0.0274)	-0.0205 (0.0229)
Member of an organization	-0.00209 (0.0150)	-0.0149 (0.0153)
Wealth index	-7.29e-05 (0.00305)	0.0145*** (0.00484)
Community wealth index	0.0138*** (0.00389)	0.00239 (0.00408)
=1 if there is a problem gaining access to credit	-0.0538*** (0.0145)	-0.00170 (0.0151)

Standard errors in brackets. \* p&lt;0.10, \*\* p&lt;0.05, \*\*\*p&lt;0.01

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Rural migrants are, more probably, households that have male heads, more young people, and lower education levels. Also, they are households with higher wealth indexes and with a lower frequency of problems related to accessing credit.



→ Rodrigo Octavio Ballesteros in 2017 with his two children Sara (12 years-old) and Cristián Ballesteros (8 years-old). They dream about skating and practice to make this a reality. Their dream is to compete in national competitions.

tions, there is an important heterogeneity in the relationship that exists between this probability and the occurrence of different types of shocks.

By disaggregating the different types of shocks from which households could suffer, important differences can be seen in the correlation with the probability of migrating in the following wave. Graph 3.2 shows the marginal effect that each type of shock has on the possibility of migrating. The results are only statistically significant for the rural sample, and, as such, we only include these results. Suffering a shock relating to production, defined as the

**TABLE 3.4.**  
**PROBIT: MARGINAL PROBABILITY FOR URBAN HOUSEHOLDS**

	Migration between 2010 and 2013	Migration between 2013 and 2016
Number of people between 0 and 5	-2.29e-06 (0.00431)	0.0156*** (0.00464)
Number of people between 6 and 17	0.00255 (0.00264)	0.00129 (0.00354)
Number of people between 18 and 65	-0.00517* (0.00280)	-0.00392 (0.00321)
Number of people higher than 65	-0.0202** (0.00886)	-0.0129 (0.0101)
Female head of the household	-0.0133* (0.00732)	0.00315 (0.0115)
Age of head of the household	-0.000404 (0.000324)	-0.000677 (0.000446)
Highest household education (years)	0.00102 (0.00102)	-0.000802 (0.00156)
Head of the household employed	-0.00682 (0.0113)	0.0117 (0.0113)
Head of the household unemployed	-0.00300 (0.0130)	0.0189 (0.0278)
Spouse employed	-0.00543 (0.00739)	0.00573 (0.0109)
Spouse unemployed	0.00308 (0.0134)	0.0182 (0.0203)

(Continue...)

bankruptcy or closure of a family business and the loss of crops or animals is associated with a lower probability of between 11% and 15% of migrating for rural households. Additionally, having experienced a natural disaster or a drought –two types of shock that also result in the loss of assets– is associated with a lower probability of migration. It is possible that these shocks limit the ability for rural households to migrate as they directly reduce their amount of savings and restrict the liquidity that is available. This is constant with the average distances of migration for type of shock that is shown in Graph 3.3. The distance traveled by the migrants who suffer from these three types of shocks is substantially less than that of the migrants who do not suffer from any shock: the homes that suffer these shocks and migrate move to closer places, probably to temporarily mitigate the impact of the shock. Conversely, shocks such as the loss of a job, the death or illness of a member of the household, or a violent event in the community tend to be associated with a higher probability of migration and migrating a longer distance.

Investing in migration predicts that the highest earning households and the ones that have less financial restrictions are more likely to migrate. Graphs 3.4 and 3.5 present a first examination of this; they illustrate the rate of migration of rural and urban households, respectively, by quintile of consumption for both periods (between 2010 and 2013 and between 2013 and 2016). Rural migrants

**TABLE 3.4.**  
**PROBIT: MARGINAL PROBABILITY FOR URBAN HOUSEHOLDS** (...Continuation)

	Migration between 2010 and 2013	Migration between 2013 and 2016
Total consumption (millions per year)	0.000311 (0.000192)	0.000120 (0.000319)
Household suffered a shock between the two waves	0.0156** (0.00648)	0.0145* (0.00760)
Suffered a natural disaster between the two waves	-0.0154** (0.00718)	-0.0324*** (0.00746)
Covariated violence shock between the two waves	0.00577 (0.00837)	0.00339 (0.00796)
Member of an organization	-0.0185*** (0.00688)	-0.00587 (0.00906)
Wealth index	-0.00162 (0.00147)	0.00185 (0.00210)
Population of the municipality less than 20,000	0.0365* (0.0201)	0.0428* (0.0241)
Population of the municipality between 20,000 & 100,000	0.00534 (0.0142)	0.0445** (0.0226)
Population of the municipality between 100,000 & 700,000	0.00468 (0.0128)	0.0231 (0.0170)
Population of the municipality between 700,000 & 3,000,000	-0.00942 (0.0124)	0.0128 (0.0164)
Population of the municipality greater than 3,000,000	-	-

Standard errors in brackets.\* p↓0.10, \*\* p↓0.05, \*\*\*p↓0.01

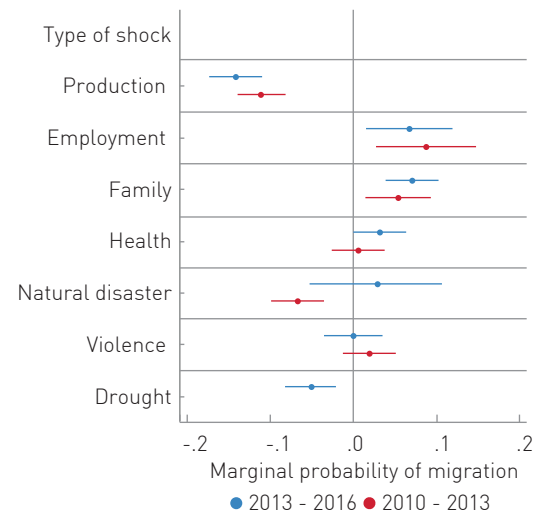
Source: ELCA 2010, 2013, and 2016. Authors' own calculations

are frequently located in the three higher quintiles of consumption, a trend which becomes more marked in the second period (2013 and 2016). This is consistent with the idea that migration implies costs and that households with severe cash restrictions can see themselves as being restricted from migrating, even if it would be beneficial to do so. In turn, although there is less variation between quintiles, urban migration is, conversely, more frequent in the lower part of the consumption distribution, and it is less likely in the middle part of the distribution. This suggests that there could be less economic restrictions in urban areas than in rural areas. Similarly, in urban areas, it is mainly the households that face the most difficulties that decide to move.

### 3.3. POTENTIAL BENEFITS OF MIGRATION: CHANGES IN AGGREGATE CONSUMPTION

Migrating can generate economic returns. In order to explore the potential returns on migration, this section analyzes how ELCA's households' aggregate consumption has changed within the following periods 2010 to 2013 and 2013 to 2016 and then compares this evaluation between migrants and non-migrants. The panel nature of the data allows us to estimate the returns that, if they are not causal, control for non-observable household characteristics that could explain both the migration

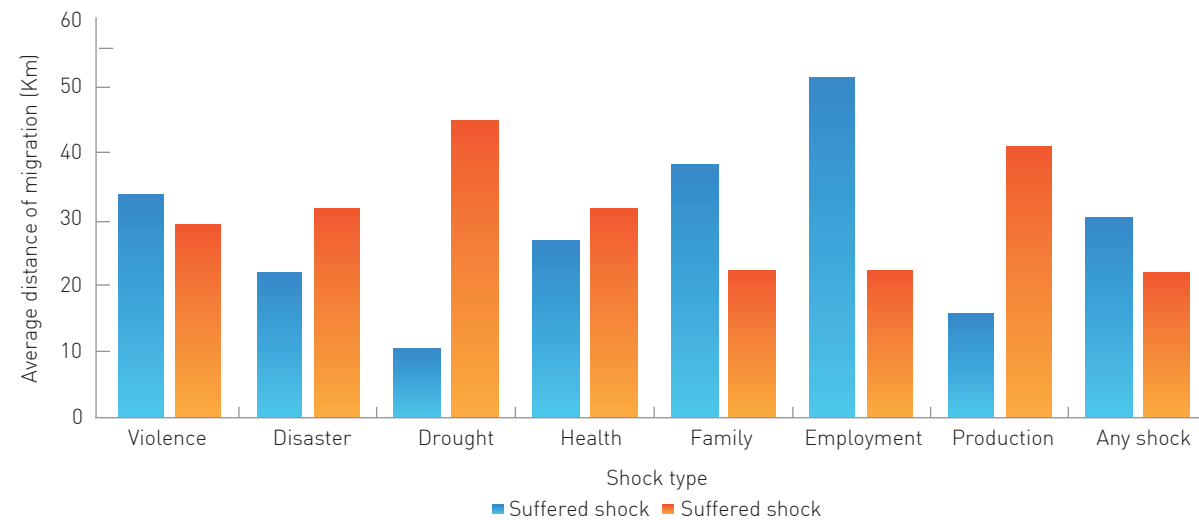
**GRAPH 3.2.**  
MARGINAL PROBABILITY OF MIGRATION AC-  
CORDING TO TYPE OF SHOCK: MARGINAL EFFECT



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

and the increase in consumption. When the same household is compared over time, the possibility is reduced that the decision to migrate and the variations observed in consumption are simultaneously due to the household's particular features. For example, more entrepreneurial households may be more likely to migrate and to have bigger growth in consumption. This comparison allows us to con-

**GRAPH 3.3.**  
TYPES OF SHOCKS AND DISTANCE MIGRATED FOR RURAL HOUSEHOLDS



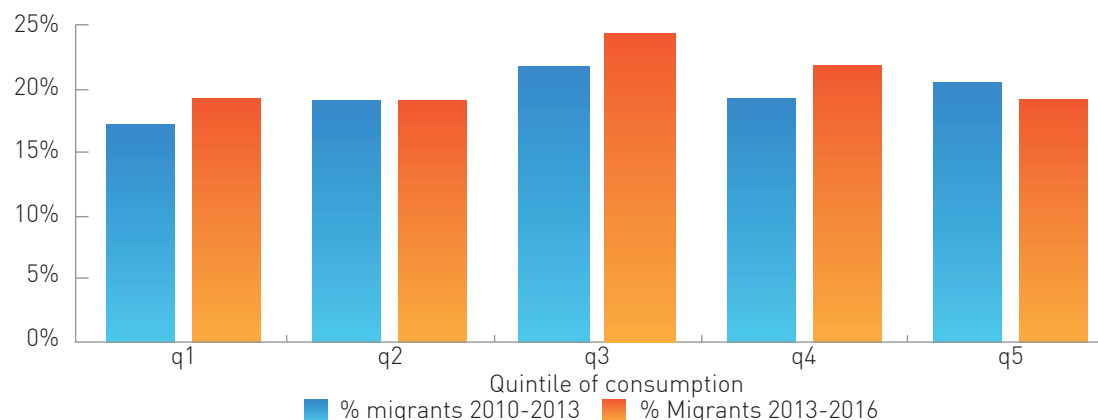
Source: ELCA 2010, 2013, and 2016. Authors' own calculations

trol for the household characteristics that do not change over time and attribute the change in consumption to most likely be due to migration.

Graphs 3.6 and 3.7 present the coefficients obtained when estimating a series of regressions that associate the changes in consumption with migration. Regressions are estimated for: (i) household mi-

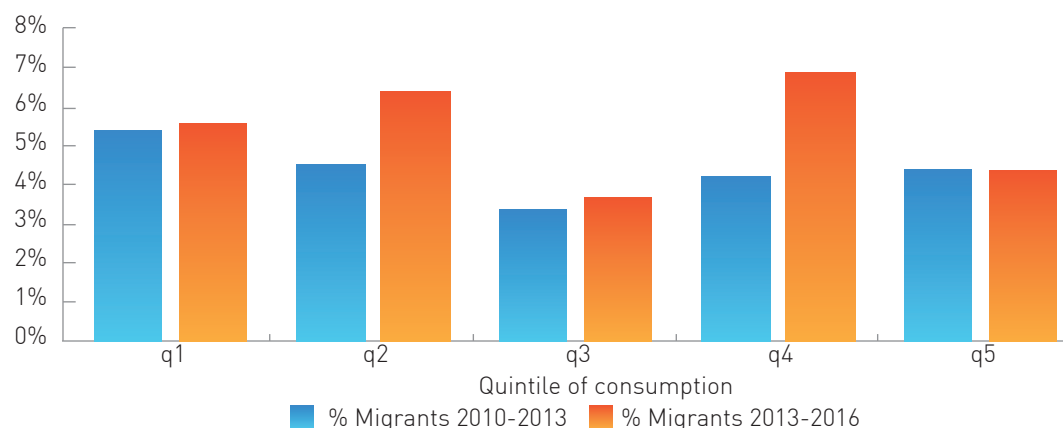
gration, (ii) rural migration to another municipality, (iii) rural migration to a rural municipal settlement within the same municipality (for the rural sample), and (iv) urban migration. These regressions control for fixed household effects: in other words, they eliminate all the non-observable household characteristics that explain changes in consumption and migration and observable household characteristics

**GRAPH 3.4.**  
MIGRATION RATES BY QUINTILE OF CONSUMPTION: RURAL HOUSEHOLDS



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

**GRAPH 3.5.**  
MIGRATION RATES BY QUINTILE OF CONSUMPTION: URBAN HOUSEHOLDS



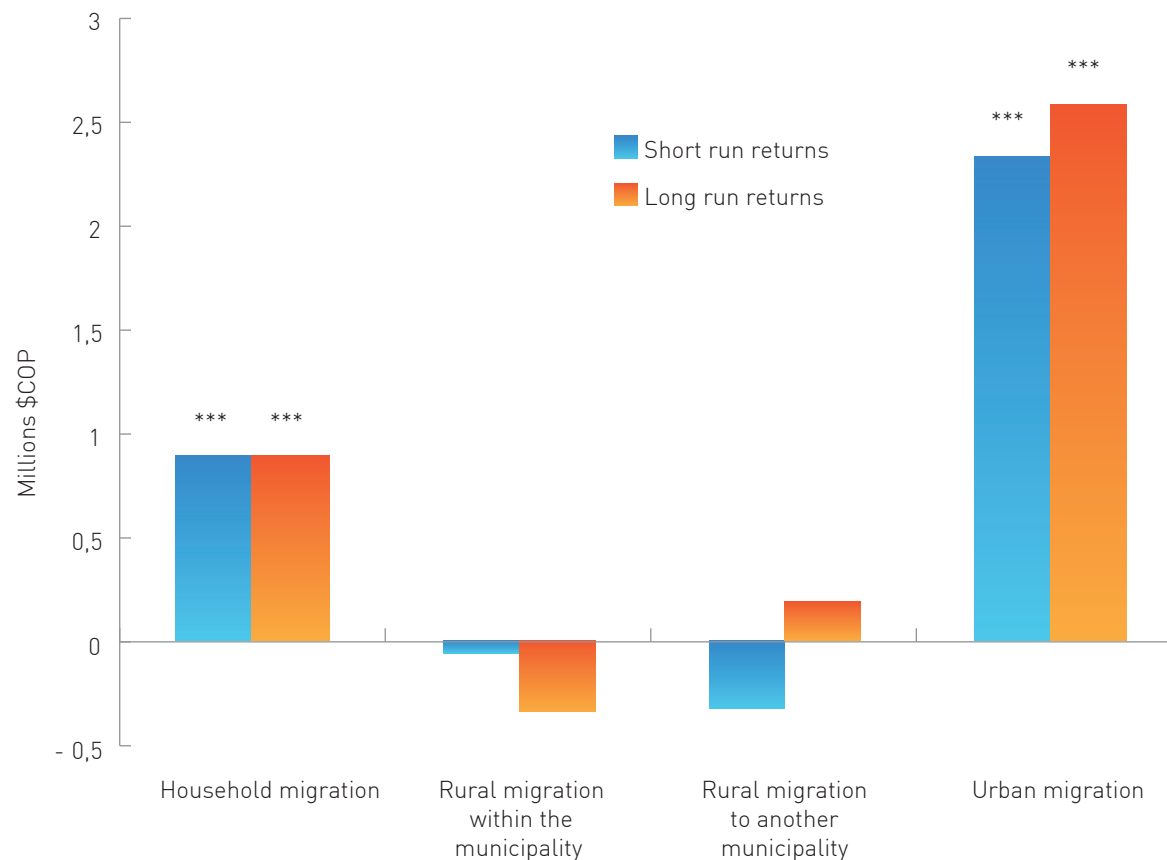
Source: ELCA 2010, 2013, and 2016. Authors' own calculations

that change between periods. The graphs report two estimations: (i) potential short-term returns (measured as changes in consumption between 2010 and 2013 and 2013 and 2016) and (ii) potential long-term returns (measured as the changes in consumption for 2016 for those who migrated between 2010 and 2013). These coefficients do not try to identify a causal relationship, but they do suggest the potential returns of migration.

The potential returns for rural households are presented in Graph 3.6. Migration is associated with an increase in short-term consumption that was a little less than COP \$900,000 in 2016, or an increase in 10% compared to the aggregate consumption in 2010. The potential long-term returns are similar, which shows that the benefits of migration do not seem to have been strengthened over time. However, this average hides important differences in the potential returns of migrating in accordance with the migration strategy. The positive returns are marked by migration to urban areas. This migration is associated with increases in consumption that are not insignificant: the increase in average aggregate consumption between one round and the next for migrating households is 2.34 million pesos. This increase represents 26% of average annual income in rural areas in 2010.

This difference in consumption is not only sustained over time; however, it marginally increases when evaluated in 2016. In other words, the increase in consumption for migrating households continues in the long-term. Migrating to another rural area,

**GRAPH 3.6.**  
CHANGE IN ANUAL CONSUMPTION: RURAL HOUSEHOLDS



Standard errors in brackets. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

either in the same or to another municipality, does not generate significant increases in consumption compared to non-migrants. In fact, the coefficients for the potential short-term returns are negative, but not significant. Zero or negative returns could be the result of migration that was undertaken to mitigate the negative effects of shocks.

These differences in returns on migration are consistent with the two types of migration that are presented in this chapter. Those households that manage to save enough to invest in moving to urban areas manage to improve their income level while the homes that migrate to rural areas - generally close to their original home - presumably do this as the result of an adverse situation and with the purpose of stabilizing their income at the level it was prior to the shock.

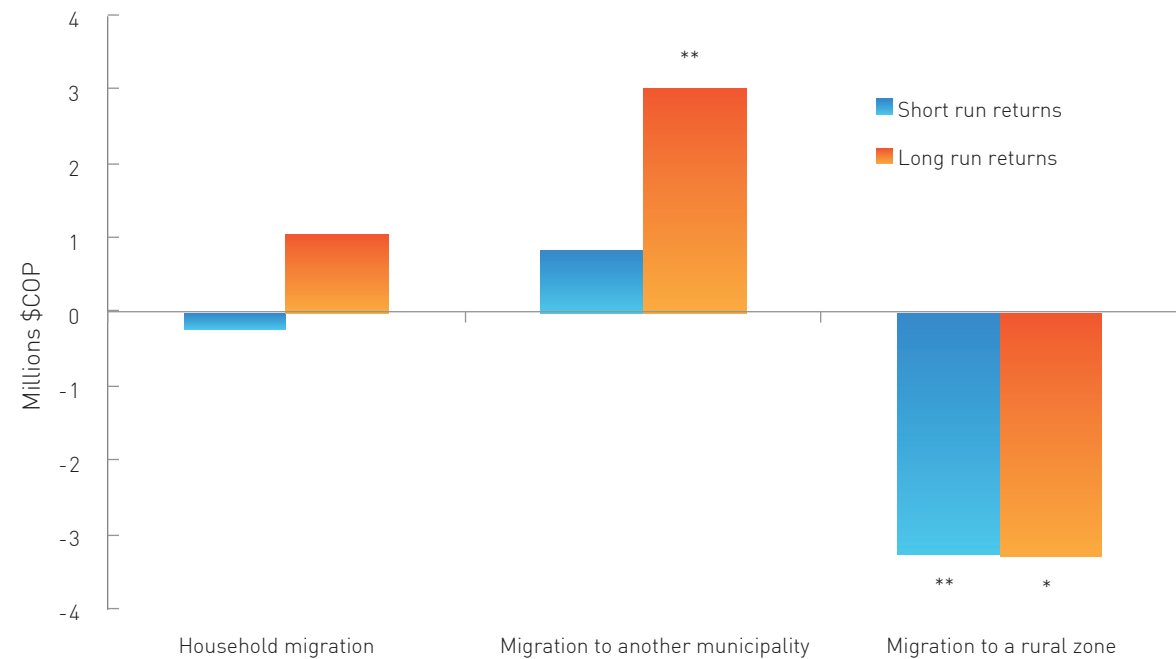
The potential returns on migration for urban homes are not statistically significant. These returns are, on average, only positive in the long-term and when the destination is another urban area. This type of migration is associated with increases in consumption which were annually around \$3 million pesos in 2016 (a 17% average level of consumption in 2010). Conversely, urban homes that migrate to a rural area have significant decreases in their annual aggregate consumption, which are maintained over time. These decreases are substantial: \$3 million pesos in 2016. If there are a proportion of homes that migrate from urban to rural areas which con-

stitute around 1% of the total number of urban homes, it could be of interest to examine the possible causes of this particular type of migration as it does not conform to traditional explanatory models and there is no relation with clear benefits.

Graphs 3.8 and 3.9 illustrate how the different migration decisions generate divergent consumer tendencies for both homes in urban and rural zones. Two important conclusions can be derived from these figures. First, the households that migrate to urban areas increase their consumption more than non-migrants, and these differences deepen over time, which significantly increases the gap between non-migrants and those who decide to go to urban areas. Second, migrants to rural areas show a pattern of aggregate consumption that is very similar to non-migrants from rural homes or worse than non-migrants from urban homes.

Graph 3.8 and 3.9 suggest that there are two different groups of migrants. The first consists of the families who migrate to urban areas, larger distances, and that appear to get positive returns from migration. These returns are either maintained or are increased in the long-term: which means that

**GRAPH 3.7.**  
CHANGE IN ANUAL CONSUMPTION: URBAN HOUSEHOLDS



Standar Errors: \* p<0,10, \*\* p<0,05, \*\*\*p<0,01

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Those households that manage to save enough to invest in moving to urban areas manage to improve their income level while the homes that migrate to rural areas -generally close to their original home- presumably do this as the result of an adverse situation and with the purpose of stabilizing their income at the level it was prior to the shock.

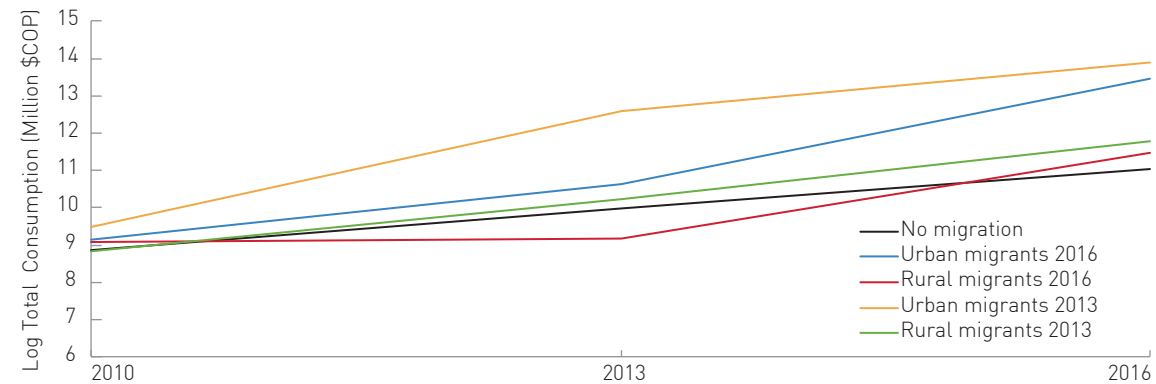
there are even more differences with the group of non-migrants. The second is the group of families that migrate to rural areas, short distances, and that potentially gain no returns or, in some cases, negative returns from migration. It is likely that these families migrate to mitigate the impact of negative shocks.

### 3.4. POTENTIAL RETURNS FROM MI- GRATION: CHANGING OCCUPATION A POSSIBLE REASON

What could explain the positive changes in consumption from migration to urban areas? Is this the result of the urban-rural wage gap? Does this type of migration allow people to be employed in jobs with higher wages (Beegle, Weerdt & Dercon. 2011)? This section provides a primary analysis of these questions.

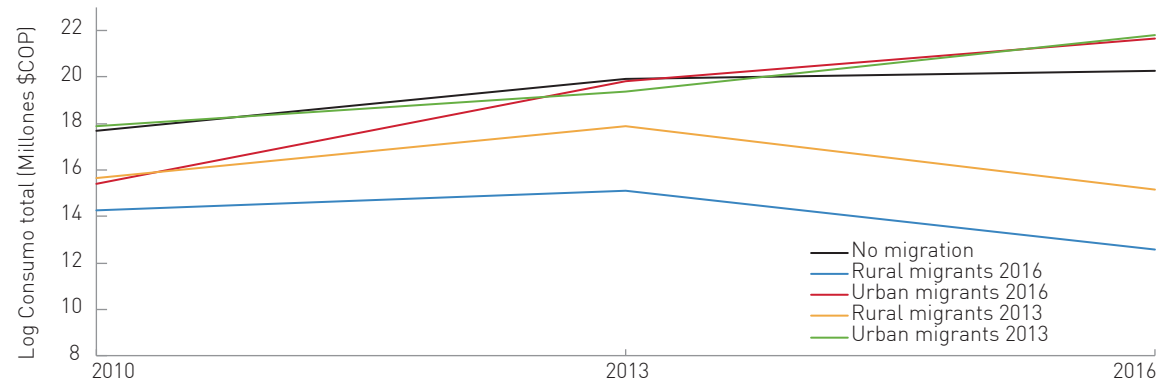
Migration often takes place together with the members of the household changing their occupational sector. Table 3.5 shows the change in the economic sector in which the migrant and non-migrant heads of the households are employed between 2013 and 2016. Migration seems to quicken the shift from the agricultural sector to other sectors. In the case of rural homes, 23.2% of the migrant heads of the households leave the farming sector for other occupations while the proportion of non-migrant homes that make this change

**GRAPH 3.8.**  
EVOLUTION OF ANUAL AGGREGATE CONSUMPTION: RURAL HOUSEHOLDS



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

**GRAPH 3.9.**  
EVOLUTION OF ANUAL AGGREGATE CONSUMPTION: URBAN HOUSEHOLDS



Source: ELCA 2010, 2013, and 2016. Authors' own calculations



is only 10.7%. In the urban zone, the proportion of migrant households whose head changes from the farming sector to mining, the manufacturing industry, or the service sector is significantly greater than for the non-migrant households. This could be explained by the notable difference that there between these two groups, even before migration, due to the proportion of households that are linked to the farming sector. In any case, comparing these percentages suggests that the transition towards higher paid sectors that fits together with migration could be one of the principal mechanisms through which household income is improved.

In this sense, graph 3.10 shows the coefficients obtained from estimating some similar regressions for the potential returns from migration. These regressions add an interaction between the condition of being a migrant and moving to the agriculture sector from a non-agriculture sector. The results suggest that an important percentage of potential returns from migration for rural households is due to the change of the sector in which members work. First, for the case of migration to other rural areas, the impact of changing occupational sector is so significant that it even compensates for the negative effect in consumption associated with this type of move. This suggests that leaving the agricultural sector, even if the household remains in a rural area, implies an increase in income. Second, the return for households that migrate to urban areas but remain in the agricultural sector continues to be significantly higher than those that do not migrate. This indi-

**TABLE 3.5.**  
PERCENTAGE OF EMPLOYED HEADS OF THE HOUSEHOLD ACCORDING TO SECTOR: 2013-2016.

Urban households		A. Migration			B. No migration		
		Occupational sector 2016			Occupational sector 2016		
		Agriculture or livestock	Manufacturing, industry, or services	Total	Agriculture or livestock	Manufacturing, industry, or services	Total
Occupational sector 2013	Agriculture or livestock	6.5%	10.1%	16.6%	4.7%	2.4%	7.1%
	Manufacturing, industry, or services	5.8%	77.7%	83.4%	1.2%	91.7%	92.9%
	Total	12.3%	87.7%	100%	5.9%	94.1%	100%
Rural households		A. Migration			B. No migration		
		Occupational sector 2016			Occupational sector 2016		
		Agriculture or livestock	Manufacturing, industry, or services	Total	Agriculture or livestock	Manufacturing, industry, or services	Total
Occupational sector 2013	Agriculture or livestock	51.7%	23.2%	75.0%	64.7%	10.7%	75.4%
	Manufacturing, industry, or services	6.8%	18.2%	25.0%	5.9%	18.7%	24.6%
	Total	58.6%	41.4%	100%	70.6%	29.4%	100%

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

cates that migration itself –moving from a rural to an urban area– implies a higher level on income, even when the household continues to work in the same sector. This could be explained by the urban-rural difference in salary or by the better economic opportunities in urban areas.

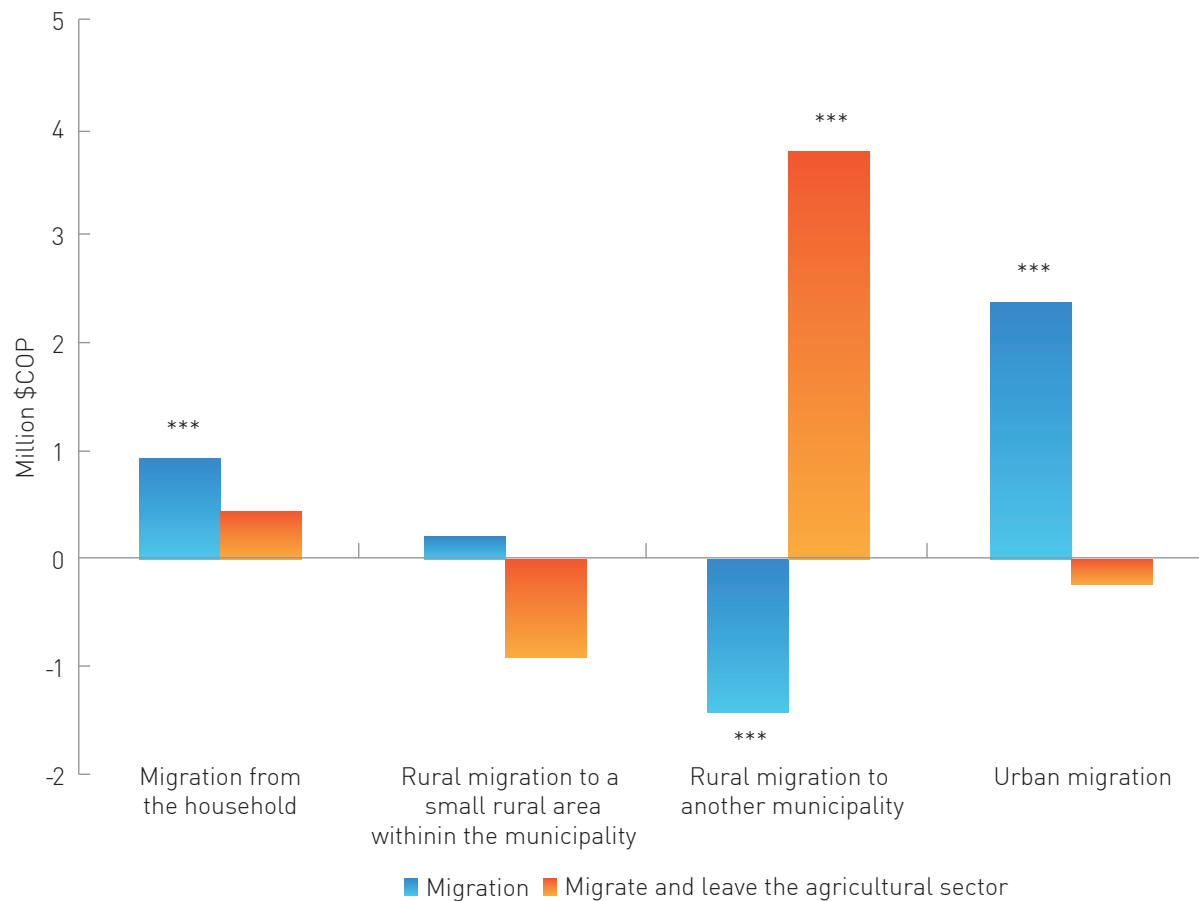
### 3.5. CONCLUSIONS

Colombia is a country in movement and transition. The high rates of migration for the rural sample illustrate the dynamism and the changes in rural areas. Households migrate to improve their standard



→ 35 people, including children, adults, and senior citizens live in the Palacios Campo family home in Barrancabermeja. Despite the small amount of space, the young find a way to spend time together. They are rehearsing a choreography for one of the girls' 15th birthdays.

**GRAPH 3.10.**  
**RETURNS FROM MIGRATION AND FROM THE CHANGE OF OCCUPATIONAL SECTOR: RURAL HOUSEHOLDS**



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

of living, to seek economic opportunities, to mitigate the impact of negative shocks and to escape violence. The chapter's analysis shows that migration seems to be an effective method to achieve this objective. The aggregated consumption of households that migrate to urban areas increases while the consumption of those who migrate to rural areas remains stable (denoting a successful consumption smoothing) or decreases a little.

However, it seems that the costs of migration and the limited access to financial markets are an obstacle for migration. In Colombia, particularly in rural areas, this restriction can be understood to mean that a majority of the short-distance migrations, as well as the ones to similar destinations, have low or non-existent observed returns.



→ Maria del Rosario Causil and her husband Antonio Franco have always made a living from working on farm in both agriculture and livestock. Today, they spend their time between the country and looking after their grandchildren as all their children work.



→ The Rincón family lives in the Villa Hermosa neighborhood (Medellín) in a house belonging to the grandmother and head of the family Blanca Rincón. Her dream was to build a house for her five children. Today she lives with three of them as well as three grandchildren and a great-granddaughter.

The absence of mechanisms that make it possible to insure against future risks imply, in turn, that migration is normally an ex-post strategy to mitigate negative shocks. This migration is not necessarily desirable and it can be avoided with improved policies to insure against negative shocks and better access to financial markets. Providing insurance in the agricultural sector, subject to particularly high risk levels, would allow households to be able to use migration as a longer-term investment tool, which would, therefore, bring the household better benefits.

Although migration can be a symptom of Colombian households' vulnerability, it can also reveal their adaptability to new opportunities and their versatility in confronting new challenges. In general, no household should see its mobility restricted -for either economic or cultural barriers- and it should not be forced to migrate due to foreseeable shocks. The information contained in ELCA makes it possible to diagnose migrant households' situations in detail in the country's and aides the creation of policies that allow the migration to continue in a way in which Colombian households can improve their quality of life.

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→ According to the Ministry of Finance and Public Credit's Adaptation Fund, the construction in Nuevo Gramalote has required investment totaling more than 400 billion pesos.





→ Carmen Santander Morales, her husband, and her children were victims of the disappearance of Gramalote. For seven years they have rented a property in El Zulia (Norte de Santander).



## CHAPTER 4

# THE INCIDENCE OF SHOCKS. VULNERABILITY FOR SOCIOECONOMIC REASONS. AND POTENTIAL EFFECTS ON THE EVOLUTION OF INCOME AND EXPENDITURE

RAFAEL J. SANTOS<sup>1</sup>



→ In 2014, the members of the Santander Morales family were unsure about the resettlement process of Gramalote as the authorities, at that time, had not established where the new town would be situated.

.....→

1. I would like to thank Adriana Camacho and Nicolás Santos for their help and comments.

### 4.1. INTRODUCTION

→ The economic activity of rural and urban households is full of uncertainty. Part of this uncertainty is due to events that are difficult to anticipate and have repercussions on the wellbeing of the household. It is not easy to forget images in the media of people affected by the rainy season of 2010-2011. It is also not easy to forget the drought that affected people, animals, and crops in 2015-2016. However, the climatic shocks, despite being ever more serious, are only one of the many shocks that affect households. Shocks including those relating to employment, production, and health also affect the paths that households take.

As ELCA has an exhaustive unit on the different events or problems that affect households, it is a unique survey that allows the effects of different types of shocks on economic wellbeing to be studied.

This chapter uses the module shocks on ELCA to answer the following questions: How vulnerable are Colombian households to shocks? What are the most frequent shocks per area (urban or rural) and

region? How does household vulnerability change according to the initial level of wealth? What is the effect of some of these shocks -those that have greater potential to limit productive capacities- on welfare measures such as change of income and change in expenditure? What do simple descriptive statistics tell us about the effects of the dry season in 2015-2016?

The first part of this chapter explains the way in which the events and problems reported in ELCA under different categories of shocks (health, family, employment, housing and assets, production, and violence and disasters) and it also examines the impact of these shocks on different ELCA regions. The second part concentrates on household's vulnerability according to their original wealth tertile. The third part studies the effects welfare measures have (change in income and change in expenditure) on employment shocks in urban zones, on production shocks in rural zones, and on droughts in both zones. The last part concludes.

## 4.2. THE IMPACT OF SHOCKS

ELCA contains a questionnaire on events and problems that have destabilized the household during the three years prior to the survey. These events can be thought of as shocks that have an effect on the household. The urban questionnaire registers 17 types of shocks; the rural questionnaire registers 19 types of shocks. The two additional shocks in the rural questionnaire correspond to losses of

As ELCA has an exhaustive unit on the different events or problems that affect households, it is a unique survey that allows the effects of different types of shocks on economic wellbeing to be studied. .



→ There are ever less families in the La Palestina shelter for the victims of Gramalote. Some are already living in their houses in the new town.

crops and animals. The questionnaire on events and problems also enquires as to the economic importance of the shock, measures the household took to confront the problem, and the number of times each problem occurred in the last four years between 2013 and 2016. The shocks were aggregated into seven categories: health, family, employment, housing and assets, production, and violence and disasters.<sup>2</sup> The components of each category as well as the impact (percentage of households affected) of each is presented in the appendix. This section analyses the impact of shocks by region.

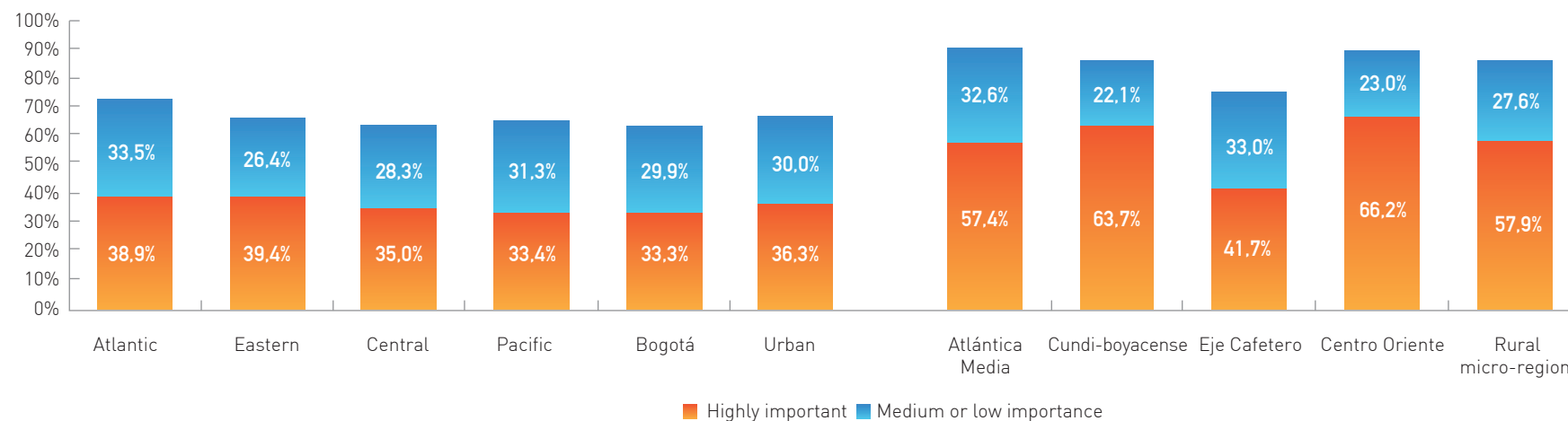
Graph 4.1 shows the percentage of households that reported at least one shock per region. The first six bars correspond to the urban ELCA and the following five correspond to the rural ELCA. Each bar represents a percentage of households with at least one shock and each bar is, in turn, divided in two: the percentage of households that reported at least one highly important shock and the percentage of households that reported at least one moderately or slightly important shock. For example, in the Atlantic region, 72.4% of households reported a shock: in this region 39% of households reported to have been affected by a highly

important economic shock, and 33.5% of households reported to have been affected by a moderately or slightly important shock.

In the urban zones, the Atlantic region is the area where the highest percentage of households report to have been affected by a shock. In the other regions, the percentage of households affected is around 65%. When focusing on the percentage of households that report a highly important shock, the Atlantic region once again stands out, accompanied by the Eastern region. For these two

### GRAPH 4.1.

#### PERCENTAGE OF HOUSEHOLDS THAT HAVE REPORTED AT LEAST ONE SHOCK OF ECONOMIC IMPORTANCE



Source: ELCA 2016

2. This classification is the same as the one used by Cadena and Quintero (2014) in the chapter that describes ELCA' shocks in 2013.

regions, around 39% of households have reported a highly important shock. For other regions, the corresponding percentage oscillates around 34%. The Atlantic region, which stands out due to the impact of shocks, is also the poorest region of all ELCA urban regions. This is shown in Chapter 5, which deals with the subject of poverty.

For ELCA rural micro-regions, the probability of reporting a shock is 19.2 percentage points higher than in the urban regions. Similarly, rural homes are 22% more likely to report a highly important shock. This translates into high levels of impact: in the rural micro-regions, approximately four out of every five houses reported a shock and three out of every five reported a highly important economic shock. Unlike in urban areas, in the rural micro-regions, households have a considerably higher probability of having a highly important economic shock. In conclusion, rural ELCA households are more vulnerable to shocks and also the shocks tend to affect household's economic stability to a higher degree.

If we compare the micro-regions, the Atlántica Media and Centro Oriente are approximately four percentage points above average when observing the percentage of households that report at least one shock, without taking into consideration its importance. However, restricting the analysis to highly important shocks, the Centro Oriente is the most affected region as 66.2% is impacted. The Atlántica Media and Centro Oriente regions, which

are the two rural micro-regions most affected by the shocks, are also the poorest regions in terms of expenditure per capita.

In summary, Graph 4.1 shows a panorama in which the rural households are much more vulnerable than the urban ones. A simple reason for this is that the rural households are, on average, poorer. Another related reason is that these households have less access to public services such as access to running water, which can, for example, mitigate the effects of the shocks of disasters. When the poor tend to be more vulnerable to shocks we refer to a negative socioeconomic gradient. The results

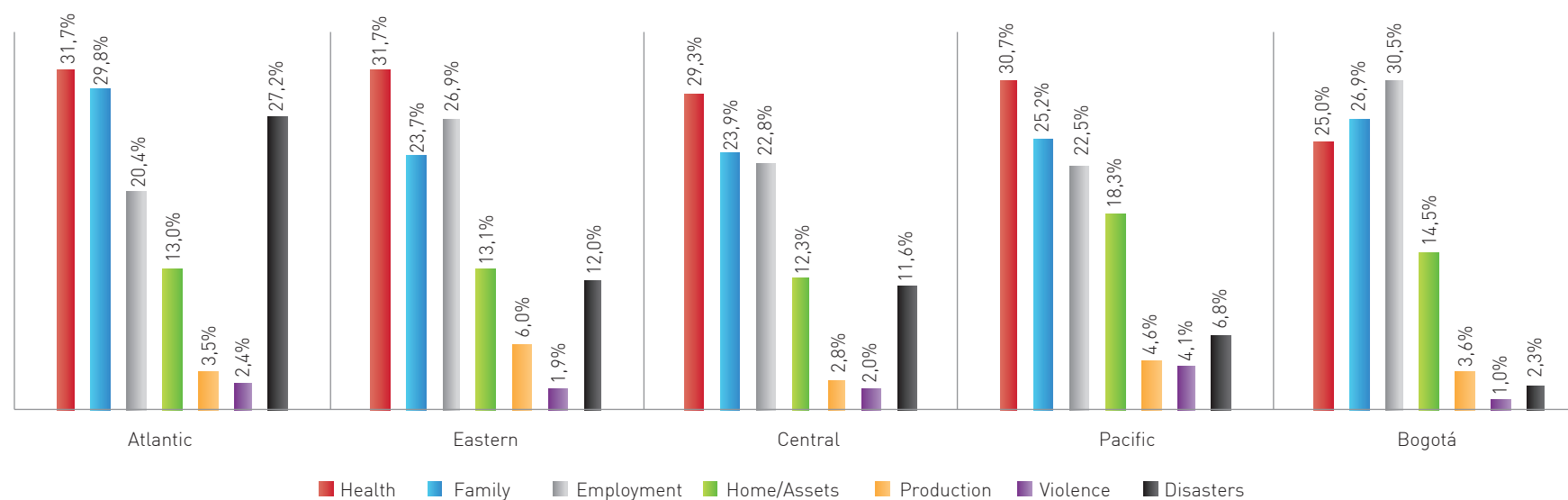


→ Mildred Leal Becerra (center) is with her children Donny, Camila, and María Guadalupe (above) in the house in which they live in Villas del Rosario, which is close to Cúcuta. They are waiting to be given their new house in Nuevo Gramalote.

that have been presented up until now suggest such a gradient. Not only are the rural areas the most vulnerable; also, the regions that are found to be above the average of those affected in both rural and urban zones tend to the poorest regions. This negative gradient seems intuitive. A low socio-economic dwelling is more vulnerable to climatic shocks due to the materials it is made from. The socio-economic gradient, in terms of the vulnerability to shocks, can also reflect other gradients such as the positive health gradient. On average, the poorest members of society tend to have poorer health, and, as such, they are more likely to become ill and report health shocks.

What types of shocks affect ELCA's households? Graph 4.2 shows the percentage of households that report each one of the shocks that are included in each of our seven categories in ELCA's urban regions. Three types of shocks stand out due to their frequency: health, family, and employment shocks. Across urban regions, more or less 30% of households reported health shocks. Similarly, around 25% of households in each urban zone reported shocks in the family structure (including deaths, but mainly welcoming family members). Between 20% and 31% of households reported employment shocks. This type of shock records job loss, and it is particularly incisive in Bogotá: 30.5% of households in this region reported an employment shock. In other words, 30% of all households in Bogotá reported that a member had lost their job between 2013 and 2016. Within these three types of shocks,

**GRAPH 4.2.**  
TYPE OF SHOCK BY URBAN REGION



Source: ELCA 2016

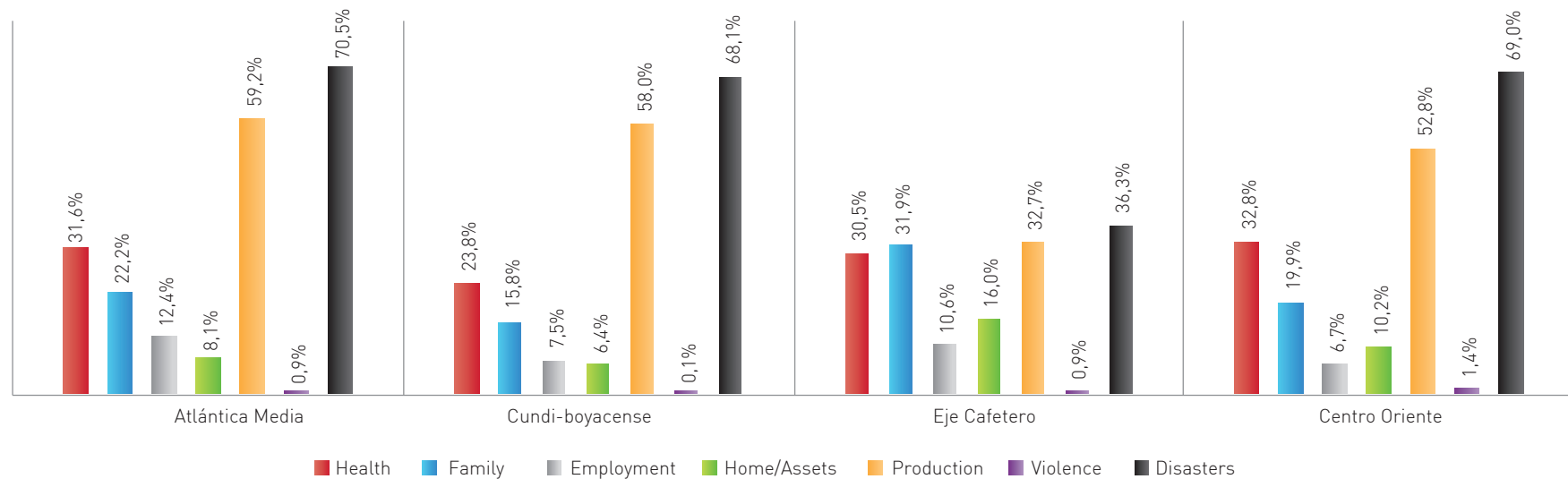
those relating to employment are the ones that have the most potential to affect a household's capability to generate income. Health shocks include any shock that led to any member of the household not being able to carry out their daily activities. Within a period of three years, it is usual for one of the members of the household to not be able to work without this necessarily affecting the household's productive capacity. Family shocks -the most important component being the welcoming a family

member- can be either positive or negative. Losing a job is, however, synonymous with loss of income.

In terms of the main shocks by region, it is worthwhile highlighting the distinctive nature of the Atlantic region, which was the hardest hit by the droughts. In this region, 27.2% of urban households reported to have been affected by natural disasters while in other regions this percentage was never above 12 percentage points.

Graph 4.3 is a parallel graph to 4.2, which shows the impact of shocks by rural micro-region. The message is clear: the events that most destabilize rural homes are production shocks (mainly loss of crops and animals) and natural disasters. Similar to employment in urban zones, production shocks in rural zones have the capacity to worsen households' capability to generate income. The Atlantic region is, again, the hardest hit by both production shocks and by natural disasters. In every

**GRAPH 4.3.**  
TYPE OF SHOCK BY RURAL REGION



Source: ELCA 2016

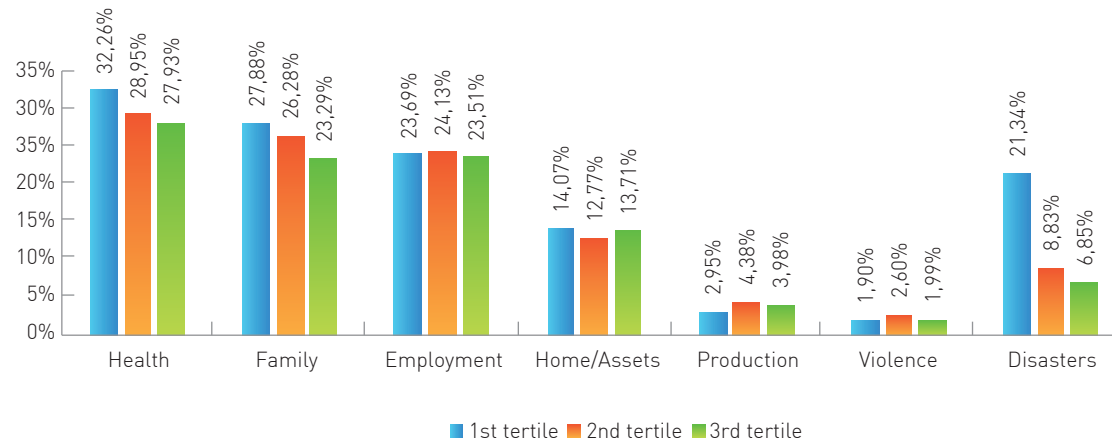
micro-region, except the Eje Cafetero, production shocks affect 53% or more of households, and the disasters affect 69% or more of households. Conversely, the Eje Cafetero region does not present the same pattern as the other micro-regions as no shock has an impact higher than 37%. The Eje Cafetero is the region that has the highest coverage of public services such as access to running water and sewage. It is also the richest micro-region of all the micro-regions that were considered. Perhaps it is not a coincidence that it behaves more like an urban zone.

### 4.3. A NEGATIVE SOCIO-ECONOMIC GRADIENT?

This section seeks to look at if there is a negative socio-economic gradient and the prevalence of shocks. In other words, what is the relationship between the prevalence of each one of the shocks (aggregate categories) and the 2013 household wealth tertile. The wealth tertile is calculated using principal component analysis, which uses the following elements: public services, housing materials, size of household, and assets held.

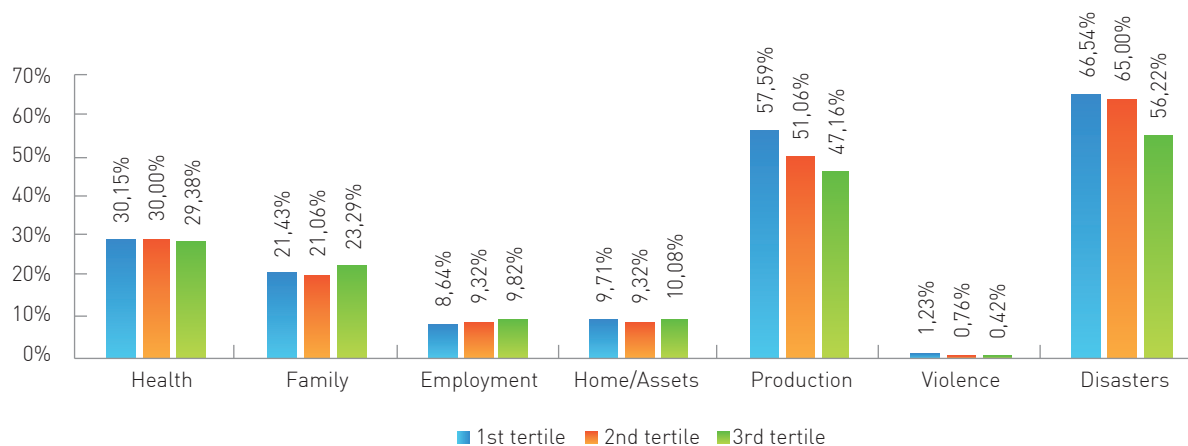
A negative socio-economic gradient happens when the impact of a shock reduces as the wealth tertile increases. Enquiring as to whether there is a negative socio-economic gradient is important as, if it is more probable that the poorest people will experience shocks, transitioning out of poverty is more difficult.

**GRAPH 4.4.**  
URBAN HOUSEHOLDS: SHOCKS BETWEEN 2013-2016 AND WEALTH TERTILE IN 2013



Source: ELCA 2016

**GRAPH 4.5.**  
RURAL HOUSEHOLDS: SHOCKS BETWEEN 2013-2016 AND WEALTH TERTILE IN 2013



Source: ELCA 2016

Graph 4.4 shows how the impact of our seven aggregate shocks varies according to the 2013 household wealth tertile for the urban ELCA regions. For some of the higher impacting shocks (health, family, and disasters) it is observed that as the wealth tertile increases, the probability of observing a health shock is lower. The following is observed when moving from 1<sup>st</sup> wealth tertile to 3<sup>rd</sup> wealth tertile: the probability of suffering a health shock is reduced in 4.3 percentage point, the probability of observing a shock that affects the family structure is reduced by 4.6 percentage points, and a disaster shock is drastically reduced by 14.5 percentage points. The only exception to this is employment shock, which does not vary much depending on wealth tertile.

Graph 4.5 repeats the previous exercise for rural micro-regions. The message, however, remains the same: for the higher impact shocks (production and disasters), the negative gradient according to wealth level is rather pronounced. A household in the 1<sup>st</sup> wealth tertile has a probability that is 10.4 percentage points higher of facing higher-impact shocks than a household in the 3<sup>rd</sup> wealth tertile. Analogously, a household in the 1<sup>st</sup> wealth tertile is 10.3 percentage points more likely to confront a disaster shock.

Graphs 4.4 and 4.5 show that shocks affect the poorest households the most. Within this context, it is a possibility that economic shocks -some random- can perpetuate inequality. To complete the previous analysis, the graphs that are equivalent to the previous two are presented, but only taking into a count the most important economic shocks



→ Inés María Álvarez says that she has never been able to get over the death of her only son who was murdered in mysterious circumstances. She lives on the small income she earns from the La Esperanza pool hall and store in Chinú (Córdoba).

are taken into account. As the categories of shock include various events, high economic importance is assigned to a category if at least one of its components is highly economically important.

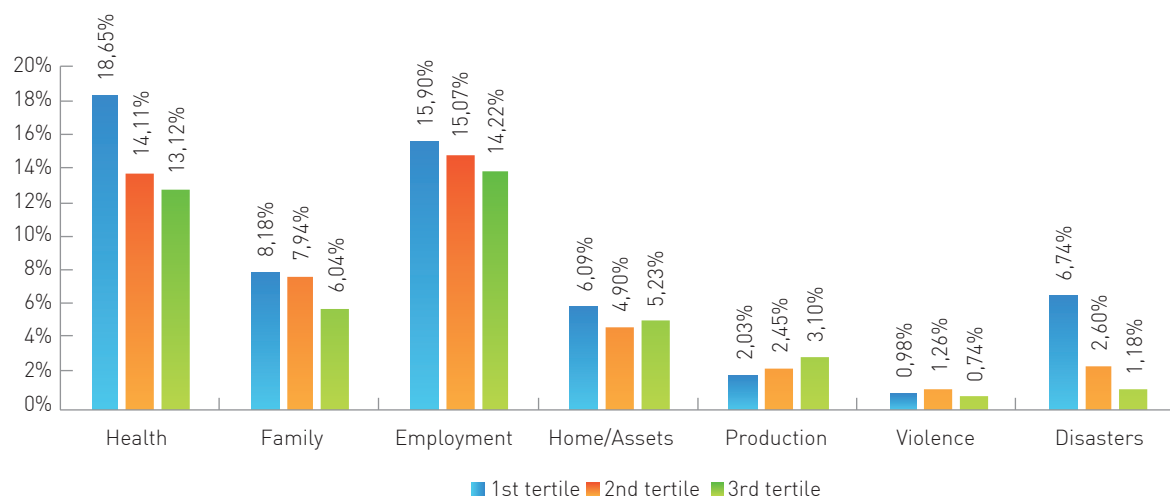
Graph 4.6 shows the percentage of homes that report a highly important economic shock in urban regions according to the 2013 wealth tertile. To reiterate, for the main shocks (health, family, disasters, and this time also employment) the richest homes are less vulnerable to facing highly important economic shocks.

Graph 4.7 is equivalent to graph 4.6; however, it centers on ELCA's rural micro-regions. To reiterate, as the income tertile increases, the probability of reporting an economically important production shock falls by 8.6 percentage points, and the probability of reporting an economically important disaster shock falls by 8.5 percentage points.

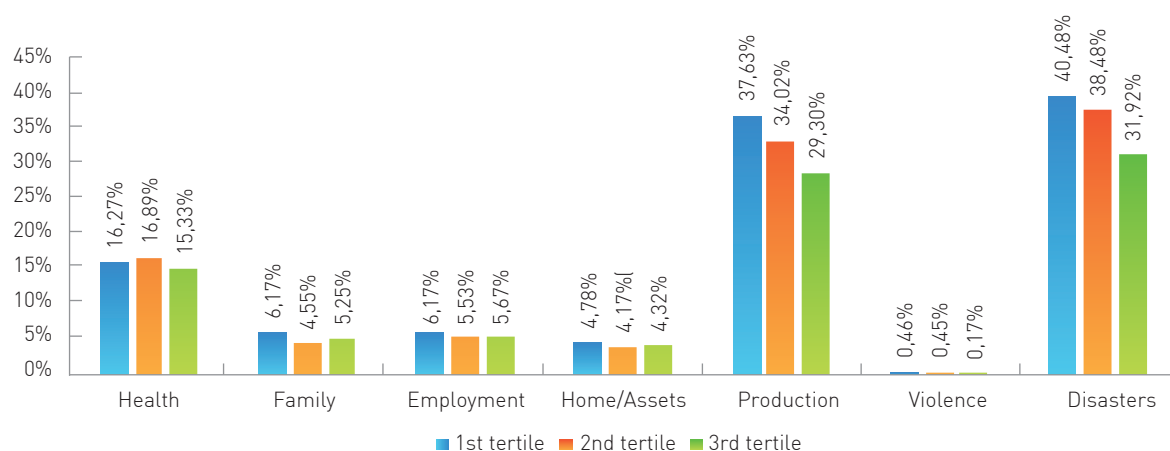
In summary, for the most prominent shocks, the percentage of households that reported a shock or a highly important economic shock is reduced as the richness of the household increases. This

For the higher impact shocks (production and disasters), the negative gradient according to wealth level is rather pronounced. A household in the 1st wealth tertile has a probability that is 10.4 percentage points higher of facing higher-impact shocks than a household in the 3rd wealth tertile. Analogously, a household in the 1st wealth tertile is 10.3 percentage points more likely to confront a disaster shock.



**GRAPH 4.6.****URBAN HOUSEHOLDS: HIGHLY IMPORTANT ECONOMIC SHOCKS BY WEALTH TERTILE**

Source: ELCA 2013, 2016

**GRAPH 4.7.****RURAL HOUSEHOLDS: HIGHLY IMPORTANT ECONOMIC SHOCKS BY WEALTH TERTILE**

Source: ELCA 2013, 2016

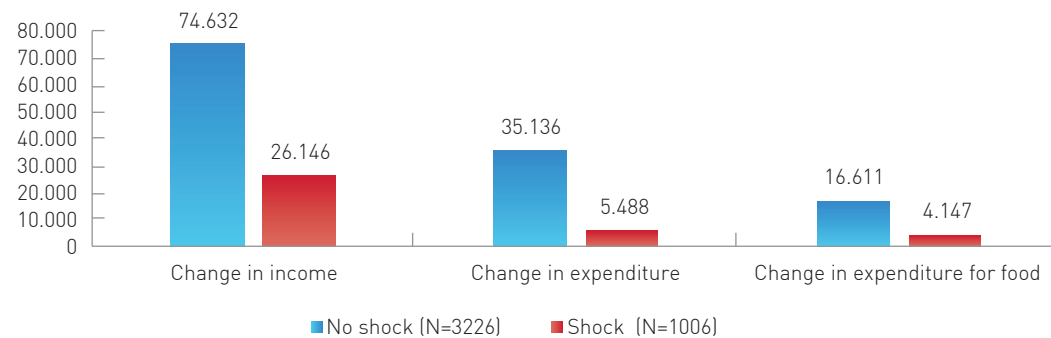
shows the existence of a negative socio-economic gradient. The following sections enquire as to the consequences of some of these shocks on the evolution of income and household consumer spending. If these shocks reduce the welfare measures, and given the results presented in this section, they can be thought of as shocks that perpetuate poverty.

#### 4.4. SHOCKS TO THE CAPACITY TO GENERATE INCOME, DROUGHTS, AND CHANGES IN WELLBEING

The following section focuses on the shocks that have the high potential to change the household's capacity to generate income: the employment shock in urban areas and the production shock (which mainly includes plagues, loss of crops, and death of animals) in rural areas. The drought shock is also analyzed, which is the main event in the natural disasters aggregate. By limiting the analysis to these three shocks, we can see how their occurrence affects income, consumption spending, and the household expenditure.

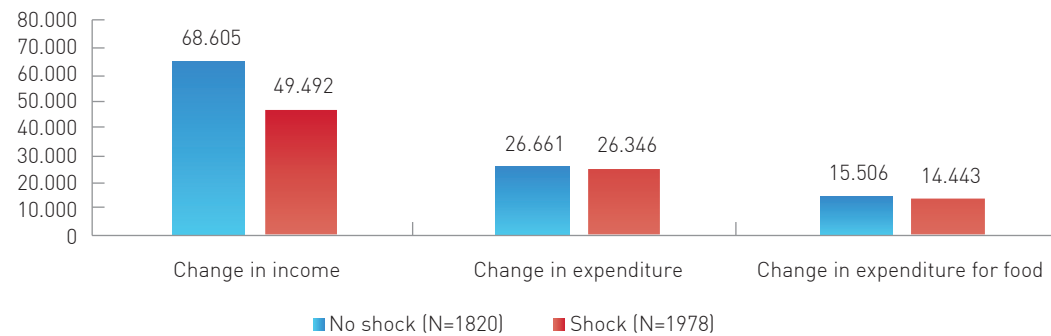
To do this, the change of income is estimated based on the direct monthly income from ELCA 2013 and 2016 household unit. Due to the construction, the sample is restricted to the 2016 households which can also be found in 2013. The change in income is calculated per capita (by household member) and in real values of 2016. In terms of expenditure, we carried out an analogous exercise using consumer spending and the expenditure on food that was directly reported in the household unit.

**GRAPH 4.8.**  
URBAN AREAS: EMPLOYMENT SHOCKS AND CHANGES IN INCOME AND EXPENDITURE



Source: ELCA 2013, 2016

**GRAPH 4.9.**  
RURAL AREAS: EMPLOYMENT SHOCKS AND CHANGES IN INCOME AND EXPENDITURE



Source: ELCA 2013, 2016

#### 4.4.1. SHOCKS TO THE ABILITY TO GENERATE INCOME

This analysis begins by investigating how any member of the household losing their job affects the income and consumption paths of urban homes. Graph 4.8 shows how income and expenditure changes for households that have and have not suffered an employment shock.

The blue bars represent the change in the variables of interest (the change of income, the change in expenditure, and the change in the cost in food). On average, for an urban home that does not suffer an employment shock, income increases by \$75,000 pesos while expenditure increases by \$35,000 pesos and expenditure on food by \$17,000 pesos. With a household with at least one employment shock (red bars), income increases by \$26,000 pesos, expenditure by \$5,500 pesos, and expenditure on food by \$4,000 pesos. If the difference in outcome variables is only attributed to the shock having occurred, the employment shock, therefore, substantially reduces households' income and expenses. In other words, the change in income for the households affected by the employment shock is one third of the change in income for the non-affected houses. In turn, the change in expenditure is just one seventh and the change in expenditure on food is one quarter. The loss of employment in urban areas substantially reduces households' welfare.



→ A fungus killed Octavio Ballesteros and his family's passion fruit crops in Buenavista (Boyacá). However, he recovered and now grows gulupa while he finds a way to combat this fungus.

Graph 4.9 undertakes the same analysis but for rural micro-regions and focuses on the production shock. There is an important contrast between the production shock and the employment shock. The production shock slows down the changes in income: the change in income for rural households that have suffered a shock is \$ 20.000 pesos less than for the households that have not suffered a shock. However, unlike the employment shock, the change in expenditure and the expenditure on food is practically the same for both affected and non-affected households.

A question immediately arises as a result of graph 4.9: in rural zones, although households cannot reduce income for everything, it seems that they have mechanisms to reduce their consumption if faced with production shocks. There are diverse mechanisms: formal and informal loans, dissaving, adjustments in the labor supply, and formal or informal insurance arrangements. The question that remains is which of these mechanisms explains the apparent reduction of consumption in rural areas.

Although the events and problems module asks households about the main actions they took to deal with the problem, this information was not used as the aggregation of shocks in categories means that for each aggregate shock, there are different mitigation strategies. Perhaps more importantly, the mitigation strategies depend on the households' own characteristics, and this exaggerates selection biases.

#### 4.4.2. CLIMATIC SHOCKS

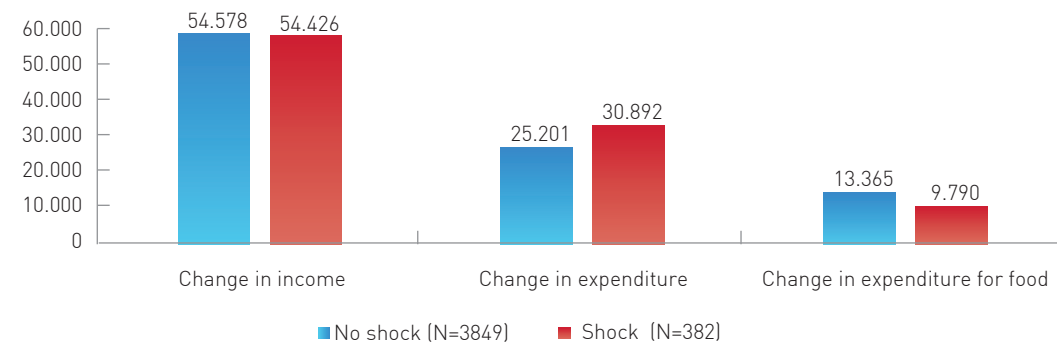
Between the two first ELCA rounds, Colombia was affected by the worst rainy season in recent history. The main events recorded in the shocks unit 2013 were landslides, floods, and mudslides. La Niña had negative causal effects on household's consumption (Brando & Santos, 2015). The climate was also volatile between 2013 and 2016, but this time the rainy season gave way to one of the worst droughts that the country has seen. In this subsection, using descriptive statistics, we attempt an approximation of the effects of wellbeing during the drought season.



→ José Fernando Mejía has spent 33 years working in Fabricato. She has survived staffing cuts and production plant closures in which he worked for more than twenty years. Today he is recovering from shoulder surgery because of an accident he had at work. He dreams of retiring from this company.

**GRAPH 4.10.**

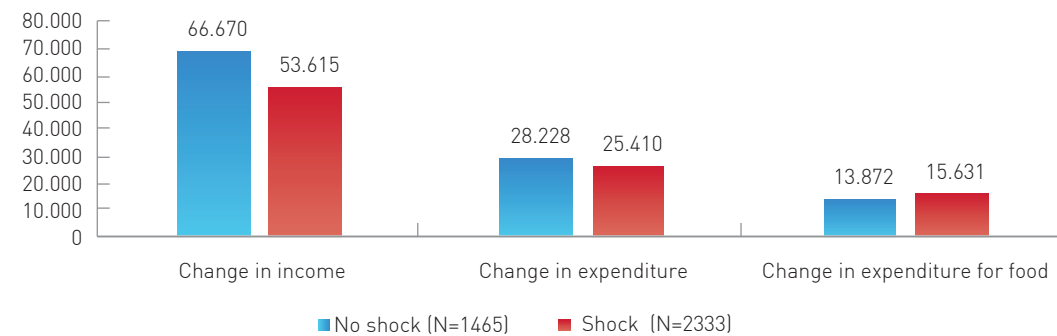
#### URBAN AREAS: DROUGHTS AND CHANGES IN INCOME AND EXPENDITURE



Source: ELCA 2013, 2016

**GRAPH 4.11.**

#### RURAL AREAS: DROUGHTS AND CHANGES IN INCOME AND EXPENDITURE



Source: ELCA 2013, 2016



→ Abigail Solano, who is 78 years-old, suffers from Parkinson's disease and has been bedridden for more than four years. Ever since 2013 her only request has been that "God remembers" her. Her husband Tomás Calderón died in 2015 and now her daughter Nubia Calderón looks after her.

Graph 4.10 shows the changes in income and expenditure for urban households that have and have not suffered the shock of drought. For the households that have suffered from drought, the change in income is practically the same as for the homes that have not suffered from drought. This is not surprising as droughts should not affect the capabilities of production in urban areas. Although there

are differences in the change in expenditure and expenditure on food. It can be seen that these differences are not significant. However, it is important to highlight that the drop in expenditure is consistent with the effect of drought on the price of food.

As expected, given the importance of climate shocks for agricultural activity, Graph 4.11 shows

that the households that reported droughts had a growth in income that was \$13,055 pesos lower than the increase in the income of households that did not. Once again, there are far fewer differences in consumer spending. The households affected face a \$2,818 pesos reduction in spending compared to the households that are not affected. However, spending on food increased by \$1,759 pesos.

These simple statistics leave us with a perhaps unexpected message: droughts do not seem to have a large effect on rural homes' consumer spending. Investigating if this is a causal effect is the task of future research.

## 4.5. CONCLUSIONS

In this chapter, we have presented simple statistics that describe a part of ELCA 2016 unit on shocks. One of this chapter's principal messages is that there is a negative socio-economic gradient for the impact of shocks: poorer households are more vulnerable to shocks that can perpetuate poverty. In urban zones, employment shocks firstly affect poor households to a greater extent. Additionally, employment shocks reduce household wellbeing. As such, policies that generate employment stability have the potential to lift people out of poverty traps.

It is important to emphasize that when the consequences of some of these shocks are analyzed, more questions are left unanswered for future research

than are answered in this chapter. Although employment shocks in urban zones substantially slow down the increase in consumer spending and household income, in rural zones, production shocks reduce income but have marginal effects on expenditure. What explains the non-changing of consumption with regards to productive shocks in rural zones? What mechanisms to reduce consumption do rural households use to keep their consumer spending unaltered? This question once again returned when the drought shocks were analyzed. Although the drought shock is more of a concern in rural zones, it only has moderate effects on consumption.

It is to be expected that with objective measurements -such as rainfall measurements to capture exposure to droughts and empirical strategies that allow causal results to be uncovered- we can say more about the validity of the results that are presented in this chapter. If the results sustain, we would expect that they can be explained by using cross-sectional information from the different ELCA chapters.



→ Yeira María Betancourt is twenty-five years-old and works as an auxiliary nurse in a hospital in Montería (Córdoba). When ELCA began she was studying, and now with her income she helps to support her parents Teobaldo and María Teresa.

## APPENDIX

**TABLE A1.**  
AGGREGATE CATEGORIES FOR SHOCKS

Urban Zone		Impact (% of households)
Health	Member of the family accident or illness	29.84%
Family	Death of the head of the household or spouse	1.71%
	Death of other member(s) of the household	3.52%
	Separation of spouses	7.96%
	Arrival or reception of family member in the household	16.38%
Employment	Head of household loses job	13.74%
	Spouse loses job	5.21%
	Other member loses job	7.39%
Housing/ Assets	They had to leave their regular place of residence	8.09%
	Loss of housing	0.45%
	Loss of or reduced remittances	1.83%
	Theft, fire, or destruction of household goods	6.09%
Production	Bankruptcy(ies) and/ or closure(s) of family business(es)	3.62%
Violence	They were victims of violence	2.43%
Disasters	They suffered floods, landslides, mudslides, etc.	2.39%
	They suffered tremors or earthquakes	3.42%
	They suffered droughts	9.67%

(Continue...)

**TABLE A1.**

AGGREGATE CATEGORIES FOR SHOCKS (...Continuation).

	Rural Zone	Impact (% of households)
Health	Member of the family accident or illness	29.69%
Family	Death of the head of the household or spouse	2.27%
	Death of other member(s) of the household	3.82%
	Separation of spouses	4.30%
	Arrival or reception of family member in the household	13.79%
Employment	Head of household loses job	6.04%
	Spouse loses job	1.52%
	Other member loses job	2.83%
Housing/ Assets	They had to leave their regular place of residence	4.67%
	Loss of farm, parcel, or land	0.81%
	Loss of or reduced remittances	2.32%
	Theft, fire, or destruction of household goods	3.28%
Production	Bankruptcy(ies) and/ or closure(s) of family business(es)	1.79%
	Infestations or loss of crops	39.54%
	Loss of or death of animals	23.67%
Violence	They were victims of violence	0.83%
Disasters	They suffered floods, landslides, mudslides, etc.	3.59%
	They suffered tremors or earthquakes	3.66%
	They suffered droughts	60.51%

Source: ELCA 2016



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Cadena, M., & Quintero, C. (2014). Vulnerabilidad a choques y mecanismos de reacción. In *Colombia en Movimientos 2010-2013*. Bogotá: Ediciones Uniandes.



→ In the Palacios Campo house in Barrancabermeja, 35 people share one bathroom: children, adults, and grandparents.





→ The Betancourt Álvarez family live in the Santa Fe neighborhood in Montería (Córdoba). They live from the help of their oldest children and from Teobaldo Betancourt's work as a guard or printer. His son Jhefferson, who is fourteen years-old, is in the photo.

## CHAPTER 5

# THE EVOLUTION OF POVERTY BETWEEN 2010 AND 2016 FOR ELCA HOUSEHOLDS



→ Due to the lack of money, pawning domestic appliances is a solution. The small amount that they get from the transaction goes on buying pre-paid electricity. The photo was taken in Barrancabermeja.

ADRIANA CAMACHO  
YABRA MUVDI

### 5.1. INTRODUCTION

→ The years between 2013 and 2016 have been extremely important for Colombia. The peace process was signed, there was a plebiscite, the price of oil fell sharply, la Niña caused one of the worst droughts in the history of the country, and torrential rains and floods destroyed whole communities. All of these events had direct repercussions on the country's economic and social circumstances. However, it is difficult to clearly grasp how these circumstances changed over the years. A longitudinal survey such as ELCA is, therefore, extremely important to be able to clearly understand the effect that these events had on the standards of living of people who reside in the country's rural and urban zones. Specifically, in this chapter it helps us to answer the following questions related with the dynamics of poverty: What is the trend in household expenditure by region? Have more people fallen into poverty than have managed to leave it? Do households have more durable goods than in previous years? Do they have greater access to public services? How has household participation in social programs changed?

In order to answer these questions, we constructed the following indicators that allow Colombian households' standards of living to be comprehensively understood: per capita expenditure, Poverty Line (PL), Multidimensional Poverty Index (MPI), wealth index, ownership of durable goods, availability of public services, and participation in social programs. Each one of these indicators will be reviewed throughout this chapter in order to obtain a complete picture on the dynamics of poverty and certain factors that are contributing to improving these dynamics for Colombian families living in ELCA rural and urban sectors.<sup>1</sup>

## 5.2. POVERTY INDICATORS

A household's average annual expenditure is an interesting first approximation to be able to understand their standards of living. Expenditures, excluding the consumption of durable goods, are constructed by using a detailed model that we harmonized for the three ELCA rounds. The calculations that are presented in the following table were made from a total of 3,441 urban households and 3,491 rural households, only taking into consideration those households that had not changed their municipality of residence and that remained in the survey for all three rounds. The restriction of remaining in the same municipality guarantees that we are comparing the household expenditure of one particular place over time. The restriction of remaining in the survey for all three rounds guarantees that our analysis does not suffer from possible

**TABLE 5.1.**

**AVERAGE EXPENDITURE PER CAPITA IN URBAN REGIONS (2016 PRICES).**

Region	2010	2013	2016	Number of households	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Atlantic	\$351.253,20	\$395.744,90	\$422.098,00	832	12,67%	6,66%	20,17%
Eastern	\$477.278,80	\$479.116,30	\$532.340,50	684	0,38%	11,11%	11,54%
Central	\$459.530,10	\$436.363,00	\$515.870,60	676	-5,04%	18,22%	12,26%
Pacific	\$446.637,30	\$430.195,50	\$492.043,00	740	-3,68%	14,38%	10,17%
Bogotá	\$909.796,80	\$868.056,10	\$820.588,80	509	-4,59%	-5,47%	-9,81%
Total	\$518.633,80	\$511.575,00	\$549.791,90	3.441	-1,36%	7,47%	6,01%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.

problems with selection that could be the result of the loss of a sample over time. The average expenditures are calculated based on constant 2016 prices so as they can be compared over time and their real growth can be ascertained. Table 5.1 presents the average per capita expenditure for households located in five urban regions. Also, the percentage change of the amount of money that the households are spending throughout the years is presented; in this way, we can understand some of the changes in wellbeing that they have undergone.

Altogether, a moderate increase in the average expenditure can be seen in urban regions. Between 2010 and 2016, households increase their costs by

6%; however, this number hides a large heterogeneity between the different regions. For example, the Atlantic region presents a sustained increase in expenditure throughout the three ELCA rounds. Between 2010 and 2016, expenditure in this region increased by 20.17%: a considerably higher increase than in any other of the urban zones. This increase can be partially explained by the significant lag in the region. In 2010, the Atlantic region had, on average, a per capita expenditure that was \$100,000 less than the urban region with the following lowest level of average expenditure (Pacific region). As such, the bigger increase in expenditure in this region can be seen as a disaster compared to the other regions.

1. The urban sample is representative for socio-economic strata 1 – 4 on a national level and five geographic regions: Bogotá, Central, Eastern, Atlantic, and Pacific. The rural sample is representative for small producers from four micro-regions: Atlántica Media, Cundi-Boyacense, Eje Cafetero, and Centro-Oriente.

The Eastern, Central, and Pacific regions presented a less accelerated, but still important, increase in expenditure. Between 2010 and 2016, the households from these regions increased their expenditure by 11.54%, 12.26%, and 10.17% respectively. In these three cases, this accumulated increase in expenditure is explained by a small reduction -or in the case of the Eastern region, an almost non-existent increase between 2010 and 2013- and by an elevated increase between 2013 and 2016. In contrast to what happened in the above-mentioned regions, households in Bogotá presented a reduction in their expenditure. Between 2010 and 2016, these households' expenditures decreased by 9.81%.

Table 5.2 presents the real sizes and increases of the average per capita expenditure for 2010, 2013, and 2016 in the four micro-regions of the rural

zone. The real increase of per capita expenditure in rural areas between 2010 and 2016 is 25.9%. When analyzing the behavior of expenditure on a regional level, it is possible to see that, as with urban zones, there is an important heterogeneity in expenditure dynamics. The center-eastern region presents a 74.66% growth in its expenditure between 2010 and 2016. This phenomenon can be, in part, explained by the elevated increase in the land tenure in this region and also by the important number of oil and mining municipalities that can be found there.

The Eje Cafetero and Atlántico Medio regions also show an important increase in their expenditure: 34.73% and 25.15% respectively. Lastly, within the rural area taken into consideration by the survey, the Cundi-boyacense micro-region is the only one that lags behind, and its expenditure decreased

between 2010 and 2016. This reduction can be explained by a strong reduction in expenditure between 2010 and 2016, which was not high enough to compensate for the reduction in the first three years.

In order to be able to explain these spending patterns more significantly, we will analyze the credit and saving decisions that households made. Loans are one of the many sources through which households are financing their increasing expenditure. On the other hand, savings could explain the reduced amount of money that households are spending. As such, it is important to look at loans and savings to complement the analysis of household's

**TABLE 5.2.**  
AVERAGE EXPENDITURE PER CAPITA IN RURAL MICRO-REGIONS (2016 PRICES).

Region	2010	2013	2016	Number of households	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Atlántica Media	\$181.147,20	\$207.102,10	\$226.710,40	965	14,33%	9,47%	25,15%
Cundi-Boyacense	\$322.459,80	\$248.970,20	\$290.504,10	918	-22,79%	16,68%	-9,91%
Eje Cafetero	\$227.913,30	\$246.131,40	\$307.049,70	696	7,99%	24,75%	34,72%
Centro-Oriente	\$159.876,80	\$217.254,80	\$279.245,60	912	35,89%	28,53%	74,66%
Total	\$210.301,30	\$223.549,40	\$264.967,00	3.491	6,30%	18,53%	25,99%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.



→ As well as the overcrowding in their house, the Palacios Campo family has many more necessities. Issues such as health and food are affected due to the household's lack of income.

expenditure. Table 5.3 presents the percentage of households that have savings, and Table 5.4 contains the percentage of households that have taken out some type of loan. In general, it is possible to see that the majority of households, in both rural and urban zones, do not have savings. For example, the percentage of households with savings is 28% in the Central region and 22% in the Eje Cafetero region. In addition, none of the regions present an elevated increase in their savings rate. The maximum increase (13% between 2010 and 2016) took place in the Pacific region.

From the urban regions, the Atlantic region presented the least amount of growth in terms of the percentage of households with savings (1.35%), but the highest increase in terms of the percentage of houses with loans (14.01%) between 2010 and 2016. The increase in loans in this region is important; in 2010, this was the region where households had the least amount of loans, and in 2016 it changed to being the region with the highest proportion of households with loans. This leads us to think that the previously detailed increase in expenditure could have been largely financed by this increase in loans in the region and the reduction in the rate of saving. It is possible to observe that in all the rural regions there was an increase in the percentage of households with loans between 2010 and 2016; however, the Cundi-boyacence region only presented a 2% increase while the Atlántica Media region grew by 32.14%. The low amount of loans in the Cundi-boyacence micro-region could also be related to the

decrease in expenditure of the four micro-regions in this study. The Eje Cafetero and the Centro-Oriente micro-regions show an intermediate panorama in terms of the increase in loans by 16.06% and 13.98%, respectively. These data reinforce the conclusion to which we previously arrived: part of the increase in expenditure that can be seen in the period between 2010 and 2016 is financed by an increase in the number of households with loans. Regions with a high increase in their expenditure, for example the Eje Cafetero, Centro Oriente, and the

Atlántica Media regions, also present an increase in the percentage of homes with loans.

After having analyzed the behavior of Colombian households' average expenditure and dynamics relating to loans and savings in the three ELCA rounds, it is now interesting to analyze the first poverty indicator: Poverty Line (PL). This measure is related to a household's income/ expenditure, and it calculates the percentage of households that are below a minimum level of expenditure, which is equivalent to

**TABLE 5.3.**  
PERCENTAGE OF HOUSEHOLDS WITH SAVINGS

	2010	2013	2016	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Urban regions						
Atlantic	26,79%	30,83%	28,14%	4,04%	-2,69%	1,35%
Eastern	33,16%	33,68%	37,32%	0,52%	3,64%	4,16%
Central	16,26%	19,54%	28,14%	3,28%	8,61%	11,89%
Pacific	23,29%	23,68%	36,29%	0,39%	12,61%	13,00%
Bogotá	37,59%	42,15%	46,35%	4,56%	4,20%	8,76%
Rural Micro-regions						
Atlántica Media	16,02%	27,18%	23,79%	11,17%	-3,40%	7,77%
Cundi-Boyacense	21,83%	32,29%	32,49%	10,46%	0,20%	10,66%
Eje Cafetero	15,37%	14,56%	21,90%	-0,80%	7,34%	6,54%
Centro-Oriente	12,73%	12,53%	24,74%	-0,21%	12,22%	12,01%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.



**TABLE 5.4.**  
PERCENTAGE OF HOUSEHOLDS WITH LOANS

	2010	2013	2016	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Urban regions						
Atlantic	46,75%	63,57%	60,76%	16,82%	-2,80%	14,01%
Eastern	61,38%	62,42%	58,26%	1,04%	-4,16%	-3,12%
Central	47,81%	57,51%	53,69%	9,70%	-3,83%	5,87%
Pacific	56,63%	53,80%	51,22%	-2,83%	-2,57%	-5,41%
Bogotá	54,93%	70,44%	53,28%	15,51%	-17,15%	-1,64%
Rural Micro-regions						
Atlántica Media	25,73%	52,33%	57,86%	26,60%	5,53%	32,14%
Cundi-Boyacense	49,60%	55,03%	51,61%	5,43%	-3,42%	2,01%
Eje Cafetero	35,44%	51,26%	51,49%	15,83%	0,23%	16,06%
Centro-Oriente	28,05%	40,89%	42,03%	12,84%	1,14%	13,98%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.

the monthly per capita cost that is needed to buy, in addition to food, other goods and basic services. The national poverty line for 2010, 2013, and 2016 was established by the DANE as \$207,000, \$227,367, and \$266,043 monthly income per person in urban areas, and \$123,500, \$136,192, and \$159,543 monthly income per person in rural areas, respectively.<sup>2</sup>

Graph 5.1 shows the percentage of households below the Poverty Line in 2010, 2013, and 2016 by

region in the rural and urban areas. The first aspect that can be seen from the graph is that all the regions, in both the rural and urban areas, have experienced a sustained reduction in the percentage of households that are below the PL. While in 2010, 39.8% of households in urban areas lived below the PL, in 2016 this number decreased to 26.5%: a reduction of more than 13 percentage points in 6 years. The rural zones were in an even better situation. In 2010, 49% of households were below

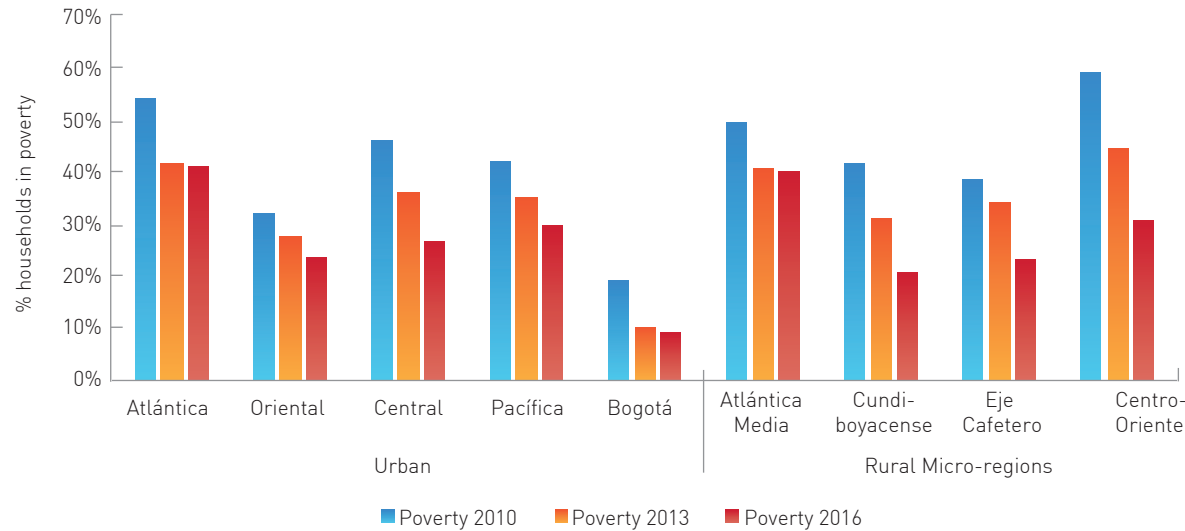
All the regions, in both the rural and urban areas, have experienced a sustained reduction in the percentage of households that are below the PL. While in 2010, 39.8% of households in urban areas lived below the PL, in 2016 this number decreased to 26.5%.

the PL; however, for 2016, this figure was 31.05%, which is an 18 percentage-point reduction in 6 years. Moreover, it is worthwhile noting that this reduction in households that live below the PL has not been the same pace for the 6 years of analysis. Between 2010 and 2013, there was a much sharper reduction than in the 3 following years, which was consistent with the average rates of increase and with the trend in poverty indicators that had been calculated by the DANE.<sup>3</sup> In urban regions, the

.....→

2. The DANE specifies the value of the Poverty Line as the income necessary to buy the essential goods and services. In this case, we calculate the households below the Poverty Line based on expenses and not on household income.
3. According to the DANE's calculations, 49.7%, 42.8%, and 38.6% of households were below the PL in rural zones, and 33.3%, 26.9%, and 24.9% of households were below the PL in urban zones in 2010, 2013, and 2016, respectively.

**GRAPH 5.1.**  
HOUSEHOLDS LIVING IN POVERTY BY ZONE AND REGION (POVERTY LINE).



Source: ELCA 2010, 2013, 2016. Authors' own calculations.

reduction in these first years was almost 9 percentage points; however, in the following 3 years it was 4.5 percentage points. In rural zones, there was a ten percentage point reduction between 2010 and 2013, and, subsequently, a little less than 8 percentage points in the following years. If this is indeed not an unexpected result –it is marginally more difficult to reduce the number of people who are below the PL– it is important to recognize the differences in the reduction of monetary poverty between different ELCA rounds.

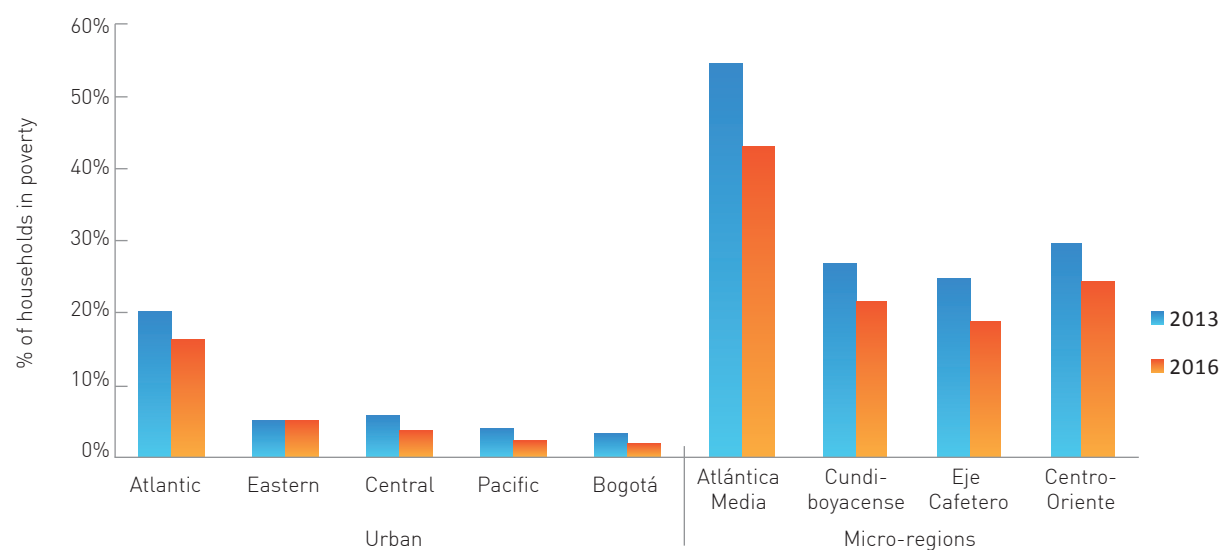
The PL, despite being rather easy to measure, has been criticized for falling short as a poverty indicator in the broadest sense of the term, which is known as multidimensional poverty. Authors such as Sen (1999) criticize the fact that this measure only focuses its attention on the monetary dimension of poverty. This leaves aside an aspect that Sen believes to be fundamental when measuring poverty: the opportunities that people have to develop proficiencies and skills in their lives. Furthermore, critics of monetary measures of poverty argue that

this can be calculated incorrectly if other types of hardships that the households could have, such as those relating to health, education, housing, etc. (United Nations, 2009) are not taken into consideration. Based on this, the calculation and analysis of the PT that was presented above will be complemented by constructing a Multidimensional Poverty Index (MPI). This was developed by the Oxford Poverty & Human Development Initiative (OPHI) at the University of Oxford<sup>4</sup>. The MPI focuses on the opportunities and access to provisions and services that allows the family to improve their well-being (OPHI, 2015). The MPI considers fifteen dimensions, based on which a family is considered to be in Multidimensional Poverty if it has at least five out of the fifteen hardships. Due to a lack of information, it is not possible to calculate this index for 2010, but the variables are complete and so we can make calculations for 2013 and 2016.

Graph 5.2 presents the MPI by region for these two last rounds (2013 y 2016). The first aspect that stands out-and that is consistent with the PL indicator-, is the fact that the percentage of households in poverty is much higher in rural zones than in urban zones. This can be explained by the fact that the MPI, as it includes criteria relating to education, work, health, and housing, is more inclined to classify the rural households as poor due to the difficulty the government has in serving the needs of a population that is more dispersed. The other aspect that it is worthwhile mentioning from this graph is the fall in the percentage of households

4. The MPI estimated in this chapter is that adapted for the Colombian scenario by Angulo, Díaz y Pardo (2013).

**GRAPH 5.2.**  
HOUSEHOLDS LIVING IN POVERTY BY ZONE AND REGION (MPI).



Source: ELCA 2010, 2013, 2016. Authors' own calculations.

that are in poverty according to the MPI between 2013 and 2016. For all the regions surveyed in the ELCA -with the exception of the Eastern region-, there was a strong reduction in this percentage: the Atlantic region presented the greatest reduction in terms of the urban zones (3.9 percentage points) and the Atlántica Media region in terms of the rural micro-regions (11.56 percentage points). In contrast, Bogotá presented one of the lowest reductions in the percentage of households in poverty; it

had a reduction of 1.3 percentage points, and only the Eastern region had less reductions.

As the MPI has fifteen different indicators to measure household hardships, analyzing this can hide a broad heterogeneity in the dynamics of its different components. In terms of the ELCA household, it is important to highlight that almost all the MPI indicators show improvement (represented by a reduction) between 2013 and 2016 in different regions

throughout the country, the health indicator worsened in 4 of the 9 regions (Eastern, Central, Pacific, and Center-Eastern). This can be explained by a fall in the access to health services due to a perceived need and not a deterioration in people's affiliation to the system. These two indicators are shown as part of the MPI health component.

We calculated the wealth index proposed by Filmer and Pritchett (2001) in order to develop an analysis that, until now, has not been undertaken on the situation that Colombian households are in. This was constructed by using an algorithm that was created using principal component analysis, which manages to aggregate a single indicator to a set of variables (mainly categorical) that together determine the state of poverty. The wealth index includes variables relating to access to public services, housing characteristics, and durable goods; consequently, it provides a good estimation of the measure of Colombian household's wellbeing. Due to its multidimensional nature, as a measurement it is closer to the MPI than it is to the PL.

Graphs 5.3 and 5.4 present the wealth distribution for the three years in which the survey was given for both the urban and rural zones, respectively. As can be seen in both graphs, as the years go on, the wealth index distribution has been displaced to the right, which confirms that, on average, households are less poor. This result confirms what we have seen so far in terms of the analysis of expenditure, the PL, and the MPI: there was a reduction



→ There are also other sides to poverty. A rainy day in Barranca: on the unpaved streets, the mud and water do not stop the children from enjoying themselves.

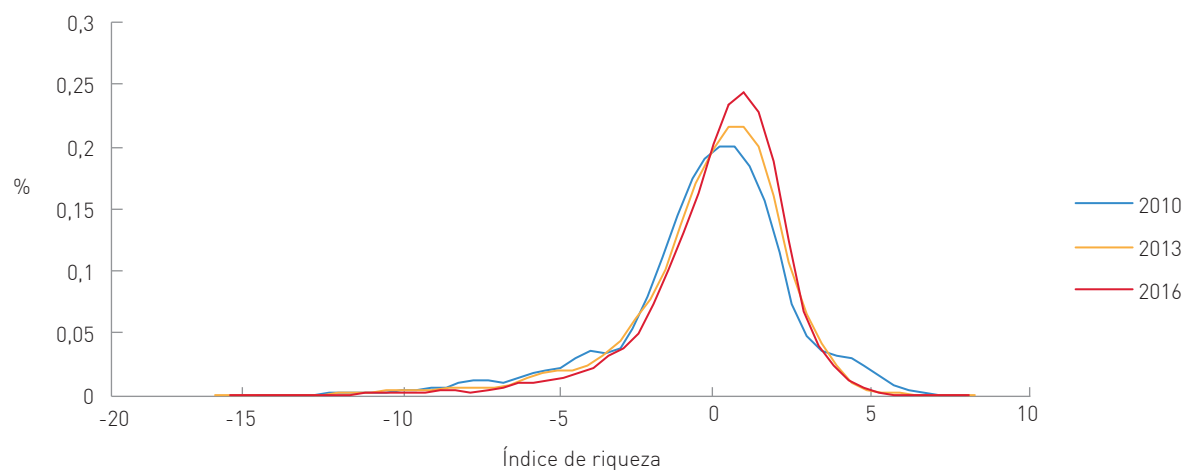
in poverty in Colombia between 2010 and 2016. In addition to the above, it is possible to see that the average wealth index in urban zones has, in every year, been higher than in the rural micro-regions.

The analysis that has been undertaken until now allows us to understand the general dynamics of

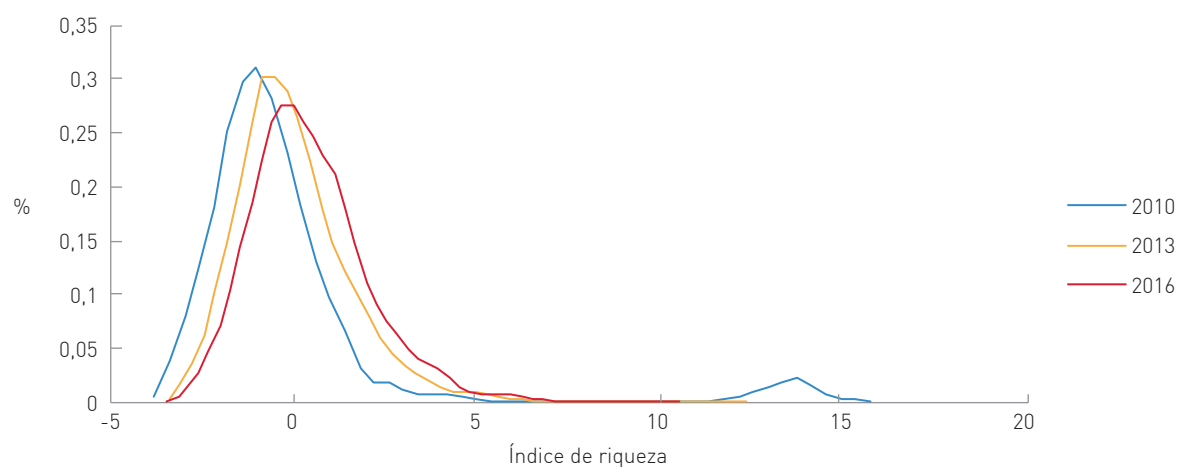
expenditure, poverty, and the wealth index for the 3 years of interest for the households that were surveyed. However, it is possible to take advantage of the fact that ELCA is a longitudinal survey. Monitoring the same households over time allows us to understand the transitions that each household has gone through. As such, we can find out, for

example, the wealth tertile to which each household belongs and look at how they have evolved in each round. Table 5.5 shows the transition matrices of wealth tertiles for the rural and urban areas. These were constructed at 2 different times, which are specified in each matrix (for example, the 2013 tertile and the 2016 tertile) and they show the percentage of households that are in the tertiles indicated in each one of the years. Table 5.6 presents a summary of these matrices as it shows the percentage of households that improve, worsen, and stay the same in the wealth tertile between the specified years. Several interesting conclusions can be derived from this table. Firstly, the majority of households stay in the same tertile between 2010 and 2016: this number is higher for urban zones (61.84%) than it is for rural zones (53.76%).

It is for this reason that there seems to be a higher degree of mobility in rural zones than in urban zones. Secondly, there are more people who improve their wealth tertile than people who find themselves in a worse situation: in urban zone, for 22.68% it improves, and for 15.48% it worsens; and in rural zone, for 23.39% it improves, and for 22.58% it worsens. It is important to highlight that the difference between the households that improve and those that worsen is greater in urban region than in rural micro-regions, which, once again, demonstrates how vulnerable rural households are. Between 2010 and 2016, there is more than a 7 percentage point difference for urban zones; however, in the rural zones, there is a half a percentage point difference.

**GRAPH 5.3.****DISTRIBUTION OF THE WEALTH INDEX IN URBAN REGIONS.**

Source: ELCA 2010, 2013, 2016. Authors' own calculations.

**GRAPH 5.4.****DISTRIBUTION OF THE WEALTH INDEX IN RURAL MICRO-REGIONS.**

Source: ELCA 2010, 2013, 2016. Authors' own calculations.

Until this point, it has been possible to observe how, by using different indicators, poverty was reduced in Colombia between 2010 and 2016. Although we recognize the heterogeneity between the different regions and between the different years, the data that has been analyzed until now show a reduction in poverty in the country. To complement this analysis, it is worthwhile looking at the behavior of owning durable goods and access to public services in Colombian households. This analysis will allow us to have a fairly tangible measure of the changes in quality of life that the households have gone through. Table 5.7 presents the percentage of households that own each one of the durable goods listed. In general, between 2010 and 2016, ownership of almost all the durable goods listed increased. What has happened with the motorcycle stands out as part of these increases: in urban regions, there has been an increase of 11%, and in rural micro-regions there has been an increase of 23%. In only 6 years, the percentage of rural households that owned a motorcycle increased from 21% to 44%. This pattern concurs with reports of increased ownership of motorbikes, which, today, comprise 56% of the total amount of vehicles owned nationally (RUNT, 2017). Purchasing this type of durable good happens for reasons that go further than simple improvement in mobility. The motorcycle can contribute to income generation, and, as such, reduce poverty for the households that purchase one. These results are presented in a study which concludes that 22% of motorcycle users in the country see this good as a possibility to increase the household's income by providing a work alternative and family income (Comité de Ensambladoras de Motos Japonesas, 2013).

**TABLE 5.5.**  
TRANSITION MATRIX OF WEALTH TERTILES

Zone of residence: Urban				
Tertile 2013				
Tertile 2010	1	2	3	Total
1	68,86%	26,85%	4,29%	100%
2	17,64%	52,77%	29,59%	100%
3	7,43%	21,72%	70,85%	100%
Total	32,67%	34,05%	33,28%	100%
Zone of residence: Rural Micro-regions				
Tertile 2013				
Tertile 2010	1	2	3	Total
1	66,88%	25,31%	7,81%	100%
2	20,76%	48,53%	30,71%	100%
3	12,23%	27,21%	60,56%	100%
Total	33,85%	33,65%	32,50%	100%

Source: ELCA 2010-2013. The table presents the transition matrix of tertiles by area. The information is based on data reported by the households being monitored that are in both rounds.

There are also important increases in the number of fridges and washing machines in both urban and rural zones. Between 2010 and 2016, in the urban zone, there was an 8% increase in ownership of fridges and a 17% increase in the ownership of washing machines. Similarly, in the rural micro-regions, there was a 15% increase in the ownership of fridges and a 16% increase in the number of washing machines. It is important to highlight

Zone of residence: Urban				
Tertile 2016				
Tertile 2013	1	2	3	Total
1	73,35%	23,28%	3,37%	100%
2	18,17%	56,27%	25,56%	100%
3	2,76%	20,19%	77,05%	100%
Total	31,07%	33,48%	35,45%	100%
Zone of residence: Rural Micro-regions				
Tertile 2016				
Tertile 2013	1	2	3	Total
1	67,48%	23,87%	8,65%	100%
2	25,18%	48,56%	26,26%	100%
3	6,33%	28,46%	65,21%	100%
Total	33,37%	33,67%	32,96%	100%

Source: ELCA 2013-2016. The table presents the transition matrix of tertiles by area. The information is based on data reported by the households being monitored that are in both rounds.

that, although there were similar increases in the ownership of some durable goods, there is a huge difference in ownership of these types of goods between the rural and urban areas of the country. Just like the previous indicators of poverty, the rural areas seriously lag behind the urban areas. While 75% of urban households owned a washing machine in 2016, only 35% of rural households owned one. The difference is particularly marked

Zone of residence: Urban				
Tertile 2016				
Tertile 2010	1	2	3	Total
1	65,40%	26,83%	7,77%	100%
2	16,04%	50,51%	33,45%	100%
3	7,97%	22,42%	69,61%	100%
Total	31,07%	33,48%	35,45%	100%
Zone of residence: Rural Micro-regions				
Tertile 2016				
Tertile 2010	1	2	3	Total
1	61,28%	25,65%	13,07%	100%
2	24,19%	44,36%	31,45%	100%
3	13,16%	31,20%	55,64%	100%
Total	33,37%	33,67%	32,96%	100%

Source: ELCA 2010-2016. The table presents the transition matrix of tertiles by area. The information is based on data reported by the households being monitored that are in both rounds.

in terms of computers, which is a complementary good used for the creation of human capital and something that opens access to opportunities within different markets. In comparison, with 53.9% of urban households, only 8.8% of rural households have a computer.

Access to public services presents a similar picture. In general, between 2010 and 2016, there was an

**TABLE 5.6.**  
SUMMARY MATRIX

Zone of residence: Urban regions				
	Improve	Worsen	Same	Total
2010 - 2013	20,24%	15,60%	64,16%	100%
2013 - 2016	17,40%	13,71%	68,89%	100%
2010 - 2016	22,68%	15,48%	61,84%	100%
Zone of residence: Rural Micro-regions				
	Improve	Worsen	Same	Total
2010 - 2013	21,28%	20,07%	58,66%	100%
2013 - 2016	19,59%	19,99%	60,42%	100%
2010 - 2016	23,39%	22,85%	53,76%	100%

Source: ELCA 2010, 2013, 2016. The table presents the transition matrix of tertiles by area. The information is based on data reported by the households being monitored that are in both rounds.

increase in coverage for almost all public services in both rural and urban zones. The only significant fall in access to public services is the telephone in urban zones, which reflects the substitution that households are making from fixed line telephones to mobile telephones. In 2016, in both rural and urban zones, approximately 98% of houses had a mobile telephone. Access to natural gas was the biggest increase in both rural (15%) and urban (14%) areas. Similarly to the possession of durable goods, it is important to highlight that the similarities in the increases in public services does not imply that there is similarity between the increases of public services in rural and urban zones. There is a dramatic gap between both zones: there is only

patchy coverage of important services such as water mains, sewage, and waste disposal in rural areas where only 11.4% of households have sewage while in urban zone, this figure is 93.6%. In terms of waste disposal, 13.4% of rural households have this service, whereas 97.8% of urban households do. 63.75% of rural households have access to running water, in comparison to 97.98% of urban households.

This huge difference between rural and urban zones in the coverage of public services such as access

to running water and sewage makes studying what happens in each one of the regions relevant. Tables 5.9 and 5.10, respectively, show the coverage of sewage and access to running water in each one of the regions that was analyzed in 2010, 2013, and 2016. The first interesting element is the huge gap between the Atlantic region and the other urban regions in the country. In 2016, 74.55% of households in this region had access to sewage, whereas, in the same year, 96.62% of the households in the region that followed -Eastern region- had this service. Due to this difference, the Atlantic region is the only

**TABLE 5.7.**  
OWNERSHIP OF DURABLE GOODS BY HOUSEHOLD

	2010	2013	2016	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Urban regions						
Fridge	84,10%	87,59%	91,98%	3,49%	4,39%	7,88%
Washing machine	57,82%	65,64%	75,11%	7,82%	9,47%	17,29%
Television	96,16%	96,53%	97,13%	0,37%	0,60%	0,97%
Computer	40,95%	51,13%	53,91%	10,18%	2,78%	12,96%
Motorcycle	18,73%	25,23%	29,62%	6,50%	4,39%	10,89%
Rural Micro-regions						
Fridge	55,49%	59,92%	70,53%	4,43%	10,61%	15,04%
Washing machine	19,15%	22,60%	35,50%	3,45%	12,90%	16,35%
Television	81,20%	81,42%	85,56%	0,22%	4,14%	4,36%
Computer	7,99%	7,25%	8,88%	-0,74%	1,63%	0,89%
Motorcycle	21,25%	30,53%	44,02%	9,28%	13,49%	22,77%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.



→ In the Betancourt Álvarez family house in the Santa Fe neighborhood in Montería (Córdoba), as well as the nuclear family, other relatives also live in the house. Despite each family's finances being separate, all members contribute to the living expenses in order to survive.

**TABLE 5.8.**  
ACCESS TO PUBLIC SERVICES BY HOUSEHOLD

	2010	2013	2016	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Urban regions						
Electricity	99,75%	99,92%	99,82%	0,17%	-0,10%	0,07%
Natural gas	69,06%	78,52%	83,11%	9,46%	4,59%	14,05%
Sewage	93,29%	92,41%	93,62%	-0,88%	1,21%	0,33%
Access to running water	96,98%	97,31%	97,98%	0,33%	0,67%	1,00%
Telephone	55,52%	51,22%	47,73%	-4,30%	-3,49%	-7,79%
Mobile telephone	.	98,04%	98,79%	.	0,75%	.
Internet	22,81%	40,26%	50,16%	17,46%	9,90%	27,35%
Waste collection	98,38%	97,89%	97,88%	-0,49%	-0,01%	-0,50%
Rural Micro-regions						
Electricity	93,29%	96,19%	97,63%	2,90%	1,44%	4,34%
Natural gas	0,24%	4,75%	15,68%	4,51%	10,93%	15,44%
Sewage	6,04%	7,45%	11,40%	1,41%	3,95%	5,36%
Access to running water	55,01%	61,75%	63,75%	6,74%	2,00%	8,74%
Telephone	0,80%	1,03%	1,29%	0,23%	0,26%	0,49%
Mobile telephone	.	96,94%	97,72%	.	0,78%	.
Internet	0,91%	2,38%	3,63%	1,48%	1,24%	2,72%
Waste collection	3,34%	8,51%	13,46%	5,17%	4,95%	10,12%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.



**TABLE 5.9.**  
ACCESS TO SEWAGE

	2010	2013	2016	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Urban						
Atlantic	68,61%	69,39%	74,55%	0,78%	5,16%	5,94%
Eastern	97,92%	96,10%	96,62%	-1,82%	0,52%	-1,30%
Central	97,68%	96,72%	97,13%	-0,96%	0,41%	-0,55%
Pacific	99,74%	99,23%	98,46%	-0,51%	-0,77%	-1,29%
Bogotá	99,82%	98,18%	98,72%	-1,64%	0,55%	-1,09%
Rural Micro-regions						
Atlántica Media	0,19%	3,59%	6,50%	3,40%	2,91%	6,31%
Cundi-Boyacense	3,52%	6,04%	8,85%	2,52%	2,82%	5,33%
Eje Cafetero	31,19%	20,41%	28,10%	-10,78%	7,68%	-3,10%
Centro-Oriente	3,42%	5,59%	9,63%	2,17%	4,04%	6,21%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.

urban region in which there was an increase in the coverage of sewage between 2010 and 2016. There was a similar, but smaller, gap of approximately ten percentage points in terms of water main coverage. Atlantic is the urban region that has the highest increase; however, it also has the lowest levels of coverage.

In terms of rural zones, it is possible to see that two regions stand out. For both sewage and access to

running water, the Eje Cafetero has a higher coverage than the other rural regions, and the Atlantic region has much lower coverage. In 2016 for example, 28.1% of households in the Eje Cafetero had access to this service while in the following rural region (Centro-Oriente), only 9.63% of households had access to this service. The Atlántica Media region, in which only 50% of households have access to running water, has a much lower coverage than the other rural micro-regions in the country. However, it is

worthwhile pointing out the large increase in this region between 2010 and 2016. Coverage of access to running water has increased by 21.65%, and sewage by 6.31%. Although it is difficult to attribute this increase to one single factor, it is important to mention the contribution that the General System of Royalties (SGR by its acronym in Spanish) is making. These funds are used, for the most part, for infrastructure in the regions as well as for the development of public services. According to the Directorate for Supervising Royalties, which is part of the National Department of Planning (DNP, 2016), between 2015-2016, 3,559 projects were approved that had a total of COP\$7.8 billion. Projects undertaken in the Atlantic region were worth a value of COP\$2 billion, which is equivalent to 26.4% of the total value of all the projects that were carried out in the two-year period. Only the Llanos region has projects that have a greater value than those that were carried out in the Atlantic region. In addition, of the 1,773 projects that were visited in 2015, 495 were being carried out in the Atlantic region. This is 27.9% of the total, which is a much higher percentage than any other region. The previous leads us to the opinion that the use of the funds that come from the General System of Royalties (SGR) plays an important role in increasing coverage of basic services and, probably, in increasing the expenditure that we have previously seen in this chapter for households in the Atlantic region.

**TABLE 5.10.**  
ACCESS TO RUNNING WATER

	2010	2013	2016	Percentage change 2010-2013	Percentage change 2013-2016	Percentage change 2010-2016
Urban						
Atlantic	87,22%	88,68%	92,49%	1,46%	3,81%	5,27%
Eastern	98,44%	98,44%	98,96%	0,00%	0,52%	0,52%
Central	98,77%	98,91%	99,18%	0,14%	0,27%	0,41%
Pacific	99,74%	99,87%	99,36%	0,13%	-0,51%	-0,39%
Bogotá	99,64%	99,45%	99,45%	-0,18%	0,00%	-0,18%
Rural Micro-regions						
Atlántica Media	28,93%	46,12%	50,58%	17,18%	4,47%	21,65%
Cundi-Boyacense	59,86%	63,08%	64,79%	3,22%	1,71%	4,93%
Eje Cafetero	76,95%	76,61%	78,90%	-0,34%	2,29%	1,95%
Centro-Oriente	75,88%	81,26%	78,88%	5,38%	-2,38%	3,00%

Source: ELCA 2010, 2013, 2016. Authors' own calculations.

These important differences between urban and rural zones in terms of the ownership of durable goods and access to public services complicates the picture that has been presented thus far. Although poverty seems to have reduced between 2010 and 2016, there is still a long way to go: particularly in urban zones. Precarious access to public services reduces the standards of living of these

households that, with no sewage or waste disposal, are exposed to many diseases.

### 5.3. ACCESS TO SOCIAL PROGRAMS

The fundamental objective of social programs funded by the State is to improve quality of life for the

beneficiary individuals or beneficiary households. For this reason, using the same line of analysis that we have used until now, it is very important to understand how people's participation in these programs have changed. Graphs 5.5, 5.6, 5.7, and 5.8 show participation in four social programs (ICBF<sup>5</sup>, SENA<sup>6</sup>, Red Unidos<sup>7</sup>, and Familias en Acción<sup>8</sup>) for different regions in the three years that were analyzed. The first important factor is the significant increase in the participation of the (ICBF, SENA, and Red Unidos) social programs between 2010 and 2013. In urban zones, the percentage of households that participated in ICBF programs increased by 13.4%, and in rural zones, it increased by 26.24%.



→ Eduard Álvarez is a day laborer in Sabanalarga, Chinú (Córdoba). In this photo, he is bringing drinking water to the house to be shared with his mother-in-law and several of his sisters-in-law. Behind, is his seven year-old son Éder David Álvarez.

5. The Colombian Institute of Family Wellbeing.

6. The National Service for Apprenticeships (Servicio Nacional de Aprendizaje) (SENA) is a Colombian public institution focused on the development of professional training programs.

7. This is a strategy that seeks to contribute to improving families' living conditions, improve the accumulation of social and human capital and, consequently, to the reduction of the levels of poverty.

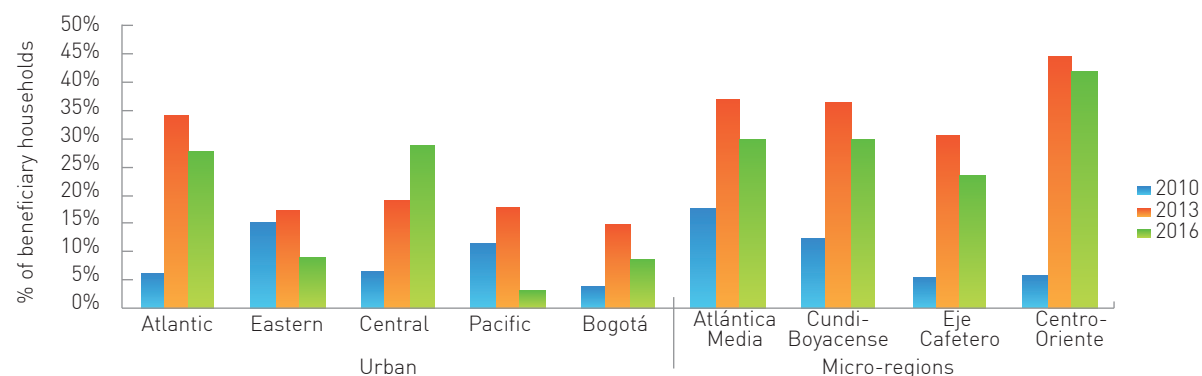
8. This program helps families with children under 18 who need financial support for food and for the children to remain in education.



→ In Sabanalarga, Chinú (Córdoba) on a plot of land with four houses built by the members of the Álvarez Tapias family. There are eight adults and thirteen children and in front of the land there is a space to play football.

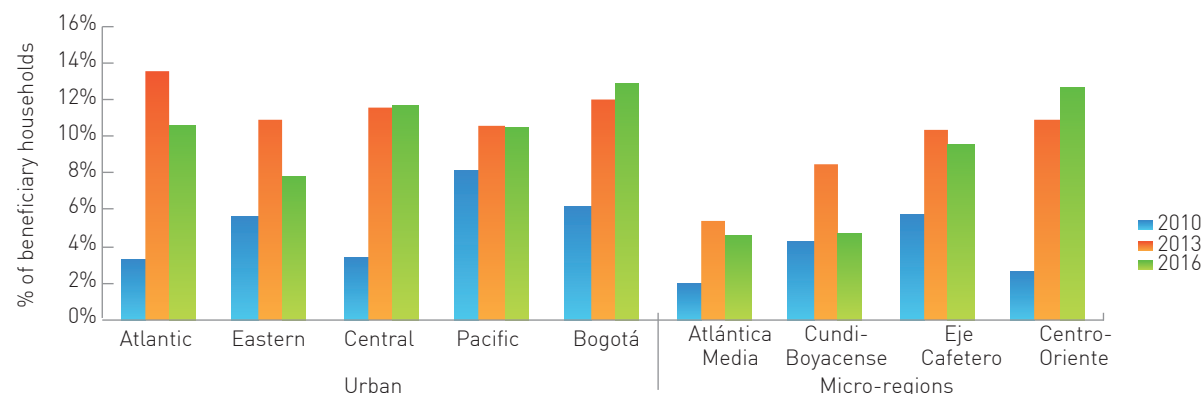
Participation increased by 6.8% and 5.1%, respectively in the SENA's programs. For Red Unidos, there was a 3.29% and 8.37% increase in urban and rural zones, respectively. However, this sharp increase between 2010 and 2013 is not replicated in 2016 for any of the three programs mentioned. In fact, participation in the three institutions' social programs reduced between 2013 and 2016. Although the reduction is not the same size as the increase in the three previous years, it occurs in all the regions being analyzed. The Red Unidos is the program that experienced the strongest reductions in participation between 2013 and 2016. This could be due to the reorganization of the program and contracting procedures that took place at the beginning of 2016, when the program activities were not being carried out in full. An interesting

**GRAPH 5.5.**  
PARTICIPATION IN ICBF'S SOCIAL PROGRAMS (PERCENTAGE OF ELIGIBLE HOUSEHOLDS)



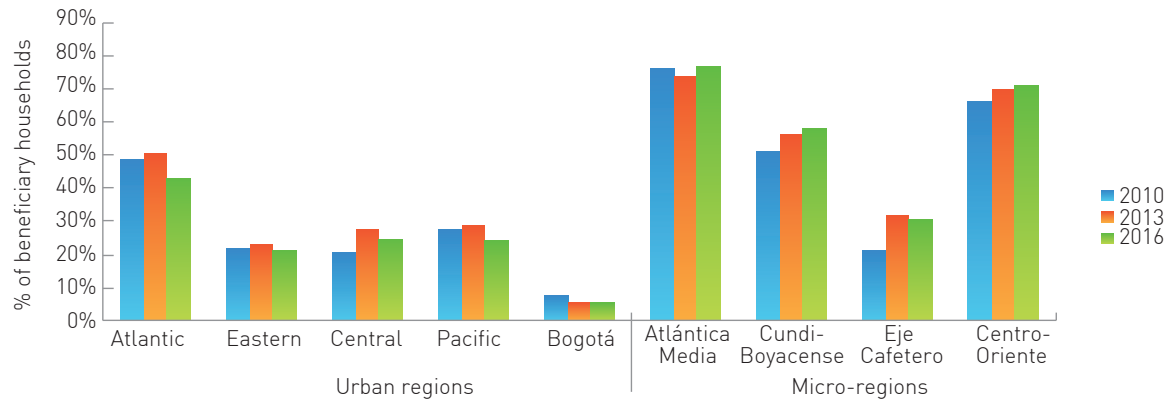
Source: ELCA 2010, 2013, 2016. Authors' own calculations. The universe of households that was considered to calculate these percentages contains those households with children between 0 and 5.

**GRAPH 5.6.**  
PARTICIPATION IN SENA'S SOCIAL PROGRAMS (PERCENTAGE OF ELIGIBLE HOUSEHOLDS)



Source: ELCA 2010, 2013, 2016. Authors' own calculations. The universe of households that was considered to calculate these percentages contains those households with people between 15 and 25.

**GRAPH 5.7.**  
PARTICIPATION IN FAMILIAS EN ACCIÓN (PERCENTAGE OF ELIGIBLE HOUSEHOLDS)

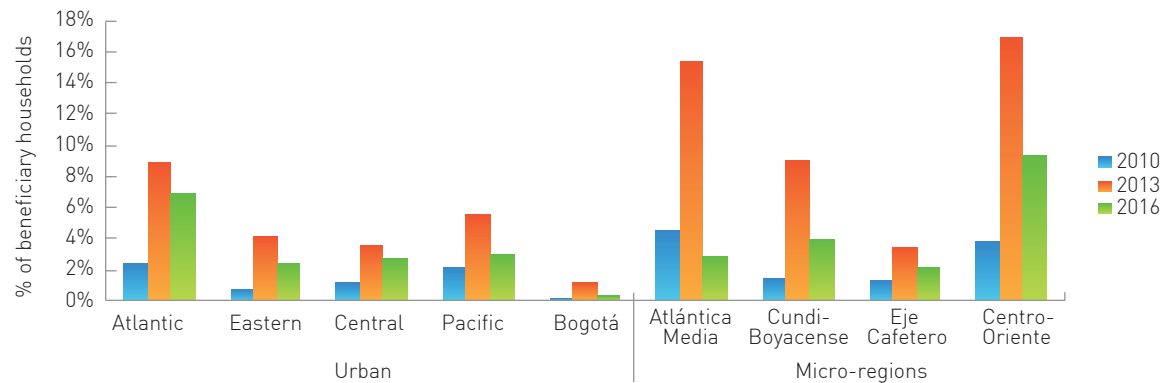


Source: ELCA 2010, 2013, 2016. Authors' own calculations.



→ Inés Álvarez has suffered many shocks, the most serious being the death of her only son. She now struggles paying the electricity and receives threats from the authorities to close her shop in Chinú (Córdoba) for not paying her Sayco Acinpro contribution.

**GRAPH 5.8.**  
PARTICIPATION IN RED UNIDOS



Source: ELCA 2010, 2013, 2016. Authors' own calculations.

difference that can be seen between participation in SENA programs is that there is greater participation in urban than there is in rural areas. This could be explained by the higher level of education, that, on average, urban households have. Familias en Acción and Red Unidos are social network programs that were created as a mechanism for vulnerable households to escape poverty, which could explain why there is a larger degree of participation in rural micro-regions than there is in urban regions.

Participation in the Familias en Acción State program is distinct from that in the SENA and ICBF programs. As can be seen in graph 5.7, participation in Familias en Acción, generally, remained stable



→The Álvarez Tapias family children run around their house in Sabanalarga Chinú (Córdoba). They play with pigs, hens, cows, and help their parents with the household chores.

throughout the years that were analyzed. Although there were increases and decreases in some years and regions, they were not of a large magnitude. However, it is important to note the large difference that there is between rural and urban participation in this program. Atlantic is the region in an urban zone that has the greatest amount of participation (42.58% of households), and the rural micro-region with the greatest amount of participation is Atlántica-Media (76.81% of households participated). An explanation for this phenomenon is similar to what was outlined above: rural households are, in general, poorer, and for this reason, they have a higher degree of participation in the social programs.

## 5.4. CONCLUSIONS

This chapter has demonstrated a reduction in the poverty in Colombia, which has been measured by different indicators. Among these indicators are: per capita expenditure, the number of households below the Poverty Line, the Multidimensional Poverty Index, and the Filmer and Pritchett wealth index. However, there has been a deceleration in the reduction in poverty over the past three years with

respect to the fall between 2010 and 2013. The indicators analyzed show that between 2013 and 2016 there was a smaller reduction in poverty than between 2010 and 2013. If this can be considered as a normal phenomenon (it is marginally more expensive/ difficult to remove a household from poverty) it also demonstrates the difficulties that the social public policies will have to confront in the future. A more general view of poverty must consider the conditions that the households develop based on help from social programs in order that their escape from poverty endures and is sustainable.

In other words, the government needs to guarantee the provision of public services relating to

health, education, and quality sanitation. These are conditions that allow households to be permanently socially mobile and to avoid households falling into poverty traps that are difficult to escape from. This is particularly important due to the huge gap between rural and urban regions in terms of access to these public services. Such fundamental and important services such as waste disposal, sewage, and access to running water presented, respectively, a difference of 84, 82, and 34 percentage points in 2016 for urban regions and rural micro-regions. These differences should be taken into account when prioritizing public policy investments that seek to improve the majority of Colombians' living standards.

The indicators analyzed show that between 2013 and 2016 there was a smaller reduction in poverty than between 2010 and 2013. This can be considered as a normal phenomenon (it is marginally more expensive /difficult to remove a household from poverty), but also demonstrates the difficulties that the social public policies will have to confront in the future.

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→ Six year-old Daniel Felipe García lives with his adoptive parents María Alicia Torres and Octavio Ballesteros in Susa (Cundinamarca). After arriving from school and doing homework, he helps milk the cows.







→ Sara Ballesteros Robayo says that she prefers to help her father working in the fields than helping her mother with the housework and looking after the children in the nursery. She lives in Buenavista (Boyacá) and dreams of competing in skating events.

## CHAPTER 6

# CHILDREN AND YOUNG PEOPLE IN COLOMBIA: THEIR CHANGE BETWEEN 2010 – 2016

NICOLÁS FUERTES  
CATHERINE RODRÍGUEZ



→ Six year-old Daniel Felipe García always helped his mother milk the cows, and he enjoys himself playing with this calf in Susa (Cundinamarca).

### 6.1. INTRODUCTION

→ As well as being the first longitudinal survey in Colombia, probably the most important characteristic of ELCA is that it allows the detailed monitoring of the development over time of a representative sample of children who were between zero and nine in 2010 in urban regions and four rural micro-regions in Colombia. The information collected in the three ELCA rounds allows us to understand the life story of these individuals in terms of critical issues including health, education, child labor, social capital, consumer habits, risks, expectations, and dreams and life plans. This information, if used appropriately, can be used as the fundamental input to develop public policy for children and young people in Colombia.

This chapter presents a brief introduction to the richness of data that this longitudinal survey contains, which allows us to understand some of the most significant changes that the children and young people have experienced since ELCA first started gathering information. According to Rodríguez (2014), the analysis is based on the paths of young people in the last six years in terms of

education, child labor, risks, and their dreams. Although the two first topics are based on standard questions that are found in other surveys of Colombian households, only through ELCA is it possible to follow the same children over time and understand how decisions regarding these important aspects will have an impact on their future levels of income, economic stability, and personal and family development. The analysis of the other two topics is only possible thanks to the specific and original information that ELCA has gathered in this and other areas in Colombia.

The analysis allows us to conclude that between 2010 and 2016, as the children and young people are growing up, their rates of falling behind and dropping out of school have increased. These increases, that are related to older children, are importantly correlated with personal and family characteristics. The ones who are more likely to fall behind or drop out of school are either the children and young people who live in the most vulnerable households or those who in 2010 had less verbal skills. Specifically, the correlation found between educational variables and verbal skills is the strongest and most significant, and it proves the importance that early childhood has on the lives of individuals.

Similarly, individuals undertaking household chores and participating in the labor market has increased over recent years, which can be explained by socio-economic factors as well as their age. Moreover,



→ Fifteen year-old Jesús David Franco Causil dreams of being a football player. He is a fan of Junior and dreams of playing for Real Madrid. He lives with his mother and grandparents on a farm in Ciénaga de Oro (Córdoba).

The analysis allows us to conclude that between 2010 and 2016, as the children and young people are growing up, their rates of falling behind and dropping out of school have increased. These increases, that are related to older children, are importantly correlated with personal and family characteristics.

there is a clear differentiation in rolls between the sexes within the household; there is a marked difference between the time that boys and girls spend on chores, even at a young age. As the children who are being monitored are growing up, the probability of them being exposed to dangerous activities -such as alcohol consumption or joining a gang- has increased: their dreams and expectations for the future have adjusted accordingly. We found that events such as teenage pregnancy and dropping out of school have consequences on their future expectations, which, perhaps, perpetuates a cycle of poverty for these young people that begins in adolescence.

## 6.2. THE SAMPLE OF CHILDREN AND YOUNG PEOPLE USED

In ELCA, the special follow-up population is a representative sample of children from urban zones and four rural micro-regions, they were the children, stepchildren, or grand-son/ daughter of either the head of the household or their spouse in 2010, and that were between 0 and 9 years of age. However, this chapter concentrates solely on a subgroup made up of children who were between 5 and 9 in the first round, which can be explained for three reasons. First, the analysis of the development of children who were between zero and nine in 2010 -given the recognized importance of early childhood- has been extensively analyzed in studies such as Bernal and Van Der Werf (2011) and Bernal,

Martínez, and Quintero, (2015). Secondly, as education is one of the main topics being analyzed in this chapter, we decided to only choose those cohorts that, from the first ELCA round and in accordance with Colombian legislation, should already be registered in the Colombian education system. Finally, these older cohorts allow us to ask new questions that are incorporated into the ELCA as the children and young people being monitored grow up.

In order to ensure a balanced panel, the analysis relating to education and child labor use information

from 1,439 and 1,819 children from urban regions and rural micro-regions, respectively.<sup>1</sup> For the analysis related to risks and dreams that the children and young people reported to have in 2013 and 2016, we used information from 873 young people in urban zones and 1,109 young people in rural micro-regions: in 2010, the majority were between seven and nine, and, therefore, have responded to the unit on young people in both rounds.

On analyzing the basic characteristics of these children and young people for the urban sector and



→ Seven year-old Santiago Franco Ruiz lives with his mother Noraylis Ruiz and his grandparents on a farm in Ciénaga de Oro (Córdoba). His father is a miner in Chocó and he visits every two or three months.

.....→

1. Guaranteeing a balanced panel implies that only the children who were surveyed in the three ELCA rounds were chosen for analysis. This means that there was a sample loss of 28% of the 4,503 children who were surveyed by ELCA in 2010 and who were between five and nine. This loss is superior to the household loss as only 10.5% of the households surveyed in 2010 were lost. Additionally, to keep the urban and rural samples being representative, the analysis was undertaken based on the zone in which the children lived in the baseline.



→ Karina Ramírez Tapias helps with domestic chores for her nuclear family, consisting of her grandmother Inés María Álvarez, her mother's husband Eduard Álvarez, her mother Yomaira Tapias, and her sisters Camila and Isabela.

four micro-regions in the rural sector, we found that, as expected, the average age of children on the panel increased over the three rounds, from 6.99 in 2010 to 10.07 in 2013 and then 13.05 in 2016 in urban zone; and from 7.05 to 10.07 and then 13.11 in the four rural micro-regions, respectively, for each round. It is interesting that, year by year, the proportion of households to which the children belong that have low levels of wealth decreases importantly in both areas. It moves from 38.60% and 33.18%, respectively, for the urban zones and the rural micro-regions in 2010 to 41.21% and 36.05% in 2016, respectively.<sup>2</sup>

### 6.3. EDUCATION: ATTENDANCE, DROPPING OUT, AND FALLING BEHIND

The Colombian legislation stipulates that mandatory education starts at five; children start at grade zero (transition) and finish in ninth grade corresponding to elementary and middle school. Data from ELCA show that, in 2010, 98.3% and 97.2% of children in urban zones and the rural micro-regions within this age range did attend school. In fact, in 2013, this percentage increased to 99.4% and 98.8%, respectively: this increase can be explained by some children's late-entering to the education system. However, as time goes by and these children grow up, their educational indicators show clear signs for concern that should be taken into consideration by parents and the education authorities. For example, the data indicates that, for

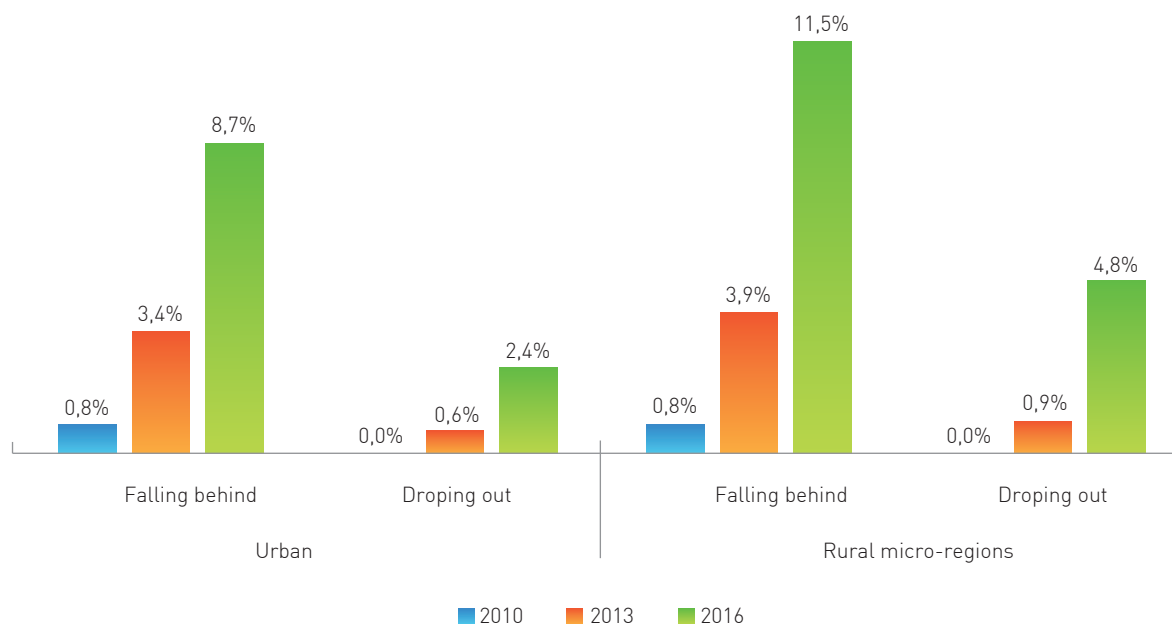
2. The wealth index for households was calculated according to the methodology presented by Staveteig and Mallick (2014) through a principal component analysis in which the only variables taken into consideration were to do with the physical condition of the dwelling (walls and floors), access to public services, assets, and size of household.

2016, only 97.6% and 94.9% of children in each one of the zones were part of the school system. Graph 6.1 shows how the percentage of children and young people being monitored who are over-age or who have abandoned the system in each zone as they have been growing up and as ELCA has been surveying them has change.<sup>3</sup> As can be seen, while in 2010 only 0.8% of these children were over-age, this percentage increased to 8.7% and 11.5% in the urban zones and the four micro-regions, respectively in 2016. Similarly, in 2010, no child between five and nine had dropped out the school system, in 2016, 2.4% and 4.8% had dropped out in each zone. The differences are evident between the residents in rural and urban zones.

However, these averages hide important variations in terms of children's sex, age, wealth, and early verbal abilities. Graph 6.2 presents school drop out in accordance with a household's level of wealth and the score from the Peabody Picture Vocabulary Test (PPVT) that the children obtained in 2010.<sup>4</sup> Panel A clearly shows that, for both zones, the lower wealth of the household, the higher the drop-out rate. This difference is more significant in the urban areas where the probability of a child or young person who comes from a poorer household dropping out of school is eight times more likely than one who belongs to a wealthier family. Panel B shows that the children who in 2010 were more

### GRAPH 6.1.

#### FALLING BEHIND AND DROPPING OUT OF THE SCHOOL SYSTEM (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)



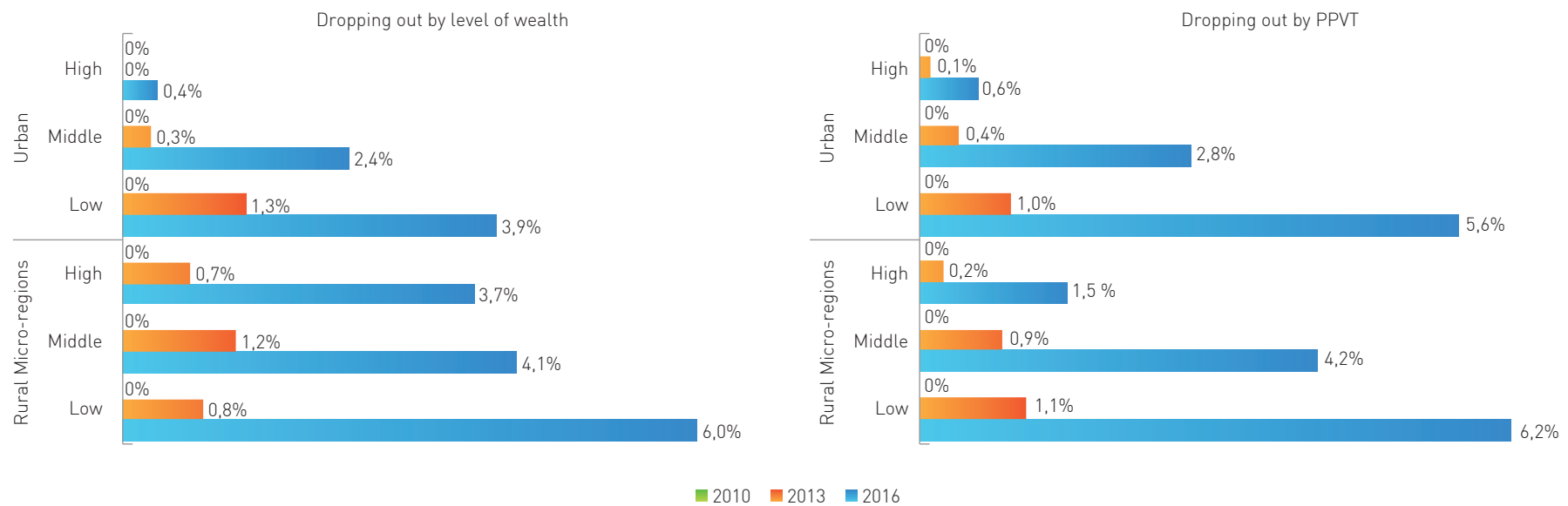
Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds, who in 2010 were between 5 and 9 years old. The rural sample is only representative for the micro-regions: Atlántica Media, Cundiboyacense, Eje Cafetero, and Centro-Oriente. Source: Own calculations ELCA 2010, 2013, and 2016.

- .....→
- In this chapter, we define falling behind (or being over-age) according to the definition provided by the Ministry of Education, which states that this phenomenon occurs when a child or young person is two or three years above the expected average age to attend a certain grade that is established in the General Law of Education. For example, a second-grade student should be between seven or eight; if they are ten or above, they are an over-age student.
  - The PPVT test measures how advanced children are for their age and it is a measure of the child's receptive verbal ability. It has been found that this test is correlated with the results from intelligence tests (Bernal et al., 2015). It has been applied in three ELCA's rounds; however, for this chapter, we will only use the results from 2010. In Bernal et al.'s (2015) study, analysis was made using results from the first two rounds (2010 and 2013).

**GRAPH 6.2.**

SCHOOL DROP-OUT RATE ACCORDING TO THE HOUSEHOLD'S WEALTH LEVEL AND THE PPVT SCORE IN 2010 (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds, who in 2010 were between 5 and 9 years old and who had reported to have dropped out in one of the rounds. The levels of wealth and PPVT score are those of the family and child in 2010. Source: Own calculations ELCA 2010, 2013, and 2016.

linguistically able, as measured by the PPVT, drop-out less from the education system. Specifically, for urban zones, we found that while only 0.6% of children in the highest tertile of the PPVT distribution leave the system, 5.6% of the children in the lowest tertile do. Results from the rural micro-regions show a similar picture, as children in the lowest tertile of the PPVT results are four times more likely to leave school than a child in the highest tertile. It is worthwhile highlighting that, when we analyze the correlation between wealth tertiles and

PPVT score with simultaneous drop-out, only the second result is significant and demonstrates the importance of investing in early childhood.

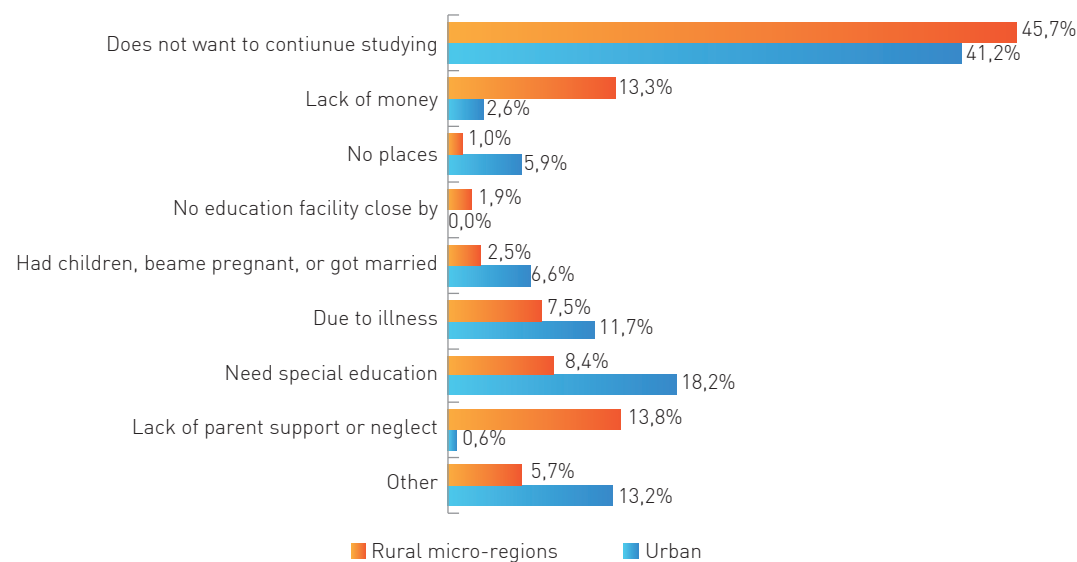
In terms of public policy, it is important to understand at what age, at what educational level, and for what reason it is most probable that an individual drops out of the school system. According to ELCA's data from 2016, 52% of those who dropped out did so when they were between 13 and 15 from urban zones, and



69% did so in the four micro-regions. This shows that this age range is critical and should be taken into consideration by the authorities, educational establishments, and families. For the vast majority of children and young people in urban zones – the majority of who drop out- the final grade that they take is first grade (16.61% of those who drop out do so in this grade, sixth grade (13.07% of students drop out), and seventh grade (20.72% drop out).<sup>5</sup> In terms of the children and young people from the four rural micro-regions, the majority only complete fifth and sixth grade (12.32% and 26.61% of those who drop out, respectively).

Graph 6.3 shows the main reason for which the individuals do not study or stopped studying. The majority, in both zones, reported to not study because they were not interested in education: a motivation that is surely related with a low quality of education and the lack of information that households have about the importance that this plays for an individual's future in terms of work. Information programs such as those written by Jensen (2010) and Levitt, List, Neckermann, and Sadoff (2016) could be very beneficial for policy in these contexts. In urban zones, the following are the three most common reasons given by young people for not attending school: the lack of places, illness, or the need for special education; a 35.8% of young people gave one of this options as a reason to not attend school. Finally, 7% of individuals in urban zones

**GRAPH 6.3.**  
MAIN REASON FOR NOT ATTENDING SCHOOL (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)



Source: ELCA 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds, who in 2010 were between 5 and 9 years old and who had reported to have not been studying in 2016 (dropped out or not attended). The rural sample is only representative for the micro-regions: atlántica media, cundiboyacense, eje cafetero, and centro-oriente.

(16% of women who drop out) claim that they do not attend school due to pregnancy or that they are looking after a child. The most common reasons in

rural zones are different, and they involve a lack of money, lack of support from their parents, or because they need special education.

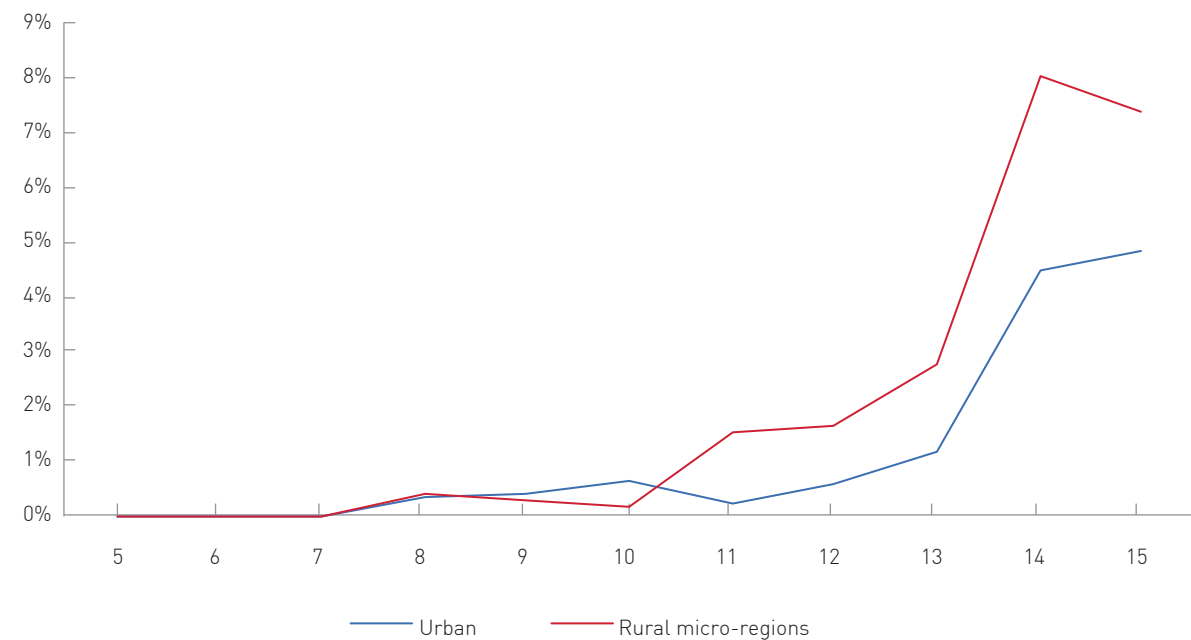
5. The high dropout rates in first grade are consistent with what has been found in previous studies such as Garcia et al. (2010).

Graph 6.4 shows the proportion of children and young people who abandoned the education system by age. This graph shows, as is expected, that dropping out becomes higher as the children get older. Specifically, 4.81% of 15 year-old children drop out in urban areas; this figure is 7.35% in rural zones. For 8 year-old children, these percentages are 0.37% and 0.42%. Similarly, the results are consistent with what has previously been found; we are beginning to see a gap between young people who live in urban and rural zones, the latter being the ones who are most likely to drop out of the education system. Finally, the graph shows that there are certain critical ages in which the children begin to drop out; it can be seen that the dropout rate increases considerably when children are 11 in rural zones and 14 in urban zones.

The rates of dropping behind also vary importantly in accordance with a household's wealth and child's verbal ability in 2010. Panel A in Graph 6.5 shows that there is a negative correlation between dropping behind and wealth, but that it has increased over time, and, as expected, the children from the poorest houses are the ones who fall behind the most. For example, in 2010, 0.83% of children between 5 and 9 from poor households in rural areas had fallen behind; this percentage increased by 3.8% and 14.4% in 2013 and 2016, respectively. Panel B in the graph once again shows a negative correlation for the PPVT score that the child obtained in 2010 and the probability of being behind in the years that follow. Firstly, it can be seen that the children who had a lower verbal development in 2010 are more

### GRAPH 6.4.

#### DROPPING OUT BY AGE (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)



Source: ELCA 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds, who in 2010 were between 5 and 9 years old and who had reported to have not been studying in one of the rounds.

likely to be behind in school, regardless of the zone in which they live. Specifically, for the four rural micro-regions, it is shown that 18.6% of the children in the lowest tertile have dropped behind in 2016 while only 1.9% of the children from the highest tertile have dropped behind. Secondly, it can be

seen that dropping behind has increased between 2010 and 2016, especially for those in the lowest tertile. The figures show that the probability increases by 11.2 percentage points in urban regions for the lowest tertile; however, for the highest tertile, it only increases by 3.22 percentage points.



→ Santiago's mother Noraylis Ruiz is very involved in his academic life and decided to not work while her son grows up so that she can look after him. She now wants a job. Her husband is a miner in Chocó.

There are also important differences in falling behind in school and dropping out if we look at sex, as can be seen in Table 6.1. Independently of where the individual resided in 2010, dropping out and falling behind in school is significantly higher and has increased to higher levels for males than for females. Also, the educational achievements have varied

depending on the zone. For example, the probability that a child in the urban sample had dropped behind increased by 11.6 percentage points between 2010 and 2016 in the Central region, but only by 2.5 points in Bogotá. In the rural sample, this probability increased by 15.1 percentage points in the Atlántica Media region and by 4.74 percentage

points for those living in the Cundiboyacense micro-region. The Central region is where there has been the highest increase of urban young-person drop out: the figure was 3.87% in 2016, and for the rural micro-regions it has increased the most in the Centro-Oriente region (6.03%).

#### 6.4. CHORES AND LABOR FORCE

ELCA also inquired as to the children and young people's participation in the labor force by asking specific questions to different age ranges. For all the children over five, the survey asked if they helped with the household chores; for children between five and nine, they were asked if they worked, or helped someone with their job in the previous week; and, finally, those over ten were asked about their involvement in the labor force that were similar to those asked to adults. This information was used to construct two variables that identified the participation or help with household chores and the participation in the labor market for all children and young people who were being monitored and the subgroup that was being analyzed in this chapter.<sup>6</sup>

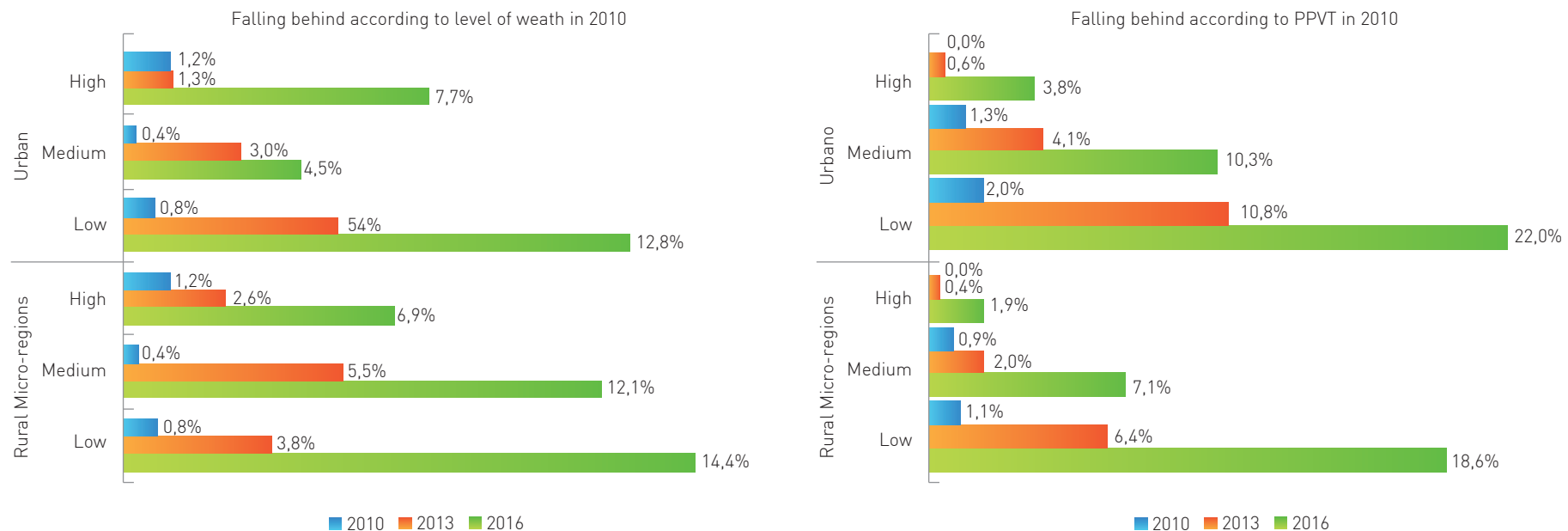
Graph 6.6 shows how the participation of young people who were being monitored in these activities has evolved over the past six years. It can be seen that participation in household chores is quite similar for urban zones and the rural micro-regions, and both have increased as the young people have grown up. For example, in 2010, 46.5% of

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6. To construct the participation in the labor force variable, information was included for all ages. Whether the child helped someone with their work or if they directly participated in the labor market was taken into consideration.

**GRAPH 6.5.**

FALLING BEHIND IN SCHOOL IN ACCORDANCE WITH THE HOUSEHOLD'S LEVEL OF WEALTH AND 2010 PPVT SCORE (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)



Source: ELCA 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three CLS rounds, who in 2010 were between 5 and 9 years old, and who had reported to not be studying in 2016 (dropped out or did not attend). The levels of wealth and PPVT score are those of the family and child in 2010.

children did household chores, in the urban zone, this percentage increased from 73.9% to 80.4% in 2013 and 2016, respectively. Similarly, for the rural zone, 61.3% of children did household chores in 2010, 76.8% in 2013, and 85.5% in 2016. On analyzing the evolution of the children's participation in

the labor market over time, we found similar patterns: the participation of the young people being monitored in this activity has almost doubled in each one of the three ELCA rounds as they grow up. However, it is clear that participation in the labor market by children in rural zones is significantly

higher than for children in urban zones. For example, child labor in urban zones increased from 0.9% in 2010 to 2.2% in 2013 and then to 4.2% in 2016, for the micro-regions, these figures went from 2.9% in 2010 to 7.3% in 2013, and then to 15.1% in 2016.

**TABLE 6.1.**  
DROPPING OUT AND FALLING BEHIND IN SCHOOL BY SEX AND REGION 2010-2016

	Falling behind			Dropping out		
	2010	2013	2016	2010	2013	2016
Urban						
Region						
Atlantic	1,09%	4,66%	10,18%	0,00%	0,65%	3,26%
Eastern	0,00%	0,51%	7,33%	0,00%	0,48%	0,96%
Central	0,21%	5,74%	11,83%	0,00%	0,61%	3,87%
Pacific	0,18%	3,58%	6,06%	0,00%	1,33%	2,00%
Bogotá	2,34%	0,28%	4,82%	0,00%	0,00%	0,15%
Sex						
Female	0,18%	1,32%	4,19%	0,00%	0,30%	1,76%
Male	1,41%	5,52%	13,34%	0,00%	0,89%	2,98%
Rural Micro-regions						
Region						
Atlántica Media	1,25%	4,88%	16,39%	0,00%	0,75%	4,39%
Cundiboyacense	0,58%	1,41%	5,32%	0,00%	0,69%	3,82%
Eje Cafetero	0,35%	4,89%	10,36%	0,00%	0,73%	5,03%
Centro-oriente	0,52%	4,09%	9,34%	0,00%	1,37%	6,03%
Sex						
Female	0,40%	1,75%	6,66%	0,00%	1,21%	2,43%
Male	1,22%	6,02%	16,40%	0,00%	0,61%	7,05%

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

As can be seen in Table 6.2, in 2016, the majority of children being monitored, regardless of their level of wealth, helped with household chores. Although the probability of helping in these chores is slightly higher for females than it is for males, particularly in the rural sector, there are no differences in the

probability of helping in the home based on sex. The situation for participation in the labor force is very different: the probability of participating in the labor market is four times higher for men than for women in urban zones and close to three times higher in the rural micro-regions. It is interesting

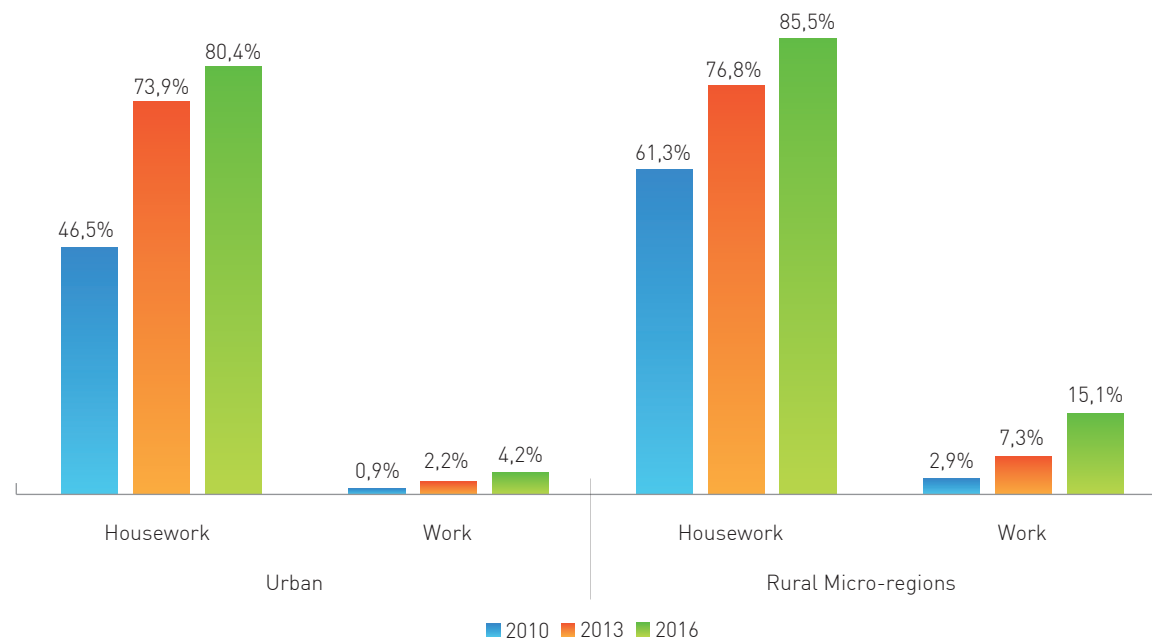
to note that, although the children and young people who belong to poorer houses are the ones who work at early ages in the urban zones, in the rural zones, the probability of working does not change depending on level of wealth.

As expected, the types of household chores that these children and young people undertake change as they grow up. Table 6.3 shows this evolution over time, revealing the similarities and differences between zones. From a young age, the chores related to cleaning the house have been the same in both areas for young people in the sample (close to 90% in 2016); however, chores such as running errands or washing have increased importantly in both areas as children and young people grow up doing almost 70% and 50% of each chore in both zones. Between these differences, it is important to highlight that in the rural zones it is six times more likely, compared to urban zones, that a child or young person will help to bring water to the house and two times more likely that they will help to cook.

It is also possible to analyze the differences by sex for both the hours worked and the type of work undertaken. In the urban sector, while females help with household chores for close to 4.3 hours, males spend 23.2% less time helping with these chores. The percentage difference in the time spent on household chores by sex increases to 27% in rural areas. There are also differences in the type of chores undertaken by males and females. In 2016, 54% of females in urban zones wash while

**GRAPH 6.6.**

PARTICIPATION IN HOUSEHOLD CHORES AND THE LABOR MARKET BY YEAR AND ZONE  
(PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)



Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three CLS rounds, who in 2010 were between 5 and 9 years old. Participation in the labor force involved helping adults with their work when the children were between 5 and 9.

this percentage is only 39% for males. Conversely, 80% of males run errands or go shopping; this percentage is 71% for women. This gap between men and women is much wider in the four rural micro-regions where 75% of females wash but only

35% of males do. 81% of males in these regions run errands compared to 66% of women. There are equally broad differences for cooking and looking after children. Moreover, males more often run errands or bring water to the house. These analyses

In 2016, the majority of children being monitored, regardless of their level of wealth, helped with household chores. Although the probability of helping in these chores is slightly higher for females than it is for males, particularly in the rural sector, there are no differences in the probability of helping in the home based on sex. .

show that the differences in roles and chores by sex that can be found in studies (such as Peña & Uribe (2014) and García-Jimeno & Peña (2017)) begin at a young age.

Graph 6.7 presents the differences in the chores that females report to have undertaken compared to the males for each one of ELCA's rounds. It can be seen that the differences between the sexes have widened in the past six years. For example, in the urban zone, the percentage of females who

cook or look after children compared to the percentage of males has increased considerably: the gap between the sexes has widened. Furthermore, for the four rural micro-regions, the probability

that females (compared to males) wash, iron, cook, and look after children has also increased over time. However, it is more likely that males report to bring water to the home or run errands as they

grow up. These results show that the initial gaps and the differences in roles and tasks undertaken based on sex, as well as starting from a young age, also increase as the individual grows up.

**TABLE 6.2.**  
PARTICIPATION IN HOUSEHOLD CHORES AND THE LABOR MARKET BY SEX AND LEVEL OF WEALTH (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE) 2010 – 2016

	Housework			Participation in the labor force		
	2010	2013	2016	2010	2013	2016
<b>Urban</b>						
Sex						
Female	48,50%	81,32%	88,48%	0,56%	1,01%	1,54%
Male	44,42%	66,29%	71,99%	1,24%	3,43%	6,83%
Level of wealth						
Low	47,72%	73,67%	80,42%	1,52%	3,63%	5,81%
Middle	53,99%	73,19%	85,37%	0,85%	2,61%	4,58%
High	37,34%	74,85%	75,03%	0,16%	0,38%	1,99%
<b>Rural Micro-regions</b>						
Sex						
Female	59,74%	81,79%	91,54%	1,19%	4,19%	7,84%
Male	62,76%	72,03%	79,66%	4,59%	10,29%	22,04%
Level of wealth						
Low	61,75%	78,07%	86,59%	2,43%	6,13%	14,95%
Middle	67,93%	75,83%	88,04%	3,64%	8,76%	15,62%
High	53,99%	76,26%	81,63%	2,89%	7,17%	14,58%

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three CLS rounds who, in 2010 were between five and nine years old. Participation in the labor force involved helping adults with their work when the children were between five and nine.

In terms of participation in the labor market, the differences between area, wealth, and sex that are shown in Table 6.2 are not the only differences. Although young people from rural zones are more likely to work, the number of hours that they dedicate to this activity is 20% less than the young people from urban zones. In the rural sector they work for, on average, 3.6 hours weekly; in the urban zones this figure increases to 4.6 hours weekly. Also, the type of work they do is different. In the rural area, the majority of young people (70%) have reported to have worked for the family on an unpaid basis; however, this figure is 44% in the urban areas. Young people from the urban areas are more entrepreneurial than those in the rural areas (42% reported to be self-employed compared to only 8% of young people in rural areas).

## 6.5. RISKS AND THE CHILDREN'S DREAMS

The second and third rounds of ELCA contain a special module that is dedicated to young people who are between ten and sixteen. This was created to take into consideration that the main subjects being monitored in the survey are growing up

**TABLE 6.3.**

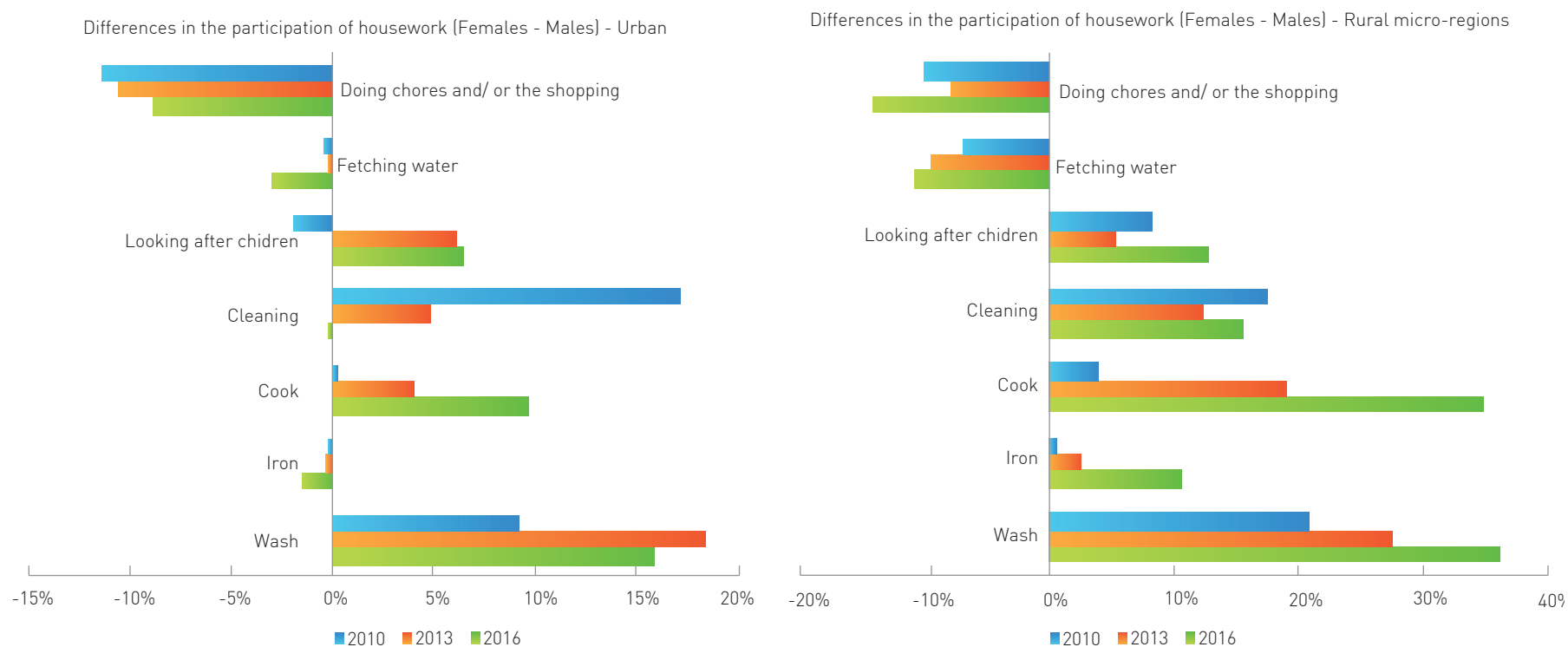
TYPE OF HOUSEHOLD CHORES UNDERTAKEN BY YEAR AND ZONE (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE) 2010 – 2016

	2010	2013	2016
Urban			
Wash	20,04%	30,16%	47,39%
Iron	0,42%	2,23%	5,72%
Cook	2,92%	9,62%	24,52%
Cleaning	76,09%	93,29%	90,83%
Looking after children	5,21%	19,05%	24,52%
Looking after sick or disabled people	0,19%	0,53%	4,18%
Fetching water	0,64%	1,98%	3,66%
Doing chores and/ or the shopping	29,96%	76,21%	74,97%
Rural Micro-regions			
Wash	17,82%	43,91%	57,79%
Iron	0,31%	3,17%	7,35%
Cook	5,08%	20,29%	42,25%
Cleaning	70,43%	89,26%	87,38%
Looking after children	9,99%	26,04%	27,31%
Looking after sick or disabled people	0,75%	2,55%	3,73%
Fetching water	17,88%	22,34%	24,56%
Doing chores and/ or the shopping	38,76%	78,88%	73,23%

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three CLS rounds who, in 2010 were between five and nine years old. Participation in the labor force involved helping adults with their work when the children were between five and nine.



**GRAPH 6.7.****DIFFERENCES IN THE TYPE OF CHORES UNDERTAKEN BY SEX AND ZONE (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)**

Source: ELCA 2010, 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds, who in 2010 were between 5 and 9 years old. The differences were calculated as the children carried out some housework and they are equivalent to the percentage of females less the percentage of males who carried out each type of job.

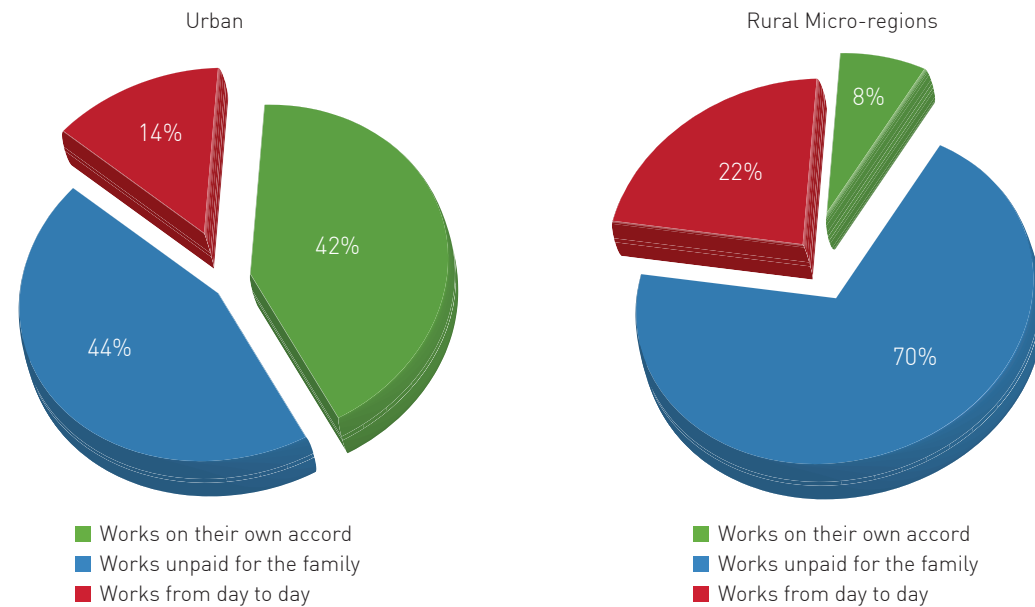
and they will have to confront different situations in their stages of adolescence, which will affect their life story; these are important to record and understand. Young people's attitudes towards their peers, their social capital, their involvement with gangs, their habits in terms of consumption of alcohol and cigarettes, their future plans and dreams, and their use of time during the week and at weekends were among the aspects investigated.

This section presents results on some of the risks that the young people being monitored in 2013 face and the dreams and expectations that they have as well as their evolutions over the three following years. As a result, we only use a sub-sample of the original group that allows us to understand how these risks and dreams have changed as they grow up. For this section, we use information from only 873 and 1,109 children in the rural and urban zones, respectively, who, in 2010, were between seven and ten and had participated in the young person module in both 2013 and 2016.<sup>7</sup>

In terms of risks, ELCA has information on the consumption of cigarettes and alcohol. The data shows that young people between ten and thirteen have a low level of cigarette consumption. In fact, approximately only 2% of young people in rural and urban areas reported to have ever tried a cigarette in 2013. Although the percentage of young people who had tried a cigarette in 2016 had increased to close to 10% and 6% in the urban and rural zones, respectively, the incidence of consumption

### GRAPH 6.8.

TYPE OF JOB UNDERTAKEN BY ZONE IN 2016 (PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)



Source: ELCA 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds, who in 2010 were between 5 and 9 years old. Participation in the labor force involved helping adults with their work when the children were between 5 and 9.

7. Not all young people answered every question from this unit in both 2013 and 2016. So, in order to avoid losing information for complete questions, in some cases, we used different samples depending on the question being analyzed. This is of particular importance when we analyze the changes in their expectations over time.



→ At night, eight year-old Cristián Ballesteros practices skating in the town's sports center in Buenavista (Boyacá). In this photo he practices one of the routines that his teacher has shown him.

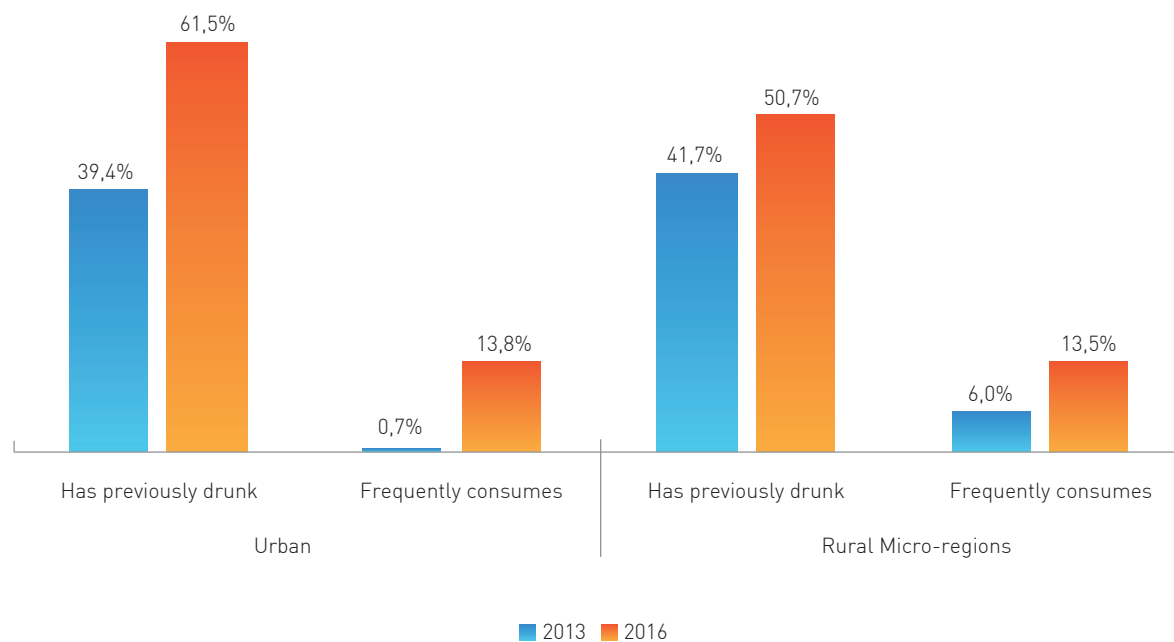
continues to be low. However, this situation is rather different from alcohol consumption, which can be seen in Graph 6.9. In 2013, 39% of young people between ten and thirteen reported to have tried an

alcoholic drink, and, from these, 0.7% reported to consume alcohol at least once a month. In 2016, when the same young people were between thirteen and sixteen, these percentages increased to

62% and 13.8%, respectively. In the rural zones, the situation is similar, and the increase in alcohol consumption and intensity during these past three years was 8.9 and 7.5 percentage points, respectively. Furthermore, the data shows that the critical moment at which young people try alcohol for the first time is when they are between 12 and 14. However, close to 17% of young people in urban zones and 20% in rural micro-regions try alcohol before having reached this age. Heads of the household and schools should be aware of this in order to prevent alcohol consumption at such an early age. Although there are no details, we found that, in 2016, there are significant regional differences in terms of the habits of alcohol consumption. Specifically, the young people who live in the Eastern urban region and the Cunidboyacense rural micro-region reported to have tried and consumed alcohol more frequently than their peers in other regions. Moreover, we found that young people who live in households in which a member of the family consumes alcohol is more likely to have tried an alcoholic drink (54.36% and 56.59% in urban and rural zones, respectively).

Another risk factor for young people nowadays is neighborhood gangs, which can then act as recruiters for future criminal activities. ELCA allows us to prove that this is an urban, more than rural, problem, and, therefore, these are the areas in which there is an urgent need for prevention policies. While 37% of the young people who reside in urban zones report that there are gangs in their neighborhoods, in the rural areas, only 8% reported this is

**GRAPH 6.9.**  
**PROBABILITY AND INTENSITY OF ALCOHOL CONSUMPTION BY ZONE 2013 - 2016**  
**(PERCENTAGE OF CHILDREN AND YOUNG PEOPLE)**



Source: ELCA 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds who, in 2010 were between 5 and 9 years old. Drinks frequently corresponds to those young people who report to consume alcohol once or more each month.

2016. ELCA also asked if they belonged to a gang or not. These percentages are very low, as only 1.25% in urban areas and 0.78% in rural sectors reported to have belonged to a gang. However, these young people, especially in an urban environment, are at a high risk of joining one or being in direct contact with these organizations in the future as 8% of them answered affirmatively to the question regarding if one of their classmates was in one. Also, this risk is much higher for young people from poorer households as 12.43% reported that one of their friends was in a gang; whereas, the percentage was only 3.98% for young people from richer households.

The last questions that young people were asked inquired as to their plans and dreams and their expectations about their future lives. The first thing that is remarkable from the data is the questions about how long they think and want to live. Young people in Colombia want to live a lot longer than they think they will live. In 2016, in urban areas, young people want to live to 92, but they think that they will only live to 80. In rural areas, as expected, life expectancy is less. The young people in these micro-regions want to live to 90, but think they will only live until 78. Furthermore, on analyzing the longitudinal data, we found that young people have started to lower their expectations. Particularly, young people from the urban areas in 2013 wanted to live to 99, and in rural areas the age was 94. There are no differences by sex in terms of these expectations in the urban sector; however, curiously, in the rural sector females want and hope to live 2 or 3 years less than males, respectively.



→ In their free time, the children from the La Palestina shelter for the victims of Gramalote take part in recreational workshops that are organized by the Diverarte foundation.

However, it was the males who lowered more their expectations between 2013 and 2016.

With regards to their expectations on forming a family, in 2016, we found that the biggest majority of young people who lived in urban areas expect to get married (80%) and have children (86%). These percentages are also similar for young people from rural areas. In 2016, 80% of young people from the rural sector expected to get married and 85%

expected to have children. However, it is interesting to note that in the rural zones, the percentage of young people who hoped to get married increased from 76% to 80% from 2013 to 2016. There was a similar result for the expectation of having children, which went from 79% to 85% in urban zones and from 80% to 85% in the four micro-regions. On analyzing these expectations by sex, the probability that a female wanted to get married is 5 percentage points lower than males in urban areas and 10

points lower in the rural areas. In terms of wanting to have children, for women the probability is 10 percentage points lower in both areas. The average age at which they expect both events to take place in the urban and rural areas is approximately 26 and 28, respectively. Additionally, although in 2013 less than 1% of young people expected to have children before they were nineteen, in 2016, there were already some females who were pregnant in their teenage years: 0.52% of girls between twelve and sixteen reported to have had a child in urban zones and 0.32% in rural zones. It is important to highlight that these females wanted to have their first child after 25 or not have children at all. They also lived in poorer households and all had to drop out of school. Consistent with studies that had focused on the topic such as Flórez et al. (2004) and Flórez, Castaño, Fuertes, and Galeano (2017), these results indicate that the high rates of teenage pregnancy and occurrence of adolescent mothers in Colombia are not planned.

Finally, it is worthwhile noting these young people's expectations regarding their future educational achievements. In 2016, in the urban area, 99% hoped to finish high school, 96% hoped to undertake a professional qualification, and 96% hoped to finish it. The same percentages for young people who lived in the rural micro-regions are 98%, 94%, and 94%, respectively. These expectations are far from the reality of their own families today, in which only 46% of heads of the household managed to finish high school and only 24% managed to continue

on to higher education in urban zones. In the rural micro-regions, these percentages are 8% and 2%.

Graph 6.10 shows that there are differences (in the percentages of young people who hope to achieve these educational achievements) between those who drop out of school and those who do not. The

results show that 100% of young people who do not drop out in urban areas hope to finish high school while this percentage is 90% for those who drop out. In rural areas, these percentages are 99.8% and 80.8%. These results show that, although all the young people hoped to finish high school (Rodríguez, 2014) in 2013, the young people have

adjusted their expectations depending on their situation, particularly if they have, or not, dropped out of school. Even more importantly, the data also reflect that the majority of those who drop out hope to eventually get back into the system to complete their education. It also shows that there are significant differences, although to a lesser extent, for the percentage of young people who hope to be able to finish their educational expectations in accordance with their score in the PPVT test. In 2016, the percentage of young people who hope to graduate from high school, start a professional education, and finish it is higher if they had a high score in the PPVT test in 2010.

## 6.6. CONCLUSIONS

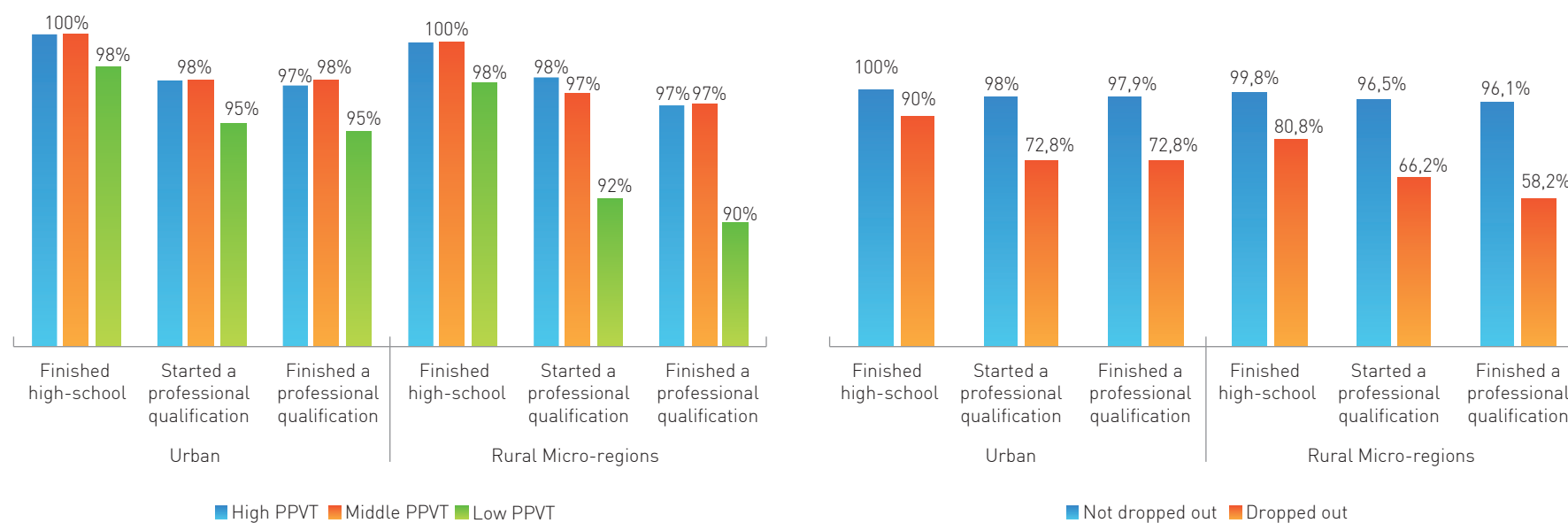
The data analyzed in this chapter suggest positive and negative aspects in the life history of the young people who were monitored as part of ELCA. The positive aspects are that the majority went to school, few of them are part of the labor force, and the majority continue to have big dreams and expectations for the future. Particularly, it is worth promoting and ensuring that all young people can fulfil their dream of finishing high school and further education as the results show that dropping out or having less cognitive skills are factors that make them lower their expectations and not be able to achieve their childhood dreams.

However, as expected, as they grow up, the risks and decisions that may affect their future have also



→ María Alicia Torres and Octavio Ballesteros thought that they were never going to have the happiness of a child in the house as they never looked after their grandchildren. However, Daniel Felipe García arrived in their lives and brought them "happiness".

**GRAPH 6.10.**  
DESIRED AGE FOR EDUCATIONAL ACHIEVEMENTS BY PPVT TEST IN 2010



Source: ELCA 2013, and 2016. Authors' own calculations

Note: The information is for the children being followed-up who were surveyed in the three ELCA rounds, who in 2010 were between 5 and 9 years old.

increased. Dropping out increased by 2.4 to 4.8 percentage points for the urban area and micro-regions, respectively. Teenage pregnancy and child labor -which even at these early ages shows a clear differentiation between the sexes- are correlated with dropping out of school. Dropping behind in school

is important in both the rural and urban areas. Educational policy should make sure that there is no late entry into the system and that children and young people with learning difficulties receive special attention as this is one of the main arguments given by young people who drop out.

The data clearly indicates that investments in early childhood have long-term consequences. These are the children who have a higher score in the PPVT test, they have more cognitive skills, they drop out less, and drop behind less in school. In fact, interestingly, we found that, controlling for these skills,



→ Antonia Peláez lives in Villa Hermosa (Medellín). She dreams of going to Brazil to research and continuing with her hobby - playing the cello; she stopped because of her heavy university work load.

the level of household wealth does not seem to be correlated with these variables as would be expected. It will not be surprising therefore that, in future rounds, this same variable will also determine the life story of the young people in ELCA.

Finally, as was mentioned in the introduction, this chapter reveals only a preliminary description of the wealth of information that ELCA has to analyze the evolution of children and young people from 2010 to 2016. There are still many topics that need to be studied and researched.

The data clearly indicates that investments in early childhood have long-term consequences. These are the children who have a higher score in the PPVT test, they have more cognitive skills, they drop out less, and drop behind less in school. In fact, interestingly, we found that, controlling for these skills, the level of household wealth does not seem to be correlated with these variables as would be expected.



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→ Cristian David Naranjo Petro sat on bundles of corn grain to feed livestock that have been rounded up for sale. This is the new business that the Petro family have moved into in Cereté (Córdoba).





→ Consuelo Petro with guava from one of her father's plantations (79 year-old José Miguel Petro), who earns a living from agriculture. At the bottom, a corn crop that is just beginning to grow.

## CHAPTER 7

# COLOMBIA IN MOTION: LAND, RURAL DEVELOPMENT, AND INEQUALITY

RACHID LAAJAJ  
FREDDY FELIPE PARRA-ESCOBAR

This chapter approaches the current state of some of the issues that will be dealt with by the agreements signed in November 2016 in the Colon Theater in Bogotá. Specifically, it shows the organization of rural property in Colombia and how this could be affecting some households' productive decisions such as access to loans and making productive investments.



→ 65 year old María Alicia Torres who earns a living from her crops and producing milk. However, she is thinking of renting the land and leaving the milk business because of the small profit margin.

### 7.1. INTRODUCTION

→ This chapter approaches the current state of some of the issues that will be dealt with by the agreements signed in November 2016 in the Colon Theater in Bogotá. Specifically, it shows the organization of rural property in Colombia and how this could be affecting some households' productive decisions such as access to loans and making productive investments. It also outlines the behavior of the land market over recent years and its possible impact on the concentration of land in rural areas. Lastly, it reviews the possible transition of inequality to future generations through children's inadequate cognitive development.

The conflict in Colombia has been centered in the country's rural areas. The actors recognize that



→ Thirteen children between zero and sixteen live on the Tapia Álvarez family's plot of land in Chinú (Córdoba). Four nuclear families live there, and each one has built their house. Inés Álvarez, who is a mother, grandmother, and great-grandmother lives in her house in the center.

the concentration of property and the backwardness of the rural zones are the main causes of this confrontation. Part of the peace agreement signed between the government and the FARC includes undertaking comprehensive rural reform, the primary objective of which is to improve households' access to and use of land: to achieve this, three main areas need work. Firstly, it seeks to grant land to peasants who do not own land or do not have the necessary area to undertake their productive activities. Secondly, it intends to deliver land with credits and technical help in order to make the peasants work more productive. Lastly, it seeks to grant people formal land titles. The impending post-conflict phase implies a huge amount of challenges for the rural sector. As such, it is necessary to find out the current state of the country's rural areas in order to scale the magnitude of changes that need to be undertaken. Through the ELCA, it is possible to discover in detail the situation solely in four rural micro-regions in the Colombian countryside and can not be extrapolated to other rural areas.

## 7.2. LAND TENURE, ACCESS TO CREDITS, AND INVESTMENTS IN LAND

Land property rights have a great impact on the economic activity of rural areas as they predetermine household's productive decisions. When property rights are well defined, the probability of the land being expropriated is reduced; thus, there are incentives to invest in it. Similarly, there is also

a reduced need to allocate resources to protecting land (Besley & Ghatak, 2010). Additionally, it increases households' participation in land and credit markets (Besley & Ghatak, 2010). In order to investigate the impact of property rights, ELCA has a series of questions that allows us to know whether the households are formal landowners as well as the household tenants' type of tenancy. ELCA also provides detailed information on the loans that the households acquire and the investments that they make in their land.

Table 7.1 presents the percentage of households by type of ownership. It can be seen that the percentage of households with formal<sup>1</sup>, informal<sup>2</sup>, and without property ownership but that use the land for productive means have remained constant over time; there has been a slight decrease in the number of informal landowners and tenants. The number of households without property and without the use of land has changed more substantially, which is reflected in the 7 percentage-point increase between 2013 and 2016: equivalent to a 75% increase in the

proportion of households that are under this type of ownership. This behavior could indicate that rural households' access to land decreased between 2010 and 2016; one possible reason for this is that households can move from the farming sector to a more profitable economic activity. Another reason could be shocks that have driven households to make these decisions. Given the scope of this chapter, the reduction in access to land cannot be exclusively attributed to one of these avenues: it will be the task of future research to provide answers to these questions.

Moreover, access to loans in rural zones has increased since the beginning of the survey. In 2010, 35% of the homes had at least one loan. This percentage had increased to 50% in 2013 and maintained stable in 2016. Greater access to loans registered in the period of ELCA's analysis had been, to a large extent, by informal land owners and tenants. In 2010, these groups had access to a moderate amount of credit: 26% of households with informal property and 29% of tenants had at least one loan when they were interviewed. In 2013, the percentage of informal households and tenants with loans increased by close to 20 percentage points for both groups. There was only a slight percentage change in the following round.

Another aspect of the results worth highlighting is the greater access to formal loans that the informal property owners and tenants have had. The percentage of households with this type of tenancy that took loans with financial institutions increased by

**TABLE 7. 1.**  
TYPE OF HOUSEHOLD LAND OWNERSHIP

	Total		
	2010	2013	2016
Landowner - Formal	42,27 (0,81)	42,91 (0,81)	41,39 (0,80)
Landowner - Informal	29,13 (0,74)	30,70 (0,75)	26,97 (0,72)
Non-Landowner - Tenant	17,78 (0,62)	16,84 (0,61)	14,95 (0,58)
Non-Landowner - Non-Tenant	10,82 (0,51)	9,54 (0,48)	16,68 (0,61)
Observations	3.752	3.752	3.752

Source: ELCA 2010,2013 and 2016. Authors' own calculations

Note: A household is considered as (1) formal if there are property deeds for at least one of the pieces of land it owns registered in the Public Records Office; (2) informal if it does not have property deeds registered for any of the pieces of land it owns; (3) tenant (non-owner) if they recognize to not be owner of any of the pieces of land that they are living on.

.....→

1. A household is consider as a formal owner if it has a property title – register in the Public Instruments Office- of at least one of the properties under its ownership
2. A household is consider as an informal owner it does not have a property title register of none of the properties it owns

**TABLE 7.2.**  
LOANS AND INVESTMENTS

	Formal owner			Informal owner			Tenant (non-owner)			Total		
	2010	2013	2016	2010	2013	2016	2010	2013	2016	2010	2013	2016
Panel A: Loans												
Loan (=1)	45,20	55,96	56,66	25,98	45,14	49,36	29,09	49,53	48,13	34,71	49,81	50,57
	(1,25)	(1,24)	(1,26)	(1,33)	(1,47)	(1,57)	(1,76)	(1,99)	(2,11)	(0,79)	(0,83)	(0,83)
Formal loan	35,23	44,53	47,33	11,89	21,70	30,66	11,09	20,41	31,02	21,50	30,80	36,46
	(1,20)	(1,24)	(1,27)	(0,98)	(1,22)	(1,45)	(1,22)	(1,60)	(1,95)	(0,68)	(0,76)	(0,80)
Semi-formal loan	5,37	8,20	5,99	4,48	6,77	6,43	5,40	6,49	8,91	5,25	7,74	6,70
	(0,57)	(0,68)	(0,6)	(0,63)	(0,74)	(0,77)	(0,88)	(0,98)	(1,2)	(0,37)	(0,44)	(0,41)
Informal loan	11,17	15,71	11,53	10,25	22,31	19,68	14,84	29,27	18,18	11,62	19,91	15,04
	(0,79)	(0,91)	(0,81)	(0,92)	(1,23)	(1,25)	(1,38)	(1,81)	(1,63)	(0,53)	(0,66)	(0,59)
Observations	1.584	1.610	1.553	1.093	1.152	1.011	667	632	561	3.656	3.656	3.656
Panel B: Investments												
Investment (=1)	28,22	45,09	42,11	20,04	40,36	43,13	15,74	31,17	23,17	21,09	37,96	33,53
	(1,13)	(1,24)	(1,25)	(1,21)	(1,45)	(1,56)	(1,41)	(1,84)	(1,78)	(0,67)	(0,8)	(0,78)
Irrigation systems	1,14	3,79	5,22	0,55	2,00	3,17	0,60	1,11	1,96	0,77	2,49	3,39
	(0,27)	(0,48)	(0,56)	(0,22)	(0,41)	(0,55)	(0,3)	(0,42)	(0,59)	(0,14)	(0,26)	(0,3)
Home/ Structure	16,79	33,91	31,49	14,36	32,20	36,40	9,15	22,47	17,65	13,24	28,97	26,31
	(0,94)	(1,18)	(1,18)	(1,06)	(1,38)	(1,51)	(1,12)	(1,66)	(1,61)	(0,56)	(0,75)	(0,73)
Soil conservation	6,06	4,60	7,79	1,56	1,82	3,76	2,55	1,90	3,92	3,56	2,93	4,98
	(0,6)	(0,52)	(0,68)	(0,37)	(0,39)	(0,6)	(0,61)	(0,54)	(0,82)	(0,31)	(0,28)	(0,36)
Trees	9,72	10,31	9,59	5,49	7,20	5,44	4,50	6,49	3,03	6,67	7,93	6,04
	(0,74)	(0,76)	(0,75)	(0,69)	(0,76)	(0,71)	(0,8)	(0,98)	(0,72)	(0,41)	(0,45)	(0,39)
Natural disasters	-	5,65	1,93	-	6,34	2,08	-	5,38	0,71	-	5,42	1,50
	-	(0,58)	(0,35)	-	(0,72)	(0,45)	-	(0,9)	(0,36)	-	(0,37)	(0,2)
Observations	1.584	1.610	1.553	1.093	1.152	1.011	667	632	561	3.656	3.656	3.656

Source: ELCA 2010, 2013 and 2016. Authors' own calculations



approximately 10 percentage points between 2010 and 2013. There was also a 9-percentage point increase for households with informal property and an 11 percentage point increase for tenants between 2010 and 2013. This is a signal that the access to credit that the different types of ownership have has been converging over recent years despite the lack of collateral (i.e. land), which makes it difficult to obtain a loan from a financial entity (Besley & Ghatak, 2010). It seems that having a loan is no longer important as a determinant to be able to access the credit market. However, informal loans continue to be more common in households under these two types of tenancy in comparison to formal landowners.

Lastly, the number of rural households that invest in their land has increased compared to the baseline. In 2010, 21% of households made some form of investment in their land; this percentage increased to 38% in 2013, and there was later a fall to 34% in 2016. This increase in the number of households that made investments in their lands was accompanied by a reduction in the existing gap between formal and informal landowners. In 2010, there was a higher percentage of households with formal property that invested in their land compared to households with informal property. By 2016, this difference becomes much smaller and is not significant.

Regarding the type of investment made by households, irrigation systems and soil conservation were two areas in which investment increased for



→ Although it is now less important, fishing continues to be a way of earning money in Barrancabermeja.

all ownership groups. However, this type of investment is more common for formal landowners. This is consistent with the economic theory, which predicts that households with formal property deeds are more likely to make productive investments in their land as the probability of making a return is higher in comparison with households that do

not have property deeds (Besley & Ghatak, 2010). Investment in housing and permanent or semi-permanent structures is the most frequent. In this case, formal and informal landowners invest equally. One possible explanation for this behavior is that the construction of these types of structures by informal households can reduce the probability of

being removed from their land. These results suggest that having property deeds gives households a certain economic advantage due to the increase in the probability of making investments that have long-term returns.

### 7.3. THE MARKET AND LAND CONCENTRATION

Access to and use of land play a very important role in generating income for rural households. This is due to the fact that land is the most relevant productive asset in agricultural production. However, the land markets in the Colombian countryside are imperfect, which impedes a large number of households from having access to land. Furthermore, in places where there is large concentration of land, the land markets are less active, which leads to even less access to land for small producers (Gáfaró, Ibáñez, & Zarruk, 2012). ELCA provides information on the land market's behavior over recent years as it includes a complete module which gathers information on land transactions undertaken by households. As such, it is possible to monitor the land concentration between the small landowners in some regions of the Colombian countryside by using the information gathered by the survey.

Table 7.3 presents the percentage of households and the average amount of land that each household sold, lost, and/or acquired between 2010 and 2016. These values are also presented for each

quartile for the distribution of total consumption per capita. It can be seen that the percentage of households that sell land has increased over time; the increase has risen from 1% in 2010 to 2.6% in 2016. Similarly, the average amount of land sold

has increased from 0.01 hectares in 2010 to 0.04 hectares in 2016. When we observe land acquisition over the past three years, we can see that the number of households that obtained new land increased from 2010 to 2013; however, later, in 2016,

**TABLE 7.3.**  
ACQUIRING, SALE, AND LOSS OF LAND BY CONSUMPTION QUARTILE

Quartiles	Percentage of households			Amount of land (hectares)		
	2010	2013	2016	2010	2013	2016
<b>Sold</b>						
1	0,75	1,39	1,60	0,004	0,034	0,013
2	0,75	0,96	2,35	0,008	0,019	0,055
3	0,96	3,20	2,88	0,018	0,051	0,026
4	1,39	3,74	3,73	0,049	0,048	0,075
Total	0,96	2,32	2,64	0,020	0,038	0,042
<b>Lost</b>						
1	-	3,09	0,85	-	0,046	0,008
2	-	2,03	1,49	-	0,019	0,034
3	-	2,45	0,64	-	0,034	0,006
4	-	2,56	1,49	-	0,032	0,015
Total	-	2,53	1,12	-	0,033	0,016
<b>Acquired</b>						
1	6,29	8,42	5,12	0,077	0,061	0,123
2	6,08	7,89	5,65	0,158	0,122	0,120
3	6,18	9,28	5,33	0,118	0,123	0,092
4	7,46	11,21	5,54	0,185	0,221	0,193
Total	6,50	9,22	5,41	0,135	0,132	0,132

Source: ELCA 2010, 2013 and 2016. Authors' own calculations

Note: The percentage of households and average amount of land measured in hectares is presented. The sample corresponds to the households that stayed in the rural zone for all three rounds. Households with less resources are found in the first quartile, and households with the most resources are found in the fourth quartile.

it decreased to values that are even less than those registered in the baseline. The average amount of land acquired remains unchanged at 0.13 hectares.

Acquiring land mostly happens as a result of a purchase or an inheritance. Households do not generally acquire land through government mechanisms such as agrarian reform programs or the Victims Law. While in 2016 93% of the land acquired was done so through purchases or inheritances, less than 1% was done so through government programs. An additional point that reflects how little households use government programs to

acquire land is the source of the resources used to purchase the land. In 2016, close to 86% of land purchased were financed, to some degree, with households' own resources while less than 1% used resources that came from government subsidies. It is worth noting that households do view loans from financial entities as a source to finance the purchase of land: close to 29% of the purchases of land in 2013 and 2016 were financed, in part, with resources from this source.

There was a drop in the percentage of households that reported the loss of land between 2013 and

2016. When we analyze this event by level of consumption, it can be seen that, in 2013, the number of households in the lowest consumption distribution quartile is higher than the other three quartiles, which all have a similar percentage. The amount of land lost for this period behaves in a similar way: the households form the first quartile are those that, on average, report a higher number of lost hectares in comparison to the other groups. In 2016, there was a drop in the percentage of households from each group that lost land in each distribution quartile. The households in the second and fourth quartile are those that most lose land,



→ Very early in the morning, the fishermen go to the port on the banks of the Magdalena River to sell what they have caught.

Acquiring land mostly happens as a result of a purchase or an inheritance. Households do not generally acquire land through government mechanisms such as agrarian reform programs or the Victims Law. While in 2016 93% of the land acquired was done so through purchases or inheritances, less than 1% was done so through government programs.

and the households with the least amount of resources are those that least lose land during this period.

When we review the dynamism of the land market by level of consumption, it can be seen that, in 2010, the households located in the highest distribution quartile sell twelve times more land than the households with the lowest level of consumption. As such, the percentage of households with a large amount of resources that sold land is higher than that of the rest of the groups. In 2013, we observed that the number of households that sold land increased for each group. It can also be seen that the difference between quartiles was reduced: households from the highest quartile sold 1.4 times more land than households from the lowest quartile. In 2016, the number of households that sold land remained relatively unchanged for all the groups compared to what took place in 2013; however, households from the highest quartile sold 5.7 times more land than the households from the lowest quartile.

Furthermore, the acquisition of land behaved differently between 2010 and 2016. In 2010, households with a higher level of consumption acquired more land compared to other households: the former acquired 2.4 times more land than households from the lowest quartile. As such, the number of households from the highest quartile that acquired land was higher than the number of households from the lowest quartile. This gap widened in 2013 when households with high consumption acquired



→ 71 year-old Benedicto Rodríguez continues to carry bundles of potatoes, corn, milk, and other products on his bike. In the town, he exchanges them for other basic products that he needs or he sells them. He also works in beekeeping.

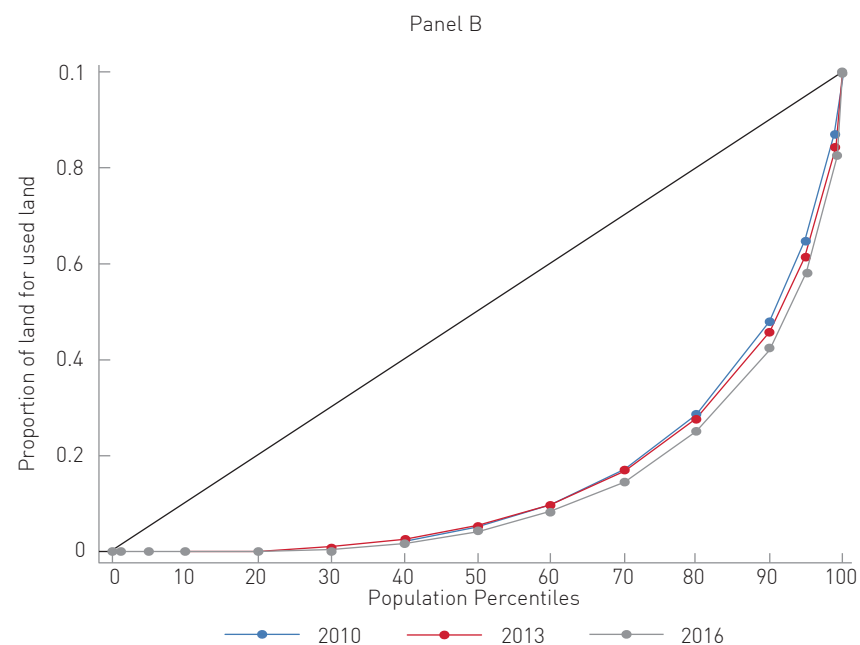
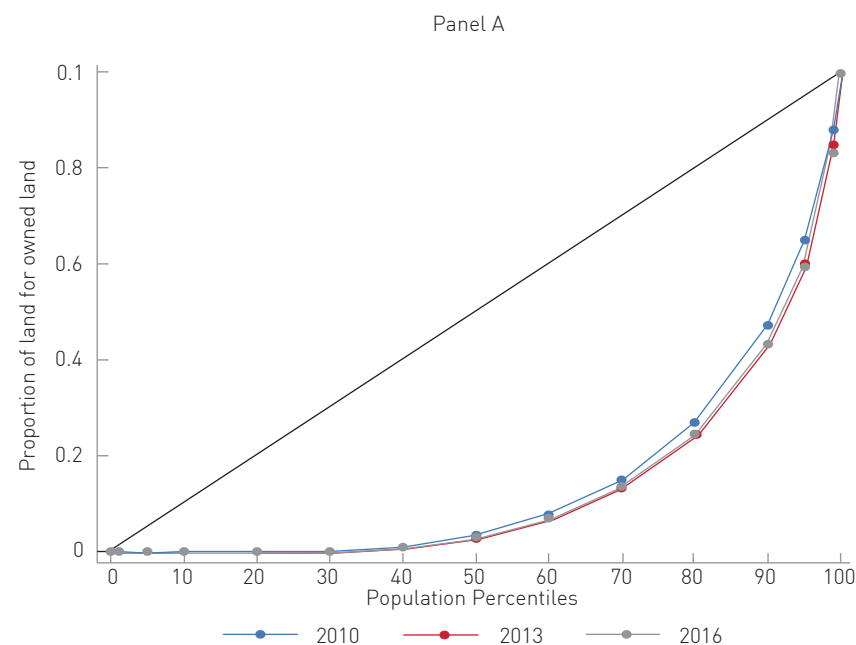
Between 2010 and 2013, the land was increasingly concentrated in less households: 7.7% of the population owned 50% of the land registered in ELCA. For this reason, it is possible to see a shift to the right in the Lorenz curve from 2010 to 2013. However, between 2013 and 2016, the land distribution remained relatively unchanged, and a considerable shift cannot be seen in the Lorenz curve during this period.

3. The Lorenz curve is a representation of a variable in a population. Each point of the Lorenz curve shows what proportion of an analyzed variable was held by a determined percentage of the population. An equal distribution of land would be shown by a 45 degree line (i.e. each percentage of the population owns 1% of the land). The further away the Lorenz curve from the equal distribution line, the more unequal the sample analyzed (Lora & Prada, 2016).

3.6 more land than households that have a low consumption. However, the difference decreased in 2016 to the lowest level registered in the three rounds: households from the highest quartile acquired 1.6 times more land than those in the lowest quartile. Similarly, the percentage of households that acquired new land was similar for every group. As a result, as households with more resources acquire more land, it is plausible to expect an increase in the concentration of land for this group of households between 2010 and 2013 and then to see a slight decline in 2016.

As a result of the behavior of the land market between 2010 and 2016, the land concentration presented changes during this period. Panel A in Graph 7.1 shows the Lorenz curve<sup>3</sup> for the land that belongs to households during the three-year availability in the survey. From the moment at which ELCA started to gather information, the land distribution was unequal. In 2010, 9.1% of the sample owned 50% of the total amount of land reported in ELCA. Between 2010 and 2013, the land was increasingly concentrated in less households: 7.7% of the population owned 50% of the land registered in ELCA. For this reason, it is possible to see

**GRAPH 7.1.**  
LORENZ CURVE FOR OWN AND USED LAND



Source: ELCA 2010, 2013 and 2016. Authors' own calculations

4. The Gini coefficient is the ratio between the area between the equal distribution line and the Lorenz curve. A Gini coefficient equal to 0 represents that the analyzed variable is perfectly distributed between the whole population. A Gini coefficient equal to 1 means that the whole resource belongs to one person. When the Gini coefficient is closer to 1, it means that the resource is distributed between fewer people (Lora & Prada, 2016).

a shift to the right in the Lorenz curve from 2010 to 2013. However, between 2013 and 2016, the land distribution remained relatively unchanged, and a considerable shift cannot be seen in the Lorenz curve during this period. The change in inequality in land ownership can also be analyzed using the Gini coefficient.<sup>4</sup> In 2010, the coefficient for ELCA landowners reached 0.74; it rose slightly in 2013 to 0.76, and then remained unchanged in 2016.

An increase in the inequality in the possession of land can also be observed in the average amount of land that is owned by households. Between 2010 and 2016, there was an increase in the average number of hectares of land owned by the total number of landowners. However, for the household with more land, there was a much higher increase. In 2010, a ELCA household had an average of two hectares of land while a household within the 5% that owned the largest amount of land owned an average of 13.8 hectares. In 2013, these values increased to 2.4 and 19.6 hectares, respectively. In 2016, the average number of hectares for the whole sample remained unchanged, unlike the large landowners who had a small increase to an average of 20.2 hectares of land.

This change in the distribution of land could be related to the behavior of the acquisition and sale of land between 2010 and 2013. First, there was a general increase in the acquisition and sale of land between 2010 and 2013, which, in both cases, was led by the households in the highest quartile of the



→ Inéz Álvarez's hands feeding a newborn chicken. The chickens walk between the houses of the plot of land in Chinú (Córdoba) and live together with the pigs and hens. They feed the household.

consumption distribution. However, the amount of land acquired was higher than that sold, and thus it can be inferred that households with more resources bought up a larger amount of land in this period, which led to a greater concentration of this resource. Between 2013 and 2016, there was a decrease in the acquisition of new properties, which was characterized by the disappearance of the existing gap between the different distribution groups.

Additionally, the sale of land remained relatively unchanged during this period, which is why there were no big changes in land concentration for this period.

Panel B in Graph 7.1 shows the Lorenz curve for the land used by households. In 2010, 9.3% of the sample used 50% of the land reported in the survey. In 2013, the land used was concentrated by even fewer people: 8.4% of the surveyed population

used 50% of the reported land. This behavior can be seen by the displacement of the Lorenz curve towards the right between these 3 years. Between 2013 and 2016, the land used became even more concentrated: 7.2% of the population used 50% of the reported land. As such, there was also a right displacement of the Lorenz curve during this period. The Gini coefficient also indicates the same

behavior for the concentration of land used. In 2010, the value was 0.69; this increased to 0.7 in 2013 and then increased again in 2016 to 0.73.

In conclusion, it seems that inequality in land ownership stopped increasing between 2013 and 2016. However, the inequality in the use of land continued to increase progressively. Therefore, although

there have been no changes in property concentration, this does not guarantee that inequality in access to land is decreasing. This could also be related to the decrease in the number of people who use land for agricultural activities – as shown in the previous section. More research is needed to understand if this behavior is a result of difficulties in accessing land or if households are making



→ Livestock has a strong impact on the department of Córdoba on the northern coast of Colombia. This photo shows a farm in Ciénaga de Oro.

the transition to other types of productive activities. Furthermore, the information in this section shows that land concentration does not only occur among large landowners. Due to the make-up of the rural ELCA sample (excluding large landowners), the inequality described also corresponds to small landowners. As such, there is evidence that this phenomenon is also taking place for households with a small or medium amount of land.

#### 7.4. RURAL INEQUALITY AND EARLY CHILDHOOD COGNITIVE DEVELOPMENT

Early childhood cognitive development is known to be a determinant of several economic factors in people's adult lives (Behrman, Fernald, & Engle, 2013). Over recent years, evidence has been found that children from lower-income households have a lower cognitive development than children from households with high-income (Schady, Behrman, Araújo, 2014). As such, it has been documented that children with low levels of cognitive development are more likely to perform poorly at school, be paid a low salary, and be involved in criminal activities. They also have high rates of unemployment, teenage pregnancy, and consumption of psychoactive



→ Karen Lucía Naranjo Petro visits her grandfather's (José Petro) farm at weekends in Cereté (Córdoba). She enjoys eating guava, coconuts, bananas, and other fruit. The family mainly works in agriculture.



substances (Schady et al., 2014). The inequality in ELCA's rural sample that was described in the previous section can have implications on the development of children's cognitive abilities.

ELCA's longitudinal structure allows us to find out if there are indeed gaps developing in Colombia's rural population. The two first columns in Table 7.4 present the results from an ordinary least squares regression in which the dependent variable is the Peabody picture vocabulary test (PPVT) score,<sup>5</sup> which is standardized by age. The independent

variables are the number of hectares that the household has in 2010, and there is a control for a wealth index and total consumption per capita (in tens of thousands of pesos in 2016). Estimating the model shows that the amount of land owned by the household in 2010 is associated with higher scores on the PPVT that children obtained in 2016. Moreover, land ownership does not show a statistically significant correlation with the test score in 2010.

Another factor that affects children's cognitive development is nutrition during their first few years

of life. There is evidence that shows how children's nutrition level during early childhood affects their cerebral development (Bryan, Osendarp, Donna, et al., 2014). Household's agricultural production can be considered to be a good predictor of its members' nutritional status. Dillon, McGee, and Oseni (2014) show that higher income from household agricultural activity and a greater diversity in the agricultural products that are grown increase people's dietary diversity. This is closely related to caloric availability, which, in turn, is an important component of nutritional wellbeing.

**TABLE 7.4.**  
COGNITIVE DEVELOPMENT AND NUTRITIONAL DIVERSITY

Dependent variable: PPVT score standardized by age				
	(1)	(2)	(3)	(4)
	2010	2016	2010	2016
Own land (ha.)	0,013 (0,008)	0,020** (0,008)		
Number of crops			0,002 (0,007)	0,022*** (0,006)
Wealth index	0,013** (0,007)	0,002 (0,007)	0,019*** (0,006)	0,008 (0,006)
Total consumption (per capita)	0,002*** (0,000)	0,002*** (0,000)	0,002*** (0,000)	0,002*** (0,000)
Observations	1.952	1.952	2.210	2.210
R-squared	0,054	0,055	0,044	0,047

Source: ELCA 2010, 2013 and 2016. Authors' own calculations

Note: All the dependent variables correspond to baseline values (2010). Total per capita consumption is written in tens of thousands of Colombian pesos. The period used for the dependent variable is indicated in the title of each column. Standard errors are written in brackets. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

.....→

5. The Peabody picture vocabulary test has been used in the economic literature to measure cognitive development. This variable has been useful for making predictions in different contexts (Schady et al., 2014).



→ José Petro's plantations have provided him the means to raise his children. He still enjoys it when his friend Enrique Velásquez, or "Quillo" (photo) as he calls him affectionately, helps him to get the coconuts down from the tree, open them and drink their water.

nutritional state, which, in turn, affects their cognitive development.

These results suggest that the inequalities observed can be transmitted from one generation to the next. This can even happen if the children in their adulthood decide to not to continue living in the country and working in agricultural production. The deficiencies in the development of their cognitive capabilities can result in the same inequalities persisting even though they have decided to migrate to urban areas or other productive sectors.

## 7.5. CONCLUSIONS

The information gathered by ELCA gives us an idea of the current condition of the four micro-regions surveyed and the changes over recent years. This chapter allows us to establish three important characteristics belonging to the rural zones during the period of analysis. First, although the inequality in land ownership did not get greater between 2013 and 2016, access to land reduced during these years. This can be seen in that the concentration of land used steadily increased since 2010. This suggests that fewer and fewer households are undertaking agricultural activities as a source of income. This fact can be explained by households transferring to more economically viable productive sectors or by shocks that lead households to abandon agricultural production. Moreover, the results indicate



→ In Cereté (Córdoba), the majority of people travel by bike on unpaved roads where they can enjoy the vegetation as well as the cotton plantations, the corn, fruit, and livestock.

that only a very low percentage of households have used governmental programs.

Second, the fact that both formal and informal landowners getting loans seems to indicate that being in the possession of deeds has been becoming less important as a determinant in accessing

to this market. However, getting informal loans is still more common for informal than formal landowners. As such, the results suggest that formal property owners have an economic advantage over informal property owners as they make higher-return investments for agricultural activities such as irrigation systems or soil conservation programs.

This can be explained by the fact that owners of deeds have the possibility of seeing long-term returns on their investments.

Lastly, inequality in the rural sector could last for several generations due to the deficiency in cognitive development of low-income household

children. Inequality could even be transmitted to children who decide as an adult to migrate to urban areas or different productive sectors from agriculture. The results suggest that this is possible due to the correlation between the number of agricultural products grown by household and children's development in the verbal aptitude test. Based on this, it is easy to think that children from households that do not have sufficient resources to have

a variety in their nutrition could, therefore, not have sufficiently developed cognitive capabilities; this would determine their future lives.

The post-conflict era that the country will begin to live after the signing of the peace agreement between the government and the FARC has once again brought rural policies to the public stage.

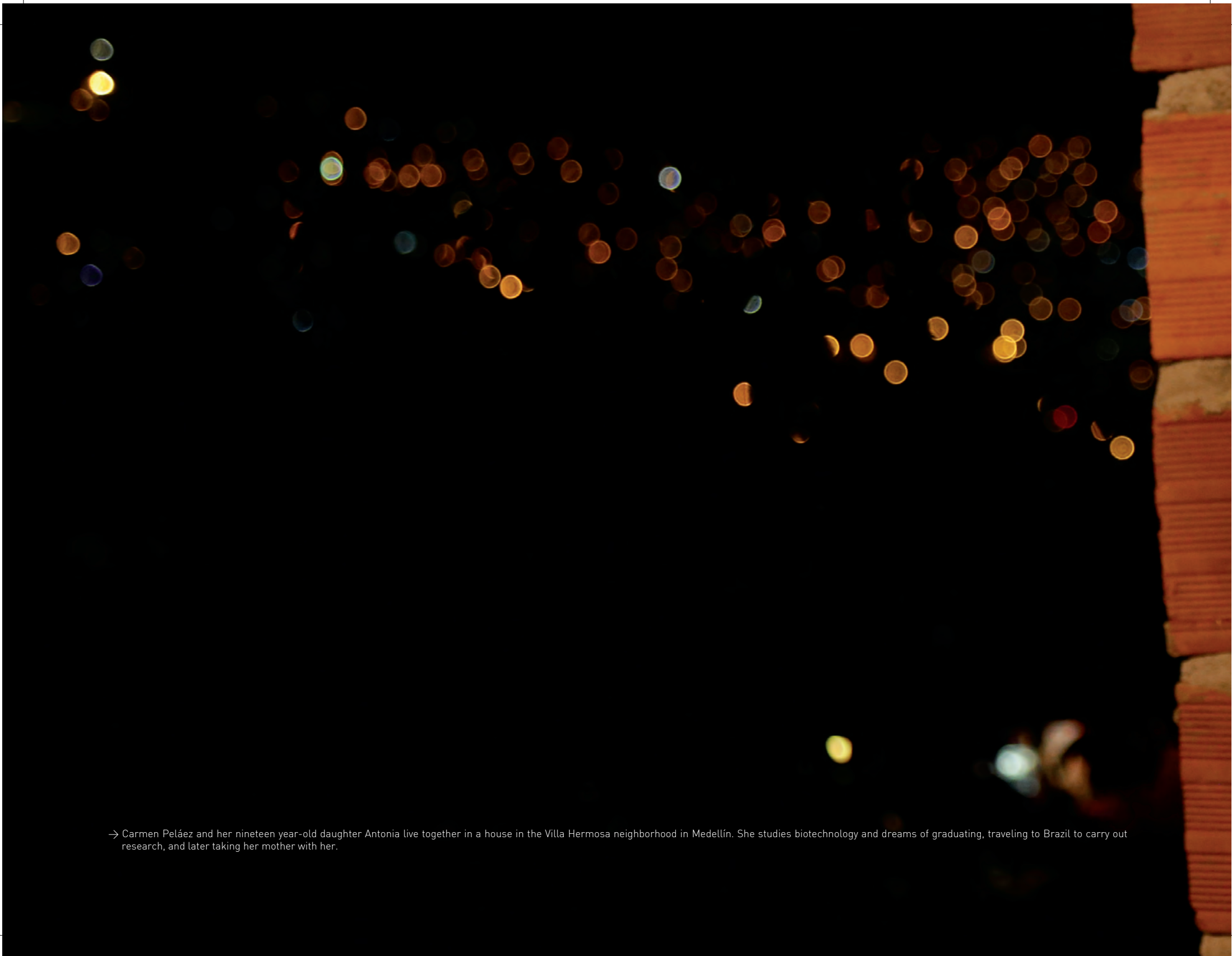
This allows us to hope that the pattern of inequality in the countryside can be reversed over coming years. This is essential for both the reduction in rural poverty and to resolve the historical causes of the conflict. As such, appropriate rural development is important not only for these two reasons: as shown in this chapter, agricultural production affects people's living conditions in several ways including cognitive development in early childhood.



→ 65 year-old María Alicia Torres and her 77 year-old husband Octavio Enrique Ballesteros have dedicated their whole life to the country. Every early morning and afternoon they milk cows together, and from this livelihood they raised their two children.

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→ Carmen Peláez and her nineteen year-old daughter Antonia live together in a house in the Villa Hermosa neighborhood in Medellín. She studies biotechnology and dreams of graduating, traveling to Brazil to carry out research, and later taking her mother with her.





→ Brothers and first and second cousins...the relationship does not matter, among thirteen children between zero and sixteen who live in the La Esperanza store in Chinú (Córdoba) enjoy every moment in the country. They play football, marbles, and fool around with the animals...



## CHAPTER 8

# THE DYNAMICS OF PROSOCIAL BEHAVIOR (2010 – 2016): PARTICIPATION, TRUST, AND VOLUNTARY AID<sup>1</sup>

PAULA JULIANA SARMIENTO  
JUAN CAMILO CÁRDENAS



→ A Sunday like any other in José Miguel Petro's house. On this occasion, his daughters and granddaughters were visiting. From left to right: Karen Naranjo (granddaughter), Cristian David Naranjo (grandson), Consuelo Petro (daughter), don José, Lucero Petro (daughter), and Cristian José Petro (grandson).

### 8.1. INTRODUCTION

→ Thanks to the three ELCA waves (2010, 2013, and 2016) it is possible to explore the dynamics associated with prosocial behavior, which can be understood as the ability that individuals have to involve themselves in activities that are outside the market and their relations with the State. They provide others in their community with well-being or construct what is known as 'social capital'.

Prosocial behavior can be expressed in multiple ways. In this chapter, we will explore three of the most important dimensions: i) participating in social organizations, ii) placing trust in others, and iii) helping others or receiving help from them.

Belonging to and participating in social organizations, particularly when the person has leadership skills allows -from voluntary individual's contribution- to provide members of the organization and the community in general with benefits. Similarly, the ability to trust and to be trusted by others is one of the ways in which individuals can generate social interactions with opportunities for mutual benefit, and, as such, be benefitted in a way that sometimes cannot be provided through market

.....→  
1. We would like to thank the Bolivar-Davivienda Foundation for their generous financing that helped undertake this study.

transactions or by State programs. Likewise, help given or received by family members or friends outside the household also constitute prosocial behavior. This could be for either altruistic reasons or for reasons to do with reciprocity; volunteering time to help others is a good example of one of the reasons that we will analyze based on ELCA's data.

When either participating, trusting, or helping, individuals voluntarily incur in a personal cost in order to contribute to providing the community with goods and services. Examples of these voluntary contributions are the time dedicated to participating in a social organization's activities, contributing to an activity that is potentially mutually beneficial while at the same time running the risk that others take advantage of trust given, or giving up either material resources or time to improve others' wellbeing that could have been used for the individual themselves or their household. There are, however, significant incentives to not contribute but still benefit from the engagement, the help, and the trust of others. Therefore, there is a high risk of this prosocial behavior being destroyed, which will prevent important benefits coming from organized civil society. As such, using ELCA to monitor households' prosocial behavior is of the utmost importance to be able to understand the possibilities and potential barriers that prevent maximizing this social energy that complements the functioning of the markets and the State.

In the first part of this chapter, we will describe the evolution of these behaviors over the six years



→ One of the workers who decorates and landscapes the Nuevo Gramalote construction.

of ELCA, and we will later analyze some phenomena that have become clear about these dynamics over time.

Specifically, we will explore the role that State programs could be playing in generating changes in some of these prosocial behaviors due to the importance of a series of State strategies to provide

citizens with goods and services. When exploring the data, we found that State programs may be motivating or inducing individuals to increase their engagement in social organizations.

One of the reasons for this could be that, often, State entities promote and even require that whoever wants to receive State aid needs to partner



→ Workers eat lunch while working on the Nuevo Gramalote construction.

ELCA's data suggest there is greater participation in these social organizations due to the State programs or help, which is opening important discussions about the role State programs may be playing. However, the data also suggest that when households leave social programs, participation in organizations is reduced. This supports the argument regarding the purely instrumental nature of membership to gain access to State benefits.

themselves in some way, and, as such, belonging to or forming a community organization becomes a simple requirement to access this State help. Government entities can promote this associativity because they are looking to reduce the transaction costs when implementing programs. They can do so if they have a way to coordinate the activities with the leaders of an organization and not with each member. Another reason for promoting associativity is because they consider it to be an important factor in encouraging the so known 'social capital'.

ELCA's data suggest there is greater participation in these social organizations due to the State programs or help, which is opening important discussions about the role State programs may be playing. However, the data also suggest that when households leave social programs, participation in organizations is reduced. This supports the argument regarding the purely instrumental nature of membership to gain access to State benefits.

## 8.2. PARTICIPATION IN SOCIAL ORGANIZATIONS (2010-2013-2016)

In the survey's social capital module, the head of the household and/ or spouse is asked if they participate in any of the following groups or organizations: Community Action Board (CAB), a religious organization, a neighborhood or rural district community organization, an educational organization, a charity organization (a member rather than

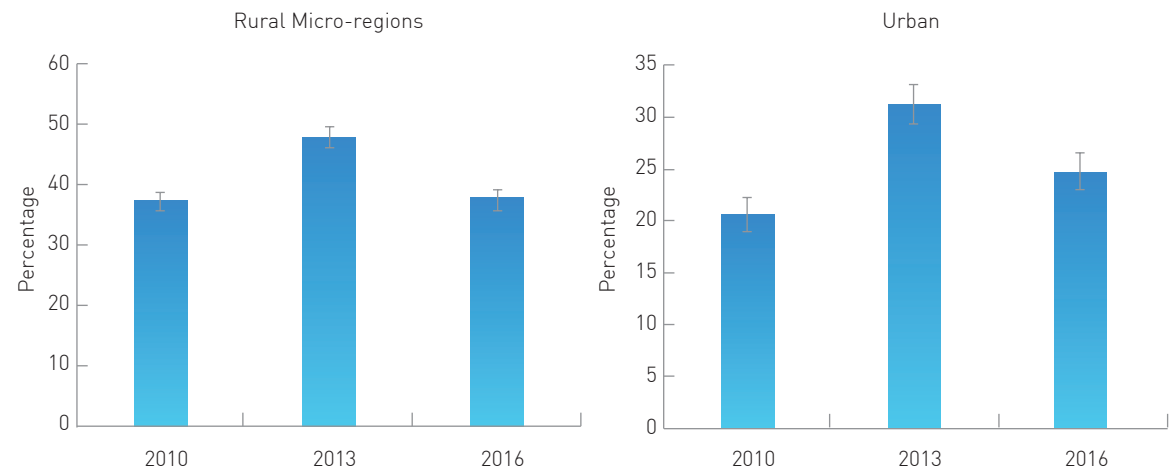
beneficiary), an ethnic organization, an environmental organization, a political movement or party, a cultural or sports organization, a work cooperative or farmers' association, a union, a community security association, and/ or a residential building council. For the following calculations, household participation is defined as what the head of the household or their spouse reports to have participated in (in terms of the previously listed social organizations).

For the category 'unions', it is important to highlight that in 2010 there was only one classification for being a member of a union or work cooperative or farmers' association; however, in 2013 and 2016 these were separated into two categories (the first being unions and the second being work cooperative or farmers' association). As such, the calculations have been made by joining together both categories to maintain the round's comparability.

The report on participation in social organizations, which has shown an increase between 2010 and 2013, shows a fall in 2016; however, the levels are somewhat higher than those observed in 2010 (Graph 8.1). The fraction of households<sup>2</sup> that report to be a member of social organizations continues to be higher for the rural population than for the urban population in all three ELCA rounds.

The structure of this distribution, by type of organization, shows some interesting trends. The Community Action Board continues to be, both in rural and

**GRAPH 8.1.**  
HOUSEHOLDS' PARTICIPATION IN SOCIAL ORGANIZATIONS BY ZONE  
(PERCENTAGE OF HOUSEHOLDS).



Confidence intervals are reported at 95%.

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: Household participation is defined as the head of the household or their spouse reporting to participate in a social organization: Community Action Board, religious, community, educational, charity, ethnic, environmental, political, cultural, sport, association, union, occurrences of participation that are promoted by the State, residential building council, and/ or security organization. The rural sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

urban zones, ELCA households' most common form of participation, which can be seen in Graph 8.2.

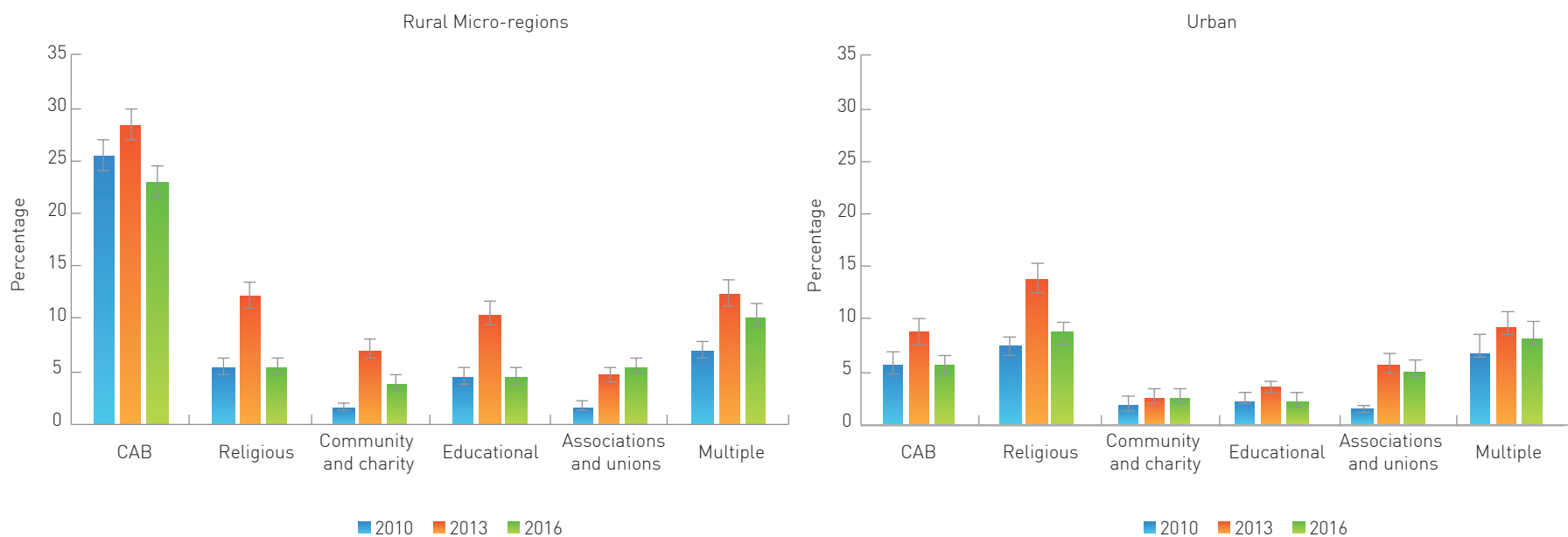
In both the rural and urban sample it can be seen that from 2013 to 2016 there were important reductions in participating with religious organizations,

which reduced from 12.2% to 5.35% in rural zones and from 13.86% to 8.72% in urban zones: this was a reduction to 2010 levels. This fall is particularly noteworthy when we observe that participation in this type of organization was the same that largely produced the increase in the general levels of

.....→

2. It can be said that 'the household participates' when at least one individual from the household is a member or a social organization.

**GRAPH 8.2.**  
PARTICIPATION IN SOCIAL ORGANIZATION BY ZONE AND TYPE OF ORGANIZATION



Confidence intervals are reported at 95%.

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: Household participation is defined as the head of the household or their spouse reporting to participate in a social organization. The category 'multiple' includes ethnic, environmental, cultural or sport, security organization, political movements or parties, or occurrences of participation that are promoted by the State. The rural sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

affiliation from 2010 to 2013. Similarly, in the third round (2016) there were substantial reductions in participation in Community Action Boards, and also in educational organizations in rural zones, which reduced from 10.5% in 2013 to 4.5% in 2016.

It is worth mentioning that although there was a low percentage of participation in the majority of organizations between 2013 and 2016, associations and unions remained constant, or even increased slightly, in both rural and urban zones. We can also

see that in urban zones participation in community and charity organizations remained stable.

One of the biggest advantages of ELCA is that as well as allowing us to see three photos in time, it

allows us to construct a video of the same families and explore the community within social organizations. The data available shows unstable household investment in social organizations, which evidences the fragility of the attempt to construct social capital. In urban zones, more than half of households (51.99%) have never participated in social organizations, 26.86% have participated during only one of the years (2010, 2013, or 2016), 14.02% have participated on two occasions, and only 7.12% have reported to have participated in the three waves. In rural zones, the percentages are 32.71%, 28.47%, 22.7%, and 16.12%, respectively (See Graph 8.3.).

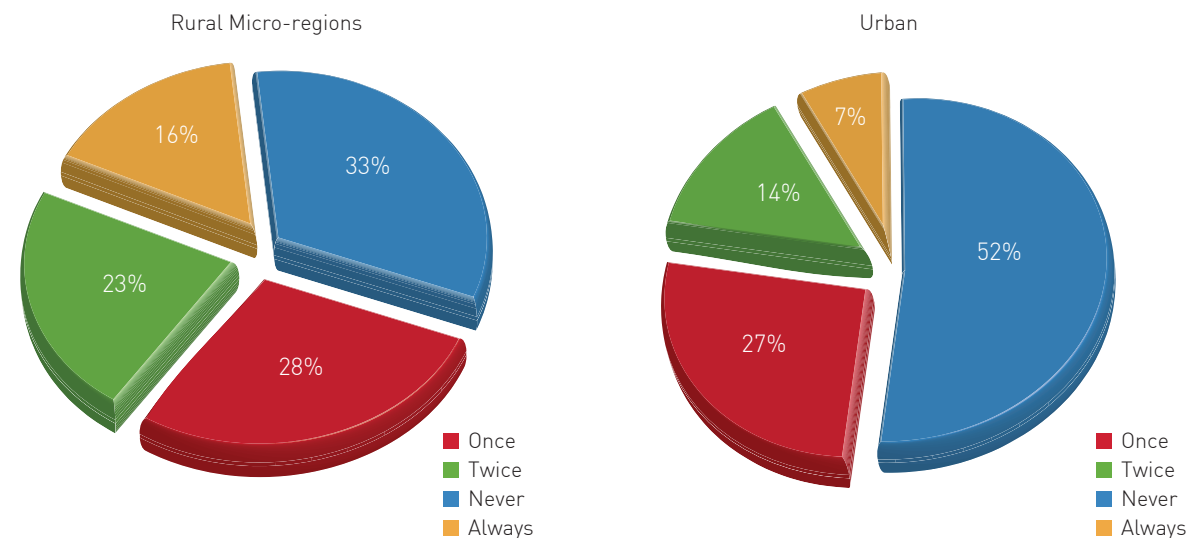
### 8.2.1. LEADERSHIP

There are different ways of participating: one important activity to construct social capital and uphold it in the mid and long-term is households' participation in organizations' management structures. As such, as well as gathering information on membership, the ELCA asked each one of the previously mentioned organizations if the individual regularly attended meetings and if they are one of the organizations' leaders. For the purpose of making the calculations in this chapter, leadership in the household is when the head of the household or their spouse report that they are leaders of an organization in which they participate.

Graph 8.4 shows the change in the percentage of households that are leaders in social organizations in both rural and urban zones. Generally,

**GRAPH 8.3.**

**THE DYNAMIC OF PARTICIPATION IN SOCIAL ORGANIZATIONS (PERCENTAGE OF HOUSEHOLDS)**



Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

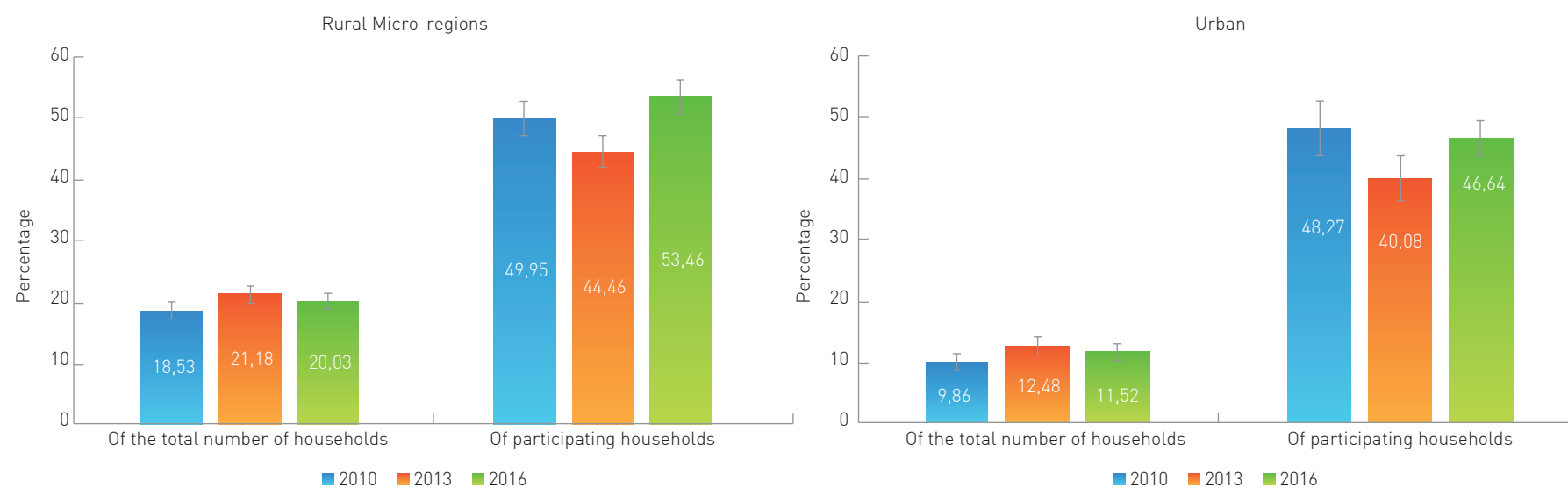
Note: Household participation is defined as the head of the household or their spouse reporting to have participated in some social organization. The category 'always' indicates that the household participated in social organizations in the three rounds of the survey, 'twice' indicates that it participated in two of the three rounds, 'once' indicates that the household participated in one of the three rounds, and 'never' indicates that it did not participate in any round. The rural sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

participation on a leadership level is higher in rural zones than urban zones, which can be seen based on percentages relating to membership, attending meetings, and leadership throughout the three rounds of the survey. The data suggest a slow

progress in households' participation in leadership<sup>3</sup> over these six years: in urban zones, between 2010 and 2016, there was an increase from 9.86% to 11.52%, respectively, and in rural zones the increase was from 18.53% to 20.03%, respectively.

.....→

3. A household is defined to participate in leadership when at least one individual from the household reports to be a leader of an organization.

**GRAPH 8.4.****HOUSEHOLD LEADERSHIP IN SOCIAL ORGANIZATIONS BY ZONE (PERCENTAGE OF HOUSEHOLDS).**

Confidence intervals are reported at 95%.

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: Leadership is defined as the head of the household or their spouse reporting to be leaders of a social organization. In the three first bars of each graph, we can see the ration between the percentage of households that are leaders of the social organization to which they belong and the total number of households (this includes the households that are not leaders as they do not even participate in an organization). The second and third bars of each graph show the percentage of households that are leaders out of the total number of households that participate in each social organization. The rural sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

In the same way, between 2010 and 2013, the percentage of households that are leaders in terms of the total number of households that participate in organizations decreases by close to 5%. However, it then increases in 2016 to similar levels as those seen in 2010 (see Graph 8.4). Regarding the demographic characteristics of the people who participate, there are no differences between the fraction of participants and leaders for men and women in these organizations.

We can see from the data presented that the fraction of those who report to belong to social organizations, and, in turn, participate in leadership activities is very similar, between 40% and 50%, for rural and urban zones-respectively-. However, from the total number of households, the percentage of rural participation is substantially higher than urban participation: the level of participation in leadership roles is almost one out of every two members. However, from the total number of households in the sample, there is low participation; half of these members take on a leadership role in both rural and urban social organizations.

Individuals' participation in organizational management warrants an additional analysis as it implies an extra contribution of effort in time to support the organizational process. However, this leadership function also increases the visibility of the leaders, and questions could be asked about the risks that they face in the context of the current situation in Colombia where social leaders are the victims of threats and targeted murders. As can be seen in

4. <http://www.ideaspaz.org/publications/posts/1530>

5. <http://www.observatoriodetierras.org/donde-y-como-estan-matando-a-los-lideres-rurales-variables-municipales-en-el-asesinato-de-lideres-sociales-rurales/>



→ Cristian Moreno remembers his time playing for the lower league side Envigado FC. He has now finished his university degree and plays for the Rionegro Águilas in the Argos Futsal League. He has left professional football.

Graph 8.4, there is, in general, a higher participation of households in the rural sample as a total percentage of the households; however, the fraction of households in management positions, as a fraction of those who are members, is similar in both the rural and urban samples.

Rural participation in social organizations and violence towards leaders deserves special attention. According to figures from the Ideas para la Paz

Foundation, in 2017 alone (until June) 36 leaders were murdered.<sup>4</sup> Additionally, a report from the Observatory of Restitution and Regulation of Agricultural Property Rights<sup>5</sup> found that the murder of rural leaders particularly affected the Community Action Boards, and that in 77% of cases the affected organizations are local: exactly those about which ELCA enquired. Also, according to the data in this report, between 2005 and 2015, rural leaders have been victimized at least 500 times.



Victimizing leaders can have serious impacts on the construction and stability of social capital as it can disincentivize both households' active participation in the organizations that they attend and even membership. This is even more the case when the social capital network is just starting out and is not very stable, which has been shown by ELCA's data.

Another valuable source of information in ELCA is the questionnaire about "Communities" that is given to the community leaders in both rural and urban zones. It gathers information about institutional supply, infrastructure and public services, shocks and conflicts, and social capital.<sup>6</sup>

One of the questions that we explore in this chapter is the following:

*During the last three years, what is the main thing that the people living in this rural district have done to improve security?*<sup>7</sup> The results from this question in the three rounds of the survey are presented in Graph 8.5.

According to the perceptions of community leaders in rural zones, solidarity as a way of improving security substantially decreased in 2013 and 2016 compared to levels in 2010<sup>8</sup> while helping public authorities has become more important. However, as the figures on violence in the previous



→ Pueblito Paisa is one of the main tourist attractions in Medellín. It is a replica of the traditional towns in Antioquia.

section have shown, leaders are being continuously threatened, despite the public authorities having become more relevant in a context in which the community's solidarity seems to have weakened. Furthermore, when asking rural leaders how much the people living in their rural area help each other, it can be seen that the percentage of people who said they helped a lot has decreased

and the percentage of people who claim to help a little has risen.<sup>9</sup>

Conversely, in urban zones, there have not been significant changes in the leaders' insights into security; however, the percentage of communities in which leaders have reported that the general public are helping less have increased.

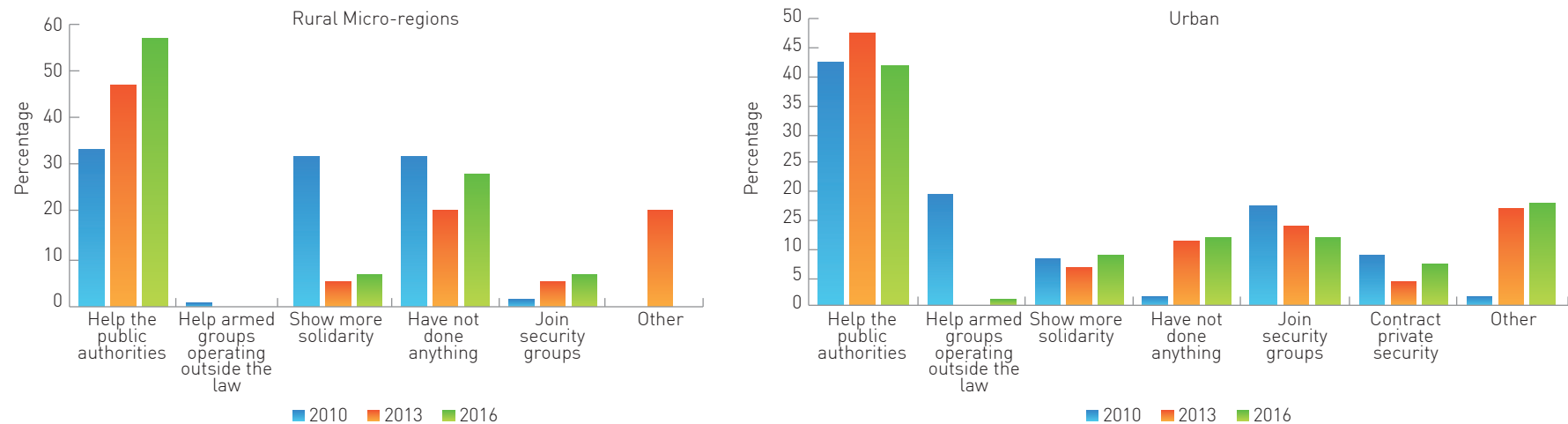
6. The questionnaire for leaders is a consensus survey: a survey was given in each neighborhood or rural district with the joint participation of at least three community members. This questionnaire seeks to collect context information for ELCA households and thus it is only valid for these communities.

7. The answer options for this question are the following: helping the public authorities, helping armed groups outside the law, showing more solidarity, not having done anything, setting up security groups, contracting private security groups, or something else.

8. This means that in a lower percentage of communities, leaders have reported that showing more solidarity has been a way of improving security.

9. The question is structured in the following way: In general, the people living in this rural area (1) Help a lot, (2) Help a little, (3) Do not help.

**GRAPH 8.5.**  
ACTIVITIES UNDERTAKEN TO IMPROVE SECURITY (PERCENTAGE OF COMMUNITIES)



Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: The question is structured in the following way: During the last three years, what is the main thing that the people living in this rural district have done to improve security? The answer options are the following: help public authorities, help armed groups operating outside the law, show more solidarity, have not done anything, join security groups, contract private security, and other. The sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

Additionally, the surveys for leaders contained the following two questions:

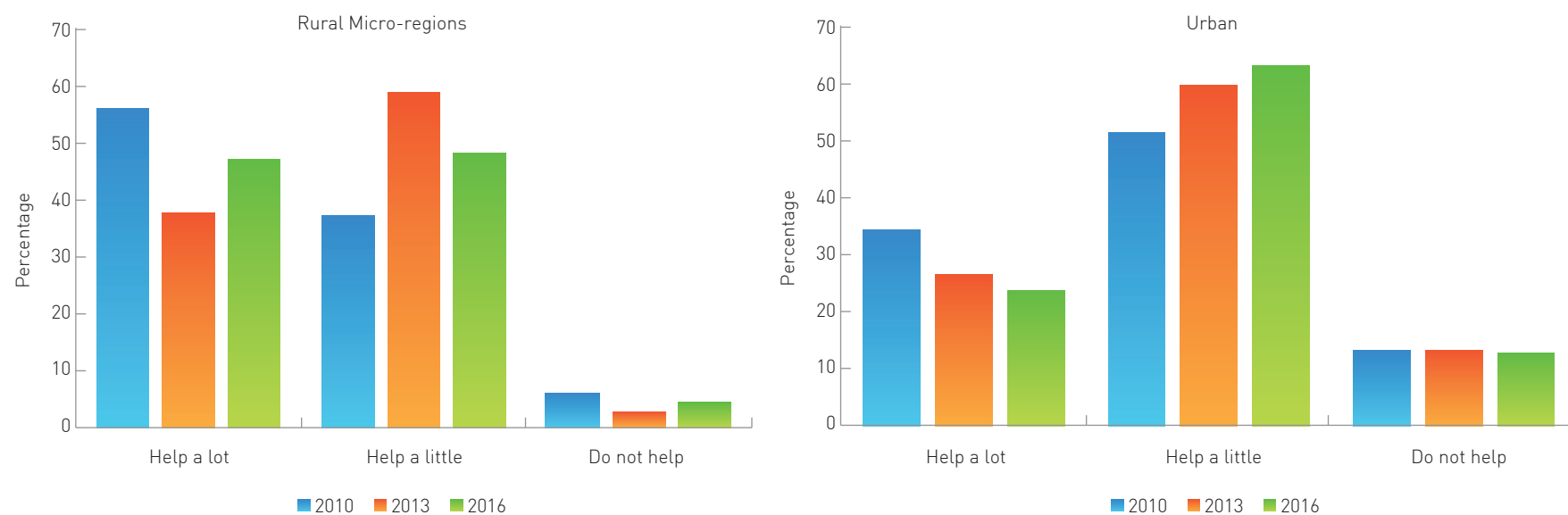
1. To resolve problems or conflicts, do people living in this rural area mainly go to: the legal system, community leaders, religious leaders, armed groups operating outside the law, or others?
2. To resolve non-criminal conflicts, do people living in this rural area mainly: Resolve them

themselves, ask for help from other neighbors, ask for help from armed groups, ask for help from family members or friends who live in other places, ask for help from community leaders, ask for help from religious leaders, ask for help from the authorities, or other ways?

The data for 2016 show that people living in rural zones mainly go to the justice system (80.34%) to

resolve criminal problems; however, 18.38% went to community leaders.<sup>10</sup> 64.53% of communities resolve non-criminal conflicts between themselves, 17.95% ask for help from community leaders, and 12.39% ask for help from the authorities. Furthermore, according to leaders, the percentage of communities in which the people go to the authorities has decreased from 17.16% in 2010 to 15.58% in 2013 and then to 12.39% in 2016; conversely, the

10. These data remained relatively constant during the three rounds.

**GRAPH 8.6.****TO WHAT EXTENT DO THE RESIDENTS OF A COMMUNITY HELP? (PERCENTAGE OF COMMUNITIES)**

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: The question is structured in the following way: In general, the people living in this rural area (1) Help a lot, (2) Help a little, (3) Do not help. The sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

percentage who ask for help from community leaders has increased from 14.22% in 2010 to 16.05% in 2013 and then to 17.95% in 2016.

Moreover, in the urban zones there seem to be different dynamics in terms of the options to which

the communities turn to resolve criminal and non-criminal conflicts. By 2016, 76% accessed the justice system, which increased from 65.11% in 2010; however, the importance of community leaders has been decreasing from 27.88% (2010) to 22.05% (2016). In urban zones, the percentage of leaders

who report that criminal conflicts are resolved by the neighbors themselves is much less than in rural zones and has ranged between the following figures: 36.22% (2010), 44.61% (2013), and 40.68% (2016). Similarly, they report an increase in accessing community leaders from 26.12% (2010),

to 28.88% (2013), and to 30.80% (2016), while the percentage of leaders who perceive that people go to the authorities to resolve conflicts has reduced from 26.32% in 2010 to 20.15% in 2016.

It is noteworthy that the percentage of neighbors turning to religious leaders in order to resolving non-criminal conflicts is minimal both in rural (zero in 2016) and urban zones (0.95% of leaders for 2016); this is despite the relevance of participating in religious organizations that we have seen previously (Graph 8.2).

## 8.2.2. HELPING OTHERS

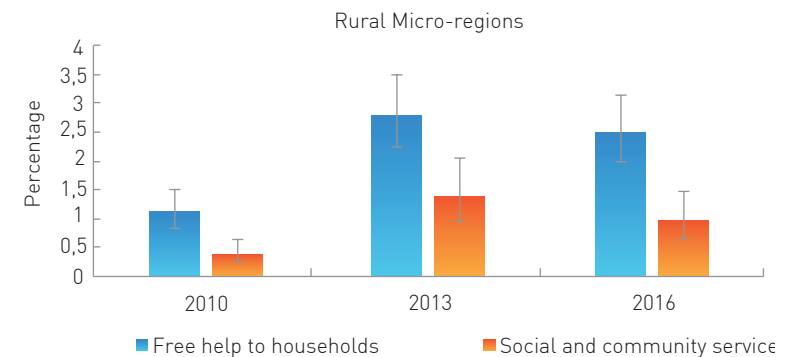
As well as belonging to social organizations, some households make efforts to contribute to their community through their work as well as other forms of transferences to projects involving the community, neighborhoods, or their closest friends and family. The ELCA allows us to see that, in Colombia, citizens occasionally resort to informal mutual support mechanisms through relationships involving exchanges, loans, and gifts among acquaintances, which are outside the private formal or State system.

These calculations are based on the survey's module on use of time<sup>11</sup> from which we obtained information regarding if a member of the household dedicates time to free-help activities for others or to help with social or community projects outside their household. In this section, the interviewee is asked to reconstruct the activities undertaken in a typical weekday during the previous week from when they woke up until when they went to bed. Based on the different activities that were recorded in this chapter, we concentrate on two: providing other households with free help, and undertaking social or community service activities that are part of the prosocial behavior that we will explore below.

Broadly speaking, this dimension of social capital is the most disappointing because, as can be seen in Graph 8.7, despite there being an increase in the percentage of rural households that dedicated time to social or community service

### GRAPH 8.7.

DYNAMICS OF THE HOUSEHOLDS THAT DEDICATE TIME TO PROSOCIAL ACTIVITIES: SOCIAL AND COMMUNITY SERVICES OR FREE HELP TO HOUSEHOLDS IN RURAL ZONES (PERCENTAGE OF HOUSEHOLDS).



Confidence intervals are reported at 95%.

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: The graph shows the percentage of households that affirmed to dedicate time to social service or the community and those who affirm to dedicate time to helping other households for free during the survey's three waves. Dedicating time to helping others can be defined as the head of the household or their spouse affirming that they dedicate time to this activity. These data are only available for the rural sample, so they are only representative for the following micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

or that provided other households with free help<sup>12</sup> from 2010 to 2013, in 2016 there was no progress as the percentages decreased slightly.

When observing the change in these types of behaviors by region, it is possible to see that the increase that took place between 2010 and 2013 was mainly due to the Atlántica Media region; however, in 2016, the levels in this region reduced

.....→

11. This module is only answer by monitored people in rural areas.

12. A household is defined as dedicating time to social or community services or providing free help to other households if a member of the household affirms to dedicating time to one of these activities.

by 7.41% in 2013 to 5.11% in 2016. Although the Centro-Oriente showed slight increases, it is the only region that has shown increasing progress as the figures moved from 0.49% in 2010 to 1.91% in 2013 and then 2.24% in 2016. In the Cundiboyacense and Eje Cafetero micro-regions, the percentage of households that dedicated time to this type of activity has remained relatively stable from 2010 to 2016 despite the Eje cafetero's intermediate variations (see Graph 8.8).

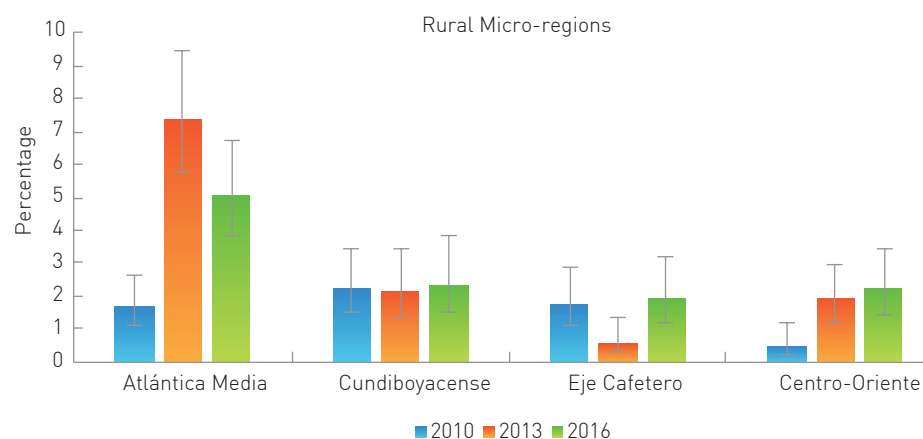
### 8.2.3. ATTITUDES ON RECIPROCAL ALTRUISM

ELCA also included a section of questions on individuals' opinions; some related to their community's social capital. One of these questions is about how much the person agrees with the following statement: "we must always help those who help us", which reflects the respondent's view on reciprocal altruism. This question was asked in both the 2013 and 2016 rounds, and it allowed us to evaluate the stability of individuals' preferences and then cross this information with other variables.

Although these data show a favorable example in the way that almost all individuals, both in the rural and urban sample, show their agreement or complete agreement (97.32% in 2013 and 96.32% in 2016), by contrasting them with the previous figures on use of time, we can see that there is more prosocial behavior in theory than there is in practice. Additionally, how individuals' preferences change from 2013 to 2016 can be seen<sup>13</sup> for those individuals who completely disagreed or disagreed (175 individuals), 83.43% (146 individuals) changed their answer to being in agreement or completely in agreement. Moreover, in the opposite case, of the 6,406 individuals who completely agreed or agreed, this figure was much less (3.37% or 216 people), which shows a positive situation, at least based on opinion. It is worthwhile mentioning that approximately half (51.28%)<sup>14</sup> of all individuals are of the same opinion from one round to the next.

Also, as mentioned at the beginning of the chapter, trust is one of the ways in which an individual or a community can express its prosocial behavior as well

**GRAPH 8.8.**  
HOUSEHOLDS THAT DEDICATE TIME TO PROSOCIAL ACTIVITIES IN RURAL ZONES BY REGION (PERCENTAGE OF HOUSEHOLDS).



Confidence intervals are reported at 95%.

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: The graph shows the percentage of households that affirm to have dedicated time to social or community service or having provided free help to households in the survey's three rounds. Dedicating time is defined as the head of the household or their spouse affirming that they dedicate time to this activity. These data are only available for the rural sample, so they are only representative for the following micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

as being one of the most important mechanisms to create mutual benefits from social interactions. We included the following question in 2013 and 2016 in order to evaluate each household's perception of an atmosphere of trust in the community: *If your neighbors had \$50,000 pesos in their pocket, how many of them would immediately lend you the money to pay for a medical emergency based on*

13. 7,174 people answered this question in 2013 and 7,467 people answered it in 2016; Information about preference changes can only be analyzed for 6,518 people.

14. To calculate this, the answers were not grouped into the two categories stated at the beginning of the paragraph. The calculation was made by using the four possible answers separately: completely agree, agree, disagree, completely disagree.

**TABLE 8.1.**  
OPINION “WE ALWAYS HAVE TO HELP THOSE WHO HELP US”

2016 \ 2013	Agree	Disagree
Agree	96.63%	83.43%
Disagree	3.37%	16.57%
Total	100% (N=6,406)	100% (N=175)

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: This table is based on percentage of people who answer: Completely agree, agree, disagree, and totally disagree to: We should always help those who help us. To make easier the analysis the categories had been group as follows: Totally agree and agree in one group and: disagree and totally disagree and other. These data are only available for the rural sample, so they are only representative for the following micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.



→ Carlos García's livelihood comes from his fruit stall in Corabastos in Bogotá. He had to deal with his customer's change of consumer behavior and now makes deliveries.

*the promise that you would pay the money back when you were able?*

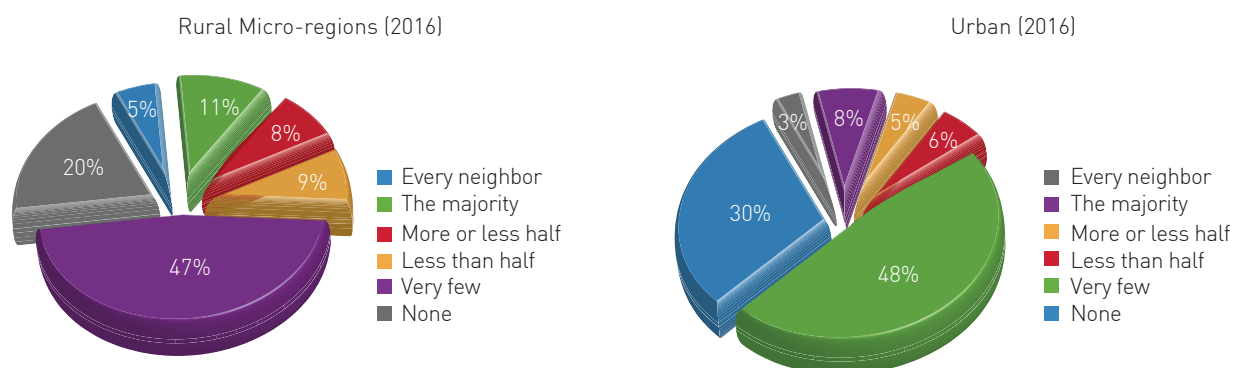
Graph 8.9 shows how both in rural and urban areas almost half the population (47% and 48%, respectively) believe that very few neighbors would lend them the money, and 20% and 30%, respectively believe that none of their neighbors would lend them the money. These figures cannot be compared with other countries as we do not know of any surveys that have similar questions. These data suggest that in the areas where the survey is representative, there is a low perceived confidence in others, which represents an important barrier to the creation of community support networks. The panorama has not improved over time if we take into consideration that from 2013 to 2016, 77.63% of the people surveyed decreased the number of neighbors that they considered would lend them the money (for example, they went from answering “all” to “the majority” or from “the majority” to “more or less half”, etc.). 27.8% responded with the same answer, and a lower percentage (22.37%) increased their answer (for example, they changed from “none” to “very few”).

### 8.3 THE STATE AS A PROMOTER OF PARTICIPATION IN ORGANIZATIONS

Until now, we have focused attention on the ways in which individuals and households allocate their

### GRAPH 8.9.

#### TRUST NETWORK BETWEEN NEIGHBORS: LOANS FOR MEDICAL EMERGENCIES BY ZONE (PERCENTAGE OF PEOPLE).



Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: The graph shows the percentage of people who answered: "All", "The majority", "Half", "More or less half", "Very few", or "None" to the following question: If each one of your neighbors had \$50,000 in their pocket, how many people would immediately lend you the money to pay for a medical emergency based on the promise that you would pay the money back when you were able? The rural sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente.

efforts to participate, help, and trust others as mechanisms to voluntarily provide goods and services. However, households also receive State help through different programs; this information is also collected by ELCA in the household questionnaire.<sup>15</sup>

In this section, we look to analyze the interactions between the dynamics of households' prosocial

behavior and the dynamic of the State help in order to find out, until what point, the State programs affect households' affiliation and prosocial behavior.

We can observe that, in general, there is a causal relationship between households' participation in social organizations and their participation in State programs; this suggests that membership in these

organizations can be instrumental in accessing government programs, or because it is a way to improve the capacity to act in terms of acquiring these benefits through an organization, or because these State agencies require these organizations to be created. The available data do not allow us to be able to clarify the mechanism that creates this effect; however, the causal relationship does seem to be supported by the data.

Table 8.2 shows a transition matrix for membership or participation in social organizations between 2013 and 2016. The boxes highlighted in yellow show the probability that a member of a household will change from not participating to participating in a social organization. The urban sample is in the left-hand column and the rural sample is in the right-hand column. The highest part of the table shows the transition matrix for households that stopped receiving benefits from State aid programs between 2013 and 2016 while the lower bar shows these probabilities for the households that were part of State programs. When the cells highlighted in yellow are compared, we can see that the probabilities of this transition of not belonging to a social organization are greater for those that became part of a State aid program.<sup>16</sup>

Similarly, the cells highlighted in green show the probabilities that a household would have stopped

15. The question is the following: *In the past twelve months, has this household received or has it been a beneficiary of one of the following programs?* In rural areas the State programs are: *Familias en Acción*, programs for the elderly, SENA, *Juntos-Unidos* network, Colombian Institute of Family Wellbeing, aid for natural disasters, help for displaced persons, providing land titles for land that has no owner, land allocation programs, *Ley de Víctimas y Tierras*, insurance for Agro-income or *Desarrollo Rural con Equidad*, *Oportunidades Rurales*, *Alianzas Productivas*, *Familias Guardabosques*, or others. The three latter programs were not part of the questionnaire in 2010. The rural sample is only representative for the micro-regions: Atlántica Media, Cundiboyacense, Eje Cafetero, and Centro-Oriente. The following are the programs in the urban zones: *Familias en Acción*, programs for the elderly, SENA, *Juntos-Unidos* network, Colombian Institute of Family Wellbeing, *Jóvenes en Acción*, aid for natural disasters, help for displaced persons, and others.

16 A multivariate regression analysis corroborates this argument as it estimates the factors that increase the probability that a household begins to become part of a social organization. It was confirmed that this probability increased for those who received state aid and had statistically significant effects.

**TABLE 8.2.**  
BENEFICIARIES OF STATE PROGRAMS AND PARTICIPATION IN SOCIAL ORGANIZATIONS

Households that left State programs from 2013 to 2016\*

Urban	Participated in 2016		Total
	NO	YES	
Participated in 2013	NO	YES	Total
NO	84.79%	15.21%	100%
YES	61.13%	38.87%	100%
Total	76.60%	23.40%	100%

Rural	Participated in 2016		Total
	NO	YES	
Participated in 2013	NO	YES	Total
NO	82.30%	17.70%	100%
YES	51.05%	48.95%	100%
Total	66.92%	33.08%	100%

Households that joined State programs from 2013 to 2016\*\*

Urban	Participated in 2016		Total
	NO	YES	
Participated in 2013	NO	YES	Total
NO	78.29%	21.71%	100%
YES	49.53%	50.47%	100%
Total	71.50%	28.50%	100%

Rural	Participated in 2016		Total
	NO	YES	
Participated in 2013	NO	YES	Total
NO	77.68%	22.32%	100%
YES	42.86%	57.14%	100%
Total	63.48%	36.52%	100%

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: The households that leaved state programs between 2013 and 2016 are those that in 2013 reported being beneficiaries of any state program, but in 2016 reported not being beneficiary.

\* The households that enter state programs between 2013 and 2016 are those that in 2013 reported not being beneficiaries of any state program, but in 2016 reported being beneficiary.

\*\* Household participation is define by the household head or spouse reporting to participated in at least one social organization. The rural sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente

belonging to a social organization between 2013 and 2016. We can see here that this probability of leaving a social organization is greater for households that just left State programs, which supports the assumption that these households were using their memberships as part of State agencies' requirements to provide the aid.

When performing a similar analysis for data relating to leadership in social organizations, we can find similar results to those shown in the previous tables. Those households that were not beneficiaries of State programs in 2013 but were in 2016 had a higher probability of declaring themselves leaders of social organizations in 2016 when they were not in 2013.



→ The shelters in Gramalote.

16. Un análisis de regresión multivariada corrobora este argumento al estimar los factores que aumentan la probabilidad de que un hogar entre a hacer parte de una organización social, entre los cuales, y con efectos estadísticamente significativos, se confirma que dicha probabilidad aumenta para quienes entraron a recibir una ayuda estatal.





→ Marta Rodríguez raised her children Carlos and Angie by herself after the death of their father. In 2010, they lived in the country, and now in 2017 they live in the urban area of Simijaca (Cundinamarca). Marta works in Ubaté.

**TABLE 8.3.**  
BENEFICIARIES OF STATE PROGRAMS AND LEADERSHIP IN SOCIAL ORGANIZATIONS

Households that left State programs from 2013 to 2016\*

Urban	Leader in 2016		Total
	NO	YES	
Leader in 2013			
NO	94.75%	5.25%	100%
YES	70.54%	29.46%	100%
Total	91.07%	8.93%	100%

Rural	Leader in 2016		Total
	NO	YES	
Leader in 2013			
NO	90.68%	9.32%	100%
YES	54.52%	45.48%	100%
Total	81.99%	18.01%	100%

Households that joined State programs from 2013 to 2016\*\*

Urban	Leader in 2016		Total
	NO	YES	
Leader in 2013			
NO	93.87%	6.13%	100%
YES	46.53%	53.47%	100%
Total	89.60%	10.40%	100%

Rural	Leader in 2016		Total
	NO	YES	
Leader in 2013			
NO	86.40%	13.60%	100%
YES	48.73%	51.27%	100%
Total	78.85%	21.15%	100%

Source: ELCA 2010, 2013 and 2016. Authors' own calculations.

Note: The households that leaved state programs between 2013 and 2016 are those that in 2013 reported being beneficiaries of any state program, but in 2016 reported not being beneficiary.

\* The households that enter state programs between 2013 and 2016 are those that in 2013 reported not being beneficiaries of any state program, but in 2016 reported being beneficiary.

\*\* Household participation is define by the household head or spouse reporting to participated in at least one social organization. The rural sample is only representative for the micro-regions: Atlántica media, Cundiboyacense, Eje cafetero, and Centro-oriente



→ Segundo Saba and Nubia Calderón have three children. Segundo works sawing wood and Nubia takes care of the housework. Their children study in a school in Simijaca (Cundinamarca).



→ Nicole Vanegas and Paulina Ríos dream of being Youtubers loved by their friends. To achieve this, they plan to make tutorials and challenges such as those they have seen others do on the Internet. They live in Copacabana (Antioquia) and have been neighbors and friends since they were small.

A significant number of households are part of and leave social organizations with net effects that show an increase between 2010 and 2013 and a subsequent net fall in what was reported in the 2016 wave; however, there are differences for each one of the different types of organizations. The prevalence of this affiliation in rural zones in comparison to urban zones is worthwhile highlighting for the aforementioned dynamics.

For example, in urban areas, of the 702 households that became beneficiaries in 2013, 15.1% (106 households) were reported as leaders that year. However, a high percentage of these 106 households (66.98%) were not reported as leaders in 2010. There was a similar situation in rural zones: of the 792 households that began State programs, 21.72% (172 households) were leaders in 2013, but 61.05% were not in 2010. By observing the changes between 2010 and 2016, we can see that this trend remained unchanged. This supports the hypothesis that beginning State programs is positively related with participation in social organizations, as well as with leadership in them.

These data support the proposition that the State aid programs generate incentives so that households join social organizations, either as members or leaders.

The next question is, therefore, if these State aid programs, as well as promoting this higher affiliation,

can also generate increases in other dimensions of prosocial behavior that we have been examining in this chapter, including showing higher levels of trust or providing help to others outside the household. However, we have not found substantial differences in the data relating to these dimensions that allow us to believe that beginning or ending a State aid program has an effect on other dimensions in terms of help or trust. It is worthwhile mentioning that regarding helping others there is very little variation in the data due to the very low percentage of households that reported to dedicate time helping or caring for others in the use of time module.

## 8.4. DISCUSSION

In this chapter, we have presented an analysis of the following activities: participating, trusting, and helping as expressions of prosocial behavior and as fundamental elements to construct and sustain

“social capital”. First, when observing changes throughout the three ELCA rounds, we see that several of these dimensions show an important dynamism. A significant number of households are part of and leave social organizations with net effects that show an increase between 2010 and 2013 and a subsequent net fall in what was reported in the 2016 wave; however, there are differences for each one of the different types of organizations. The prevalence of this affiliation in rural zones in comparison to urban zones is worthwhile highlighting for the aforementioned dynamics. The Community Action Boards continue to be the most common way of participating in rural areas; however, they are still important in the urban areas. Participation in religious organizations also shows an important dynamism in both the countryside and the cities, and for unions and associations, there has been a growing trend over time although with very low levels when compared to other places. We should also highlight that the low participation, as well as the fact that one out of every two of the few members is a leader, are warning signs in the country’s current context in which social leaders are being threatened and killed in the midst of a polarized national debate.

However, the instability in this participation -and the fact that a considerable fraction seems to be motivated by instrumental reasons to access State help- poses questions about the construction of social capital as a foundation to resolve problems regarding the provision of goods and services when

neither the market nor the State can provide communities with these. In other words, State programs seem to increase participation in social organizations, but they do not strengthen citizens' capabilities for prosocial behavior. The net result of these dynamics allows us to partially unravel the weakness of the consolidation dynamics of an active civil society in the country. This phenomenon of a larger fraction of households that have stopped participating compared to the fraction that are beginning is the same for both the rural and urban areas.

The positive externalities that these State programs can generate by prompting a greater degree of participation and affiliation can open potentially interesting doors to strengthen the bonds of communication, help, and collective action in these communities. This will be the case if this participation in social organizations turns into a stronger social platform for discussion about, coordination with, and the resolution of conflicts as well as creating agency at a community level in its dialogue with the State apparatus. We will only be able to resolve these doubts if ELCA continues to monitor these households.

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→ Santiago is a municipality in Norte de Santander, and it is located between Cúcuta and Gramalote. It has a population of close to 3,000 and is bordered by the Sulia River.







→Inés María Álvarez has had to carry the pain of the death of her son for more than seven years. Her son was murdered in circumstances that have never been clarified in a neighboring farm in the small rural area of Sabanalarga in Chinú (Córdoba).

## CHAPTER 9

# POLITICS AND RECONCILIATION: A CRITICAL JUNCTURE FOR STATE BUILDING

FRANCISCO ESLAVA  
LEOPOLDO FERGUSSON  
ANDRÉS MOYA



→ Singing is Donny Leal's passion. For him, a true rapper, returning to Gramalote shows that the spirit of the Gramaloteros did not die in the tragedy, and tells as much in his songs.

→ In this chapter, we examine two different broad dimensions of relevant "political" behavior of Colombian households. First, we discuss the extent and type of citizen political engagement. This first part of the analysis updates Fergusson and Riaño (2014), whose main focus when exploring the 2013 round of the survey is the limited degree of political interest, participation, and knowledge of Colombian households, in a context of prevailing clientelism. Taking advantage of the panel structure of the survey (the Politics Module that this chapter draws from was first introduced in 2013, making this round the first follow-up), we explore both the persistence and change of some key patterns over the three-year period between rounds. The second part of the chapter turns to a different question, included only since the 2016 round of the survey: the perspectives and attitudes of Colombian households around the peace process between the government and the country's largest guerrilla group, the Fuerzas Revolucionarias de Colombia (FARC). The emphasis here is on households' expectations about the implications of this significant political event for their future, as well as on attitudes towards former combatants).

We document a persistent lack of interest in politics and prevailing clientelism among surveyed households, with personalistic politics dominating partisan affinity. However, these overall patterns and averages mask some interesting variation across time and between households. One interesting and perhaps surprising feature is that engagement in clientelistic vote buying is quite variable in time, with households apparently getting into and out of this type of exchanges. Also interestingly, we fail to find a relevant correlation between increases in household wealth and the abandonment of clientelism. This contradicts the simplest and more optimistic theories of modernization according to which economic development alone may bring an improvement in the political arena, with increased accountability and weakened clientelism. Instead, the patterns we uncover suggest a correlation between changes in the weakness of the state (as proxied with tax evasion) and changes in clientelism.

This is consistent with the idea that building a more capable state goes hand in hand with improving political accountability. It also provides one motivation for our examination of the attitudes surrounding the peace process. Indeed, reintegrating an illegal armed group can be viewed as an effort in state-building. This is not simply because it entails recovering the state's monopoly of violence, but also because the peace process itself envisions a set of transformations that are supposed to build a more capable state.



→ Gladys Amparo Palacios Campo and her daughters in Barrancabermeja.

When looking at these attitudes, we find a rare combination of indifference and polarization. That is, there is a large share of people who feel the peace process implies no substantial changes for their lives, while those that do expect changes do not agree on the direction: nearly as many expect changes for the better as those who expect a negative turn. These patterns are very prevalent and hold for many subgroups in the population. One noteworthy finding is that older people and those who live in areas in which non-state armed groups were present are relatively less indifferent, yet they are not simply more pessimistic or optimistic. This implies, for instance, that exposure to violence might affect attitudes towards the peace process differently depending on other contextual factors.

The results shows a persistent lack of interest in politics and prevailing clientelism among surveyed households, with personalistic politics dominating partisan affinity. However, these overall patterns and averages mask some interesting variation across time and between households.

This scenario of indifference and disagreement poses an important challenge for the implementation of the peace process. When looking at attitudes towards reintegrated rebels, a cause for optimism is that most respondents report no discomfort with having former rebels as neighbors or employees. Nevertheless, when it comes to two core issues in the peace deal, namely political participation and financing benefits for rebels in the reintegration process, there is greater resistance in the population. Indeed, respondents are more likely to express discomfort with political participation of former FARC members and with having to pay taxes to finance reintegration.

## 9.1. POLITICAL ENGAGEMENT AND CLIENTELISM

Before proceeding with the analysis, we present the basic characteristics of our sample in Table 1. As noted, this chapter draws from the Politics Module. This module was administered, since 2013, to one member of the household (the household head or his or her partner, which was randomly assigned if both were available). In the 2016 follow-up, an effort was made to survey again the 2013 respondent and, in new households, respondents were again randomly selected from the household head or partner. The table shows, in particular, the number of respondents by year, gender and region. The total number of interviews conducted in 2013 (8,778) fell by 5.3% (468 subjects) in 2016. Urban females are the largest group in both years. Much of our



→ Statue of Laureano Gómez which had been in the central square in Gramalote for 66 years until nature demolished the town. It has now been moved to Nuevo Gramalote.

analysis focuses on changes in behavior between rounds which forces us to focus on individuals answering both rounds. There are 7,346 individuals, 60% of whom are women and 52.4% who live in urban areas satisfying this criteria. When presenting descriptions of the 2013 and 2016 cross sections, we also limit our analysis in this section to this sample to make sure that it does not reflect mere sample recomposition across years. The nature of the questions sometimes implies limiting the sample further. When this is the case, we indicate it below.

### 9.1.1. POLITICAL ENGAGEMENT

Fergusson and Riaño (2014) reported, based on the 2013 round of the ELCA, the following key empirical regularities. First, citizens are generally uninterested in politics. In particular, (reported) political participation in elections is low, citizens often do not properly remember the names of their political representatives, and they declare rarely engaging in conversations about politics (specifically, persuading others to vote for preferred candidates). Second, politics is largely “personalistic”, with few

**TABLE 9.1.**  
POLITICS MODULE SAMPLE TOTAL RESPONDENTS

Year	Gender	Region		
		Men	Rural	Total
2013	Women	1,621	1,959	3,580
	Total	2,951	2,247	5,198
	Men	4,572	4,206	8,778
2016	Women	1,517	1,793	3,310
	Total	2,926	2,074	5,000
	Men	4,443	3,867	8,310
2013 and 2016	Women	1,288	1,616	2,904
	Total	2,560	1,882	4,442
	Total	3,848	3,498	7,346

Source: ELCA 2013 and 2016. Authors' own calculations

Notes: Respondents by region, gender and year. In 2013 one member of the household responds (household head or his/her partner, randomly assigned if both were available). In 2016, the same respondent is reached if possible and, in new households, respondents are again randomly selected from the household head or partner.

citizens reporting sympathy towards candidates and candidate name recall dominating party recall in elections. Third, political ideological identification is also weak, with few citizens willing to position themselves on a left to right scale. Finally, these general features hide some important heterogeneity, with women and urban citizens being particularly politically apathetic.

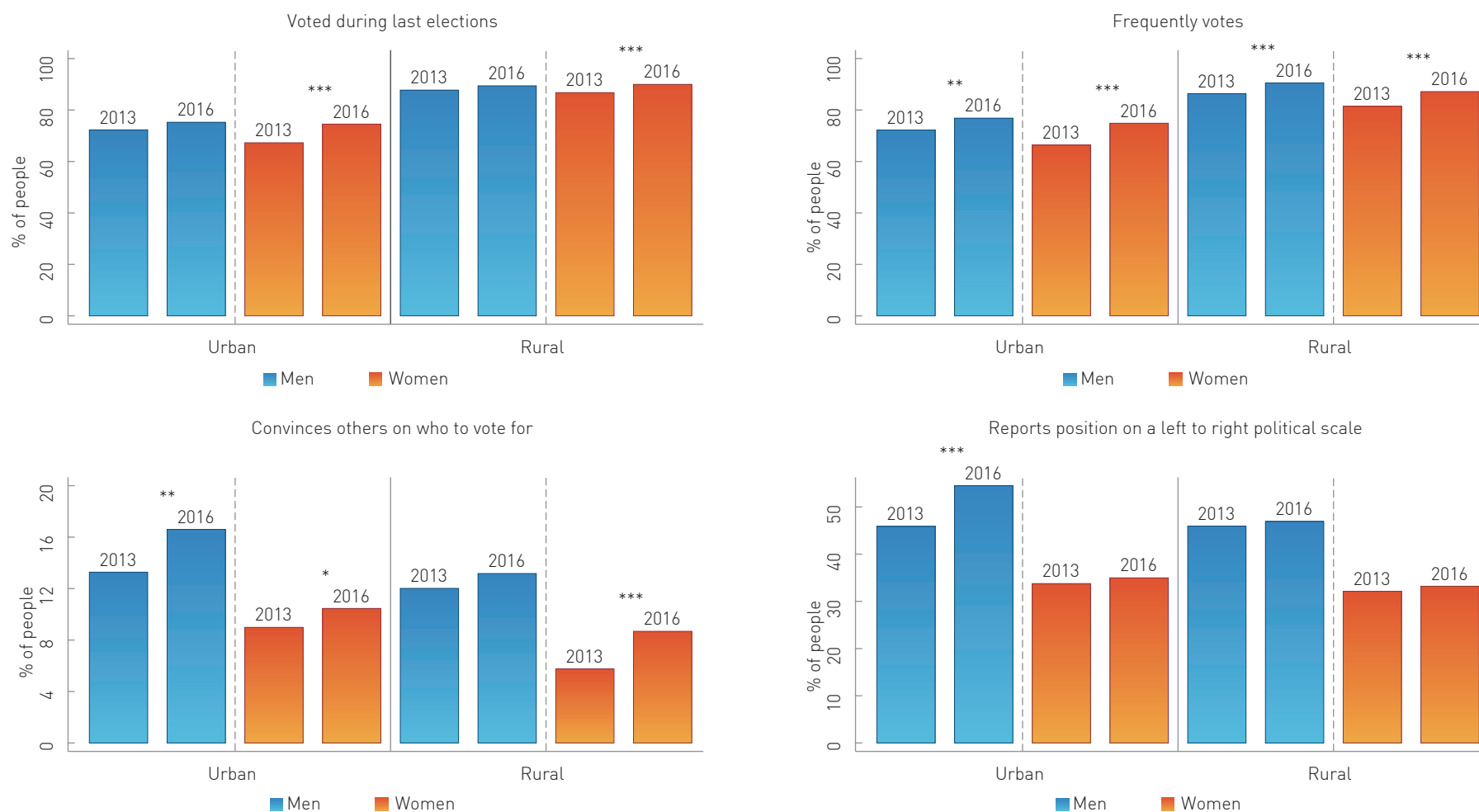
We now review the evolution of these patterns. Then, we discuss some possible interpretations and implications of the findings. We must start with an important caveat. Some of the questions formulated in 2013 (e.g., "do you recall who you voted for in the latest local elections?") refer to the 2011 elections, while the 2016 elections have a comparably closer reference point for voters with local

elections held in 2015. Leaving aside additional differences in the political context, this may influence some of the responses which implies some caution when comparing the two rounds.

Figure 1 takes a first look at patterns of political participation. In particular, it depicts the share of people (by gender and area) who report voting in the last elections, who claim to vote frequently, and who claim to convince others on who to vote for. The figure focuses on the time variation, showing averages by gender and year and noting whether or not there are any statistically significant differences across time (by group). Men, both in urban and rural areas, seem to increase their reported participation in elections, although the size of this increase is quite modest and not statistically significant. On the other hand, women show slightly larger and significant increases in their rate of participation in local elections. When looking at whether respondents "frequently vote" in elections, we expected very minor changes between rounds, since this question tackles a longer-run habit that should not change so dramatically within a few years. However, we again find increases that are significant for all groups.

As noted in Fergusson and Riaño (2014) one issue about these two questions is that, when compared to actual turnout rates in Colombia, they appear unrealistically high, suggesting that citizens overestimate their degree of political participation. The third measure of political participation requires a

**GRAPH 9.1.**  
INTEREST IN POLITICS BY REGION AND GENDER 2013 VERSUS 2016



Source: EELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between years (by group). Variables described in each panel are: share of people answering "yes" when asked "Did you vote in the last local elections?" (top left); share of people answering "always" or "most of the times" when asked "How often do you vote?" (top right); share of people answering "frequently" when asked "How often do you try to convince others to vote for a certain party or candidate when upcoming elections?" (bottom left); share of people answering willing to position their political views on a left to right scale (bottom right).

more decisive extent of participation, namely persuading others to vote for a particular candidate. It may thus be a better indicator of actual political engagement. When exploring this question in the lower panel of Figure 1, we observe a clearer lower interest of women and rural areas, and again find increases in political interest in between rounds for all groups except rural men. Also, the increase in interest is more pronounced for rural women, which started off in 2013 at a very low level. While insufficient to close the gap in political interest, at least these findings seem to point to some narrowing between genders in rural areas.

Finally, the last panel (lower right) in Figure 1 examines whether individuals are willing to locate their political views on a left to right scale. The willingness to do this among women is stable between rounds and around 30% in both urban and rural areas. Men are more willing to position themselves in this left to right scale, with about 45% doing it in both areas in 2013, and with urban men increasing their average to around 55% in 2016. In short, consistent with the lack of active political interest, there is a relative unwillingness to position personal views on the left to right axis. Figure 2 then asks the question, among those reporting a political leaning, whether they lean left or right and the evolution over time. In particular, we code this variable as follows: left= -2, center-left= -1, center= 0, center-right= 1, right= 2. We next plot the averages by region, gender and years as with the other figures. Two features stand out: household lean right on average since 2013, and this has been relatively



→ Inés María Álvarez's daughters and granddaughters have helped her for more than seven years to overcome the death of her only son. "I have not danced since, and I don't like speaking loudly; I hardly ever laugh" says Inés María.

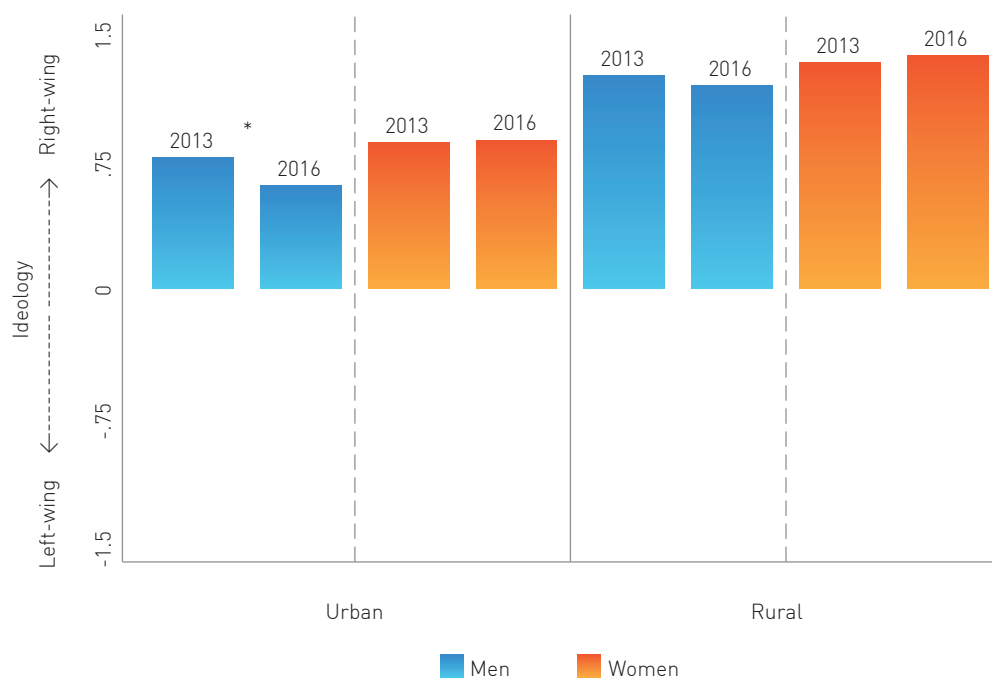
stable during the 2013-2016 period (except for a very modest move left in urban men).

We now examine reported partisan affinity in Figure 3. The Figure explores both whether respondents claim to often vote for the same party, and whether they sympathize with any particular party. Again the overwhelming picture is one of very limited party identification. A majority of citizens, regardless of their gender and location, do not regularly vote for

the same party. In urban areas less than 30% of respondents do it, and in rural areas, though larger, it is still barely 50% at best. In sympathy towards a political party, we again observe very low levels (nearing 20% on average) with especially low levels for women. Yet interestingly, and unlike voting for the same party, this variable increases in between rounds, especially in rural areas and for urban men. That voting for the same party falls, but sympathy towards parties increases reflects that



**GRAPH 9.2.**  
POLITICAL STANCE BY REGION AND GENDER 2013 VERSUS 2016



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between years (by group). Averages by region, gender and years of reported political leaning in a left to right scale, with left= -2, center-left= -1, center= 0, center-right= 1, right= 2.

new and minority political parties have captured the sympathy of some voters, replacing older and more consolidated ones.<sup>1</sup>

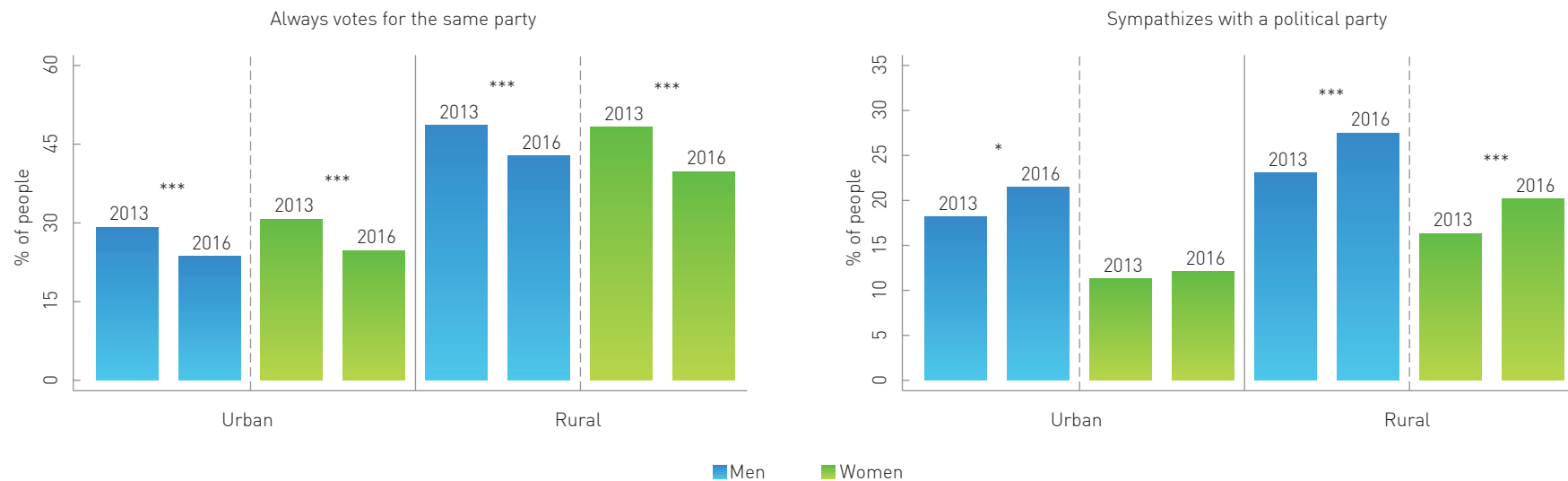
Finally, we present the main variables for interest in politics and political views in Figure 4 by year, region and wealth terciles. Some of the patterns already highlighted on the level and evolution of these variables by area and year are again apparent here, holding more or less across the board for richer and poorer households. The most salient difference when focusing on wealth appears to be a stronger party loyalty among the rural poor, though not coupled with more activism as measured with convincing others. On this aspect, it is the urban poor who, especially in 2016, stand out as being more active.

### 9.1.2. CLIENTELISM

Despite some relevant changes, the previous section reveals that interest in politics in Colombia remains weak, as does party identification. Fergusson and Riaño (2014) note that these features reflect the highly clientelistic nature of political exchange in Colombia<sup>2</sup>. We focus on the exchange of one's vote for particularistic benefits, a common definition of "electoral clientelism". Clientelism

1. Specifically, the parties that show some increased alignment are the Centro Democrático, Partido Conservador, and to a lesser extent Partido Verde, with Partido de la U, and Polo Democrático Alternativo losing some ground. These conclusions must be taken with some caution however, since they are based on the very few people who report sympathy with a party and then mention it explicitly, which creates few observations per party in a context of many parties.
2. In their analysis of the 2013 round, these authors examine clientelism using a question in which an hypothetical price is offered in exchange for the vote is randomly varied among respondents to get a "supply curve" for vote selling. Given a change in this question between rounds and since this design is not ideal for a panel analysis (in that prices randomly allocated often vary for a given individual between rounds), we focus here on a separate question (included in both rounds) that also investigates the prevalence of vote buying.

**GRAPH 9.3.**  
SYMPATHY TOWARDS POLITICAL PARTIES BY REGION AND GENDER 2013 VERSUS 2016



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between years (by group). Variable on left panel is share of people answering "always" or "most of the times" when asked "Could you assert that you -- vote for the same party in elections?". Variable in right panel is share of people answering "yes" when asked "Right now, do you sympathize with a political party?".

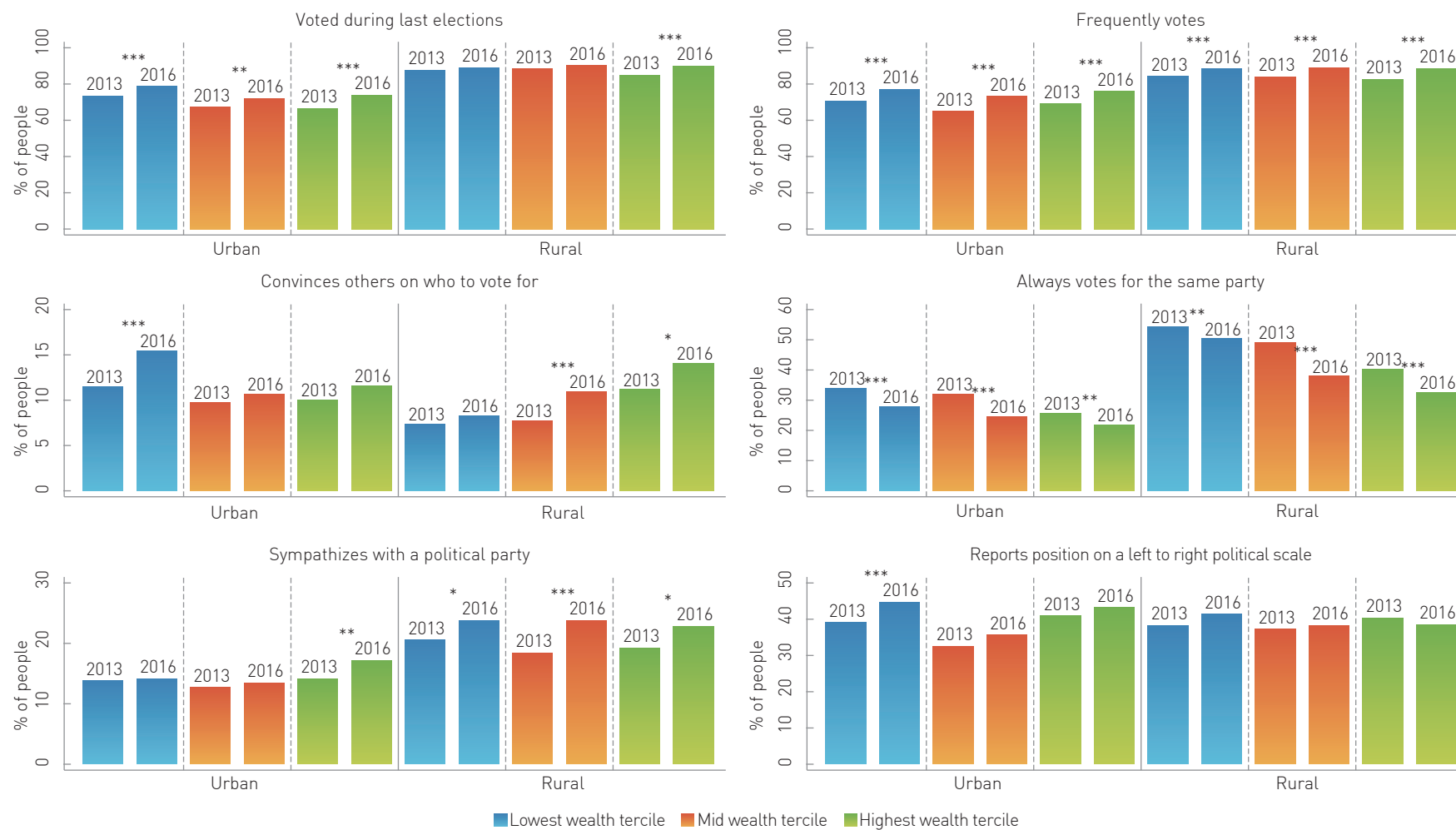
more generally may refer to the exchange of political support for particular favors (and thus may occur, for instance, in the exchange between the executive and lawmakers, or between politicians and contractors). The electoral manifestation is

particularly relevant not only because it captures a key aspect of citizens' relationship with the state and politicians, but also because it may capture one link of a fuller system of exchanges operating with this logic and is comparatively easier to measure.

The preponderance of the literature emphasizes that clientelism is prejudicial for democracy, as it undermines more programmatic links between citizens and politicians. Politicians focus on providing particularistic benefits for powerful minorities

## GRAPH 9.4.

### POLITICAL INTEREST AND VIEWS BY REGION, GENDER, AND WEALTH TERCILE 2013 VERSUS 2016



Source: ELCA 2013 and 2016. Authors' own calculations

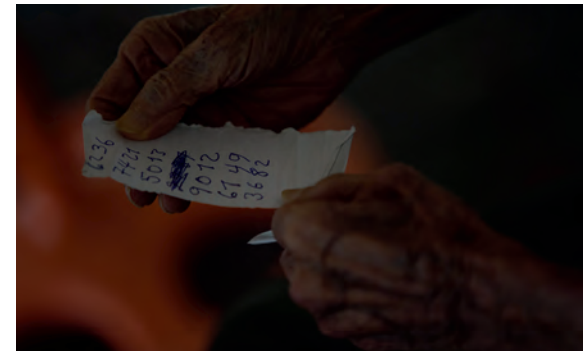
Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between years (by group). Variable in described in each panel are: share of people answering "yes" when asked "Did you vote in the last local elections?" (top left); share of people answering "always" or "most of the times" when asked "How often do you vote?" (top right); share of people answering "frequently" when asked "How often do you try to convince others to vote for a certain party or candidate when upcoming elections?" (mid left); share of people answering "always" or "most of the times" when asked "Could you assert that you -- vote for the same party in elections?" (mid right); share of people answering "yes" when asked "Right now, do you sympathize with a political party?" (bottom left); share of people willing to position their political views on a left to right scale (bottom right).

rather than public goods for the general welfare (Bates, 1981; Kitschelt, 2000; Stokes, 2005, 2007). These non-programmatic exchanges are moreover characterized by private and often hidden (as opposed to public and binding) rules of redistribution, and are thus antithetical to notions of just distribution (Stokes, Dunning, Nazareno, & Brusco, 2013). As Stokes (2005) puts it, this is also a “perverse accountability” system: it is not citizens who punish politicians when they fail to fulfill their promises and programs in office, but politicians who may punish citizens for not supporting them in the polls, undermining voter autonomy and the role of elections as instruments of representation. Also, since immediate material benefits may be especially pressing for vulnerable voters, it also endangers equality of political rights (Stokes et al., 2013).

Vote buying, as a manifestation of clientelistic relationships and as an illegal activity, may therefore carry stigma in the population. This poses a significant challenge when measuring its prevalence in surveys. However, the 2013 round of the ELCA included “list experiments”, a statistical method designed to evaluate the extent to which respondents might answer dishonestly out of concerns to reveal a “socially undesirable” behavior. Using these methods, Fergusson, Molina, and Riaño (2017) show that in 2013 respondents were just as willing to admit to this behavior when asked directly as opposed to when using a list experiment that protects them from revealing their behavior. Substantially, this suggests that clientelism is so

prevalent and accepted in the Colombian context that there is little stigma associated with the behavior. A key practical implication of these findings for this chapter’s analysis, is that they support using a direct question on vote buying to examine clientelism. We therefore rely on respondents’ answers to the following question, asked to a (random) sample of households in 2013 and to all respondents in 2016: “Could you tell me if, when deciding who to vote for, you have taken into account the benefits, gifts, or jobs that a candidate offered in exchange for your vote?”

We begin by showing some broad patterns of incidence by regions, gender, and wealth. Figure 5 shows that clientelism is similarly prevalent on urban and rural areas on average, and among men and women. However, this masks some significant underlying variation in subregions. Specifically, though clientelism is pervasive everywhere, the Atlantic and Pacific urban subregions stand as those with higher levels of clientelism. The rural areas of the Atlantic region also show a high incidence of clientelism, nearly tripling the mean, while the Cundinamarca and Boyacá subregions appear to have particularly low levels. One obvious underlying potential explanation is the level of development. Several scholars emphasize that vote buying is more likely to occur if the reward is more valuable to the voter, so exchanges are more likely for poorer voters. Since clientelism is detrimental for public good provision this may further stall economic development. Clientelism thus consolidates a vicious



→ José Miguel Petro keeps his lucky numbers in his pocket so he can play the lottery every day. Without fail, at midday he runs to his room in his house to see the result in Cereté (Córdoba).

cycle: it predates on (and reproduces) poverty. The findings of the lower panel are consistent with this conjecture, as there is a significantly smaller incidence of clientelism in the middle and highest wealth terciles of the distribution relative to the lowest tercile.

To explore the changes across time, Table 2 describes the basic patterns of responses for each year. In the upper panel, we see that 911 out of 4128 respondents, approximately 18%, report exchanging particularistic benefits for their vote. The overall share in 2016 is substantially smaller, at 13% (998 out of 7606). This suggests a surprisingly large variation in the prevalence of clientelistic vote buying. Panel B in Table 2 exploits the panel and looks at the changes of behavior of the same individual. Again, there is substantial variation. Specifically, out of 534 respondents selling their vote in 2016,

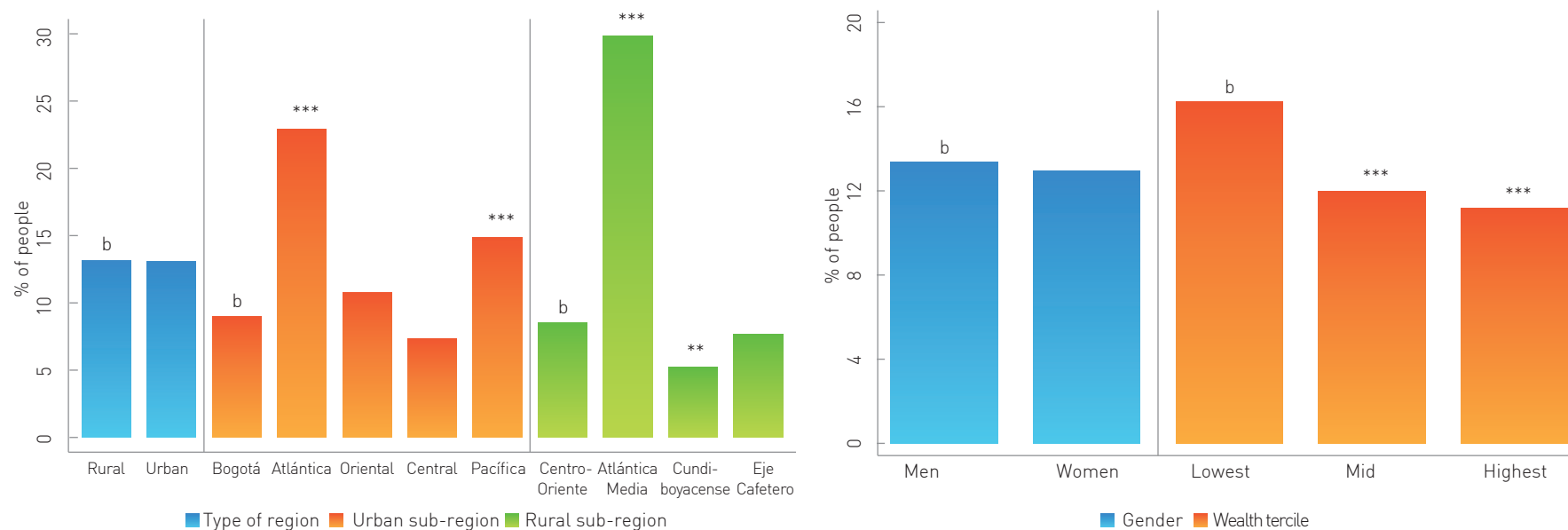
344 or 64% are “new” clientelistic voters, in the sense that they had reported not selling in 2013. The remaining 190 are persistent vote sellers. This suggests meaningful entry into clientelism, and there is also significant exit: of 722 voters reporting

selling their vote in 2013, 532 [74%] claimed not doing so in 2016.

These findings are surprising for some theories of clientelism which emphasize the importance

of long-term relationships that establish trust between politicians (or their brokers) and voters. In such context of sustained “relational clientelism”, with exchanges that often go beyond those made only in the voting booth, one would expect

**GRAPH 9.5.**  
CLIENTELISM BY REGION, SUB-REGION, GENDER AND WEALTH TERCILES 2016



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between categories in each group, relative to the baseline category (marked with a “b”). Clientelism is a dummy variable that equals 1 if respondent answers “yes” when asked “Please tell me if, in order to decide who to vote for, you have taken into account personal benefits, presents or job positions a candidate might have offered you or one of your relatives in exchange for your vote”. The rural region is only representative of four Colombian micro-regions: Atlántica Media, Cundi-Boyacense, Eje Cafetero and Centro-Oriental.

significant persistence in vote buying behavior. This type of clientelism, however, is particularly likely to arise when a politician or party has the monopoly of the networks of exchange, which might not be typical in Colombia. Indeed, scholars have emphasized the presence of “dueling party machines” with many parties engaging in clientelism and competition for clients, leading them to participate in a form of “market” clientelism (Gutiérrez & Dávila, 1998; Dávila 1999; García, 2002; Gutiérrez 2007). In this context, clientelism may be more volatile. Also, it worth noting that particularly in such scenario observed vote buying might change not just because citizen behavior changes, but crucially because politician behavior changes. For instance,

Specifically, out of 534 respondents selling their vote in 2016, 344 or 64% are “new” clientelistic voters, in the sense that they had reported not selling in 2013. The remaining 190 are persistent vote sellers. This suggests meaningful entry into clientelism, and there is also significant exit: of 722 voters reporting selling their vote in 2013, 532 (74%) claimed not doing so in 2016.

**TABLE 9.2.**  
CLIENTELISM 2013 VERSUS 2016

Have you accepted personal favors in exchange for your vote?			
	Yes	No	Total
Panel A. Answers by year			
2013	911	4,128	5,039
2016	998	6,608	7,606
Panel B. Answers in 2016 conditional on answers in 2013			
“Yes” in 2013	190	532	722
“No” in 2013	344	2,873	3,217

Source: ELCA 2013 and 2016. Authors' own calculations

Notes: Table shows the answers given by respondents when asked “Please tell me if, in order to decide who to vote for, you have taken into account personal benefits, presents or job positions a candidate might have offered you or one of your relatives in exchange for your vote”. Panel B only shows the answers for those people who were also asked in 2013. Hence, the lower number of observations.

in some theories a more competitive election may induce more (and more indiscriminate) vote buying (Corstange, 2010).

Despite these observations, the changes in clientelism remain puzzling. We end by exploring a possibility put forward in Fergusson, Molina, and Robinson (2017), who argue that there are a number of mutually reinforcing feedback loops between clientelism and state weakness. In their view, clientelism erodes the quality of democracy, and sets in place a structure of incentives for politicians and citizens that is detrimental to state capacity building. Similarly, state weakness creates the right environment

for clientelism to flourish. While this implies that clientelism is hard to change, as part of a mutually reinforcing equilibrium with state weakness, it also suggests that whenever the state is strengthened clientelism should fade (and vice versa). They propose relying on tax evasion as a measure of state weakness. Indeed, this is a good indicator of the state's enforcement ability and its capacity to mobilize resources. Moreover, it is also influenced by general trust in the state and compliance with the implicit ‘social contract’ in society: citizens pay taxes, the state works for citizens and delivers public goods. For this reason they view it as related to the state's consensual strength (Acemoglu, 2005),



→ Karina and Camila Ramírez Tapias are sisters and there are only two years difference between them. They live in their grandmother Inés María Álvarez's house with their mother Yomaira Tapias, their little sister Isabela, and their mother's husband, Eduard Álvarez.

the relevant notion when focusing on the multiple feedback loops between this phenomena.

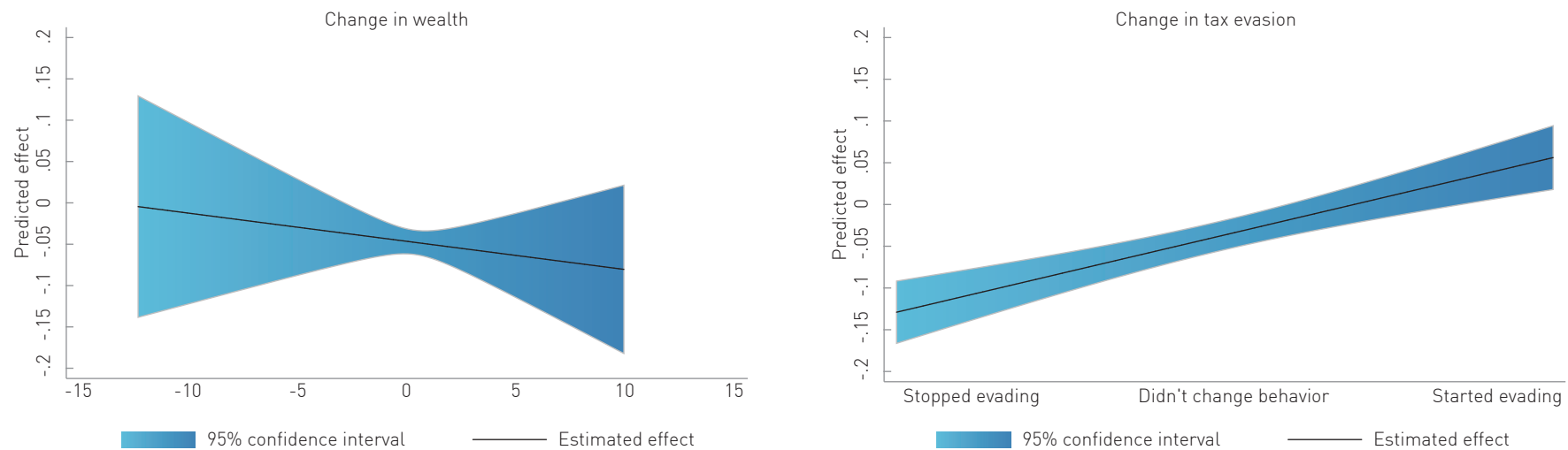
Fergusson, Molina, and Robinson (2017) propose seven mechanisms or "sins" creating a vicious cycle. First, the effective provision of public goods, a key feature of capable states, erodes the electoral advantage of clientelistic parties which is delivering targeted, particularistic goods. Second, with prevalent clientelism citizens' relationship with the state

is via informal relationships with brokers that displace potential formal relationships with the state to demand rights and services, weakening its capacity. Third, also by personalizing links with politicians, clientelism also contributes to society's fragmentation, weakening collective action to make the state responsive. Fourth, clientelistic exchanges justify both parties in defaulting on their part of the "social contract": the politician does not respond to citizens and citizens do not pay taxes. Fifth, vote

buying undermines the ideal role of elections, since rather than voting and controlling the winner (demanding him to fulfill his promises while in office, and not voting for him in the future if necessary) voters give their vote, get their money or direct benefit, and the deal is over. Sixth, in the context of clientelism politicians or specific interest groups participating in the clientelistic relationship capture the state. Finally, clientelism is also detrimental to capacity in that it is a form of social control by elites where it is unnecessary (unlike populism) to have a large state to appease masses.

With this discussion in mind, Figure 6 explores the extent to which two key social developments correlate with the change in clientelistic behavior. First, the left panel explores if increases in wealth help reduce the incidence of clientelism, by correlating the change in reported vote selling between rounds with the change in household wealth. The figure shows the linear prediction with corresponding confidence intervals. While the relationship is indeed negative, it is very weak (the slope is in fact not statistically significant). That is, at least from this figure, it does not appear that increases in wealth alone can drive households away from clientelism, a pattern that contradicts basic theories of modernization (Lipset, 1959). The right panel shows instead the linear relationship (with confidence intervals) between the change in predicted clientelism and the change in reported tax evasion. The relationship, though far from indicating a causal relationship, is consistent with the idea that the consolidation of a stronger and more legitimate

**GRAPH 9.6.**  
CHANGE IN CLIENTELISM



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: Both panels show the change in clientelism in the vertical axis. This change equals -1 if the respondent stopped relying on clientelistic favors to shape his/her voting decision between rounds, 1 he/she started doing so, and 0 otherwise (persistently relying or not relying on personal favors and gifts for vote choice). The left panel plots this change against the change in wealth, measured as the increase in an standardized asset index between rounds. The right panel plots it against the change in tax evasion (not paying the VAT).

state can help reduce clientelism. This last finding leads naturally to our discussion in the next section, where we move to consider the perspectives of the population around the peace deal of the Colombian government with the FARC. After all, one way to view this political episode is as an effort to consolidate a more capable and legitimate state.

## 9.2. PEACE MAKING

### 9.2.1. CONTEXT

Colombia is at a historical juncture. After more than 50 years of armed struggle, the FARC, the most powerful guerrilla group in the country, recently

signed a peace agreement with the Colombian Government led by President Juan Manuel Santos. Although a first version of the agreement was rejected in a national plebiscite in October 2016, a modified version was agreed by the FARC and the Government and ratified by Congress soon after. As a result, by February 2017, 7,000 FARC combatants demobilized into 26 transitory zones across



the country. To date, they have already handed out all of their weapons to a monitoring and verification mechanism run by the United Nations. At the same time, the Colombian Congress is defining the legal framework to implement the commitments in the agreement, which focus on rural development, political participation, end of conflict, illegal drugs, and justice for victims. Among others, the government has committed to an ambitious investment program in rural areas, to allow the political participation of a new political party growing out of the FARC, to recognize victims and promote reconciliation, and to implement a special transitional justice system with reduced sentences for FARC members, government actors, and third parties that committed crimes in the context of the internal conflict, so long as they contribute with truth and victim reparation.

However, the political landscape is highly divided and political and social opposition to the peace process is strong. Different political parties have stated their dissent and conveyed their intention to build their electoral platforms for the upcoming presidential elections on the modification of some of the main dimensions of the peace agreement. The current environment of polarization, in addition, extends beyond the political arena, and even beyond direct victims and perpetrators. The national plebiscite, for instance, was defeated by a narrow margin –with 50.2 percent of the votes– and in an environment in which 62 percent of the 35 million registered voters failed to cast a vote.

More generally, there are mixed views among the Colombian population about the agreement, the potential benefits that it will bring to society, and their willingness to engage in the actions that contribute to rebel reintegration and the peace process implementation.

The current environment of polarization and lack of social cohesion, while not unforeseen, is unfortunate. It is not out of the ordinary since prolonged internal conflicts often lead to feelings of anger, fear and revenge, even among communities and citizens who were not directly involved in the conflict (Petersen & Zukerman Daly, 2010). Yet, citizens' attitudes towards ex-combatants are one of the main determinants of the success of any reintegration or peace process (Kaplan & Nussio, 2015). In particular, such negative feelings and perceptions can contribute to greater social polarization and hinder the sustainability of the peace process. To promote social cohesion, it is therefore crucial to account for how society as a whole perceives the ending of conflict, the reintegration of former combatants, and the challenges that arise during peace-building efforts.

In this section, we document the perspectives of Colombian households regarding the overall benefits of the peace process and their attitudes towards future potential interactions with reintegrated combatants. We focus on two sets of questions that were included in the 2016 round that illustrate whether subjects perceive that the peace process will bring positive changes to their lives and

whether they are comfortable with different interactions with former combatants.

### 9.2.2. WILL THE PEACE PROCESS BRING POSITIVE CHANGES?

First, we explore whether Colombian households perceive that their lives will improve, deteriorate, or remain the same as a result of the peace process. We take these responses as crude measures of the optimism, pessimism, or indifference regarding the peace process.

The top left panel in Figure 7 illustrates the percentage of Colombian households who report that their life will worsen, remain the same, or improve as a result of the peace process. The data portrays a scenario that lies in line with the perceived environment of polarization and lack of social cohesion. On the one hand, the data highlights a prevalent perception of indifference, characterized by a significant proportion of respondents (41%) who believe that that the peace process will not bring any changes, either positive or negative, into their lives. On the other hand, there is also a critical mass of Colombians on each end of the spectrum, who are either optimistic or pessimistic regarding the peace process. In particular, 26 percent believe that the peace process will bring about negative effects, while 24 percent believes that it will lead to positive changes.<sup>3</sup>

.....→

3. The remaining 9 percent does not know how their lives will change.

Despite the historical juncture in which the oldest and strongest guerrilla group in the country will lay off its weapons, the figures above are not surprising. As we discussed above, a plausible explanation for this phenomenon is that the long-lasting nature of the Colombian internal conflict has effectively led to negative feelings of anger, fear, revenge, and mistrust and also to profound divisions among the society. Such feelings can thus lead to the animosity and indifference of a considerable percentage of the population who believes that the peace process will not bring any positive changes or that it will even result in negative effects. In addition, the observed polarization in which a similar number of Colombians are optimistic and pessimistic regarding the peace process suggests that the costs of the internal conflict have been asymmetrically borne across society. Citizens may therefore also understand that the benefits and costs of the peace process will not be distributed uniformly. For instance, it is likely that rural households, who have been more heavily affected by the internal conflict, will better perceive the benefits and risks of the FARC reintegration and of the policies included in the agreement, especially those on rural development and illegal drugs. Urban households, on the other hand, may be indifferent or even pessimistic regarding the peace process as they have been rather isolated from the dynamics of the civil conflict, especially in the last decade.

In the analysis that follows we document the patterns in respondents' perceptions regarding the

overall benefits of the peace process across a range of demographic, socioeconomic, and political characteristics. The results suggest that the picture of an indifferent and polarized society persists no matter how we stratify the data and which sub-groups of the populations we focus on. With a few exceptions, we still find that between 40-50 percent of the population seems indifferent regarding the outcomes of the peace process, while a similar proportion of respondents (between 20-30%) are either optimistic or pessimistic.

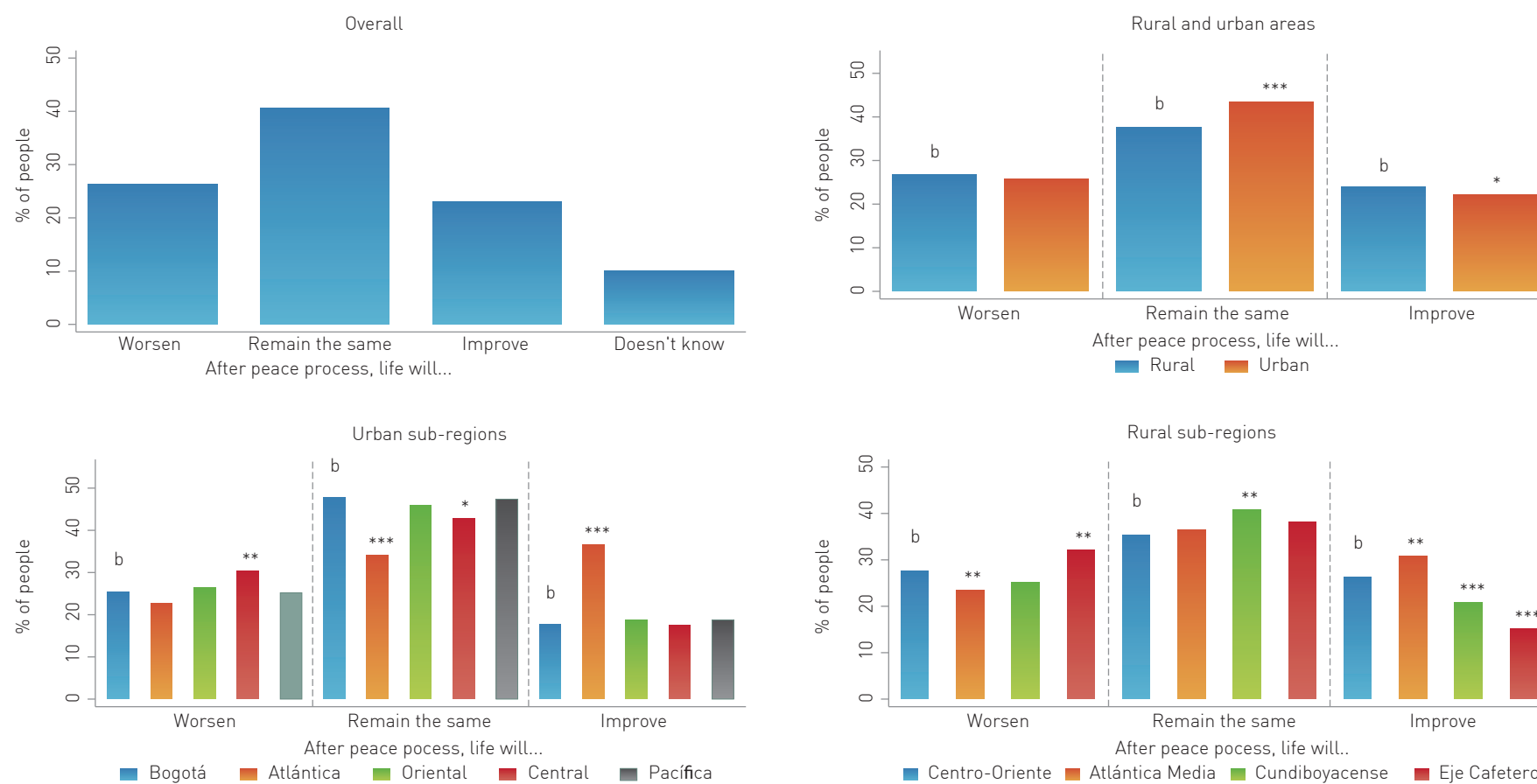
In the next three panels of Figure 7, we first explore how citizens' perceptions differ according to the area (urban or rural) and region of residence. The overall patterns persist across urban and rural areas and across different regions, with a few exceptions. For instance, in the top right panel we can observe that urban households are more indifferent (43 vs 37 percent) and less optimistic (9 vs percent 12) than rural households. Considering that the internal conflict historically has been more vicious and prevalent in rural areas, and that



→ María Alicia Torres and her husband Octavio Ballesteros say that, luckily, their town Susa (Cundinamarca) has always been peaceful. Thanks to this, they have never been close to the armed conflict. They only have to take on nature that occasionally kills all their crops when it floods.

## GRAPH 9.7.

LIFE PERSPECTIVES AND PEACE: WILL YOUR LIFE IMPROVE, REMAIN THE SAME, OR WORSEN AFTER THE PEACE PROCESS?



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between groups, relative to the baseline group (marked with a "b"). Responses to the question "Do you think that, as a result of the peace agreement signed with the FARC, your life might...". Possible answer choices are: "improve", "remain the same", "worsen", and "I don't know" (excluded from the figure).

several of the components of the peace agreement will focus on rural areas, it may be surprising that rural households are only marginally more optimistic regarding their life perspectives in a post-conflict scenario.

When we look across the different urban and rural regions (bottom two panels) we identify three interesting patterns. First, in urban areas the same trends emerge across all regions, except in the Atlantic region where a higher proportion of respondents express some sense of optimism (37%) rather than indifferent (35%) and pessimistic outlooks (22%). In other urban regions, the proportion of subjects who express optimistic attitudes falls below 20 percent, while the proportion of those who seem indifferent regarding the peace process increases to almost half of the population. Second, in rural regions the extent of indifferent perceptions falls to some extent. This is mirrored by an increase in the rate of pessimistic responses, as it is the case of the Eje Cafetero where more than 30 percent of the respondents expect negative changes, or by an increase in the rate of optimistic responses in the Atlantic and Central-Western regions. In these two regions, 31 and 26 percent of respondents expected positive changes as a result of the peace process. The patterns of responses across these two rural regions are interesting to the extent that they are the two rural regions of the ELCA where the FARC had a stronger presence. Overall, the patterns hint towards underlying heterogeneity that perhaps emerges as a function of

the differential historical trajectories and impacts of the internal conflict across regions.

Figure 8 illustrates citizens' perspectives by demographic, economic, social and political characteristics. The top-left panel shows that, on average, men are 5 percentage points more likely than women to report optimistic life perspectives. Women, instead, report being more uncertain (the omitted bar in the Figure). In turn, the top-right panel indicates that young adults (between 18 and 34 years of age) are much more indifferent than older respondents (those of ages 34-60 and 60 and older). In fact, one out of every two young adults believes that they will not experience any significant changes as a result of the peace process. Older adults, on the other hand, while less indifferent also appear relatively more divided and polarized.

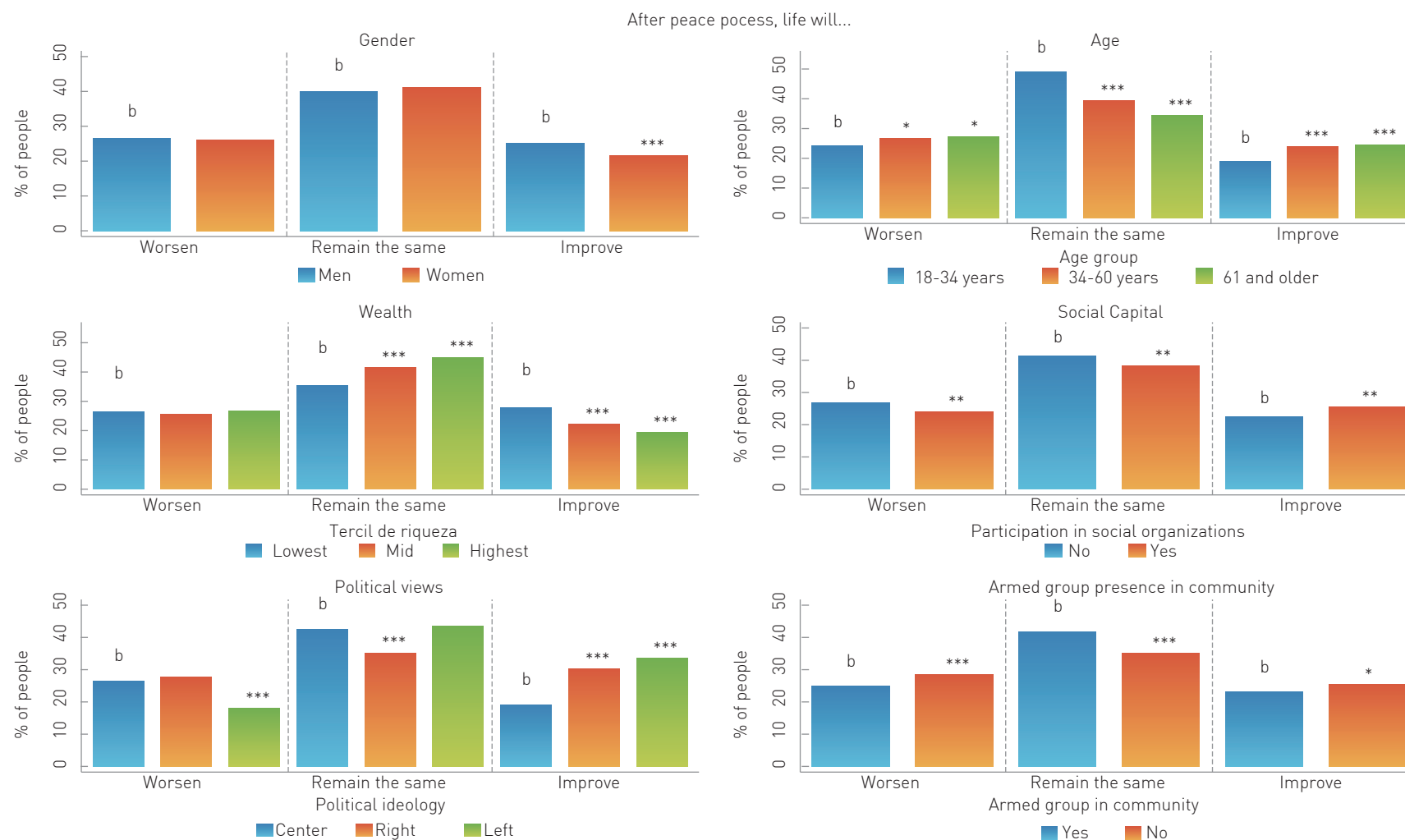
To analyze whether citizens' perspectives vary according to their levels of wealth, we stratify the overall sample across household-level wealth terciles (mid-left panel). The rate of indifferent responses increases across income levels, while the rate of optimistic responses is inversely correlated with household wealth. In particular, 28 percent of the respondents at the bottom wealth tercile expect that their lives will improve, whereas only 22 and 19 percent of subjects in the top two terciles have such optimistic perspectives. These differences are all statistically significant and possibly reflect that wealthier households have been less affected by the internal conflict, especially so during the last

decade, and also that they have been better able to adapt to the circumstances that characterize a protracted internal conflict.

In the mid-right panel we analyze how perceptions regarding the peace process vary according to household's social capital. For this purpose, we compare households who participate in social or community organizations with those who do not. Perceptions do not differ to a great extent between the two groups. While the former seem less indifferent and pessimistic, and slightly more optimistic (27 vs 22 %), these differences are small in magnitude (although statistically significant). What's more, among respondents with ties in social organizations, we observe similar rates of optimism and pessimism (27 and 24%, respectively) and still a considerable proportion (38%) who remain indifferent. These last results might seem surprising to the extent that social leaders and organizations have been frequently victimized in Colombia. Multiple recounts demonstrate that armed groups often target leaders and members of social organizations in order to hinder collective action and strengthen their control over communities and populations throughout the country, especially in contested territories (Centro Nacional de Memoria Histórica, 2013). At a first glance, we could have therefore expected that respondents who participate in social organizations would be more optimistic and less polarized. Yet, social leaders and activist are still being targeted and victimized across the country (a prominent problem in recent months), and especially in

## GRAPH 9.8.

LIFE PERSPECTIVES AND PEACE, BY SOCIOECONOMIC CHARACTERISTICS: WILL YOUR LIFE IMPROVE, REMAIN THE SAME, OR WORSEN AFTER THE PEACE PROCESS?



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between groups, relative to the baseline group (marked with a "b"). Responses to the question "Do you think that, as a result of the peace agreement signed with the FARC, your life might...". Possible answer choices are: "improve", "remain the same", "worsen", and "I don't know" (excluded from the figure). Wealth terciles are calculated using a standardized index, with a principal component analysis on household assets. Participation in social organizations is self-reported participation in at least one organization (respondents are shown a list of organization and can also list any other). Political views are based on self-reported political leaning in a left to right scale, with left or center-left classified as "Left", center classified as "Center", right or center-right classified as "Right". Finally, armed groups are deemed present if, in any round of the survey, community leaders reported presence of any armed groups in the community.

regions where the FARC had a strong presence and where different illegal armed groups are clashing for the control of these territories. Therefore, the levels of pessimism and indifference among social-driven respondents might indicate that leadership and participation in social organizations still increases the likelihood of being victimized, and that while the FARC might have laid of their weapons, other armed groups remain active.

Finally, we look at perceptions by political views and community-level exposure to violence. In the bottom-left panel, we observe that respondents at the left of the political spectrum are more likely to perceive positive changes than those at the center of the political spectrum (33 vs 19%). These differences are mirrored by a higher frequency of pessimistic perceptions among the latter (18 vs 26%). On the other hand, and perhaps surprisingly, we also observe that the frequency of optimistic perceptions is also higher for subjects at the right of the political spectrum than for those at the center. While these two groups do not differ in the proportions of pessimistic perceptions, those who position themselves to the right of the political spectrum seem less indifferent and more optimistic about the post-conflict scenario. This result is quite surprising given that right-wing parties have been publicly opposed to different dimensions of the peace agreement.<sup>4</sup>

The bottom-right panel illustrates the differences in the perceptions of optimism as a function of the

presence of illegal armed actors in the respondents' communities. In this case, we observe that respondents who reside in communities in which an illegal armed group was present at some point during the last 14 years are less indifferent and more polarized than those in communities without such presence. For instance, there is a higher proportion of optimistic (26 vs 23%) and pessimistic respondents (28 vs 24%) where armed groups are present relative to where they are not. These patterns suggest that the close experience of the civil conflict does not affect life perceptions in a unique direction. Of course, in the future it will be key to identify which factors are associated with these positive and negative outlooks, including the type, severity, and temporal proximity of the experiences with violence, their legal recognition as victims, or the extent to which subjects could have adapted themselves to environments in which illegal armed groups controlled and established de-facto institutions.<sup>5</sup> Taken together, in this section we have observed the current environment of combined polarization and indifference surrounding the peace process. On the one hand, more than 40 percent of the subjects interviewed by the ELCA perceive that their lives will not change as a result of the peace agreement and seem indifferent regarding the possibility that the peace process will bring about relevant changes in the following years. On the other hand, among the rest around as many perceive that their lives will take a negative turn in the next few years as those that express that their lives will improve. While we were able to observe some differences across areas, regions, and socioeconomic

characteristics, these were in general minor, and the overall picture of an indifferent and otherwise polarized society persists between different groups of the population.

As we discussed above, documenting the perspectives of the Colombian population on the expected outcomes of the peace process and understanding the factors that lead to such levels of indifference and polarization is an important first step at this particular juncture. A better understanding of these dynamics will allow us to inform strategies and policies that aim to build social cohesion and support for the peace process. While our analysis cannot parse out the different factors underlying the current perceptions, it suggests plausible explanations. Some of these factors include the negative feelings of anger, fear, revenge, and mistrust, which are underlying legacies of prolonged internal conflicts, and the asymmetric experiences of violence and conflict across the Colombian society. In addition, it is also true that Colombians have been forced to adjust and learn to live in an environment of prolonged violence and conflict. Hence, at the same time that some citizens hold strong and opposing views on their future as a result of the peace process, for many other Colombians the reintegration of the FARC might not seem as important or life-changing as an outside spectator could imagine. Finally, it is also important to mention that the FARC's reintegration, while historical and important, only solves a piece of the puzzle, with other significant socioeconomic and political challenges remaining ahead.

4. Bear in mind, however, that this conclusion must be interpreted with caution given the very low rate at which respondents position themselves on the left to right political axis.

5. Perhaps surprisingly, we did not find any interesting patterns according to household and community victimization.

### 9.2.3. ATTITUDES TOWARDS FORMER COMBATANTS

We now explore whether Colombian households are willing to accept basic features of the reintegration process. We document whether respondents would feel annoyed if a former combatant were to reside in their same neighborhood, ask them for a job, or participate in politics, or if the respondent has to pay taxes to fund the reintegration process. We take these responses as a measure of citizens' attitudes regarding the reconciliation process. We first document the general attitudes for the entire sample of ELCA respondents and then explore whether such attitudes vary across the same set of regional, demographic, socioeconomic, and political characteristics as in the previous subsection.

Before we proceed with the analysis, we recognize that eliciting attitudes towards former combatants may also carry significant stigma. This implies a similar challenge to the one discussed in the section on clientelism, since respondents might be worried to reveal that they feel either comfortable or uncomfortable with future interactions with former combatants. For this reason, the 2016 round of the ELCA included a different "list experiment" to evaluate the extent to which respondents might answer dishonestly. Yet, as with the case of vote buying, we find that respondents were just as willing to admit to this uneasiness as when they were directly asked. In this particular case, this could be another indication of the current environment of



→ Nubia Calderón and her daughters Mayerli Consuelo and Paola Andrea Saba Calderón. They live in Simijaca (Cundinamarca) with their father Segundo Saba and their grandmother Abigail Solano who suffers from Parkinson's Disease.

polarization and lack of social cohesion, in which strong opinions against (or in favor) of the peace and reintegration process are prevalent and not stigmatized. Hence, throughout the analysis we will focus on the direct question on attitudes towards ex-combatants.

We begin by describing the general attitudes and rates of acceptance towards each of the future

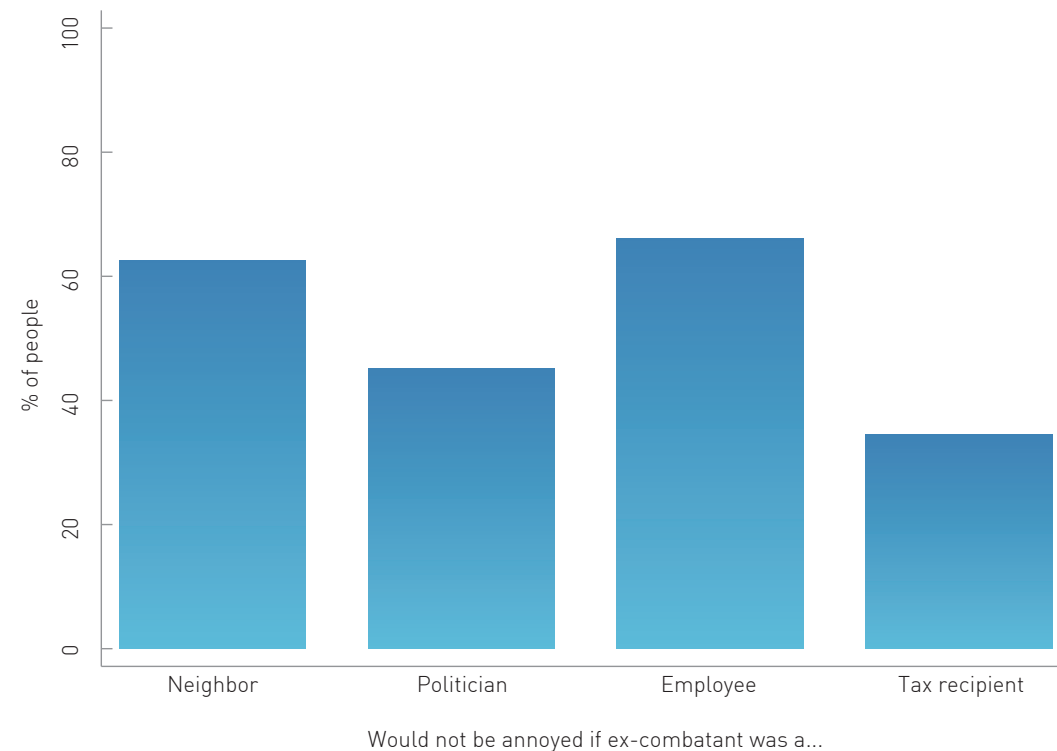
interactions with FARC ex-combatants. Figure 9 depicts the proportion of respondents who report that they would not be annoyed by the different reconciliation scenarios. This Figure highlights two distinct and interesting features. First, that a majority of Colombians are willing to engage in daily interactions with FARC ex-combatants. For instance, 62 and 66 percent of the respondents report that would not be annoyed if a former

combatant moves into their neighborhood or if she asks them for a job. Of course, this also means that nearly 4 out of every 10 Colombians would be annoyed by such interactions. Yet, this general willingness to engage in a daily basis with former FARC combatants constitutes an important building block for the success and sustainability of the reconciliation process. Second, this positive trend is reversed when we inquired for the attitudes regarding the possible participation of FARC ex-combatants in politics and the introduction of new taxes to finance the peace process. 56 percent of the respondents indicated that they would feel annoyed if former FARC members were allowed to participate in politics, while 64 percent of them would feel annoyed if they were asked to pay taxes to fund transfers and special programs for the re-integrated FARC combatants.

Now we explore whether these attitudes vary according to respondent's observable characteristics. In general, and similar to what we observed in the previous section, we do not find major differences across different groups of the population. Overall, we observe a generalized willingness for daily interactions with former FARC combatants coupled with a reluctance to allow them to participate in politics and to pay for newly established taxes.

Figure 10 illustrates the proportion of respondents across different subgroups of the population who report that they would not be annoyed if an ex-combatant resides in their same neighborhood or

**GRAPH 9.9.**  
AGREEMENT WITH RECONCILIATION STATEMENTS



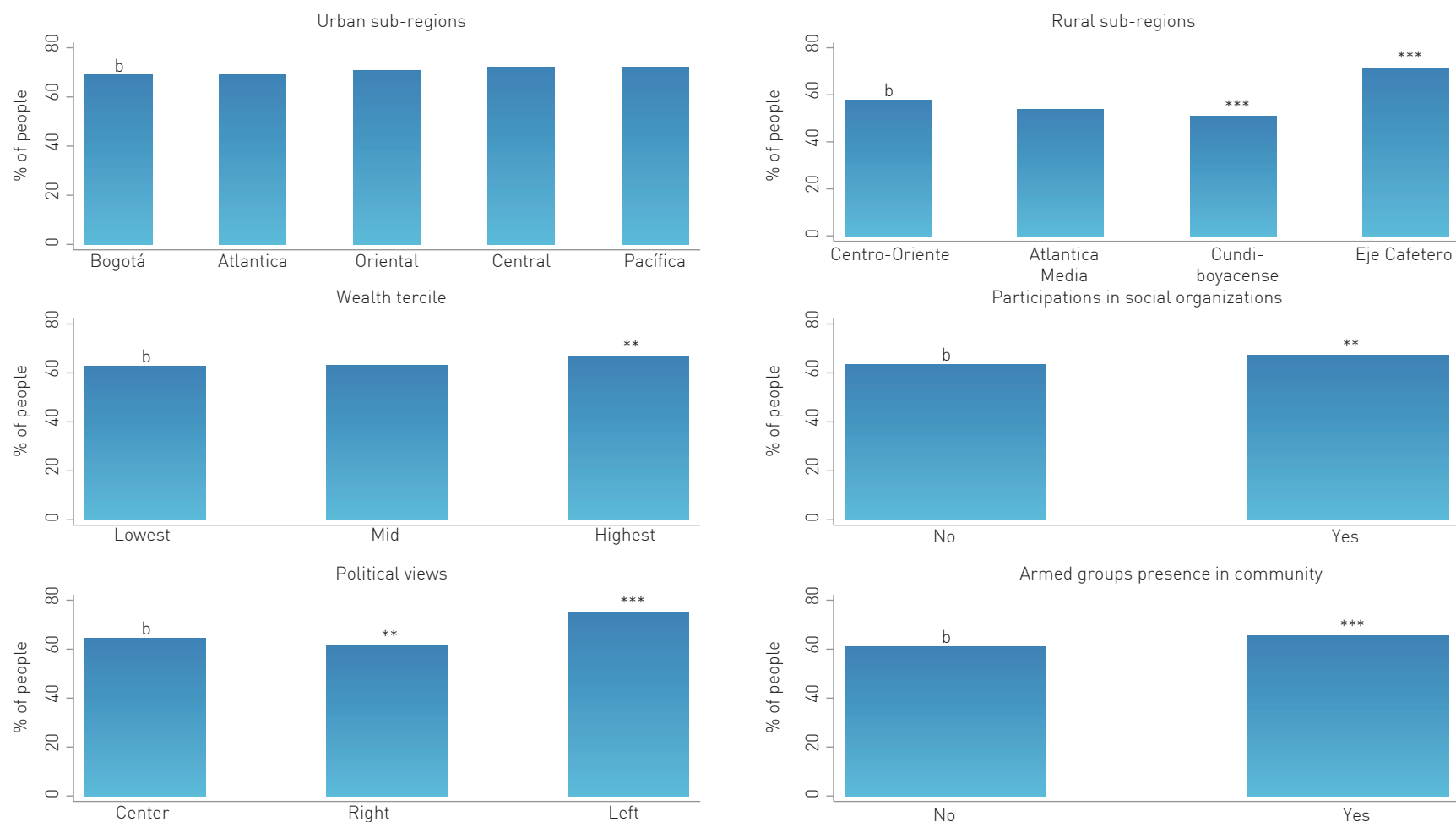
Source: ELCA 2013 and 2016. Authors' own calculations

Notes: The figure shows the percentage of people who report not being annoyed by each of following scenarios: 1) Having an ex-combatant from the guerrilla as neighbor, 2) That guerrilla ex-combatants participate in politics, 3) Having to hire a guerrilla ex-combatant as an employee, and 4) Having to pay a tax to support ex-combatants. Possible answers are "I would be annoyed", "I would not be annoyed" and "I prefer not to answer".



**GRAPH 9.10.**

AGREEMENT WITH RECONCILIATION, BY SOCIO ECONOMIC CHARACTERISTICS **WOULD NOT BE ANNOYED**  
WITH EXCOMBATANT AS NEIGHBOR OR EMPLOYEE



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between groups, relative to the baseline group (marked with a "b"). The figure shows the percentage of people who report not being annoyed by having an ex-combatant from the guerrilla as neighbor nor by having to hire a guerrilla ex-combatant as an employee. Wealth terciles are calculated using a standardized index, with a principal component analysis on household assets. Participation in social organizations is self-reported participation in at least one organization (respondents are shown a list of organization and can also list any other). Political views are based on self-reported political leaning in a left to right scale, with left or center-left classified as "Left", center classified as "Center", right or center-right classified as "Right". Finally, armed groups are deemed present if, in any round of the survey, community leaders reported presence of any armed groups in the community.

asks them for a job. We combine the responses on these two dimensions since, in general, they portray the similar patterns overall and across different groups of the population.

Across the different stratifications of the data, the general pattern indicates that between 60 to 70 percent of Colombians are not annoyed. Within each subgroup of the population, we highlight the following differential patterns. First, rural households are less willing than urban households to accept having an ex-combatant as their neighbor or employee, except in the Eje Cafetero region. Second, men and young adults report being less annoyed at the possibility of these daily interactions than women and older adults. Third, and perhaps surprisingly we do not observe any differences across wealth levels. Finally, subjects who participate in social organizations, who lean towards the left in the political spectrum, or who reside in communities in which an armed groups was present in the past 14 years all are more accepting and willing to interact with ex-combatants.

In Figure 11 we now look at the attitudes regarding ex-combatants participation in politics. Understanding citizens' attitudes in this dimension is important to the extent that it was one of the main dimensions of the peace agreement, envisioned as a way to broaden political access and opportunities, to break the link between politics and violence, and to strengthen democracy. Nevertheless, and as we discussed before, attitudes towards FARC's



→ Segundo Saba and his wife in their living room. They confirm that the armed conflict has never reached their region. Their finances have been affected since sawmilling, which is what Segundo works in, has been regulated.

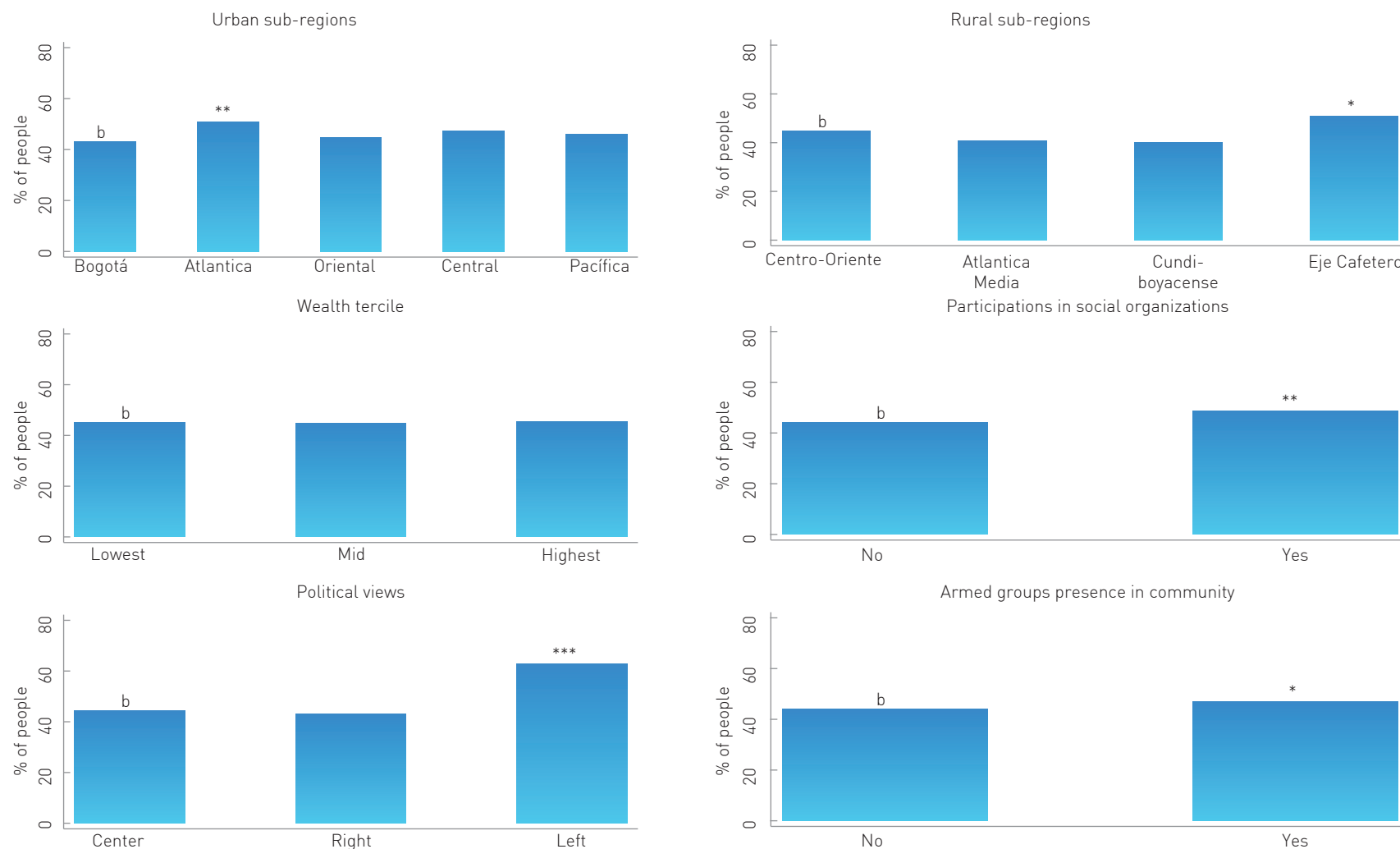
political participation are in general negative and only 40 percent of respondents express that they would not be annoyed if a FARC ex-combatant participates in politics.

Moreover, there are even fewer differences across the different subgroups of the populations than for the other dimensions outlined above. Some exceptions include respondents in the Atlantic urban region and in the Eje Cafetero rural region who are more open to the idea of the political participation of FARC ex-combatants than in other regions (16

and 14 percent difference), women who are more opposed than men (16 percent difference), and subjects who enroll in social organizations who are less likely to be annoyed than those who do not participate (11 percent difference). The most notable exception emerges between subjects with different political views, where 60 percent of those who lean towards the left would not be annoyed by the FARC's political participation. This implies an 18 percentage point difference (40 percent) relative to those at the center and right of the political spectrum.

**GRAPH 9.11.**

AGREEMENT WITH RECONCILIATION, BY SOCIO ECONOMIC CHARACTERISTICS **WOULD NOT BE ANNOYED**  
WITH EXCOMBATANT PARTICIPATING IN POLITICS



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between groups, relative to the baseline group (marked with a "b"). The figure shows the percentage of people who report not being annoyed by former guerrilla members participating in politics. Wealth terciles are calculated using a standardized index, with a principal component analysis on household assets. Participation in social organizations is self-reported participation in at least one organization (respondents are shown a list of organization and can also list any other). Political views are based on self-reported political leaning in a left to right scale, with left or center-left classified as "Left", center classified as "Center", right or center-right classified as "Right". Finally, armed groups are deemed present if, in any round of the survey, community leaders reported presence of any armed groups in the community.



→ This flat-bottomed boat allows hundreds of residents of Montería (Córdoba) to cross the Sinú River. Each trip costs 500 pesos.

Finally, Figure 12 illustrates respondents' general willingness to pay taxes to support ex-combatants and fund the reintegration process. Again, the general picture is of higher levels of reluctance and uneasiness among Colombians and of few differences across groups.

First, we do not observe differences between urban and rural areas, though there are some differences

within regions. Consistent with some of the results discussed above, respondents in the Atlantic urban and rural regions are more willing to pay such taxes than in other regions (differences of 16 and 34 percent relative to the base category, respectively), whereas subjects in the Eje Cafetero and Cundi-Boyacence rural regions are significantly more reluctant (differences of 36 and 16 percent, respectively). In addition, subjects at the top two wealth

terciles are between 5 to 8 percentage points more likely to be annoyed by having to pay such taxes than those at the bottom income tercile; these differences account for a change of 12 to 20 percent, respectively. This result is hardly surprising to the extent that the burden of any new taxes will undoubtedly fall on wealthier households. When we stratify the data according to whether the respondents participated in any social organization, we find that those who do participate are 15 percent more willing to pay them. Overall, this result is consistent with the more positive perspectives and attitudes of citizens who participate in social organizations that we have documented throughout this chapter.<sup>6</sup>

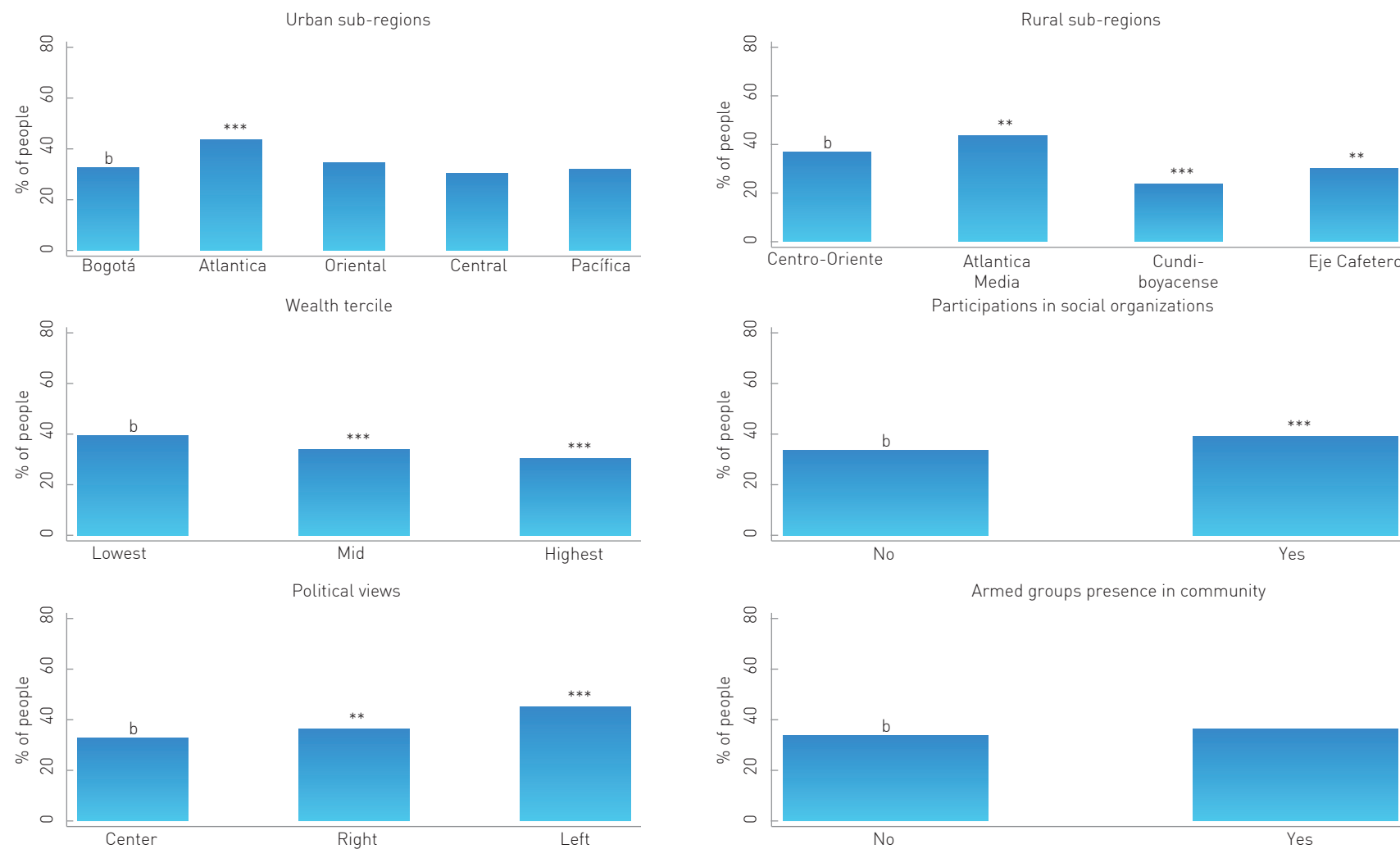
### 9.3. FINAL REMARKS

This chapter has highlighted some significant challenges ahead for Colombian society and political leaders. As the country embarks on a difficult new stage of implementing a major peace process, interest in politics and the quality of democracy remain weak. Moreover, economic development alone does not appear to be sufficient to improve the quality of political practices. Instead, building a more capable and legitimate state is perhaps the most important task at hand in future years. While the FARC's disarmament and reintegration is already a monumental and historical step at recovering the state's monopoly of violence, and is thus a first stepping stone in this direction, there are significant obstacles. The peace process itself

6. Finally, among the few reporting their left to right political leaning, the data again indicates that respondents who lean to the left are significantly less annoyed by paying taxes to support ex-combatants than respondents at the center of the political spectrum. In particular, the latter are 12 percentage points less likely to be annoyed, a figure that accounts to a sizable 40 percent difference. Surprisingly, respondents at the right end of the political spectrum are also more open to paying such taxes than those at the center, with a 10 percent difference. As noted throughout, we interpret these results with caution given the small sample size.

**GRAPH 9.12.**

AGREEMENT WITH RECONCILIATION, BY SOCIO ECONOMIC CHARACTERISTICS **WOULD NOT BE ANNOYED**  
BY PAYING TAXES TO SUPPORT EXCOMBATANT



Source: ELCA 2013 and 2016. Authors' own calculations

Notes: \* is significant at 10%, \*\* 5%, and \*\*\* 1% level. Significance levels for the difference between groups, relative to the baseline group (marked with a "b"). The figure shows the percentage of people who report not being annoyed by former guerrilla members participating in politics. Wealth terciles are calculated using a standardized index, with a principal component analysis on household assets. Participation in social organizations is self-reported participation in at least one organization (respondents are shown a list of organization and can also list any other). Political views are based on self-reported political leaning in a left to right scale, with left or center-left classified as "Left", center classified as "Center", right or center-right classified as "Right". Finally, armed groups are deemed present if, in any round of the survey, community leaders reported presence of any armed groups in the community.

envisions a set of transformations that are supposed to build a state that is more present in areas that have been traditionally neglected, and where citizens are better able to mobilize and hold their leaders accountable. But as we have documented, the peace process is perceived with a combination of indifference and polarization in the population. Many individuals feel that the peace process has no substantial effect on their lives. The rest, are polarized between those expecting positive and negative changes. Both issues are problematic when trying to push for costly and controversial policies to implement the agreements. Moreover, arguably the two core issues in the peace deal (political participation and financing benefits for rebels in the reintegration process) are the ones met with greater resistance in the population.

Our data also underscores some reasons for optimism. In particular, while still reluctant to accept political participation of former rebels and to pay for reintegration, Colombians seem less opposed at interacting with ex-combatants in daily encounters as neighbors and workers. Second, those individuals that are most engaged in social and community organizations, and who presumably will be called to play a leading role in the upcoming processes, are particularly open to interacting with reintegrated rebels. This is important since the social fabric is also crucial for the reintegration process, beyond state policies. In this context, however, it is crucial that community leaders are safe. The experience of recent months with sustained threats against and killings of local leaders is therefore a major cause for concern.

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