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IN MOTION
2010-2013

The changes in the life of households observed through the
Colombian Longitudinal Survey (ELCA) by Universidad de los Andes

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http://encuestalongitudinal.uniandes.edu.co

Centro de Estudios sobre Desarrollo Económico – CEDE
Facultad de Economía
Universidad de los Andes

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Universidad de los Andes
Facultad de Economía

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infeduni@uniandes.edu.co

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Editorial coordination: Claudia Quintero Salley
Translation: Michael Forrest
Copy-editing: Tiziana Laudato and Nicolás Fuertes
Proofreading: María del Mar Ravassa
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All the individuals included in this book are members of the 9262 families visited by ELCA in 171 locations in Colombia. The documentary "Historias de vida, historias de país," available at www.uniandes. edu.co/elca, shows their approach to the country, their dreams, and the realities of their world.

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The Colombian Longitudinal Survey (ELCA) by Universidad de los Andes is an ambitious project implemented by the School of Economics whose goal is to follow over 10 thousand households in rural and urban areas in Colombia, over a period of a decade. The first longitudinal survey of this magnitude carried out in Colombia, it sheds light on the dynamics of the households included; their evolution in the job market; the development of children; their vulnerability to shocks and the mechanisms they have at their disposal to mitigate their effects; access to financial services; the dynamics of home ownership; and land tenure and production in the rural areas, among other aspects.

This book —*Colombia in Motion 2010-2013*— presents the results of the first ELCA follow-up, which includes data collected during the first semester of 2013, three years after the collection of the baseline data. The project's conception and design, the survey and its diffusion are the result of the combined efforts of a group of individuals and institutions that have been committed, from the beginning, to contributing to the building of rigorous scientific knowledge in the country.

First and foremost, we would like to thank the more than 10 thousand Colombian families that participated in ELCA since it began with its first pilot version in 2009. Their participation and support of this project have been essential to its success. Secondly, we would like to thank the institutions that, through their financial support, contributed to the application of the second wave of ELCA in 2013: the National Planning Department, The Éxito Foundation, Universidad de los Andes, Asobancaria, Bancolombia and the Bolívar-Davivienda Foundation. The success of the fund-raising strategies to finance ELCA, we owe, in great part, to the efforts of our then director of the Center for Studies on Economic Development (CEDE), Ana María Ibáñez.

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→ Sisters Paola Andrea and Mayerly Consuelo Saba live in Simijaca (Cundinamarca). They walk to school every day, take some 45 minutes.

sample coverage in the first follow-up with respect to the baseline. In particular, we thank Yezid Botiva, Yamile Palacio, Belén Gómez, Gabriel Ramírez and Hanner Sánchez for their dedicated and responsible efforts.

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improved design of public policy in Colombia and, as a result, greater well-being for Colombians.

With this project, the School of Economics hopes to supply new and unique data to enable the country's scientists to continue to foster knowledge and supply the input necessary to improve public policy design in Colombia. By studying and better understanding the evolution of the households, their decision dynamics, the responses of different households to different temporary shocks and the intertemporal implications of the households' decisions with respect to work, investments, savings, children among a variety of other topics, we will be in a better position to design more effective economic and social policy.

Thus, this is an invitation to national and international researchers of diverse disciplines to use ELCA data so that, through their studies, they foster debate in order to improve the design of public policy in the country. Containing only the data from the ELCA baseline information gathered in 2010, the ELCA web page has been visited more than 71 thousand times since its creation in August 2010. The 2010 public databases have been downloaded by nearly 600 researchers in Colombia and abroad during 2014. Furthermore, over 200 students at Universidad de los Andes School of Economics have used them for their studies, graduation papers or their master and doctoral theses.

→ Saúl Evelio Castellanos lives in Puente Nacional (Santander) in a house so far from the town (two hours on a dirt track) that it seems like the furthest corner of the world. He spends his time pruning pine trees, milking cows, and looking after his tiny vegetable patch.

→ John Núñez and Adriana Díaz live in the Villa del Café neighborhood in Armenia with their nine-year-old twins Dayana and Juan Esteban.

Chapter 1
Colombian Longitudinal Survey (ELCA) by Universidad de los Andes 2010-2013

1.1. Background

→ The Colombian Longitudinal Survey (ELCA) by Universidad de los Andes is an ambitious project implemented by the School of Economics, whose goal is to follow over 10 thousand households in rural and urban areas in Colombia over a period of a decade. It is the first longitudinal survey of this magnitude carried out in Colombia. The survey sheds light on the dynamics of the households included, their evolution in the job market, the development of children, their vulnerability to shocks and the mechanisms they have at their disposal to mitigate their effects, access to financial services, the dynamics of home ownership, land tenure and production in the rural areas, among other aspects.

The first wave of ELCA was carried out in the first semester of 2010. Nearly 80 people —among which survey takers, supervisors and psychologists in charge of undertaking the field tests— visited and surveyed 10,164 households. Five thousand four hundred and forty-six were located in the urban areas of five regions (Atlantic, Pacific,[1] Central, Eastern and Bogotá); they belonged to socio-economic strata levels one to four and were representative of urban households at the national level. The remaining 4,718 households were of small farmers in four rural micro-regions (Mid-Atlantic, Coffee Region, Cundiboyacá, Center-East). In addition, a further 509 surveys were completed in urban communities (*barrios* or neighborhoods) and 199 in rural communities (rural settlements) in which information was gathered from various community leaders on the context of the participating households, the institutional offerings, security, infrastructure, among others.

The collection of the first wave, or baseline, provided a thorough characterization of the conditions of the Colombian households. *Colombia in Motion 2010-2013* presents a descriptive analysis of some of the ELCA 2010 results,[2] which, in April 2013, were made available to the public. Today, by having preregistered, any person who pledges to make adequate use of the information can access it for her or his own analyses without any type of I.D. (completely anonymous).[3] Also, the audiovisual series of videos and photos offer a view of the evolution of the Colombian households through the eyes of the ELCA protagonists.[4]

In 2010, the Survey design established that those followed by ELCA for each surveyed household would initially be: the household head, spouses, and children under the age of ten. Comprehensive information on such participants was gathered first in 2010, and their dynamics will be studied over time.

→ In 2010, the Núñez Díaz family had five members in their household and one son living independently. In 2013, the eldest daughter, Leidy (on the far left), formed a new household.

> *Colombia in Motion 2010-2013* presents a descriptive analysis of some of the ELCA 2010 results.

1. The ELCA sample was designed to be independently representative for the Pacific Region and for the Pacific basin. Due to budget restraints, it has not been possible to gather the information from the Pacific basin region.
2. The ELCA digital series, Circulation Bulletins, expanded the descriptive analysis and other innovative themes, which can be studied through the ELCA. Both publications are available and can be consulted at: http://encuestalongitudinal.uniandes.edu.co/
3. For having special reserve, the modules on infant children, lands and production, location of the households, and communities of the municipality are confidential and therefore not available to the public.
4. The communication team at Universidad de los Andes produced the photos published in this book and the videos on the ELCA families, available at http://www.uniandes.edu.co/elca

1.2. Follow-up results

1.2.1. Followed households and individuals

The main goal insofar as following the households and the individuals is to understand their dynamics over time. Thus, it was decided that the people selected to be followed should not be over the age of 65.[5] The urban sample was made up of 5,275 households and the rural one, of 4,555.

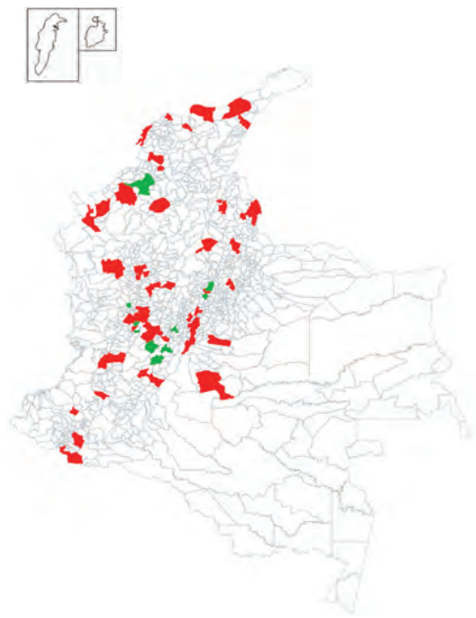
It was determined that the sample of followed participants[6] would be made up by the household head, spouse (if one exists) and children under the age of ten in 2010 who were the sons, daughters, stepchildren, grandchildren or great grandchildren of the household head or of the spouse (a total of 25,228 people, 12,852 in the urban areas and 12,376 in the rural area). In cases where, in 2013, these participants were no longer in the same households in which they were surveyed in 2010, they and those who made up their new households were sought out and surveyed in their new location. In each new household, those being followed (head, spouse and the children, grandchildren and great grandchildren, under the age of 13, of one or both of them) entered into the ELCA for future follow-up.

For the case of migrations to other towns —either of the entire household or individual members— search criteria were established based on the time it would take the survey takers to travel to the participants' new location and the number of surveyed households in the nearby areas. If the followed household or one of its members moved to a town approximately one hour away via public transport in the operations route, this household or individual would be visited.

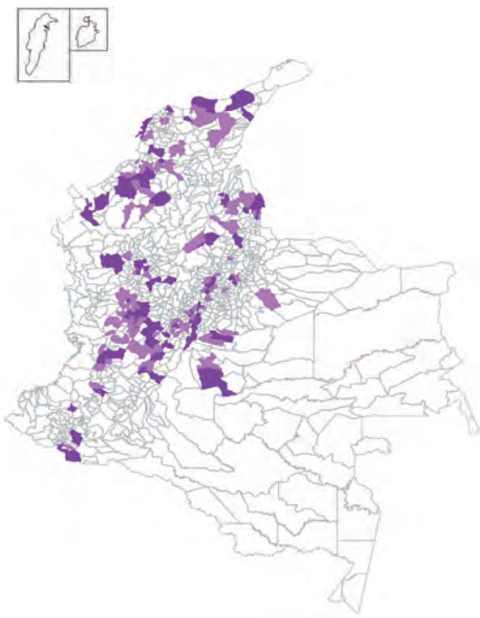
Or, in cases whereby the household or individual has moved further away, there has to be at least five feasible households to survey in that location to justify the visit. In practice, however, these criteria were made flexible in order to reach the greatest possible number of followed households and individuals.

Figure 1.1.
Geographic distribution of the municipalities surveyed through ELCA.

ELCA sample 2010



ELCA sample 2013



Sample: Calculations based on ELCA 2010 and 2013

5. Households whose head of the household and spouse were older than 65 years of age and who did not have children to be followed (younger than 10 years of age) were excluded from the study. The elimination of these households represented a 3% reduction in the sample (171 households in the urban sample and 163 households in the rural sample). This implied a relatively balanced elimination between regions and economic strata.
6. Being classified as a "followed participant" implies that all possible efforts will be made to locate and survey the person and household where they lived in 2013, whether that is in the original household or in another.

1.2.2. Balance and coverage

In accordance with the follow-up standards established for 2013, we expected to apply surveys to 9,830 households, equivalent to at least the 25,228 participants in this study. In total, for ELCA 2013, 9,262 households were included, accounting for 94.2% of the coverage hoped for. The above is the result of great effort and commitment to seek out the members of the families in 2013, even when some individuals had been separated from their original households or had moved to a new location, whether in the same municipality or a different one. In this order of ideas, in 2010, we visited 80 municipalities and in 2013, we visited members of these same households who, three years later, lived in 171 urban and rural municipalities around the country. The left panel of Figure 1.1 shows the geographic distribution of the ELCA sample in 2010. The municipalities in red belong to the urban sample and those in green belong to the rural sample. The panel on the right shows the geographic distribution of the municipalities visited with households surveyed in 2013. The darker color indicates the 80 municipalities visited in 2010, and the lighter color, the 91 additional municipalities visited in the 2013 wave. In many of these municipalities, surveys were applied both in the urban and rural areas according to the location of the households.

Table 1.1.
Household survey coverage by area.

Area	Target households	Followed households surveyed in 2013	ELCA surveys carried out in 2013	Household coverage	Survey coverage	Total households ELCA 2013**
Urban	5.275	4.430	4.681	84,0	88,7	4.911
Rural	4.555	4.418	4.581	97,0	100,6	4.351
Total	9.830	8.848	9.262	90,0	94,2	9.262

*Baseline area (2010) **Baseline zone (2013)

Source: Authors' calculations based on ELCA 2010 and 2013

Column 1 presents the number of households of the study sample in each surveyed area in 2010; 2 indicates how many of these households were surveyed in 2013, regardless of whether they were divided or not; 3 shows the number of total surveyed households including households which presented separations. Columns 4 and 5 show coverage as (4=2/1) and (5=3/1). Column 6 shows the total surveys in each area in 2013, taking into account the rural-urban and urban-rural migrations between 2010 and 2013.

Furthermore, some of the households presented separations. The criteria established indicated that all of the individuals involved in the study would be followed regardless of whether or not they were found in their original place of residence. For this reason, some of the households that were single households in 2010 had been separated into two, three and even four different households. In other less frequent cases, some households that were single households in 2010 had grouped together with others to form a different household in 2013.

Table 1.1 presents the distribution of the surveyed households and the coverage reached in original households and effective households (that take into account the division and union of households) with respect to those surveyed in 2010 by regions and for the urban sample by economic strata (one to four, which are the strata used in the sample). The coverage reached in the urban areas indicates that the effect of the separation of households exceeded the effect of attrition, to reach an effective coverage of 100.6%. In the urban areas, the effective coverage was 88.7%.

→ 2014. The Álvarez Tapias family lives in Chinú (Córdoba); in their neighborhood, almost everyone is related. On this lot there are four houses, which are home to five family units.

The separation of people in the study from their original households meant that for every surveyed household in 2010, there could be more than one surveyed household in 2013. Nevertheless, 1,101 households were lost, meaning that, for a whole host of reasons, it was not possible to follow them. This was mainly due to attrition and loss of contact due to changes in telephone numbers and addresses, making it impossible to locate the household or the family members. This loss, together with the difficulty encountered in finding the people in the study that had separated from their original households, led to a follow-up coverage of 87%.[7]

At the same time, changes in the households due to the arrival of new spouses, of children who previously did not live with their parents, the birth of new family members, etc., led to 6,143 interviews with new participants in 2013. Of these, 3,228 will form part of the future follow-up study due to their age and kinship. In total, 33,779 of the people surveyed in 2013 had also been surveyed in 2010. Table 1.2 presents the number of people surveyed in the study households in 2010 and 2013 and the coverage reached on the person's panel according to kinship and study condition.

At the same time, changes in the households due to the arrival of new spouses, of children who previously did not live with their parents, the birth of new family members, etc., led to 6,143 interviews with new participants in 2013. Of these, 3,228 will form part of the future follow-up study due to their age and kinship.

→ 2010. Inés Álvarez Moreno's (left) home is the meeting place for the family. She has a TV on which the children watch the soap operas.

7. We also have information on the deaths between 2010 and 2013 of at least 170 people involved in the study.

In 2013, we also surveyed the community leaders in order to understand aspects relating to the neighborhoods and areas where the households are located. The community surveys were applied if and when there were at least five households belonging to the community. This is why a large number of households that migrated to *barrios* and settlements that were not part of the sample in 2010, were also not part of the community survey in 2013. In 2013, a total of 547 urban community surveys and 231 rural community surveys were applied.

1.2.3. The households' panel

These results allowed for the construction of a panel of households, which includes information on each one of the households for 2010 and 2013. The urban panel, including households that remained in the urban area in both waves of the ELCA, is made up of 4,636 households with national representation for strata one to four and for five regions (Atlantic, Pacific[8], Central, Eastern and Bogotá). The rural panel includes 4,305 rural households, which represent four rural micro-regions (Mid-Atlantic, Coffee Region, Cundiboyacá, Center-East). Similarly, more than three hundred surveyed households migrated between areas, principally from rural areas to urban ones.

Table 1.2.

Coverage of surveyed people in studied households by sample areas.

	Total	Urban	Rural Micro-regions
1. Total people 2010	43.125	22.179	20.946
1.1 Total people in the study	25.228	12.852	12.376
1.1.1 Household head and spouse	16.913	8.793	8.120
1.1.2 Children	8.315	4.059	4.256
1.2 Others	17.897	9.327	8.570
2. Total people surveyed in 2013	39.922	20.582	19.340
2.1 Those who participated in 2010	33.779	17.025	16.754
2.1.1 People in the study	22.016	11.012	11.004
2.1.1.1 Household head and spouse	14.604	7.378	7.226
2.1.1.2 Children	7.412	3.634	3.778
2.1.2 Other people	11.763	6.013	5.750
2.2 New	6.143	3.557	2.586
Coverage			
Surveys 2013/ Surveys 2010 [%]	93	93	92
People surveyed in 2010 and 2013 [%]	78	77	80
People in the follow-up study surveyed in 2010 and 2013 [%]	87	86	89
Household head and spouses surveyed in 2010 and 2013 [%]	86	84	89
Children in the follow-up study surveyed in 2010 and 2013 [%]	89	90	89
People who are not part of the follow-up study surveyed in 2010 and 2013 [%]	66	64	67
3. Total surveyed in 2013	39.922	20.582	19.340
People in the follow-up study for 2016	26.166	13.241	12.925

Source: Authors' calculations based on ELCA 2010 and 2013

The coverage is calculated based on the sample to which each person belongs (the area in which they were surveyed in 2010).

8. The ELCA sample was designed to be independently representative of the Pacific Region and of the Pacific basin. Due to budget restraints, the information for the Pacific basin has not yet been gathered.

It is the first time that this sort of longitudinal information that sheds light on the evolution of households and of the people in them is available in Colombia. The type of transversal surveys which have existed up until now, made it possible to comprehensively analyze the characteristics of independent samples at two points in time. This type of analysis can be compared with the kind of information provided by taking two photos of the same place at two different times. The place may be the same but the people or conditions are not necessarily comparable. The panel of ELCA 2010-2013 households and their subsequent analyses can resemble —in accordance with the previous analogy— a video camera following people over time, revealing their 'before and after' conditions. For example, surveys that measure the state of the labor market are common and frequent. At any point in time, it is possible to find out how many people are employed, unemployed or inactive and to find information regarding the quality of jobs in a particular place. Regardless of how frequent and detailed these surveys may be, this is the most photos can offer. The ELCA video, on the other hand, shows people's evolvement in the job market, making it possible, for example, to quickly find answers to questions such as: what percentage of people in informal occupations were able to join the formal job market? How many people who were employed in stable jobs lost their employment? How many people who were inactive in the previous period decided to look for work and, of these, how many found employment, and what type, etc.? More in-depth studies provide answers for other questions related to the determinants of these transitions or, for example, to the impact of certain policies on them, among others.

→ Only a facial paralysis could break Saúl Castellanos' routine with Lucrecia Martínez over the past three years. Life is slow in Puente Nacional.

The example of the labor market is just one of a variety of topics and questions that can be answered based on the information brought to light by ELCA. This information allows an in-depth examination of many socio-economic topics in a way that makes it possible to study the dynamics based on the construction of these videos. This book presents the first analytical approximations of ELCA 2010-2013. Each of the chapters offers different examples of the way in which longitudinal information allows for a clearer and more unique understanding of the dynamics surrounding households in Colombia.[9] Each focuses on specific topics —among the many that are yet to be explored— and encourages more in-depth analysis through future research.

In Chapter 2, Carmen Elisa Flórez and Néstor Muñoz carry out a detailed study of the dynamics surrounding Colombian households, the way their structure and composition has changed, and the patterns of migration, among others.

9. The analyses are unique to each author but have some common elements. In particular, when aspects of households are studied in accordance with socio-economic levels, an index of wealth is used which was created from *Colombia in Motion 2010*, which includes indicators related to quality of life, access to infrastructure and public services and in reference to property, as well as the use of assets and durable goods.

Furthermore, they present the characteristics of the households and how they change, for example, from male household head to female household head, or how the nuclear families are extended to include members of other generations. In Chapter 3, we explore an aspect of ELCA which can only be looked at in-depth using longitudinal data: vulnerability and the effects of destabilizing events that affected households between 2010 and 2013. Ximena Cadena and Claudia Quintero study how the conditions of the households prior to experiencing a shock can affect their vulnerability, and their mechanisms to mitigate the negative effects on their well-being. They also present results on natural disasters and the effects of the winter spell. The first ELCA wave was carried out during the first semester of 2010. Subsequently, at the end of 2010, and once again in 2011-2012, Colombia experienced the effects of La Niña with great intensity. The strong rains caused floods and damage to houses and infrastructure of a large part of the country, and a number of municipalities in the sample —such as Gramalote, whose populations is still in the process of being relocated— were devastated. Other municipalities were hardly affected. In 2013, questions were included to identify the households that were affected by the winter spell. The disturbances caused by natural disasters were investigated, including the effects on households in the communities and on individual people (migration, labor market, education, among others). The survey also includes questions about aid and access to programs that were implemented as a result of the effects of the winter spell.[10]

In Chapter 4, Adriana Camacho and Roman D. Zárate analyze poverty in Colombia. The ELCA can use different means to measure poverty and the results can be used to report official data and other ways of understanding the level of life. Longitudinal data allows us, for the first time, to study the transitions of poverty and identify the households that are able to find a way out of poverty and those who, on the contrary, found their standard of living to be decreasing to the point that they fell into poverty over the three years. In Chapter 5, Catherine Rodríguez uses the study's panel of data on the children to make a "video" that allows us to study their dynamics as they grow and begin to face the risks of falling behind and dropping out of school. Given that one of the purposes of the ELCA is to accompany the growing-up process of the children that were under ten in 2010; for 2013, a questionnaire was designed for youths between the ages of ten and thirteen. This refers to those children included in the study who were under ten in 2010 but who had turned 10 or older by 2013 and had begun to face situations that are interesting to follow. The questionnaire includes information on gangs, alcohol and cigarette consumption, use of time, attitudes, behaviors and life plans, among others.[11] Chapter 5 presents some of these results, which will be of use for future "videos" that can be extended by using the information resulting from the application of the survey as these youths transition from adolescence to adulthood.

→ The Ballesteros Torres, Felipe, Alicia and Octavio earn their living from farming and agriculture in Susa (Cundinamarca). Above, in 2010. Below, three years later.

10. Ana María Ibáñez led the design process of the sections related to the winter spell.
11. The design of the module on youths was directed by Ximena Cadena. We would like to thank the generous support of experts at Universidad de los Andes: Enrique Chaux, Elvia Vargas, Sandra García, and to Carolina Lopera at ICFES.

To study certain cultural and attitudinal aspects of the Colombians, a module on behavior and politics was created and applied to a random selection of heads of households or spouses. The questions used were related to behaviors and interest in elections, identification of political parties and candidates and their level of interest in politics, use of information sources regarding the situation of the country, etc. Also included were questions regarding the participants' positions and attitudes insofar as social coexistence; for example, related to reciprocity, the use of violence, application of rules, corruption, etc.[12] In Chapter 6, Leopoldo Fergusson and Juan Felipe Riaño exploit the richness of this ELCA module to study the way in which Colombians relate to politics and present some hypotheses regarding the factors that affect clientelism resulting from vote buying. In Chapter 7, Juan Camilo Cárdenas and Paula Sarmiento take an in-depth look at the relationships between Colombians' attitudes insofar as reciprocity and trust, and their social behaviors in terms of associating and helping others or contributing to collective goods. They also study the evolution of such behavior in ELCA households over the three years.

→ Teresa Narváez and her husband, José Quevedo, of Córdoba (Quindío) raised three daughters. Now they help them raise their grandchildren.

The first ELCA wave included a comprehensive component on lands and production for the rural section. This has become a source of extremely valuable information when it comes to understanding the conditions of land ownership and the agricultural and livestock activities in the four ELCA micro-regions. For 2013, a great wealth of information on lands and production was maintained and new strategies were implemented to gather information on income and the costs associated with production activities. Information was also gathered on the rural inhabitants' different forms of employment or moneymaking activities, and the module on the use of time as a complement to the questions of rural employment was maintained. Said module had proven to be very effective in the study of employment and other rural activities in 2010. In Chapter 8, Ana María Ibáñez and Laura Montenegro analyze the evolution of living conditions in the ELCA micro-regions and relate them to the dynamics of land ownership, state programs, disturbances and access to credit in the rural areas, as well as their effects on the well-being of the households. Finally, in Chapter 9, Ximena Peña and Camilo Uribe study the changes in men and women's use of time in the rural households between 2010 and 2013. They explore the dynamics of time dedicated to paid labor —both agricultural and non-agricultural— and their implications on their earning potentials.They also analyzed the trends in time spent taking care of the household

12. The design of this module was led by Leopoldo Fergusson and Ximena Cadena. The full ELCA academic committee contributed but especially Raquel Bernal, Adriana Camacho and Juan Camilo Cárdenas as well as professor Marcela Eslava and all those from the School of Economics at Universidad de los Andes. We would also like to express gratitude for the generous comments from the experts consulted here such as professors Felipe Botero, Miguel García and Juan Carlos Rodríguez of the Department of Political Science at Universidad de los Andes, Chap Lawson of the Massachusetts Institute of Technology (MIT), Gabe Lez of the University of California at Berkeley, Gianmarco Leon from Universidad Pompeu Fabra and Jim Snyder of Harvard University.

For 2013, a great wealth of information on lands and production was maintained and new strategies were implemented to gather information on income and the costs associated with production activities.

and free time distribution by gender over the three years.

In addition to these topics that are innovative both in terms of their content and of the possibility to dynamically study them through the very households and people involved, the ELCA is a unique source for the study of children's development. During the first wave, anthropometric tests on children under the age of five and a test on verbal abilities for children between three and nine years of age were carried out. Furthermore, a very detailed questionnaire was applied regarding childcare, the activities undertaken, vaccinations, and their state of health, among others. In 2013, the National Planning Department (DNP) and the Éxito Foundation financed an ELCA component on early childhood in order to use the information as a diagnostic instrument on the situation of the country's children and, in turn, aid the design and implementation of the national support strategy called "De Cero a Siempre" (From Zero to Always). Thus, the module on children was strengthened by including questions on the consumption of different types of foods, interaction with parents, discipline, access to services for pregnancy and newborn infants, among others. A socio-emotional test was also included for children (Ages and Stages, ASQ:SE). Finally, some questions were included on pregnancy in the case of mothers of two year-old children and pregnant women.[13]

ELCA is also a source of information on the demand for financial services, which up until now have not existed in Colombia. Usually, the information regarding access to and use of financial services is taken from bank databases or through surveys applied to bank customers. Before ELCA, there was no source of information from the demand perspective to understand the access to and use of formal and informal financial services at national and regional levels with a wide representation of the population. ELCA includes detailed information about all household-related debts and credits regarding sources of funds, amounts, periods, rates, balances, etc. The savings accounts of the household heads and their spouses were also studied as well as their use of insurance.[14]

The CEDE and the School of Economics at Universidad de los Andes are committed to knowledge building in terms of the dynamics of Colombian households which can, in turn, lead to the design and implementation of better policies to improve well-being nationwide. ELCA has proven to be a suitable instrument for studying many of the relevant issues involved in reaching this goal. In this book, we present some simple examples, but more importantly, we hope it serves as a base for academics, policy-makers and all interested parties to deepen their analysis of the national reality in such a way as to achieve better living conditions for all Colombians.

13. Raquel Bernal participated in the strengthening process of the module. We would like to acknowledge the support of the Directorate for the Evaluation of Public Policy (DNP) and the Inter-sectorial Commission on Early Childhood. The Éxito Foundation also financed the publication of a book on the evolution of children in Colombia through the ELCA.
14. Asobancaria contributed to the realization of a book on the evolution of financial services in Colombia, 2010-2013 through the ELCA.

→ Gladys Campo (center) taught her seven children to fish in the Opón River to make a living. Displaced by violence, they arrived in Barrancabermeja 30 years ago. Today, when she has the time, she remembers her past and takes a trip through the San Silvestre Swampland together with her grandchildren.

→ Donny Juan Pablo Lozano is famous among the Gramalote victims. He sings about the tragedy and the reconstruction of the town to a Hip Hop beat.

Chapter 2
The dynamics of Colombian households

Carmen Elisa Flórez
Néstor Eduardo Muñoz[1]

→ In 2011, Donny and his mother, Mildred Leal, lived in Cúcuta. The high costs of living in the city forced them to return to Gramalote where, since 2012, they live in a refuge.

→ 2.1. Introduction

The "family" is made up of "a group of people related by blood, marriage or adoption regardless of physical or geographic closeness and their emotional or affective bonds" (Rubiano and Wartenberg, 1991, cited in Flórez, 2004, p. 24). It has traditionally been considered the foundation of society and the most influential of institutions (Becker, 1973, 1974, 1981; Rosenzweig and Stark, 1997 cited in Misión Social-DNP, 2002). "In a family, the resources of the individual members are combined (time and goods) in order to procure the greatest well-being possible for all. And, in difficult situations, the family acts as a shield that protects its members from threats and dangers" (Misión Social-DNP, 2002, p. 35).

The definition of family implies that it comprises a group of individuals united by family ties, even though the members reside in different households. This non-requirement of physical or geographic closeness makes the family statistically invisible.

1. The authors are grateful for the comments made by Adriana Camacho and Ximena Cadena on previous versions of this chapter.

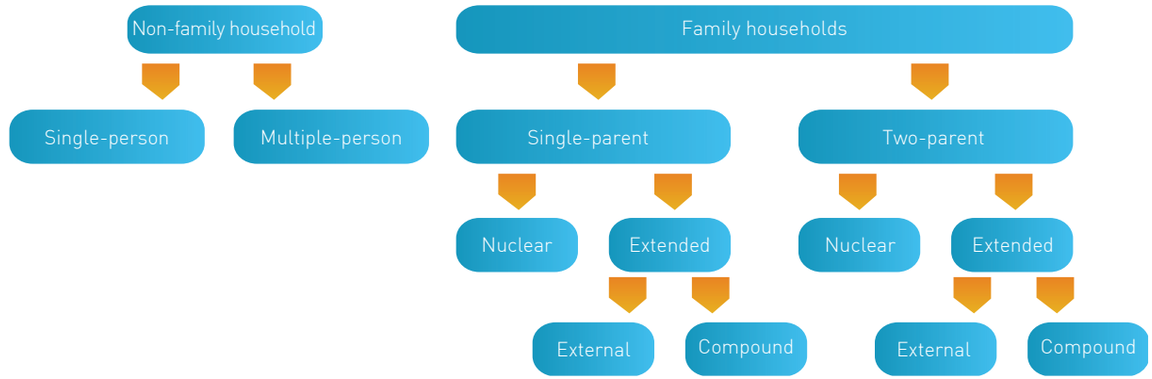
In this study, we therefore need to approach the family through the "household" understood as "a person or group of people that may or may not have blood ties, who occupy the totality or a part of the house, share meals and recognize only one person as the head authority (household head)" (Flórez, 2004, p. 25). Even though "family" and "household" are closely related, the members of a household need not be part of the same family, and it may be made up of members between whom blood relations do not intercede.

Households can be classified as family households and non-family households. Family households are organized around a primary nuclear family[2] and are made up of people who are related to each other in first or second degree of kinship, adoption or marriage (including civil unions). Non-family households, on the other hand, refer to those made up of one or more people, in which there is no primary nuclear family and they can be made up of individuals that are related (brother and sisters, cousins, etc.) or by individuals without blood relations, including single-person households, which have become increasingly common in Colombia in recent decades (Flórez, 2004).

Households where family relations exist can be classified in terms of the inclusion of a primary nuclear family or in terms of blood relations (see Figure 2.1). The former type of classification, includes family households with one or both parents, defined by the presence or absence of the spouse of the household head, respectively. With respect to the family relationship to the household head, we have nuclear family households made up only of a primary nuclear family and extended family households which may include other relatives (extended households) and/or people not related to the head (compound households) (see Figure 2.1).

The household structure and its classification can change over time. A household can remain intact (same primary nuclear family and different members), divided (division or change in the primary nuclear family) or recomposed (same primary nuclear family and different members in addition to the primary nuclear family). This demographic dynamic can be associated with the cycle of household family life, migration, or be a reaction to economic, labor, family or any other type of shock, which a household can be subject to at any point in time.

Figure 2.1.
Household typology by kinship and household head.



Source: Flórez, 2004

2. A primary nuclear family is a group made up of (i) a couple without children, or (ii) the couple with single children, or (iii) the father or mother with single children living in the same household. It is called primary because it includes a head/spouse and their children (first degree of kinship).

Our main goal in this chapter is to identify the demographic and spatial dynamics of the Colombian households between 2010 and 2013 based on the first two waves of the Colombian Longitudinal Survey (ELCA) by Universidad de los Andes.

ELCA is the first longitudinal study to follow a significant group of Colombian households (nearly 10 thousand in urban and rural areas). The survey does not follow all of the members of the selected households, only the head, spouse and children, step-children and grandchildren born between 2001 and 2010. It does not, therefore, follow the whole nuclear family unit.[3]

The first wave of ELCA, carried out in 2010, contains information about 9,830 households being followed. Of these, 8,849 were surveyed once again in 2013. Due to the division of households surveyed in 2010 —be it due to the separation of the head/spouse or to some of the members leaving the study— the number of surveyed households in 2013 rose to 9,262. In this chapter, we analyze the demographic and spatial dynamic of the 9,262 surveyed households in 2013, which include: a) households which were surveyed in 2010 and in 2013; b) new households which formed between 2010 and 2013 due to the division of the original households; and c) new households in the sample which formed because they received new members, differentiating between the urban and rural areas.[4]

With respect to the family relationship to the household head, we have nuclear family households made up only of a primary nuclear family and extended family households which may include other relatives (extended households) and/or people not related to the head (compound households).

→ In the home of Gladys Campo and Luis Eduardo Palacios in Barrancabermeja, they serve 25 to 32 lunches a day, all on a minimum salary.

3. In the baseline, the non-family households were excluded (single-member and multiple-member households). In the first follow-up (second wave), households whose head and spouse were older than 65 years of age and who did not have children younger than ten years of age in 2010 (first wave) were excluded.
4. At national urban level, ELCA is representative of strata one to four (excluding strata five and six), and in the rural context, it is representative of the households of small producers (mainly of stratum one) only of the four micro-regions.

2.2. The demographic dynamic

Table 2.1 presents a number of indicators on the demographic characteristics of the households in 2010 and 2013. These cross sectional results show urban-rural differences and trends through time that are consistent with other sources such as the Living Standards Measurement Survey or the National Households Survey, periodically carried out by DANE.[5]

The ELCA results show evidence, in the first place, of a greater household size in rural households than in urban ones, and a slight tendency toward a decline in the average number of people per household, in both urban and rural areas. In 2010, the average size of an urban household was of 4.2 members and that of a rural one, of 4.8. In 2013, these dropped to 4 and 4.5, respectively.

In the second place, it is evident that the nuclear household continues to be the predominant type of household in the country; more than 53% of rural households and, at least, 60% of urban households are nuclear units. However, the evidence also indicates that the nuclear household has gradually been losing some of its importance, giving way to single-person households, which —despite their incipient representation— are becoming increasingly common in both urban and rural areas, and particularly in the higher socio-economic strata.[6] The 2013 ELCA clearly indicates a rise in single-person households in both urban and rural areas (2.8% and 2.2%, respectively). These did not exist in the 2010 sample.

In the third place, even though both parents were present in at least 66% of the urban households and 78% of the rural households in 2010, in 2013, single-parent households were more common, and there seems to have been an increase of female household heads. Single-parent households increased from 34% to 36% in the urban area and from 21% to 23% in the rural area between 2010 and 2013. Single-parent households and female household heads are associated given the cultural tendency to recognize the man as the household head when he is present.

Table 2.1.
Household characteristics by year and area.

Household characteristics	Urban		Rural micro-regions	
	2010	2013	2010	2013
Average no. of people/household	4,2	4,0	4,8	4,5
Distribution according to type of household (%)				
Family household				
Nuclear	60,8	59,8	54,5	53,5
Extended	39,1	37,4	45,4	44,3
Single-person household	0,0	2,8	0,1	2,2
Total households	100	100	100	100
Household head				
Two-parent household	66,1	64,1	78,4	76,8
Female household head	36,7	37,6	18,5	20,2

Source: Author's calculations based on based on ELCA 2010 and 2013

Excludes households that migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

5. The direct estimations of the ELCA are not directly comparable with those from other surveys due to differences in the design and representation of the sample. For these reasons, the average size of an ELCA household is slightly higher than that estimated by DANE with the Quality of Life Survey (ECV), which is representative of the national urban and rural level: in 2010, the average people per urban household was 4.2 in the ELCA and 3.6 in the ECV; and the average size of a rural household was 4.8 in the ELCA and 4.0 in the ECV (website address).
6. According to Flórez (2004) and updated data, the non-family oriented, single-person household represented, in 2008 for the seven principal cities, 26% of the total households of the fifth quintile and only 3.5% in the first quintile. Given that the ELCA does not include urban strata five and six, this may explain the lower presence of this type of household in the survey than in the total population.

The slight changes in the size and structure of the households shown in Table 2.1 are the result of the comparison between the structure of the households at two different points in time: 2010 and 2013. That is, they are the result of a comparison between two static photographs. The changes noted through this comparison are small and would lead to erroneously conclude that there is little or no transformation in the households between 2010 and 2013. These results hide the great demographic dynamic experienced by the households both in terms of size and household head as well as the division and restructuring of members. Tables 2.2 and 2.3 present matrices of the transition, in terms of type and household head between 2010 and 2013 for the households surveyed in both years.[7] The tables show evidence of part of the transformation in the structure of the households between these two years, which cannot be observed in the static photos.

On the one hand, despite the fact that nearly 60% of the urban households and 54% of the rural households were nuclear in 2010 and 2013 (see Table 2.1), only around 80% of the households which were nuclear in 2010 continued to be nuclear in 2013, in both the urban and rural areas (see Table 2.2). The remaining 20% of households became extended or single-person households. Similarly, only 715 of the extended urban households and 78% of the extended rural households continued as extended households, while the rest became nuclear or single-family households. This means that even though the percentage of urban and rural nuclear households was similar in 2010 and 2013, the nuclear households of 2010 were not the same nuclear households seen in 2013. The added percentage of nuclear households is similar in the last two years, but it does not refer to the same households.

Table 2.2.

Changes in the typology of the surveyed households by year and area (percentage of households).

Household typology 2010	Urban				Rural micro-regions			
	Household typology 2013				Household typology 2013			
	Nuclear	Extended	Single-Person	Total	Nuclear	Extended	Single-Person	Total
Nuclear	79,2	18,4	2,4	100	80,2	17,6	2,3	100
Extended	24,2	71,5	4,3	100	19,3	78,4	2,3	100

Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the households that migrated between areas in the 2010–2013 period and the new households that received new members to follow. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Table 2.3.

Changes in the heads of surveyed households by year and area (percentage of households).

Parental composition	Urban			Rural micro-regions		
	Composition 2013			Composition 2013		
	One parent	Two parents	Total	One parent	Two parents	Total
One parent household	87,3	12,8	100	76,6	23,5	100
Two parent household	10,1	89,9	100	10,2	89,8	100
Gender of household head 2010	Gender of head 2013			Gender of head 2013		
	Male	Female	Total	Male	Female	Total
Male	98,7	1,3	100	87,8	12,2	100
Female	5,2	94,8	100	9,1	90,9	100

Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the households which migrated between 2010 and 2013, and the new households that received new members to follow. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

7. Divided households are included but new households that received new members to follow are excluded in the 2013 survey.

Likewise, the increased number of single-parent households and female household heads between 2010 and 2013 shown in Table 2.1 is the result of a more complex dynamic. Only 87.3% of single-parent urban households and 76.6% of rural ones remained so in 2013, while 10% of two-parent urban and rural households became single-parent households. In contrast, greater percentages of single-parent households became two-parent households (13% in the urban area and 23.55 in rural area), which occurs when couples reunite. At the same time, important transitions took place in terms of the household head between 2010 and 2013: 5% of urban households and 9% of rural households with female heads changed to male household heads, while 1% of the urban households and 12% of the rural households with male heads changed to female household heads. The urban-rural difference in the transformation of the households could be associated with the differences in re-composition, as we will examine further on.

Therefore, the demographic dynamic experienced by the households is much more evident than that which is shown in Table 2.1. In other words, the changes suggested in Table 2.1 hide important transformations in the structure of the households, which is made evident in Tables 2.2 and 2.3. Nevertheless, the changes shown in Tables 2.2 and 2.3 are the consequence of deeper transformations in the composition of the households, changes in the numbers of members, in the kinship relations, and in the roles held by the household members. Figure 2.1.1 classifies the households surveyed in 2013 according to their dynamic between 2010-2013, in terms of number and composition of their members:

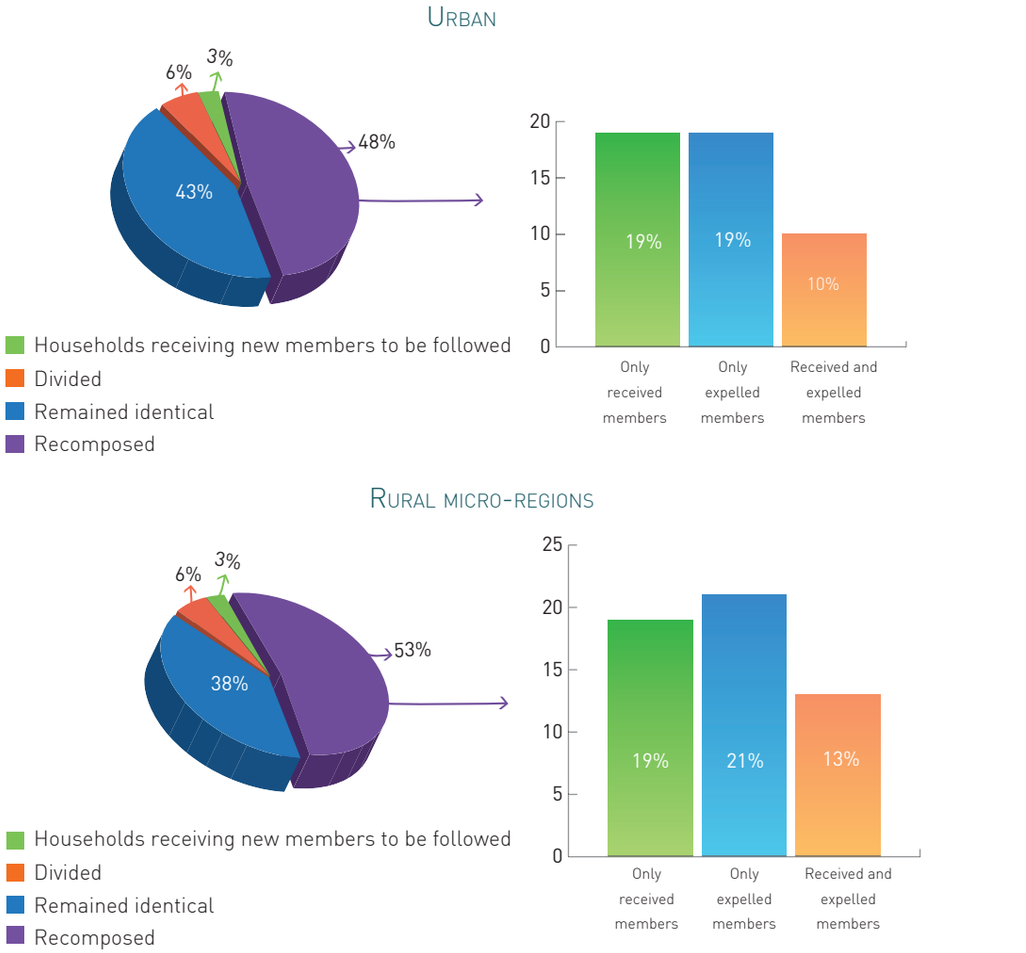
→ Nicole Vanegas and her grandmother Liliana Herrera, on the Copacabana skating rink (Antioquia), in 2014. On the right, three years earlier at her home.

1. Identical original households: those that maintained the same household head and spouse (if they had one), and continued with the other members of the household.
2. Recomposed original households: those that maintained the same household head and spouse (if there was one), but changed some or all of the other members. This may be due to having expelled members or received new ones. These must be classified as: a) households that only received new members, b) households that only expelled members and c) households that received and expelled members.
3. Original households, which are divided/incomplete: those households that were divided into two households due to separation of the household head and his/her spouse (divided), or the death of the spouse or of the household head (incomplete). That is, either the head or his/her spouse changes.[8]
4. New households: those that were not surveyed in 2010 but were in 2013 as new members to be followed —other than the head or spouse— were received into them. The new members would have been children under thirteen years of age at the time.

8. Henceforth referred to as "divided."

Figure 2.1.1.

Permanence, recomposition, and division of households between 2010 and 2013, by area (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

Excludes the households that migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

The results suggest an intense demographic dynamic between 2010 and 2013: less than half of the households remained identical (43% in the urban area and 38% in the rural area), around half were recomposed (47% urban and 53% rural), between 6% and 7% were divided, and 3% were new households. The dynamic was more intense in the rural area mainly due to the recomposition of the household due to the expulsion of some of the members.

Of the total number of recomposed urban households, 40% only expelled members, 40% received, and 20% expelled and received members into the household. In the rural area, 35% only received, 40% only expelled and 25% received and expelled, meaning that 65% of the rural households expelled members. The reasons for the expulsion of members were generally economic (economic independence, work, study) or family relationships (separation, marriage or leaving to live with father, mother or other family members), whereas reasons associated to social or family conflict appear to have been minimal. Furthermore, the reasons given for receiving new members were mainly family-oriented (birth, marriage, separation, integration of a relative), followed by reasons related to shocks (domestic, violence or natural disaster), while economic reasons (work or study) seem to have been less important.

The ELCA indicates that the extended household is more common in the rural regions, as well as in the Atlantic coastal region, while the nuclear family prevails in the country's central area. Similarly, differences were noted in the demographic dynamic of the households between regions in the 2010-2013 period. These results confirm the findings of previous studies in terms of the family composition not being homogenous between regions due to different cultural patterns (Flórez, 2000; Gutiérrez de Pineda, 1975; Ordóñez, 1986).

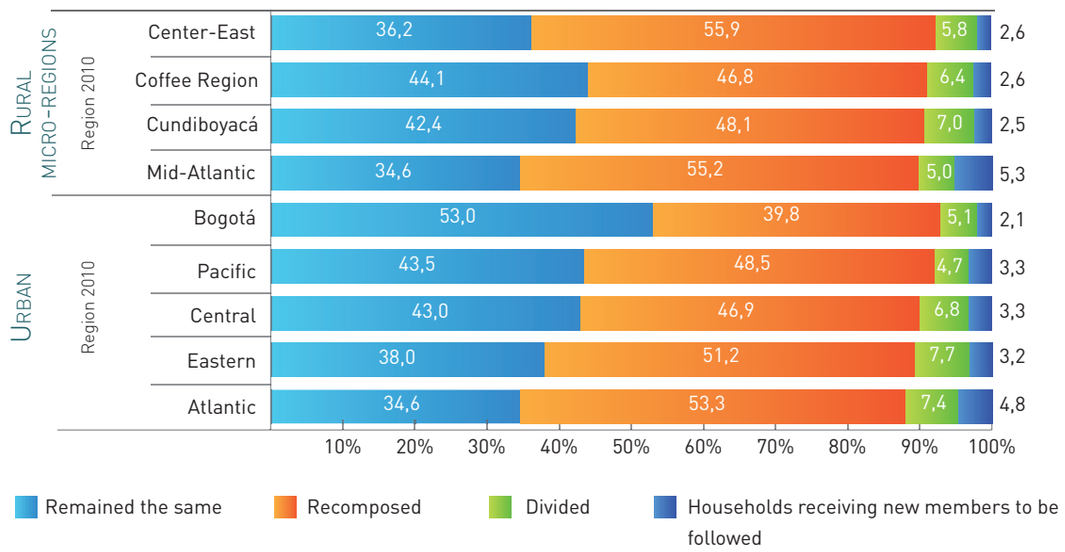
Figure 2.2 shows that the urban Atlantic and the mid-Atlantic rural regions exhibited the greatest dynamism in the period, in terms of household composition. They had the smallest percentage of households, which remained identical (34%), the greatest percentage of recomposed households (53% urban and 55% rural), the greatest percentage of new households (around 5% rural and urban), and among the highest percentages of divided households (7.4% urban and 5% rural). In contrast, Bogotá was the least dynamic region in terms of internal changes in the households. It had the highest percentage of unchanged households (53%), the smallest percentage of recomposed (39.8%) and divided households (5%), and the smallest percentage of new households (2%). Finally, even in the least dynamic region in terms of households, only around half of the households remained identical while the other half were transformed either through being divided or recomposed.

Between areas, the results show a greater heterogeneity between regions in the urban area than in the rural area. In the rural area, the mid-Atlantic and Center-East regions are similar, as are the Coffee and the Cundiboyacá regions. In contrast, the urban areas present greater differences between regions. Bogotá and the Atlantic display completely different behaviors.

ELCA results display evidence of more significant differences in the population dynamics caused by socioeconomic levels in the urban areas than in the rural ones. Figure 2.3 shows the distribution of households in accordance with the demographic dynamic for 2010-2013, by level of wealth in 2010.[9]

Figure 2.2.

Distribution of surveyed households in 2013 according to permanence, recomposition, and division between 2010 and 2013, by area and region in 2010 (percentage of households).



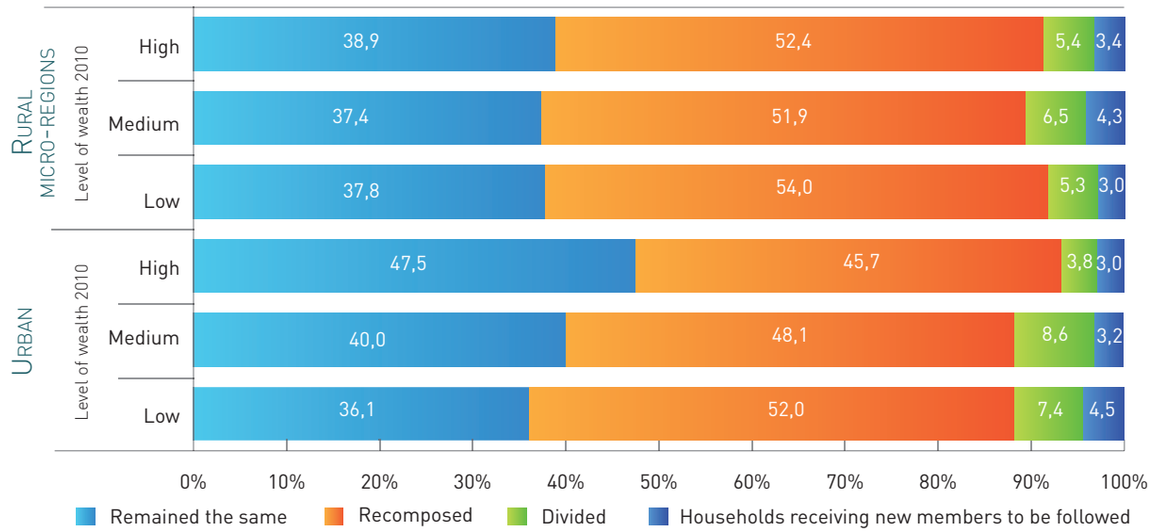
Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the households which migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

9. The level of wealth corresponds to the terciles of a continuous index of wealth constructed based on durable goods and access to services which the household possesses.

Figure 2.3.

Distribution of surveyed households in 2013 according to permanence, recomposition, and division between 2010 and 2013, by area and level of wealth in 2010 (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the households that migrated between areas in the 2010–2013 period. The level of wealth corresponds to the terciles of a continuous wealth index, constructed based on durable goods and households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

In the urban households, greater heterogeneity was observed in the demographic dynamic according to level of wealth, while this dynamic in the rural households was more homogenous. A greater percentage of urban households with higher levels of wealth remained identical, whereas households with lower levels of wealth showed greater changes: greater recomposition, division, and emergence of new households. These changes were greater to the degree that the level of wealth decreased. For example, 47.5 % of the urban households with high levels of wealth remained identical, while this condition was true in only 36.1% of those households with lower levels of wealth. Inversely, in the rural area, the demographic dynamic of the households was more homogenous: nearly 38% remained identical, a little more than half were recomposed, around 5% were divided, and 3% were new households, without great differences according to levels of wealth.

These results confirm the socio-economic differences found in other studies associated to differences in access to social resources and services, perceptions and attitudes regarding family and the value of children (Flórez, 1990; Flórez 2000; Ordóñez, 1990).

Table 2.4.

Demographic characteristics of households in 2010, according to the dynamic between 2010 and 2013, by area.

Household characteristics in 2010	Urban				Rural Micro-Regions			
	Identical house-holds	Recom-posed households	Divided house-holds	New house-holds	Identical house-holds	Recom-posed households	Divided house-holds	New house-holds
Average number of people per household	3,6	4,5	4,3	6,1	4,2	5,1	4,6	7,8
Distribution according to type of household (%)								
Family households								
Nuclear	76,8	49,7	71,8	26,0	68,4	47,0	55,2	16,7
Extended	23,2	50,1	28,2	74,0	31,6	53,0	44,8	83,3
Total Households	100	100	100	100	100	100	100	100
Household head								
% Two-parent house-holds	70,9	57,9	94,0	64,6	81,1	75,8	83,6	80,4
% Female Household head	29,8	42,6	40,7	33,2	15,7	20,1	30,8	5,5
Average age of head	44,0	44,0	42,3	39,7	45,4	46,3	44,0	40,0

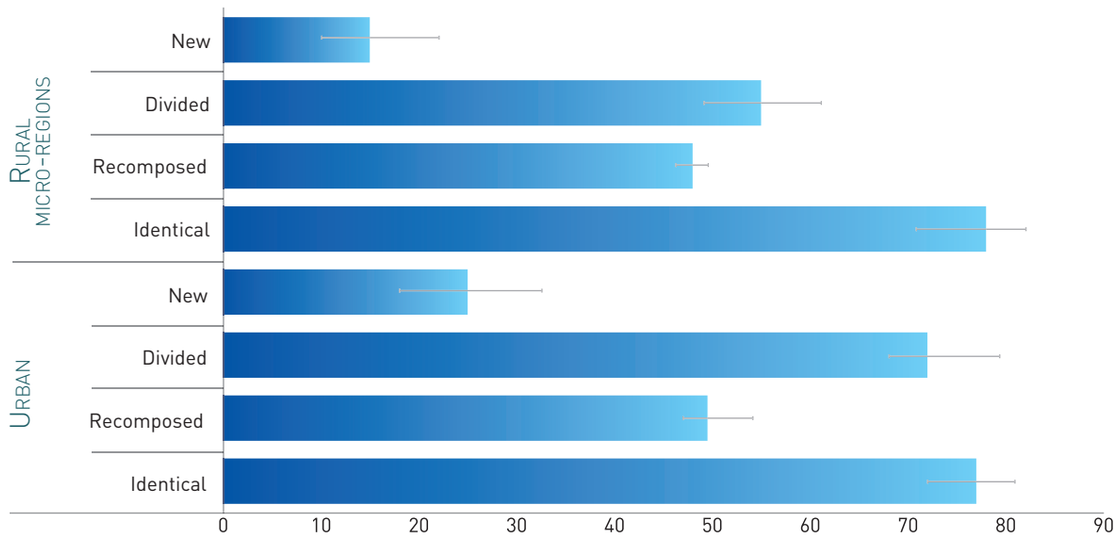
Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the households that migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

The results presented up to now show evidence of a great dynamism in the composition of households between 2010 and 2013, with differences by area, region and socio-economic level. However, beyond merely identifying the dynamic, it is also of interest to identify the characteristics of the households according to the dynamic each of them experiences. For example, how different are the households that remain the same from those that divide or recompose? Table 2.4 presents the demographic characteristics of the households in 2010, according to the dynamic they experienced between 2010 and 2013. Figure 2.4 shows the percentage of nuclear households in accordance with the household dynamics.

Figure 2.4.

Nuclear households in 2010, according to household dynamics between 2010 and 2013, by area (percentage of nuclear households).



Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the households that migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Table 2.4 indicates that, in both urban and rural areas, the households that remained identical were mainly smaller, nuclear, two-parent households with a male household head, and with household heads with the greatest average age. The divided households, even though also generally smaller in size, nuclear and two-parent, presented higher rates of female household heads. On the other hand, recomposed households were larger in size, nuclear or extended, without other differences but with a tendency to have female household heads; whereas the new households were the largest in size, mainly extended, with female heads in the urban area, and male in the rural and with heads who were on average, younger.

Figure 2.4 clearly shows that, in both rural and urban areas, the most common type of households to remain identical were nuclear, whereas the least common were new households. A high prevalence of nuclear households and of two-parent households among those that remained identical is observed in all the regions (Figures and Tables 2.5): at least 65% of the identical households were nuclear and at least 62% were two-parent households, regardless of the area or region.

Table 2.5.

Demographic characteristics of the households that remained identical between 2010 and 2013, by region and area.

Household characteristics in 2010	Urban					Rural micro-regions			
	Atlantic	Eastern	Central	Pacific	Bogotá	Mid-Atlantic	Cundi-boyacá	Coffee region	Center-East
Average # of people/ households	4,2	3,8	3,6	3,6	3,5	4,6	4,1	3,8	3,9
Distribution according to type of household (%)									
Family household									
Nuclear	70,6	69,6	71,5	73,1	88,8	68,5	64,4	80,1	64,6
Extended	29,4	30,4	28,5	26,9	11,2	31,5	35,6	19,9	35,4
Total household	100	100	100	100	100	100	100	100	100
Household head									
% Two-parent household	74,2	62,5	66,5	69,4	78,6	88,2	72,1	90,5	73,9
% Female household head	30,3	38,6	32,7	31,9	23,0	12,7	21,9	6,2	20,0

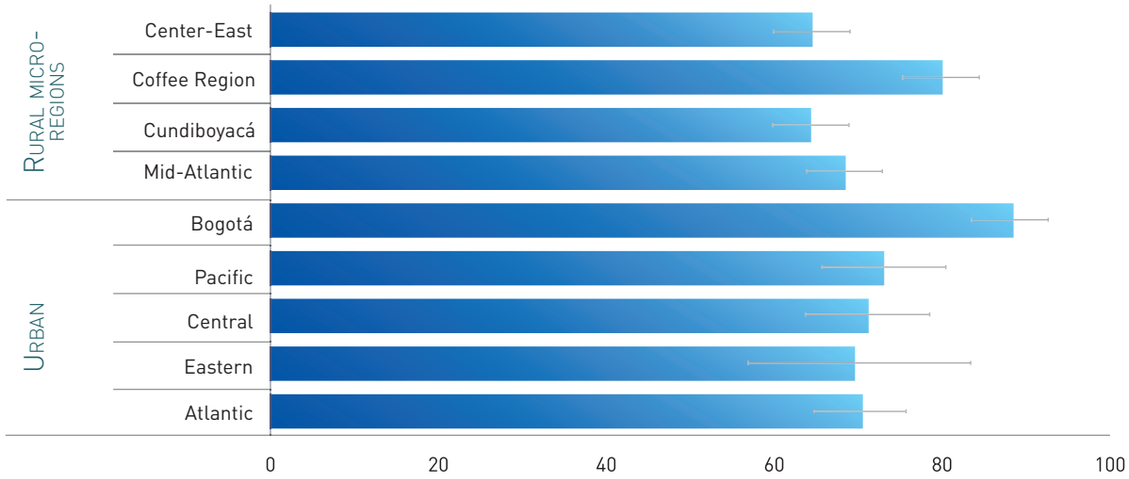
Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the households that migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Furthermore, households that were re-composed or divided underwent great transformations, both in structure and in terms of the household head. Only 58.2% of the urban nuclear households and 62.5% of rural nuclear households that were re-composed or divided remained nuclear. Nearly 25% of the rural and 31% of the urban extended households became nuclear units; a little over a third part of the urban and rural nuclear households turned into extended households; and some of them (between 3% and 5%) became single-person households (see Table 2.6). At the same time, 82% of the urban two-parent households and nearly 90% of the rural ones remained two-parent, whereas between 20% and 23.5% of the single-parent households turned into two-parent ones (see Table 2.7). This means that between a fifth and a quarter of the recomposed or divided single-parent households turned into two-parent households. In contrast, nearly 98% of these urban and rural households kept their male household head.

Figure 2.5.

Nuclear households, which remained identical between 2010 and 2013, by region and area (percentage of households).



Source: Author's calculations based on ELCA 2010 and 2013

This excludes the households that migrated between areas in the 2010-2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Table 2.6.

Changes in the typology of recomposed or divided households between 2010 and 2013 (percentage of households).

Household typology in 2010	Urban				Rural Micro-Regions			
	Household typology 2013				Household typology 2013			
	Nuclear	Extended	Single-parent	Total	Nuclear	Extended	Single-parent	Total
Nuclear	58,2	37,6	4,1	100	62,5	33,6	4,0	100
	30,8	63,6	5,6	100	24,8	72,3	3,0	100

Source: Author's calculations based on based on ELCA 2010 and 2013

This excludes the households that migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Table 2.7.

Changes regarding the heads of households that recomposed or divided between 2010 and 2013, by area (percentage of households).

Household typology 2010	Urban			Rural micro-regions		
	Household typology 2013			Household typology 2013		
	Single-parent	Two-parent	Total	Single-parent	Two-parent	Total
Nuclear	79,95	20,1	100	76,6	23,5	100
Extended	17,5	82,5	100	10,2	89,8	100
Gender of household head 2010	Gender of household head 2013			Gender of household head 2013		
	Male	Female	Total	Male	Female	total
Male	97,6	2,4	100	97,7	2,3	100
Female	8,4	91,6	100	11,6	88,5	100

Source: Author's calculations based on ELCA 2010 and 2013

This excludes households that migrated between areas in the 2010–2013 period. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East regions.

The demographic dynamic of the households, their permanence or recomposition, can also be related to the occurrence of shocks. Table 2.8 shows the percentage of households that experienced some kind of important shock,[10] depending on whether the household remained identical or was recomposed between 2010 and 2013. The results suggest that, in both urban and rural areas, households that recomposed had a tendency to experience a greater incidence of shocks —with the exception of violence shocks— but with a notable difference in that they experienced many more important family shocks. Secondly, they also experienced health shocks more intensely, followed by important work shocks, especially in the urban areas. The recomposition was probably the result of some form or other of shock, but here, we will only observe the relationship that exists between the shock and the household dynamic. Analyzing the causality goes beyond the scope of this chapter.

10. An important shock is an event which had a medium to high-level effect on the households' economic stability. Production shocks refer to bankruptcy, loss of crops, loss or death of livestock. Family shocks refer to death, separation or the arrival of people to the household.

Table 2.8.
Households that experienced shocks between 2010 and 2013, according to the household demographic, by type of event, and area (percentage of households).

Household characteristics in 2010	Urban		Rural Micro-Regions	
	Households which remained the same	Households which were recomposed	Households which remained the same	Households which were recomposed
Violence shock	1,3	0,9	0,7	0,6
Natural disaster	3,9	5,0	13,1	15,6
Health shock	15,0	22,1	21,7	23,2
Family shock	4,2	11,7	2,2	10,3
Employment shock	19,5	21,3	7,9	8,2
Production shock	3,2	3,3	35,3	35,2
Household/Asset shock	7,0	9,5	8,8	9,4

Source: Authors' calculations based on ELCA 2010 and 2013

This excludes households that migrated between areas in the 2010–2013 period, and divided and new households that received new members to follow. It captures households that, over the three years, experienced shock in the household, which had a medium to high effect on their economic stability. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East regions.

2.3. The spatial dynamic

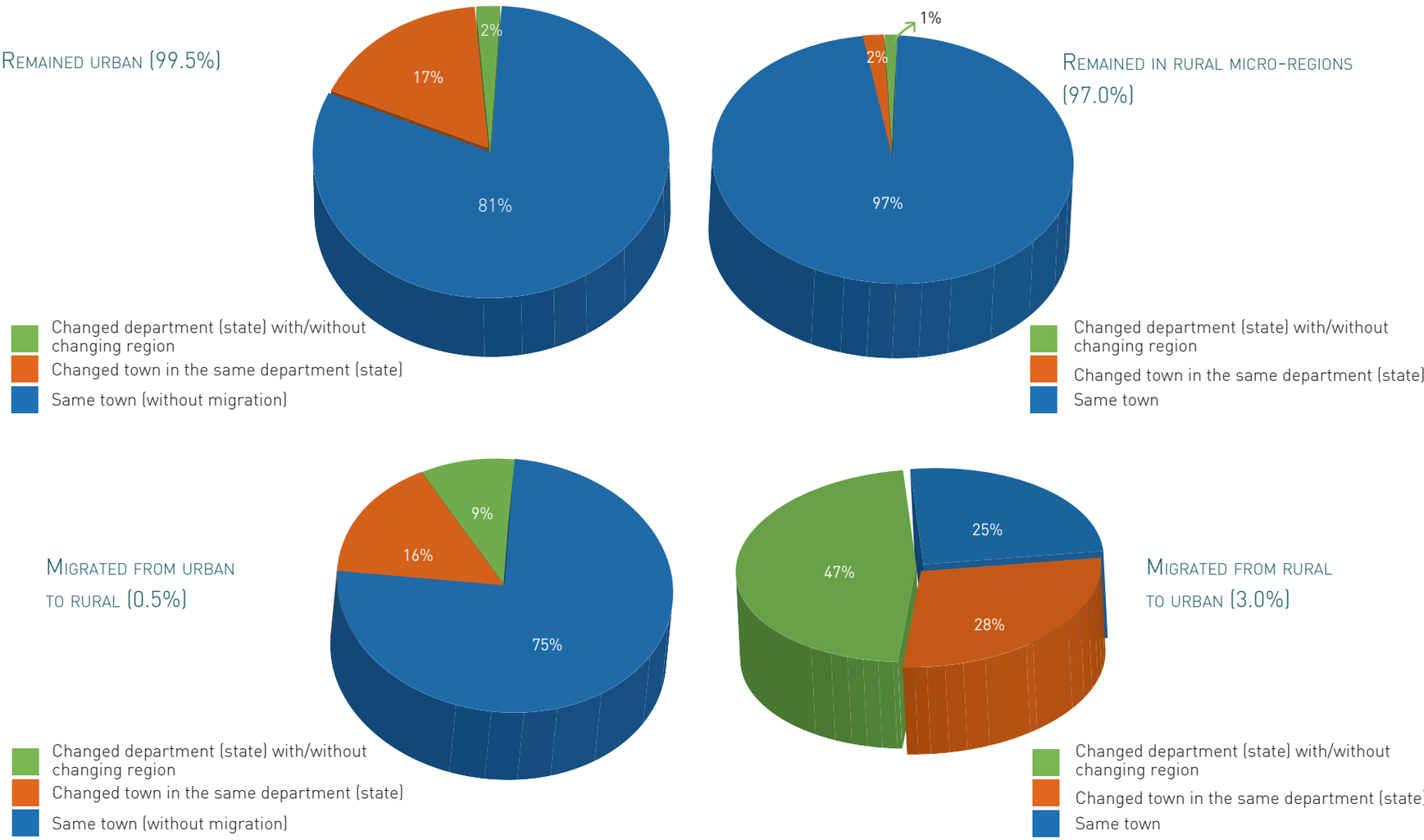
The study of households over time allows us to examine the spatial mobility experienced by the households as well the demographic dynamic. Given that ELCA follows the households over time even when they change areas or towns, it can identify short and long-distance migrations. Nevertheless, given the rules set forth in the ELCA study regarding space,[11] it is possible that long-distance migrations are at times underestimated. Figure 2.6 presents the distribution of original households in accordance with their migratory activities between 2010 and 2013.

→ Family disputes led Blanca Rincón to live with her daughter Carmen and her granddaughter, Antonia. In 2010 (the lower picture), she lived in her own house, in Villa Hermosa (Medellín).

11. ELCA follows the households if they move to a town which is part of the study of the survey sample or if they move to a town which is not a part of the initial study but is on the way between two towns included in the sample and is located in a radius not greater than one hour in the most common mode of transport. In practice, on occasion, the effort put in to survey a household implied going even further away. Despite this, it is possible that households, which move large distances, are more likely to be lost from the sample.

Figure 2.6.

Migration patterns of the original households by area between 2010 and 2013 (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

This excludes the divided and new households that received new members to follow. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Firstly, we can observe that rural to urban household migration took place (3%), whereas the households in the urban area remained almost entirely in the urban area (99.5%). Therefore, there is evidence of rural-urban migration but urban-rural migration was practically inexistent.

Secondly, the intra-area migration was greater in urban areas than in rural ones: 81% of households that remained in the urban area stayed in the same town, while 97% of those which remained in the rural area also stayed in the same town. These results indicate that urban-urban migration was greater than rural-rural migration.

Thirdly, in both urban and rural areas, the intra-area migration was mainly short distance, whereby people changed towns but stayed in the same department. Thus, of the urban households that remained in the urban area, 17% moved to another town within the same department, while only 2% changed departments, within or outside the same region. In the rural area, the percentage of households which remained in the rural area but spatially moved were even fewer, with 2% changing towns within the same department and only 1% changing department. These results suggest that migration within the same area was mainly short distance (intra-departmental) and less long distance (inter-departmental).

Additionally, the mobility pattern was quite different for households that changed area. Almost half (47%) of the households that migrated from the rural area to the urban area changed department, whereas 28% changed towns but stayed within the same department, 25% migrated within the same department and 9% changed departments.[12] This suggests that rural-urban migration was more long distance and urban-rural migration had a tendency to be mainly short distance. All of these results on migratory patterns are consistent with previous studies on the topic based on population censuses (Martínez and Rincón, 1997; Martínez, 2006).

→ Lizeth Quevedo, 24, left her childhood home to move in with Esnoraldo López, 54. They live with her son from a previous relationship.

To be able to evaluate the possible relationship between migration and the recomposition of households, Table 2.9 shows the migratory conditions of the households according to whether they remained the same or recomposed. The results do not provide evidence that there is an important relationship. Migration appears to be equally important in both types of households.

12. These values must be taken with caution given the low number of cases of migration between areas: urban-rural and rural-urban.

Table 2.9.

Migratory conditions of the original households, according to the demographic dynamic between 2010 and 2013, by area (percentage of households).

Demographic household dynamic	Urban 2010			Rural Micro-Regions 2010		
	Non-migratory	Migratory	Total	Non-migratory	Migratory	Total
Intra-area migration						
Original household that remain identical	81,1	18,9	100	96,9	3,1	100
Original households that are recomposed	81,1	18,9	100	97,2	2,8	100
Migration between areas						
Original household which remain identical	99,8	0,2	100	97,9	2,1	100
Original household are recomposed	99,3	0,7	100	96,3	3,7	100

Source: Authors' calculations based on ELCA 2010 and 2013

Excludes divided and new households that received new members to follow. The intra-area migration refers to town or department changes within the same area. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East regions.

The ELCA analyzes whether there is any kind of relationship between migration and the occurrence of any event that affected the households' economic stability between 2010 and 2013. Table 2.10 shows the percentage of households that experienced some important shock, depending on whether the household migrated or not, during the period.[13] The results indicate that extreme violent, employment and assets shocks are associated to migration in the rural area, and the prevalence of these types of shock were significantly greater among migrants (intra and inter-area) than non-migrants. In contrast, important disaster and production shocks in the rural area were far greater among non-migrants than migrants (intra and inter-area). It would appear that disaster and production shocks inhibit migration —in and out of— rural areas, whereas violent, employment and asset shocks motivate it.

13. For intra-area migration, the urban-rural migration results are excluded due to the low number of cases.

In the urban area, on the other hand, the differences in terms of the presence of shocks between intra-area migrants and non-migrants are not as notable as in the rural area. Important differences can be observed between intra-area migrants and non-migrants only in the prevalence of important employment shocks, suggesting that this type of shock motivates urban-urban migration.

→ In 2014, only four people lived in the García-Segura household. Jeniffer, Carlos and Delfina's eldest daughter moved out with her son, Felipe.

Table 2.10.

Households that experienced shock between 2010 and 2013, according to their migratory condition, by type of event, and area (percentage of households).

Type of shock	Intra-area migration				Inter-area migration	
	Urban		Rural micro-regions		Rural micro-regions	
	Non-migrant	Migrant	Non-migrant	Migrant	Non-migrant	Migrant
Violence shock	1,1	1,1	0,5	4,3	0,6	5,2
Natural Disaster	4,5	4,4	14,9	3,5	14,6	3,5
Health shock	19,7	15,2	22,5	24,7	22,6	23,4
Family shock	8,5	7,6	6,8	10,8	6,9	7,2
Employment shock	19,2	25,9	7,7	20,9	8,0	30,3
Production shock	3,3	2,7	36,0	11,5	35,3	2,2
Household/asset shock	8,1	9,7	9,0	15,8	9,2	25,1

Source: Authors' calculations based on ELCA 2010 and 2013

Excludes divided and new households that received new members to follow. Intra-area migration refers to town or department changes within the same area. The urban-rural migration is also excluded due to the low number of cases. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East regions.

2.4. Conclusions

ELCA is the first longitudinal survey through which we can confirm for Colombia what other longitudinal studies have evidenced in other countries. Cross-sectional surveys do not reveal the transformations that households undergo over time. ELCA, however, provides evidence of the intense demographic dynamic experienced by the urban and rural households between 2010 and 2013 whereby less than half of the households maintained their structure, heads, and size, while the rest were divided or recomposed.

The demographic dynamic of the households presents differences by areas, regions and levels of wealth. The dynamic is more intense in the lower wealth levels than in the higher ones and is more intense in the rural area than in the urban. However, it is more heterogeneous among regions and levels of wealth in the urban area than in the rural area. This means that the demographic dynamic of the households is more intense, but also more homogenous in the rural area than in the urban one.

The characteristics of the households by their demographic dynamic suggest a relationship between the structure of the household and its dynamic over time. The households in which there is only a nuclear family with both parents present tend to be less dynamic (they remain the same over time) than the extended or single-parent households. This may be because the former have greater resources to deal with shocks or events such as migration or because they are more consolidated households (older household head, for example). A direct relationship between the recomposition of the household and the prevalence of shocks can be observed; that is, households that have experienced shocks, especially of the family type, tend to recompose.

The results of the households' spatial mobility show an important rural-urban migration, which was almost inexistent the other way around. We can see that inter-area migration is more likely to be long-distance, while intra-area migration is more likely to be short distance. We can also see that rural-urban migration is long distance while urban-rural migration is short distance, and that there is a greater percentage of urban-urban migration than rural-rural migration. The results also indicate that the spatial mobility of the households, especially of the rural households, seems to be associated with the presence of events which economically destabilize the household, particularly events related to violence, employment and household assets. Likewise, urban-urban migration can be associated with difficult employment-related shocks.

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→ In December 2010, the winter spell caused a geological fault that destroyed Gramalote. Today, more than 900 families that were forced to leave are awaiting the new construction of the town in the Miraflores district. The rebuilding project will cost approximately COP$163.000.000.000.


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→ The sisters, Carmen, Luz Stella and Elva Marina Santander (in the photo from left to right), are leaders of the Gramalote readaptation project.

Chapter 3
Vulnerability to shocks and response mechanisms

Ximena Cadena*
Claudia Quintero

→ From 2010 to 2014, the life of Carmen Cecilia Santander changed: now she has María Natalia, her two year-old daughter and she is a social worker of the new Gramalote.

* We would like to thank Ana María Ibáñez for her comments.

→ 3.1. Introduction

To really understand the dynamics of poverty, it is essential to identify and understand the shocks to which families are exposed, the factors that make them vulnerable, as well as the risks they face and their recovery strategies. Understanding such factors also helps to formulate relevant public policy to prevent and mitigate the risks that households in Colombia are subject to. Shocks, as denoted by the economics literature, are events that can happen to members of a household and which have the potential —depending on their available mitigation strategies— to affect their income generation abilities or cash flows. For example, the loss of employment or illness of a member of the household may frequently require action to replace the lost income or to cover additional expenses, all of which can affect the general well-being of the household. Other shocks such as violence or natural disasters can deteriorate household assets and require investment in reconstruction and protection to avoid future damage.

In this chapter, we describe the main destabilizing events that affected Colombian households between 2010 and 2013. Based on the longitudinal data, we analyze the factors that influenced the families' vulnerability as well as their response and recovery capabilities.

Different mechanisms can be used to manage risk and respond to destabilizing events. Some involve recurring to networks and social ties in the community (relatives and friends) as a source of aid at difficult times. Others have to do with using the financial and labor markets to cushion the effects of the shocks. There are also a number of government programs, such as insurance mechanisms, which offer support to families in conditions of vulnerability. In other cases, the response possibilities are minimal and the effects on well-being are evident, even in the long term. In this chapter, we describe the main destabilizing events that affected Colombian households between 2010 and 2013. Based on the longitudinal data, we analyze the factors that influenced the families' vulnerability as well as their response and recovery capabilities. We also look at the effects of such shocks on the households' well-being and the mechanisms they used to respond to such events. Finally, we offer some policy recommendations.

3.2. Adverse events affecting households between 2010 and 2013

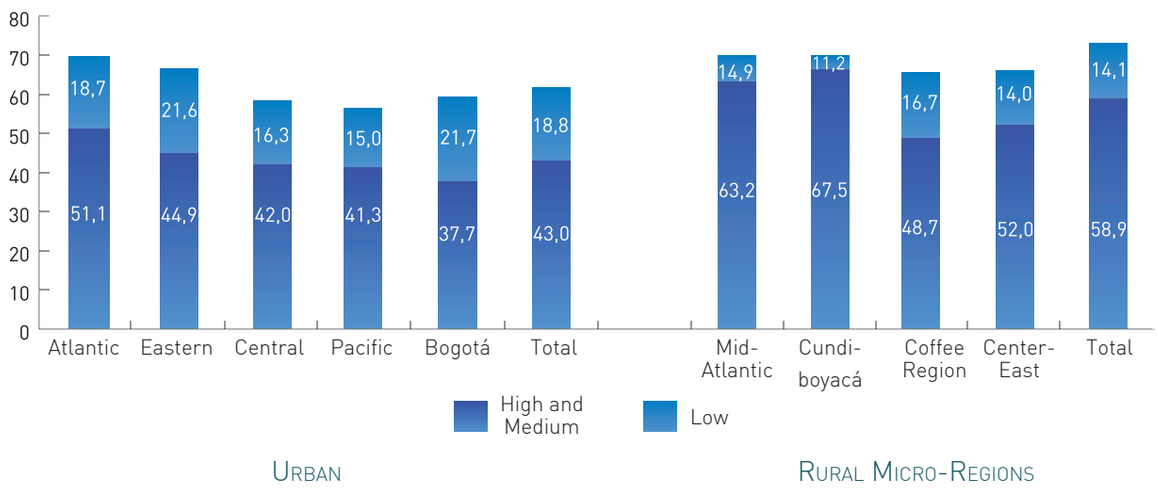
The questionnaire includes a specific chapter on household shocks that summarizes the events that the households may have been subject to during the three years between the two ELCA visits (2010 and 2013). The questions help reveal the economic impact of these events and the measures taken by the households to overcome them. This module captures information regarding a list of fifteen adverse events for all households over the three years. Given the agricultural and livestock activities the households are engaged in, two additional questions —related to the loss of crops or animals— are included for the rural area. In this analysis, a classification system is used to characterize the shocks experienced by the Colombian households between 2010 and 2013. The Appendix to this chapter presents an in-depth description of each event, its impact and the category to which it is assigned. In total, 61.7% of the urban households and 73.0% of the rural households reported having experienced at least one destabilizing event in the household over the three years. In particular, 42.9% and 58.9% of the urban and rural households (respectively) considered that at least one of the events they suffered ranked as having a high or medium impact on the economic stability of the household.[1]

Figure 3.1 shows the percentage of households that reported regional level shocks for the ELCA urban and rural samples (four micro-regions). The darker bars represent shocks with a medium to high impact on the households' economic stability and the lighter bars indicate shocks with a lesser impact. There are notable differences by regions and by levels of wealth. The Atlantic region in the urban sample and the mid-Atlantic and Cundiboyacá regions in the rural area appear to present greater impacts of shocks.

1. We will henceforth refer to considerably important shocks as those events that the household classifies as having had a medium to high impact (not low) on the economic stability of the household.

Figure 3.1.

Households that experienced shocks over the three years and economic impact by region (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

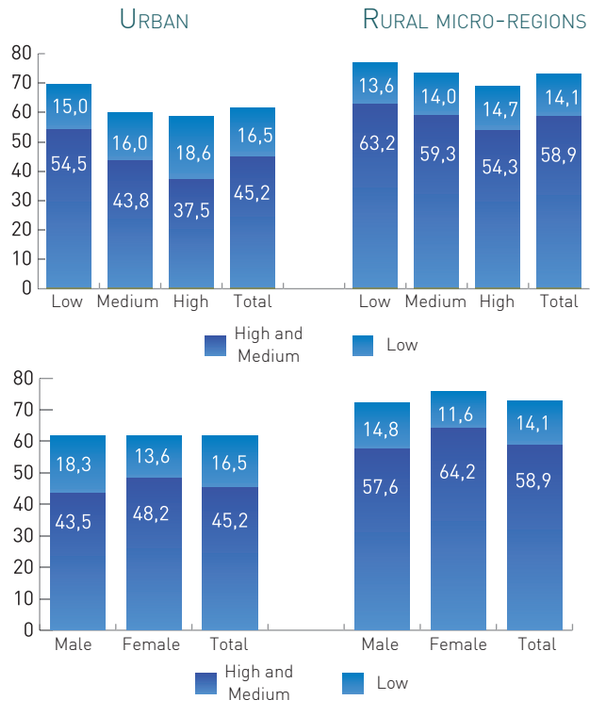
Households that experienced at least one destabilizing event over the three years. The dark bar shows the households that experienced a shock with a medium to high economic impact. The clear bar shows those which experienced a shock with low economic impact. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

→ Chinú, Córdoba. The hardest trial in the life of Ms. Inés María Álvarez was the death of her only son, four years ago. She has seven daughters.

Figure 3.2 shows the occurrence of shocks by levels of wealth and gender of the household head. In both areas, there are significant differences in the occurrence of shocks (cumulative total for dark and light bars) and shocks with a considerable impact (dark bars), between the high and low levels, according to the wealth index. These differences are more noticeable in the urban area. In terms of the gender of the household head, this does not appear to significantly affect the probability of experiencing shocks in the urban area, whereas the households with female heads in the rural area report a greater incidence of high impact shocks (dark bar).

Figure 3.2.

Households which experienced shocks over the three years and economic impact by level of wealth and gender of the household head (percentage of households).



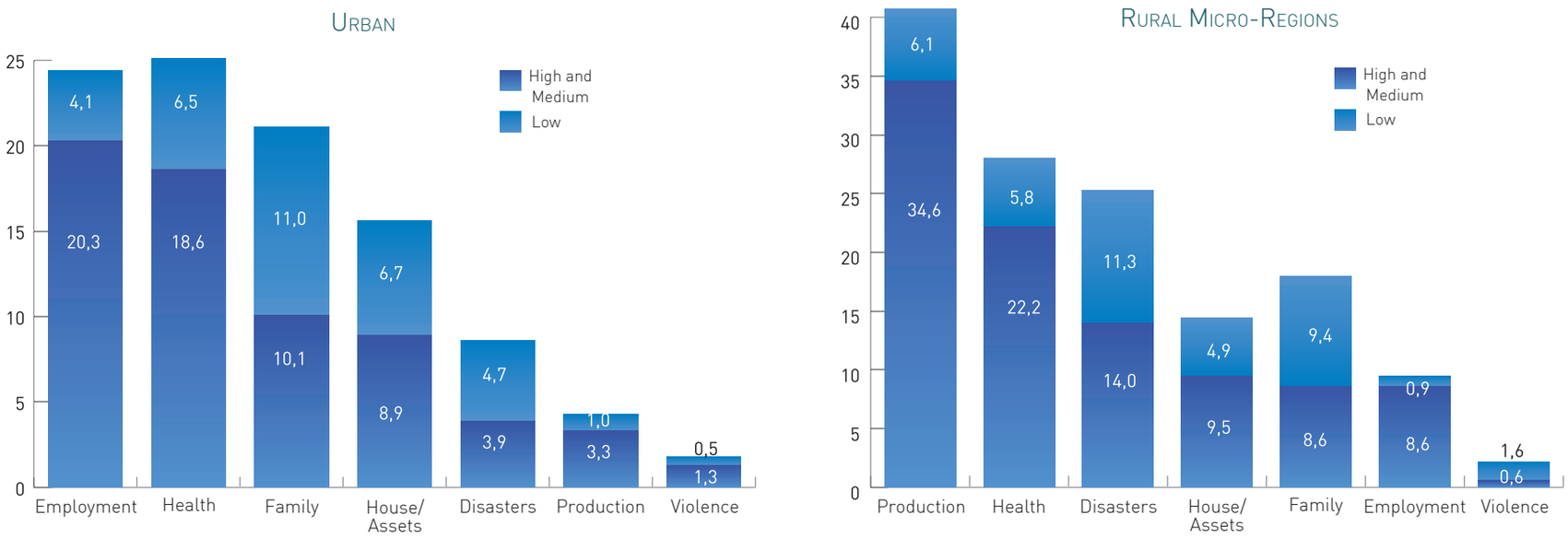
Source: Authors' calculations based on ELCA 2010 and 2013

Households that experienced at least one destabilizing event over the three years. The dark bar shows the households that experienced a shock with a medium to high economic impact. The clear bar shows those which experienced a shock with low economic impact. The level of wealth corresponds to the third part of a continuous wealth index, based on durable assets and the households' access to public services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

A household can be affected by different types of shock. The most common and significant in both urban and rural areas are those events that affect the household's ability to generate income. In the urban area, this includes loss of employment by the household head or spouse or any other member of the household (24.4 in total and 20.3% with considerable impact). In the rural area, these are associated with livestock and production shocks and include plagues or loss of crops or livestock, and bankruptcy of the family businesses (40.1% in total and 34.6% with considerable impact). In second place are health shocks. These occur when a member of the household has an accident or suffers an illness which impedes her/him from carrying out her/his daily activities. This may bring economic implications for the household when the person stops working or receiving important income for the sustainability of the household. Or, in the case that a child in the household falls ill, some adult in the household will have to dedicate time to taking care of the sick child. Additionally, the expenses associated with medical attention and medicine may require additional funds or cut-backs on other expenses. The other types of shock differ in relative importance in the urban and rural areas. While natural disasters (floods, avalanches, landslides, overflows, gale winds, tremors and earthquakes) affected a large proportion of the rural households (25.3% total and 14.0% with a medium to high impact in the rural area, and 8.5% and 3.9% in the urban area respectively); family shocks (death, separation or the arrival of new members of the household) or house and asset shocks (change of residence or loss of assets) were more common in the urban area. Figure 3.3 shows the percentage of households that reported at least one shock of each type and the corresponding level of impact in the rural and urban areas.

Figure 3.3.

Households which experienced shocks over the three years and economic impact by type of event (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

Households that experienced at least one destabilizing event over the three years. The dark bar shows the households that experienced a shock with a medium to high economic impact. The clear bar shows those which experienced a shock with low economic impact. The events were classified into the categories shown in the figure. For more details on the content, see Appendix 1. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

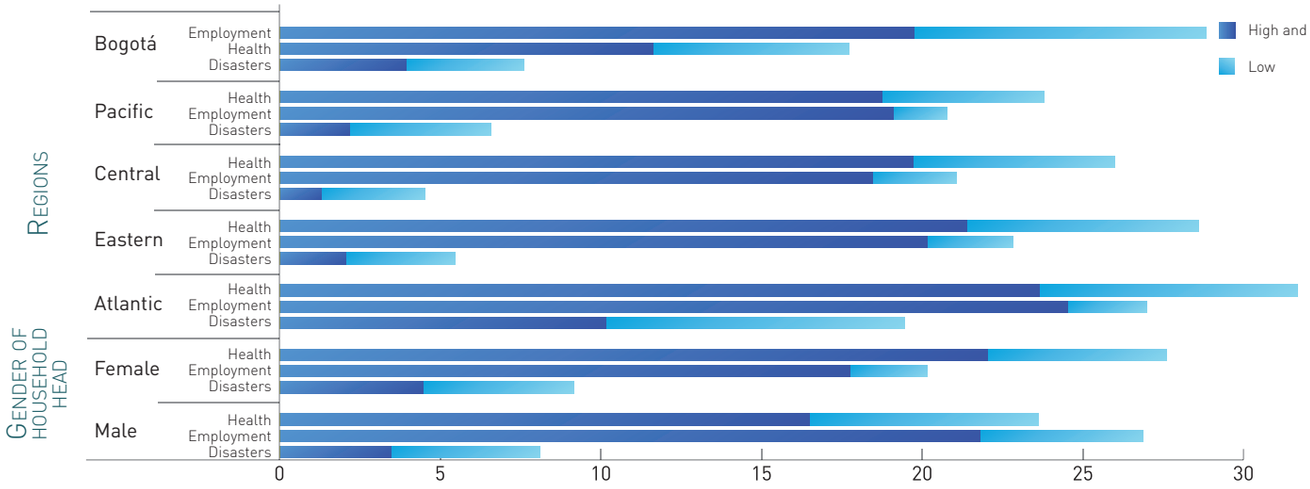
A number of regional and socioeconomic characteristics can influence the households' level of vulnerability when faced with certain types of events. For households in Bogotá, for example, employment shocks are particularly important. They occur with greater frequency and affect the economic stability of the household more significantly than any other type of shock. In other urban regions, in contrast, health shocks seem to be as prevalent and important as employment shocks. Also, in the Eastern and Central Regions, a greater proportion of households report health shocks, with medium to high economic impacts, than they do employment shocks with the same intensity. The Atlantic region presents the greatest percentage of households reporting employment, health, and disaster shocks for any level of intensity (see Figure 3.4).

Figure 3.4 details the percentage of households that experienced employment, health, and disaster shocks in the urban area in accordance with the gender of the household head. The households with female heads reported a greater proportion of health shocks (27.6% total and 22.0% with considerable impact), whereas households with male heads report having experienced more employment shocks. Natural disasters do not appear to have affected households with male or female heads in a distinctive manner.

Although the ELCA rural sample households showed no evidence of significant differences in the incidence of shocks by level of wealth or by the gender of the household head, there are, nevertheless, regional contrasts. The greatest proportion of production shocks occurred in the Cundiboyacá Region (50.5% total and 44.7% with considerable impact), followed by the mid-Atlantic and Center-East regions (nearly 35% with medium-high impact). Households in the Coffee Region reported production shocks in a significantly lower proportion; in fact, the region was most affected by health shocks than production shocks (see Figure 3.5).

Figure 3.4.

Urban households that experienced shocks over the three years by type of event, region and gender of household head (percentage of households).

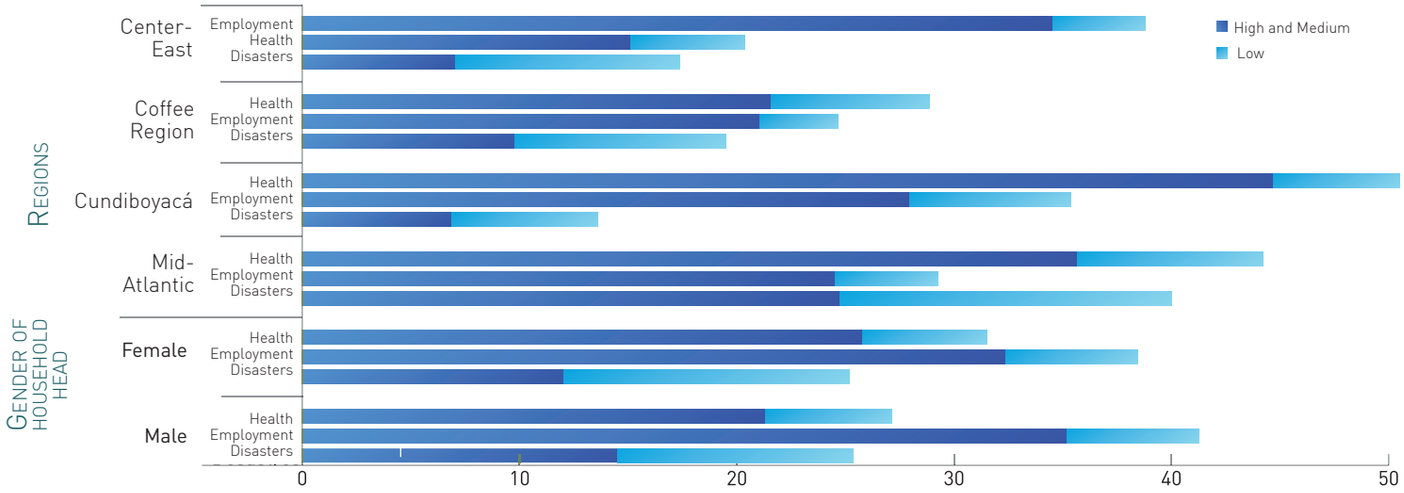


Households that experienced at least one destabilizing event over the three years. The dark bar shows the households that experienced a shock with a medium to high economic impact. The clear bar shows those which experienced a shock with low economic impact. The events were classified into the categories shown in the figure. For more details on the content, see Appendix 1.

Source: Authors' calculations based on ELCA 2010 and 2013

Figure 3.5.

Rural households that experienced shocks over the three years by type of event, region and gender of household head (percentage of households).



Households that experienced at least one destabilizing event over the three years. The dark bar shows the households that experienced a shock with a medium to high economic impact. The clear bar shows those which experienced a shock with low economic impact. The events were classified into the categories shown in the figure. For more details on the content, see Appendix 1. The rural sample is only representative for the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Source: Authors' calculations based on ELCA 2010 and 2013

3.2.1. Natural disasters

During the second semester of 2010, a short time after completing the data collection for the first wave of ELCA, Colombia experienced a period of high rainfall known worldwide as the phenomenon of La Niña. These rains caused floods, rivers overflowing and other natural disasters in different parts of the country. For example, Gramalote, a town located in Norte de Santander —included in the ELCA urban sample— was destroyed by an avalanche which caused a landslide near Cerro de la Cruz. The impact of the disaster was such that Colombia was declared by German Watch as the third most significantly affected country in the world by weather-related disasters (Harmeling, 2012). In 2011, the winter spell caused new damage and droughts.

To understand the dimensions of these extreme climatic events and the natural disasters they caused, questions were included in the ELCA questionnaire in order to investigate the degree to which they affected households, their dwellings and communities. The questions also inquired about the governmental aid programs and other sources of support that were used during the emergencies.

The main natural disasters that affected the ELCA households over the three years were floods, affecting rural and urban households to the same degree (10%) and gale winds (14%), particularly in the rural areas. These disasters occurred with greater intensity in the urban areas of the Atlantic Region where 21.3% of households reported having experienced floods and 6.8% reported damage as a consequence of gale winds. In the rural area, the mid-Atlantic region was also characterized by high impact levels, and strong winds were also frequent in the Coffee and the Center-East regions.

In many cases, these natural disasters caused total (5.5% urban and 6.6% rural) or partial (53.4% urban and 66.3% rural) destruction of the homes, which then required improvement or repair. In fact, natural disasters forced nearly 15% of those affected in both areas to move. Fourteen percent of the urban and rural households that experienced some kind of disaster reported that the water source or service was partially or totally destroyed. In particular, Bogotá stands out due to the destruction of its water and sewage systems and for requiring home reparation assistance.

→ Cereté (Córdoba). José Miguel Petro has COPD (Lung Disease), which has made him slow down. He used to breed fighting roosters.

According to reports filed by the households, the government and other entities' response to the emergency was weak. Even though *Colombia Humanitaria's* management reports show investments of nearly COP$5.3 billion, with a high component of social accompaniment through the provision of food, other goods and shelter solutions, according to the information gathered by ELCA, only 10.3% of the households affected by natural disasters in the urban area and 5.3% in the rural area reported having received aid from natural disaster programs in 2012 (see Table 3.1). In the urban area, the support was mostly concentrated in Bogotá (34.9% of those affected received some type of aid from the government) where people were provided with health brigades, tax aid, money (cash), groceries, clothes and household articles. Despite having been strongly affected, the aid reported as having been provided by the government and organizations in the rural area was much less. The most outstanding programs included the health brigades. However, some households benefitted from Red Unidos and, particularly in the Coffee Region, people benefitted from credit waivers. Groceries and goods for the household were provided mostly in the mid-Atlantic region, while home repair assistance was more concentrated in the Coffee Region.

Table 3.1.
Households that benefitted from natural disaster aid programs (percentage of affected households).

Urban		Rural Micro-Regions	
Atlantic	5,74	Mid-Atlantic	5,19
Eastern	1,81	Cundiboyacá	3,91
Central	0	Coffee Region	10,13
Pacific	0	Center-East	3,56
Bogotá	34,95		
Total	10,31	Total	5,36

Source: Authors' calculations based on ELCA 2010 and 2013

Households that received or benefitted from some natural disaster assistance program or aid during 2012. This is calculated over the total number of affected households. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

3.3. Vulnerability to shocks

The shocks that a household suffers can be reflected in its subsequent socio-economic conditions. For example, the follow-up survey after the event can show that family shocks can generate a recomposition of the household in terms of number of members and heads. Similarly, a household's prior conditions can determine the probability of the event occurring and, more concretely, the level of economic impact that the shock may cause. In this section, the longitudinal information collected through ELCA is used to study the vulnerability of the households. To do this, the conditions reported in 2010 (before the shock) are used to study how they affect the probability of experiencing shocks of considerable impact between the two waves of the study.

→ With the milk from her two cows, Lucrecia Martínez (Puente Nacional) makes a curd cheese that she sells for 7 thousand pesos. This is her only fixed income.

The households' capacity to prepare for shocks can affect the possibility of them occurring and, in case they do, determine their economic impact, the response mechanisms, and recovery capacity. Lack of preparedness when faced with risk can begin a vicious cycle, which results in greater future vulnerability and less resilience. In fact, the households that, in ELCA 2010, reported having suffered adverse effects over the previous twelve months were more likely to report shocks occurring between the two ELCA waves with medium or high impacts on the economic stability of the household in ELCA 2013. Figure 3.6 presents the percentage of households that reported medium to high level shocks in 2013 by type of event. The red bars indicate the proportion of households that also reported shocks in 2010 and the blue indicate those that had not reported adverse events in the last twelve months in 2010.[2] While 39.5% (52.8%) of the urban (rural) households that did not report shocks in 2010, suffered at least one adverse event in 2013, 54.6% (63.1%) of those that reported shocks in 2010, reported them again for the period between ELCA 2010 and ELCA 2013. In the urban areas, the differences between both groups are statistically significant for all types of shock except violence, and in the rural area, for the most important: production and health.

Figure 3.6.

Vulnerability to shocks with medium to high economic impact over time and by area (percentage of households).

Source: Authors' calculations based on ELCA 2010 and 2013

Households that experienced shocks with medium to high economic impact over the three years. The events were classified into the categories shown in the figure. More details on these can be found in Appendix 1. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

2. The baseline questionnaire for 2010 asked about the shocks for the reference period of twelve months. While in 2013, the period of reference was of three years to cover the time span between the two waves.

In 2014, the World Bank, in its World Development Report (WDR, 2014) presented a disaster preparedness index that groups indicators into four categories: human capital, physical and financial assets, social support and State support. Foa (2013) calculates and presents the index for 140 countries. He argues that human capital offers knowledge, skills, and health which allows the flexibility to prepare for and manage risks when they occur; physical and financial assets —savings and credits— can absorb the effects of shocks; State and social support also allow the households to rely on mechanisms of formal and informal support through health insurance, pensions, access to programs and infrastructure or, simply, on the aid that friends and relatives can provide in challenging times.

This reference framework is useful for studying the vulnerability and response capacity of the households when dealing with adverse events. Figure 3.7 presents the percentage of urban households that reported suffering shocks of medium to high impact in 2013, in accordance with their characteristics in 2010. The characteristics associated with human capital include the education level of the household head or spouse (having finished secondary education or having achieved a degree in higher education, be it technical, technological or university), and preventative health measures of the household members (preventative health visits). The probability of those households with higher levels of human capital in 2010 —education and health prevention— suffering shocks was over five percentage points below those that did not complete secondary education or present risky health behaviors.

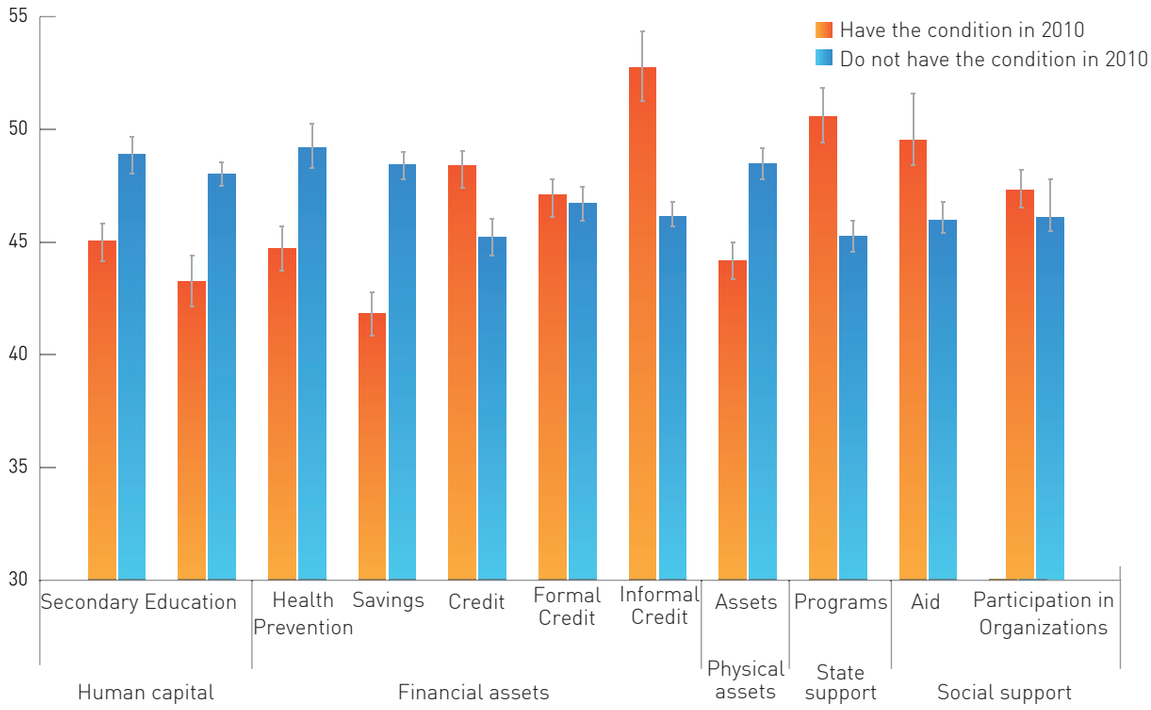
→ The big fruit and vegetables supermarkets lowered local sales in Corabastos and Facatativá for the García Segura family from Bogotá.

There are five indicators of financial and physical assets ownership. The financial assets can be divided into savings and access to credit, which may be formal or informal. The households that saved money in 2010 reported fewer occurrences of shocks between 2010 and 2013 than those that did not (41.8% and 48.4% respectively). Access to informal credit seems to be related with greater vulnerability. Physical assets include motorcycles, cars, houses, lots or machinery and other assets for rent such as rooms, warehouses, garages, etc. and, as with savings, these are associated with a lesser probability of experiencing events which considerably destabilize the household.

State support in the case of households can be identified by their access to governmental programs (Familias en Acción, Training Programs in SENA, ICBF Programs, Red Unidos, aid for displaced people and for natural disasters, among others). This and the aid indicator (receiving aid in money or in kind and contributions from family, friends or institutions) seem to be related with greater levels of vulnerability. Finally, participation in social organizations (head or spouse participates in some social or community organization) as an alternative indicator of social support does not significantly influence the probability of experiencing shocks with considerable economic impact. It is possible that the indicators of social and State support identify households that are particularly poor and vulnerable, which due to their situation receive support from the State, relatives, friends and other organizations, and they experience the effects of shocks more strongly.

Figure 3.7.

Probability of experiencing shocks with medium to high economic impact in accordance with previous characteristics in the urban area (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

Households that experienced shocks with medium to high economic impact over the three years. The information on the characteristics is from 2010. The level of education relates to the household head. The physical assets include motorcycles, cars, houses, lots or machinery and other assets for rent such as rooms, warehouses, garages, etc. Receiving State support is defined as being beneficiaries of some governmental program, and participation in organizations refers to the household head or the spouse participating in some social or community organization. A 95% confidence interval is reported.

The economic effects of the shocks can be determined by their impact, but also by the households' mitigation and recovery strategies.

→ The Palacios Campo household in Barrancabermeja are facing a time of great need. Two of the household members, women heads of household, have a job cleaning pipes.

The index components affect the probability of experiencing distinct types of shock in a differential manner. Health shocks with high impacts on the households' economic stability are more frequent when levels of human capital and physical assets are lower and in those households that received social and State support in 2010. Intense employment shocks affect households which have physical assets and no governmental aid to a lesser extent (around 20% compared with 24% of those that did not have physical assets or State programs in 2010). Human capital and financial assets help reduce the probability of natural disasters, considerably affecting the economic stability of the household.

3.4. Risk-management mechanisms in the households

The economic effects of the shocks can be determined by their impact, but also by the households' mitigation and recovery strategies. Therefore, a household which can resort to its savings or other assets, when an unexpected event reduces its income or increases expenses, is able to deal with the shock and recover much more easily than one that has to engage in actions which directly affect its short, medium and long term well-being such as moving home, reducing food expenses or taking the children out of school.

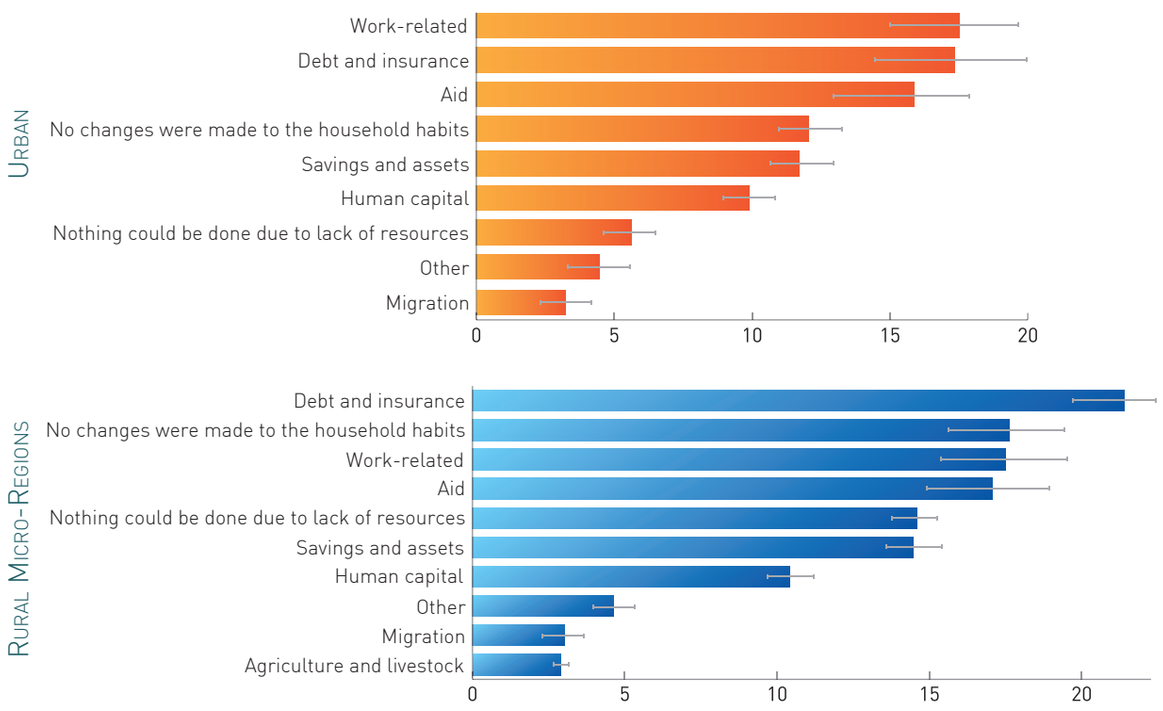
In ELCA 2013, those households that reported medium or high economic impact shocks were asked what the members of the household did to deal with or overcome the problem. The responses are classified into twenty and twenty-two options respectively for urban and rural households grouped into seven categories as shown in Appendix 1.

Figure 3.8 presents the percentage of households that with at least one shock of considerable economic impact used some kind of response mechanism. In the urban area, the most common responses had to do with employment, whereby the members of the household who did not work sought employment and those that already worked increased their working hours (17.5% of the households that suffered some kind of strong shock reported this type of response). Very close to this percentage are households that resorted to going into debt or using insurance (17.4%) or seeking aid from family, friends or institutions (15.9%). In the rural area, the most frequent response is the use of credit —particularly with families or friends— and insurance (21.4%). The responses related to work or aid also stand out (17.5% and 17.1% of the households that experienced shocks, respectively).

Even though they are not the most frequent, it is worth noting other responses reported by the households when faced with shocks. The proportion of households which reported not taking any action to deal with an event with a considerable economic impact is high: 12.1% of urban households and 17.6% of rural ones reported not having to change household habits and 5.6% and 14.6% reported not being able to do anything when faced with the event due to lack of resources or alternatives. It is also significant to note the use of household assets to deal with the effects of these events (11.7% and 14.5% of the urban and rural households, respectively). This includes spending savings or selling or mortgaging some asset, which

Figure 3.8.

Household responses to dealing with shocks by area (percentage of households).

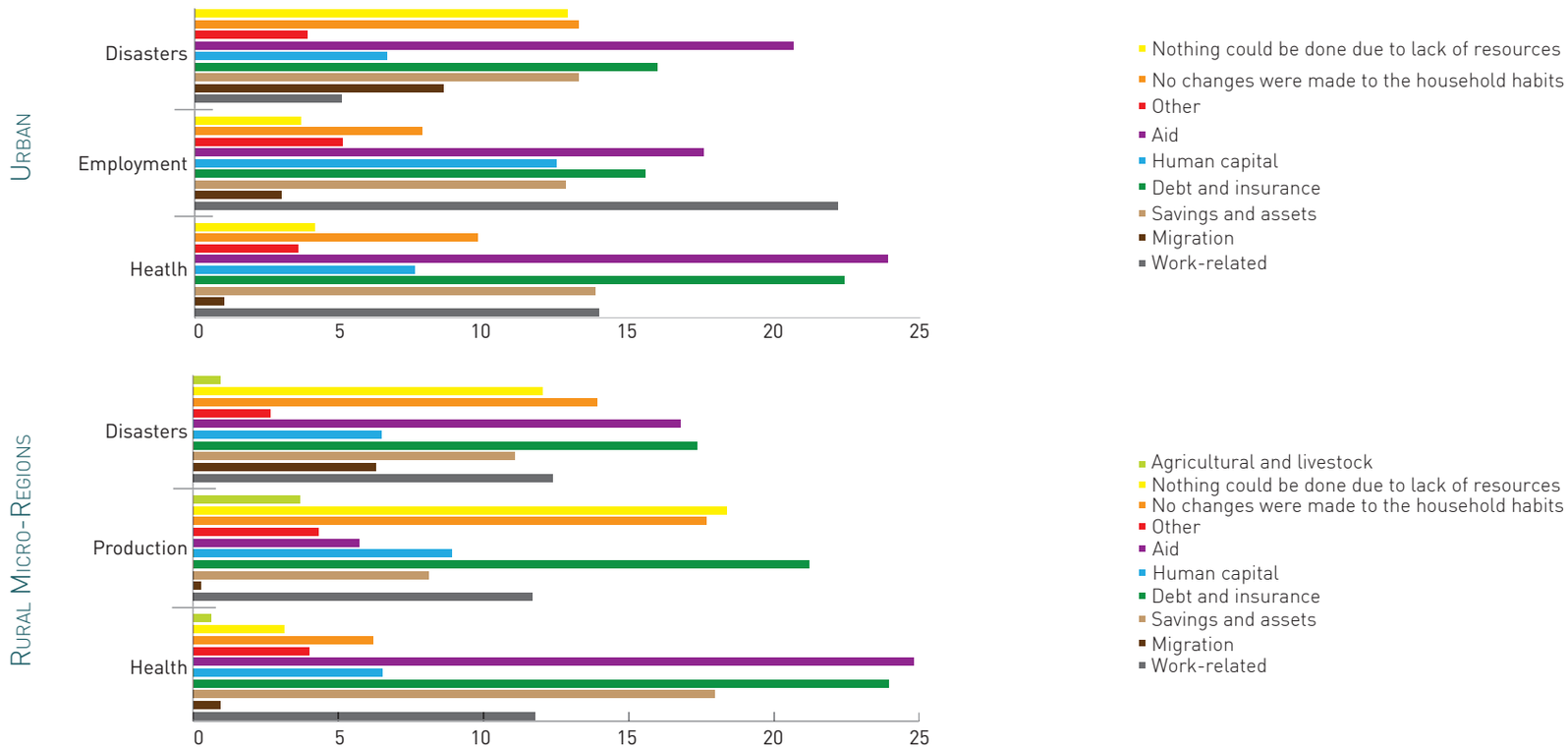


Source: Authors' calculations based on ELCA 2010 and 2013

Household responses in dealing with shock are for those that experienced a shock with medium to high economic impact over the three years. The events were classified into the categories shown in the figure. More details on these can be found in Appendix 1. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval was reported.

Figure 3.9.

Households' responses by type of event and area (percentage of responses).



Source: Authors' calculations based on ELCA 2010 and 2013

Households' responses in dealing with shock are for those that experienced a shock with medium to high economic impact over the three years. The responses and types of events were classified into the categories shown in the figure. More details on these can be found in Appendix 1. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

can be attractive alternatives to temporarily accommodate the needs of the household. However, this can turn out to be costly in the mid-term in cases whereby the loss of capital due to the loss of the household's production assets leads to a poverty trap which is very difficult to escape (Carter, Little, Mogues, and Negatu, 2007).

The use of human capital-related strategies is very costly in the mid- to long-term. When faced with shock, nearly 9.9% of the households in both areas attempted to reduce food consumption and educational expenses or they took the children out of school altogether. Finally, 3.2% of the households in the urban and rural areas were forced to move

house (within or outside the town or country) when faced with a shock and this same proportion of rural households resorted to agricultural or livestock-related strategies such as increasing the use of fungicides or killing livestock to deal with production shocks.

Even though some strategies appear to be more popular than others, in times of crisis, it is generally possible to identify trends by which some response mechanisms are more appropriate for dealing with certain types of shock. Figure 3.9 outlines the distribution of responses by type of shock, which, in turn, reveals hidden details in the added data. The migration-related strategies are particularly important when violent events or natural disasters occur causing forced displacement and the use of savings and assets. For health shocks, asking for aid and using savings and assets are important strategies. In the urban area, work-related strategies seem to be closely linked with employment shocks; whereas, in the rural area, production shocks frequently do not cause responses in the household because of the lack of resources or possibilities or because they do not require changes in the household habits. The response strategy used by a household when facing or overcoming adverse events will depend on its conditions and possibilities. The description presented up to now shows that, in many cases, these strategies cannot be referred to as "optimal" due to the costs that they incur and the fact that they tend to be needs rather than choices.

For example, the strategies related with asking family and relatives or institutions for aid are especially implemented by the poorest households and those with female household heads in the urban areas. Clearly, regional customs also play a role in terms of asking for aid in the community in times of crisis. In the urban area, the Atlantic region stands out for having high levels of aid (28.2% of households report this as their response strategy), while in Bogotá, asking for aid is significantly less frequent (6.5%). The rural households in the mid-Atlantic region resort more to asking for aid (21.6%), followed by the households in the Coffee and the Cundiboyacá regions and, finally, the Center-East region, where only 11.9% of the households ask the community for aid when adverse events occur. This same regional pattern in the rural area exists insofar as migration, whereby the mid-Atlantic and Coffee Region are much more affected by migration (5%) than the Cundiboyacá and Center-East regions (1%).

In the same way as with vulnerability, a household's response strategies are determined by its conditions prior to the event. In particular, the components of the disaster preparedness index (WDR, 2014) identify characteristics that can provide households with alternative responses that are less costly and allow for better recovery after the shock. The households with the highest levels of human capital in 2010 resorted more to their own assets and fewer labor market-related strategies. Those households that saved or had formal credits in 2010 (financial assets) are more likely to end up going into debt and spending their savings or cashing out other assets, and less likely to ask others for aid. In contrast, the households which, in 2010, were already receiving aid from State programs or transfers from other sources resorted more to asking for aid and working, and were less likely to use their own assets probably because they were already de-capitalized.

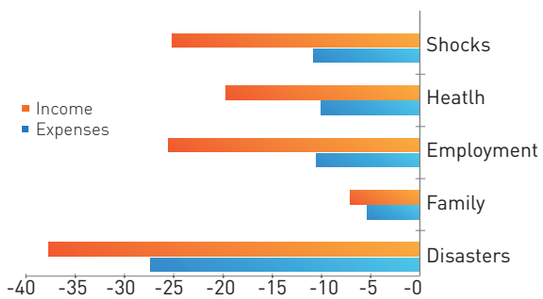
→ At 68 years of age, Luis Eduardo Palacios works as a doorman in Barranca. It is a temporary job; he has no social security and works 12-hour shifts.

3.5. Effects on well-being and some recommendations

The dynamics described up to this point indicate that Colombian households differ in their levels of vulnerability to different shocks and in their possible response options to overcome them. Between 2010 and 2013, a great proportion of families experienced events that caused economic instability. In this section, we will present a number of estimations of the effect of the shocks; the role played by the previous conditions that may have allowed for a certain level of preparedness; and the households' strategies in terms of individual income and expenses, once the events occur.[3]

On the one hand, we seek to explore the effects of the shock on the households' ability to generate income. The loss of employment, incapacity at work due to a health problem, the loss of a member of the household, or of productive assets, etc., can affect a household's income for periods of time, especially when the conditions for disaster preparedness are deficient (for example, lack of social security, savings or insurance, etc.). The expenses analysis takes into account that in the presence of shock, the households' particular conditions lead them to resort to strategies that can smooth consumption and lessen the impact of the shocks. In fact, Figure 3.10 shows that for the urban area, the effect of shocks on individual income is always greater than it is on individual expenditure.

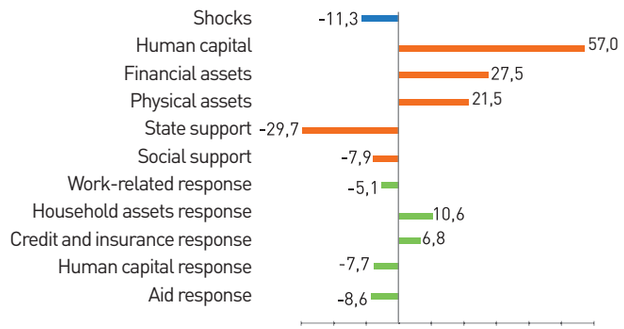
Figure 3.10.
The effects of shocks on changes in household income and expenses per person in the urban area (percentage).



Source: Authors' calculations based on ELCA 2010 and 2013

The estimations were made using the 2010-2013 data panel and the difference in differences method, which allows for comparing the changes in the variables of interest (income and expenses per person) with regards to the changes in the conditions of the household between the two periods (shocks). The effects of the shocks are shown in the percentages over the basic level of income and expenses. The events were classified into the categories shown in the figure. For more detail on its content, see Appendix 1.

Figure 3.11.
The effects of shocks on changes in individual expenses, characteristics and responses in the urban area (percentage).



Fource: Authors' calculations based on ELCA 2010 and 2013

The orange bars present the effect of household conditions on individual expenses before the shock (in 2010). The green bars show the effects of each type of response on individual consumption. The estimations were made using the 2010-2013 panel data and difference in differences method, which allows for comparing the changes in the variables of interest (income and expenses per person) with regards to the changes in the conditions of the household between the two periods (shocks). The events were classified into the categories shown in the figure. For more detail on its content, see Appendix 1.

Natural disasters had the greatest effect on household well-being by negatively affecting the income and expenses per capita by 37.7% and 27.4% respectively. Employment and health-related shocks affected the income by 25.6% and 19.7% respectively, but are reflected by an almost 10% reduction of expenses per person. Family shocks, despite having a significant statistical effect on well-being, were lower in magnitude (around 6%).

3. The estimations were made using the 2010-2013 panel data and using the method of difference in differences, which allows for comparing the changes in the variables of interest (income and expenses per person) with regards to the changes in the conditions of the household between the two periods (shocks). The effects of the shocks are shown in the percentages over the basic level of income and expenses. In this chapter, only results on the urban level are presented. In chapter 8, Ibáñez et al. (2014) undertake an analysis for the rural area including other relevant aspects related with access to land and livestock production for these households.

Finally, Figure 3.11 outlines the effects of the conditions before shocks (which are summarized using the disaster preparedness index components) and of the possible response mechanisms used by the households when dealing with limitations on their levels of consumption.[4] The average impact of high impact shocks is a reduction of 11.3% in per capita consumption. The orange bars present the effect of household conditions on individual expenses before the shock occurred (in the 2010 baseline survey). Human capital, financial assets, and physical assets offer conditions that can cushion the negative effects of the shock on consumption. The households that have received governmental and community aid since 2010 are in conditions of dependency, which negatively affect their level of consumption when a destabilizing event occurs. In the same figure, the green bars show the effects of each type of response on individual consumption. The responses related with household assets (spend savings or sell off assets), access to credit, or insurance help to cushion the effects of shocks by countering the negative effects on consumption. In contrast, other response mechanisms such as working more or asking for aid, turn out to be more costly in terms of well-being. In particular, the human capital-related responses had a negative impact on human capital, which deepened the effects of shocks between 2010 and 2013. Also, given that they have long-term effects on the accumulation of human capital and the ability to generate more income, these could perpetuate the effects of the shock over time.

In conclusion, identifying the mechanisms used by the households is essential for public policy design and implementation. The policies aimed at reducing vulnerability and exposure to risk and poverty must take into account the effects of the shocks and the back-up strategies available. The Colombian households are exposed to adverse effects that can affect them economically. The level of vulnerability and the effects on well-being are minor for those with greater levels of human capital and with access to physical and financial assets. Some policies focused on strengthening human capital (education and health) and access to formal financial services (products that favor savings and access to credit and insurance) could, in addition to being desirable as they are, have important repercussions on the households' level of vulnerability and their risk management capabilities. The results show that the conditions of the household prior to the shock constitute the risk management tools, which determine the effects of shock on well-being. At the same time, they condition the strategies or response mechanisms available to the household in times of crisis. The capacity to accumulate physical and financial assets can cushion the effects of shocks on consumption. Therefore, public policies that deal with disaster management and mitigation must recognize the differences in the vulnerability and resilience capacity of the households. For one thing, the disaster management instruments available for the households must be strengthened with improved levels of human capital and access to assets. This must be undertaken through the design and implementation of relevant financial products that favor the acquisition of assets, access to credit and to the insurance market. Furthermore, programs must be developed which focus on supporting prevention among the most vulnerable and offer mechanisms that help cushion the effects of the shock —relaxing budget restrictions in times of crisis— to minimize the effects on well-being.

→ Abigail Solano, 71, has Parkinson Disease. She does not remember the ELCA visit in 2010. Her two daughters take care of her in Simijaca.

4. Once again the estimation is of the difference of differences and uses the information from the 2010-2013 panel data.

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Annex 1

Shocks

Urban area		Incidence (% of households)	Incidence (% of households) medium to high economic impact
Health	Accident or sickness of member	25,12	18,58
Family	Death of the household head or spouse	1,46	1,19
	Death of members	2,48	1,33
	Separation of the spouses	6,56	3,73
	Arrival or stay of relative	12,28	4,15
Employment	Household head loses job	14,02	12,65
	Spouse loses job	7,63	5,47
	Other member of household loses job	6,19	4,85
Household assets	Had to move house	7,05	3,1
	Loss of house	0,16	0,15
	Deposit loss or cutback	1,84	1,44
	Robbery, fire or destruction of assets	7,84	4,89
Production	Bankruptcy and/or closure of business	4,36	3,33
Violence	Victims of the violence	1,85	1,31
Disasters	Experienced floods, avalanches, landslides, etc.	8,51	3,85

Rural micro-regions		Incidence (% of households)	Incidence (% of households) medium to high economic impact
Health	Accident or sickness of member	28,02	22,22
Family	Death of the household head or spouse	1,82	1,53
	Death of some members	3,31	2,31
	Separation of the spouses	4,8	2,64
	Arrival or stay of relative	9,33	2,3
Employment	Household head loses job	6,24	5,53
	Spouse loses job	1,74	1,63
	Other member of household loses job	2,29	2
Household assets	Had to move house	7,57	4,18
	Loss of house	1,89	1,61
	Loss or cutback of deposits	2,83	2,04
	Robbery, fire or destruction of assets	3,34	2,43
Production	Bankruptcy and/or closure of business	2,01	1,79
	Plagues or loss of crops	29,07	25,8
	Loss or death of livestock	21,99	16,26
Violence	Victims of the violence	2,25	0,61
Disasters	Experienced floods, avalanches, landslides, etc.	25,33	14,01

Responses to Shocks

Urban area	
Work-related	Members who did not work, looked for work or started working
	Members that work increased their work hours
Migration	One or more members left the country
	Changed town or department
	Changed home within same town
Savings and assets	Spent savings
	Sold goods or assets
	Mortgaged or rented some asset
Debts and insurance	Went into debt with a bank or financial entity
	Went into debt with family or friends
	Used insurance
	Bought insurance, for example home or health
Human capital	Took the children out of school or university
	Changed kids to cheaper school or university
	Decreased food expenses
Aid	Asked for aid from family, friends or other people from community
	Asked for aid from national or international institutions
Nothing	It was not necessary to alter the customs of the household
Could not do anything	Wanted to do something, but could not due to lack of resources or possibilities.
Other	Other

Rural micro-regions	
Work-related	Members who did not work, looked for work or started working
	Members that work increased their work hours
Migration	One or more members left the country
	Changed town or department
	Changed home within same town
Savings and assets	Spent savings
	Sold goods or assets
	Mortgaged or rented some asset
Debts and insurance	Went into debt with a bank or financial entity
	Went into debt with family or friends
	Used insurance
	Bought insurance, for example home or health
Human capital	Took the children out of school or university
	Changed kids to cheaper school or university
	Decreased food expenses
Aid	Asked for aid from family, friends or other people from community
	Asked for aid from national or international institutions
Agriculture and livestock	Sacrifice livestock
	Increase the use of fungicides or feed for livestock
Nothing	It was not necessary to alter household habits
Could not do anything	Wanted to do something, but could not due to lack of resources or possibilities.
Other	Other

→ The yellow potato is one of the products grown by Rodrigo Octavio Ballesteros. He, his wife Alba Lucía Robayo and their two children, Sara and Cristian, live off of their crops of berries, granadilla, zucchini and rainbow trout in Buena Vista (Boyacá).

→ Gladys Campo and Luis Eduardo Palacios arrived in Santander in 1968. They came from Valle and Cauca and they moved to the conflict-ridden area of Carare Opón.

Chapter 4
Colombian households' poverty conditions and access to social programs

Adriana Camacho
Román D. Zárate

→ After the death of her father, life for Daniela Cruz and her brother, Sebastián, became very difficult. Together with their mother and grandfather, they live on what they earn through their livestock and agricultural work in Simijaca (Cundinamarca).

→ 4.1. Introduction

Despite its sustained reduction over the last decade, poverty rates continue to be high in Colombia. Poverty measurement and evaluation is an issue of utmost importance to be reviewed based on different sources of information and indicators. Previously, short cross-sectional surveys have been used to measure poverty and understand the changes in the quality of life of Colombians. In this document, a longitudinal study, known as ELCA, is used not only to measure the studied population's poverty indexes but also to understand households' transitions into and out of poverty over time between the first and the second waves of the survey (2010 and 2013). In the future, as more waves of the longitudinal survey are carried out, it will be possible to make panel measurements of intergenerational social mobility, which, up to now, has been impossible given the lack of relevant information (Angulo, Azevedo, Gaviria and Paez, 2012).

This chapter seeks to contrast the dimension and the transition of poverty observed over the three years. To do this, the following indicators have been created: per capita expenditure, poverty line (PL), multi-dimensional poverty index (MPI), wealth index, and predicted Sisbén score based on the characteristics of the household and the original algorithm of the first version.[1] Consistently with the data presented in official sources, the evaluation of the different poverty measurements show that there was a considerable reduction of poverty over this period. The analysis of the poverty indicators will be complemented by an analysis of the changes in asset ownership and access to goods and services by the Colombian population over the three years.

We also endeavor to find out whether there is a connection or a pattern that associates the changes in poverty with access to social government programs, the socio-demographic characteristics of the household head, or having been exposed to different types of shock and their impact during the period of study. ELCA includes a wide-ranging questionnaire that identifies whether the households have access to the following programs: Familias en Acción, Hogares Comunitarios of the ICBF (Colombian Institute of Family Welfare), SENA and the Red Unidos, and their perception of them. Furthermore, access to health services is quantified as the subsidized and contributory system by geographical area. Unfortunately, we do not have information regarding the households' perceptions of health programs.

→ Jennifer García was able to become independent from her parents. She works as a T-shirt printer for an important textile brand in Bogotá. She lives in Cuidad Granada.

4.2. Poverty Indicators

As a first quality of life indicator, we calculated the average household expenses by region, based on a detailed list of expenditure per item reported by the households.[2] The list of products for which expenses are reported in the rural area is the same in the two waves of the survey, but this is not the case in the urban area. The comparison of expenses in the urban area is subject to changes in the questionnaire due to the fact that in 2010, the detailed list of articles included fewer items than for 2013, meaning that the total aggregate expenditure could be underestimated. To calculate per capita expenditure, the consumption of durable goods was excluded given that these cannot be considered reoccurring purchases. The calculations were made considering a total of 4,301 urban households and 4,131 rural households that were included in the two waves of the survey.[3] This restriction was imposed in order to reduce possible selection problems due to attrition in the second wave. Additionally, expenses were calculated using 2013 prices in order to compare increases in expenses in real terms. With these clarifications in mind, Table 4.1 presents the magnitudes and the average real growth of per capita expenditure for 2010 and 2013 for the households in the different regions within the urban area.

1. The algorithm of the first version has been made public.
2. The expenses are based on the following categories of items: food, household members' personal expenses, cleaning products, clothing and annual household expenses excluding the purchase of durable goods (furniture, vehicles and real estate).
3. For the households that were divided between 2010 and 2013, one of the resulting households surveyed in 2013 was randomly chosen to compare its situation in 2010.

Table 4.1.
Average per capita expenses in the urban area (2013 prices).

Region	2010	2013	Percentage change (%)
Atlantic	261.043	387.699	48,52
Eastern	339.617	398.928	17,46
Central	324.183	362.435	11,80
Pacific	342.424	359.006	4,84
Bogotá	720.310	697.033	-3,23
Total	403.523	454.805	12,71

Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in the two waves of the study.

Table 4.2.
Average per capita expenses in the rural micro-regions (2013 prices).

Region	2010*	2013	Percentage Change (%)
Mid-Atlantic	152.383	175.107	14,91
Cundiboyacá	172.194	209.992	21,95
Coffee region	182.438	202.237	10,85
Center-East	138.039	184.880	33,93
Total	156.805	189.046	20,56

Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Specifically, the households in the urban area presented an increase in average per capita expenses of 12.7%. Within this area, the Atlantic region presented the greatest increase in expenses (48.5%), followed by the Eastern and Central regions. In real terms, expenses in the city of Bogotá fell over these three years. In order to understand the high increase in per capita spending, we reviewed some of the characteristics of the households in the highest 20% of the distribution that increased their spending. We noted that, in the second wave of the survey, these households had: i) a greater number of household heads with paying jobs, ii) a lower number of members, and iii) a higher average age in the household, which implies less economic dependency.

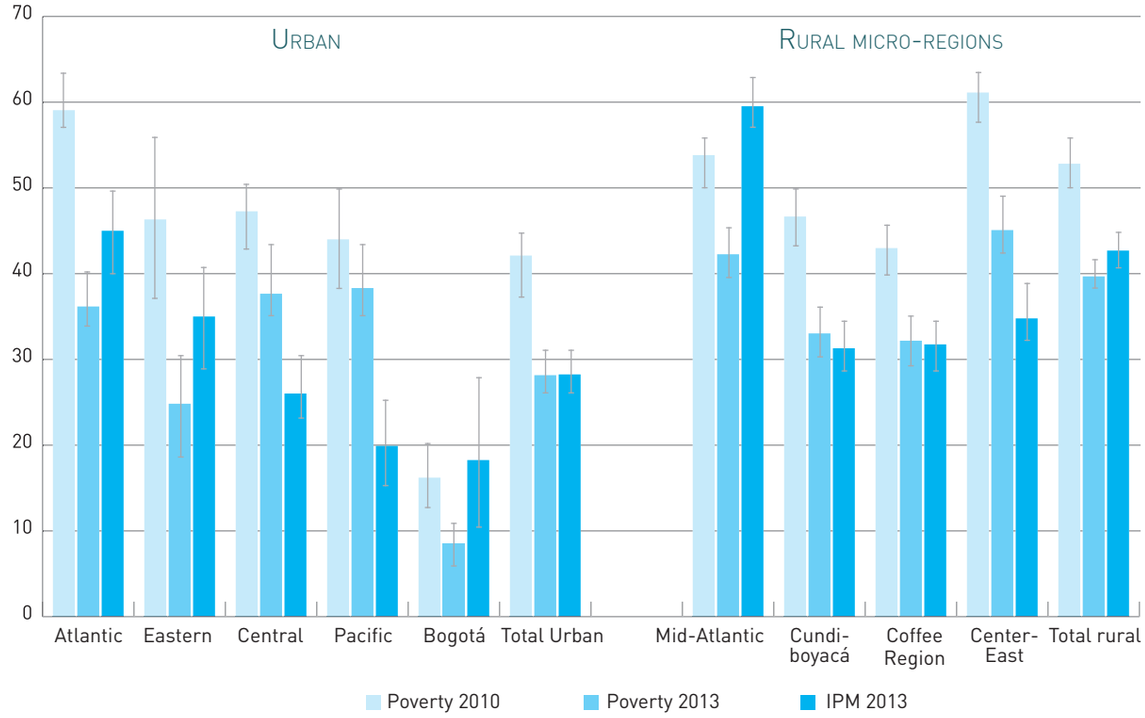
Table 4.2 presents the scales and the average real growth per capita in 2010 and 2013 for the households in the four micro-regions within the rural area. The real growth of per capita expenditure in the rural area was 20.6%, and was marked by the Center-East region with a growth of 33.9%, followed by the Cundiboyacá region, with 22%. The mid-Atlantic and Coffee regions presented growth below the average of 14.9% and 10.9%, respectively. In general, the average expenditure of the households included in the first wave of the survey, but not in the second, was greater than that of the households observed in both waves. This is indicative of a self-selection problem in the surveyed households within the rural areas. For the case of the urban area, the average expenditure for the households that appear in 2010 but not in 2013 —with respect to the households that appear in both waves— is higher, except for those found in the Pacific region and Bogotá.

With the information about the average expenses of the Colombian households, we were able to design a first poverty indicator known as the poverty line (PL). This measurement calculates the percentage of households that are below a minimum level of expenditure. The value of the poverty line is equivalent to the per capita monthly expenditure for food and other basic goods and services. The national poverty line for 2010 and 2013 was established at a monthly COP$207,000 and COP$227,367 per person in urban areas and COP$123,500 and COP$136,192 in rural areas.

Figure 4.1 shows the percentage of households that fell below the poverty line in 2010 and 2013 by region in the urban and rural areas. On average, we can see that 42.1% of the population in the urban area found themselves below the poverty line, a condition that falls to 28.2% for 2013 (implying a poverty reduction of 33%). With respect to the rural area, 52.8% of the population found themselves below the poverty line and this fraction fell to 39.7% for 2013 (implying a 24.8% reduction of households below the poverty line). Even when the decreases in poverty and the scales found are much greater than the data reported by DANE, it is important to note two main differences: first, DANE[4] uses the income (and not the expenses) reported in the Households Survey (ECH). Second, the representativeness of the two surveys is distinct. ELCA covers strata one to four for the urban area and four micro-regions in the rural area.

Figure 4.1.

Households in monetary and multi-dimensional poverty by area and region (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Based on the data provided by the ELCA longitudinal study, this is a unique exercise in that, unlike the short cross-sectional studies, it allows us to observe transitions in poverty. In the urban area, 23.4% of the households were below the PL in 2013 and 2010, 18.7% rose above the poverty line, 8.5% entered poverty and 49.4% were not in poverty in either year. In the rural area, 30.1% were below the PL in 2013 and 2010, 22.6% rose above the poverty line, 9.53% entered into poverty and 37.6% had never been below the PL. As already mentioned, this indicates that there was a net reduction in poverty, but it is important to bear in mind that some households that were not below the poverty line in 2010, were so in 2013.

4. PL Urban: DANE, 2010: 33.3; DANE, 2013, 26.9; ELCA, 2010, 42.1 to ELCA, 2013, 28.16. PL Rural: DANE 2010, 49.7; DANE, 2013, 42.8; ELCA, 2010, 52.8 to ELCA, 2013, 39.7.

→ José Miguel Petro buys lottery tickets every day in Cereté (Córdoba). He religiously watches TV at 2:30 p.m. to see the results.

Based on the data provided by the ELCA longitudinal study, this is a unique exercise in that, unlike the short cross-sectional studies, it allows us to observe transitions in poverty. In the urban area, 23.4% of the households were below the PL in 2013 and 2010, 18.7% rose above the poverty line, 8.5% entered poverty and 49.4% were not in poverty in either year.

At the regional level, in the urban area the transitions were positive, meaning that more people rose above the poverty line than fell below it. However, the Pacific and Central regions presented higher levels of people falling below the poverty line in proportion to those rising above it. Within the four rural micro-regions, the Coffee Region stood out as the area with the greatest proportion of families falling below the poverty line in 2013 with respect to 2010, in comparison with those who rose above the poverty line, even when the net result is also positive.

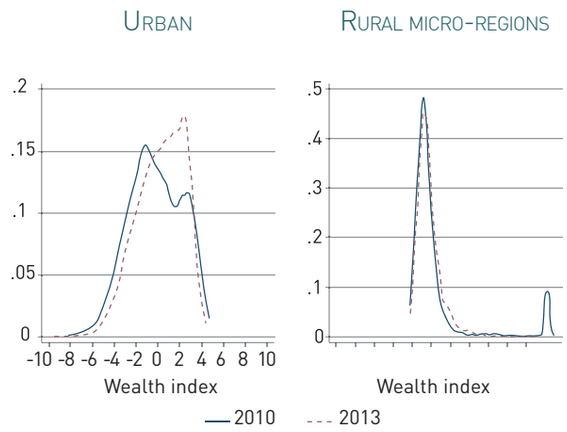
The measurement of the PL is limited as it is one-dimensional and short term, and only accounts for expenditure over a short period of time, making it an incomplete measurement of structural poverty. In order to complement the poverty line calculation, Oxford University's Oxford Poverty & Human Development Initiative (OPHI) developed the multi-dimensional poverty index (MPI), which focuses on opportunities and access to conditions and services, allowing the population to reach greater well-being. An advantage of the indicator is that it allows comparisons in different contexts. The MPI considers fifteen dimensions by which a family is determined to be in multi-dimensional poverty if it is lacking in at least five of these fifteen dimensions. Due to the limited information collected in the 2010 survey, this indicator can only be calculated for 2013. Figure 4.1 shows the PL for 2010 and 2013 by region in both rural and urban areas, and presents the MPI for 2013. This indicator presents a similar behavior to that of the PL by region in the rural area with the exception of the mid-Atlantic region, which is much higher. The MPI average is of 33% and 39% in the urban and rural areas, respectively.

Even though the MPI is an improvement over the poverty line indicator in the sense that it measures the condition of structural poverty, it could only be constructed for 2013. This led us to calculate and analyze the wealth index —as proposed by Filmer and Pritchett (2001)— and the first version of the Sisbén poverty index.

Both the wealth index and Sisbén are based on an algorithm created by the principal components method. In a single indicator, this methodology can add a set of variables, most of them categorical, which together can determine the condition of poverty. The wealth index includes variables of access to public services, characteristics of the dwelling, and durable goods. The Sisbén index includes the types of variables present in the wealth index and it adds the socio-demographic, educational and labor market conditions of the members of the household.

Figures 4.2 and 4.3 present the wealth and Sisbén indexes respectively. On the left is the index for the urban area and on the right, that for the rural area in the two waves of the study. The average of the wealth index between 2010 and 2013 for the urban area passed from -0.5 to -0.31, which clearly indicates a reduction in poverty. At the same time, the distribution is flatter showing evidence of improvements in terms of equality. The rural area also shows improvements in terms of equality, and the average of the wealth index went from -0.31 to -0.13. This calculation eliminated 141 households from the panel, which in 2010 were at the high end of the distribution as they were considered atypical values.

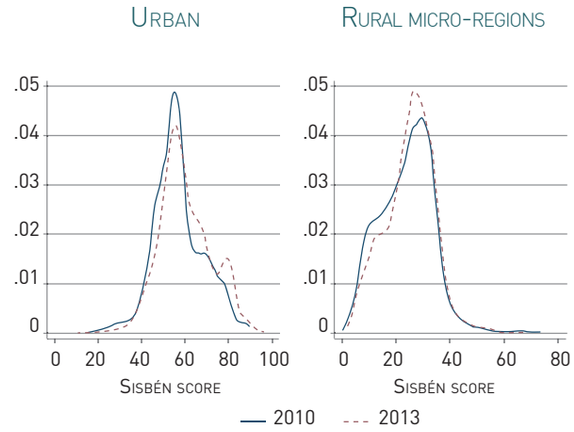
Figure 4.2.
Wealth index distribution by area and year.



Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The wealth level corresponds to a continuous index based on durable goods and households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Figure 4.3.
Distribution of Sisbén scores by area and year.



Source: Authors' calculations based on ELCA 2010 and 2013

The figure presents the distribution of Sisbén scores by wave and area. The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Sisbén distribution, which takes values of 0 to 100, increased by approximately one point in both rural and urban areas between 2010 and 2013. This indicates an improvement in the population's socio-economic conditions. Even though for both previously mentioned wealth and poverty indexes there are signs of improvement in terms of poverty, these are not as significant as the changes presented by the monetary poverty index.

Table 4.3 shows a transition matrix for terciles of wealth for the rural and urban areas. It is important to mention that the terciles were constructed for the two points in time in such a way that the matrix captures the relative improvements of the households in relation to the improvements of all the households in the sample. An interesting pattern that arises in the data is that there is greater movement in the rural area than in the urban. On the one hand, for each of the three terciles, we can see that the percentage of households that remained in the same tercile between 2010 and 2013 is greater in the urban area than in the rural. For example, for the urban area, the percentage that remained in the first tercile was 70.3%, 51.3% in the second tercile, and 68.3% in the third tercile. For the rural area, these three values correspond to 63.2%, 44.3% and 58%, respectively. Also, for the urban area, a greater percentage of the households in the second tercile (26.8%) rose to tercile three in relation to the percentage which went down to tercile one (20.68%) between 2010 and 2013. In the rural area, something similar occurred when a greater percentage of households in tercile two rose up to tercile three (32.24%) in relation to those that went down to tercile one (23.41%).

At the same time, by comparing the changes for tercile one and tercile three, better mobility patterns can be observed for the rural area than the urban area. For example, in tercile one of the urban areas only 29.7% ascended, whereas in tercile three, 31.68% descended. These movement patterns are exacerbated when the households that moved by two levels are compared. For example, for tercile one, only 10.1% (3.02% / 29.7%) of the total that improved during the two years ascended two terciles, while 25% (7.94% / 31.68%) of the total households in tercile three that deteriorated, moved down two terciles. For the rural area, these differences are smaller. For tercile one 36.79% ascended of which 26.28% (9.67% / 36.79%) improved by two terciles. Whereas for the third tercile, 41.99% descended a tercile, of which 32.17% (13.51% /41.99%) fell to tercile one.

Table 4.3.

Wealth levels transition matrix by area (Percentage of households).

Urban Residence Area				
Tercile 2013				
	1	2	3	Total
Tercile 2010	%	%	%	%
1	70,3	26,6	3,0	100,0
2	21,8	51,4	26,9	100,0
3	7,9	23,7	68,3	100,0
Total	33,3	33,9	32,7	100,0
Rural Micro-Region Residence Area				
Tercile 2013				
	1	2	3	Total
Tercile 2010	%	%	%	%
1	63,2	27,1	9,7	100,0
2	23,4	44,4	32,2	100,0
3	13,5	28,5	58,0	100,0
Total	33,4	33,3	33,3	100,0

Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The wealth level corresponds to a continuous index based on households' durable goods and access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

From the detailed description of the different poverty measurements made in this chapter, it is evident that the indicators have improved, even though monetary poverty indicators tend to predict much greater reductions in poverty than the multi-dimensional indexes. Following is a review of statistics relating to public services, infrastructure and durable goods to which the Colombian households have access. This review will help identify how far the reduction in poverty can be reflected in such factors.

Public service coverage was sufficiently high in 2010, making it difficult to perceive a substantial improvement or increase. The only increase that was in fact observed was one of 8.5 percentage points (12%) in the access to a gas service. In the rural area, even when the coverage of garbage collection and sewage services was low (5% and 9%, respectively), there were no great improvements in this indicator. Access to drinking water through the water company was of 60% and presented an increase of five percentage points (approximately 10%) between 2010 and 2013.

The upper and lower panels of Table 4.4 present information regarding the ownership of durable assets for both urban and rural areas, respectively. It is important to note that in the urban area there was an increase in the ownership of computers, washing machines and motorcycles of 9.7, 7.2 and 6.2 percentage points respectively (25%, 12% and 34% in asset ownership, respectively). For the urban area, the ownership of a refrigerator and washing machine increased by almost five percentage points. Given the increased number of households with a refrigerator, this implies a growth of 8%, while the increase in washing machine ownership is of 30%. Motorcycle ownership increased by 9.1 percentage points (43%).

Table 4.4.
Property and use of durable assets (percentage of households).

Variable	2010	2013	Percentage points change
Urban			
Refrigerators	83,30	86,27	0,03
Washing machines	55,91	63,10	0,07
Showers	21,52	17,32	-0,04
TV	95,85	96,15	0,00
Computer	38,65	48,38	0,10
Motorcycle	18,41	24,65	0,06
Rural micro-regions			
Refrigerators	57,78	62,28	0,05
Washing machines	17,18	22,16	0,05
Showers	7,26	3,90	-0,03
TV	83,16	82,46	-0,01
Computer	6,94	7,74	0,01
Motocicleta	21,22	30,39	0,09

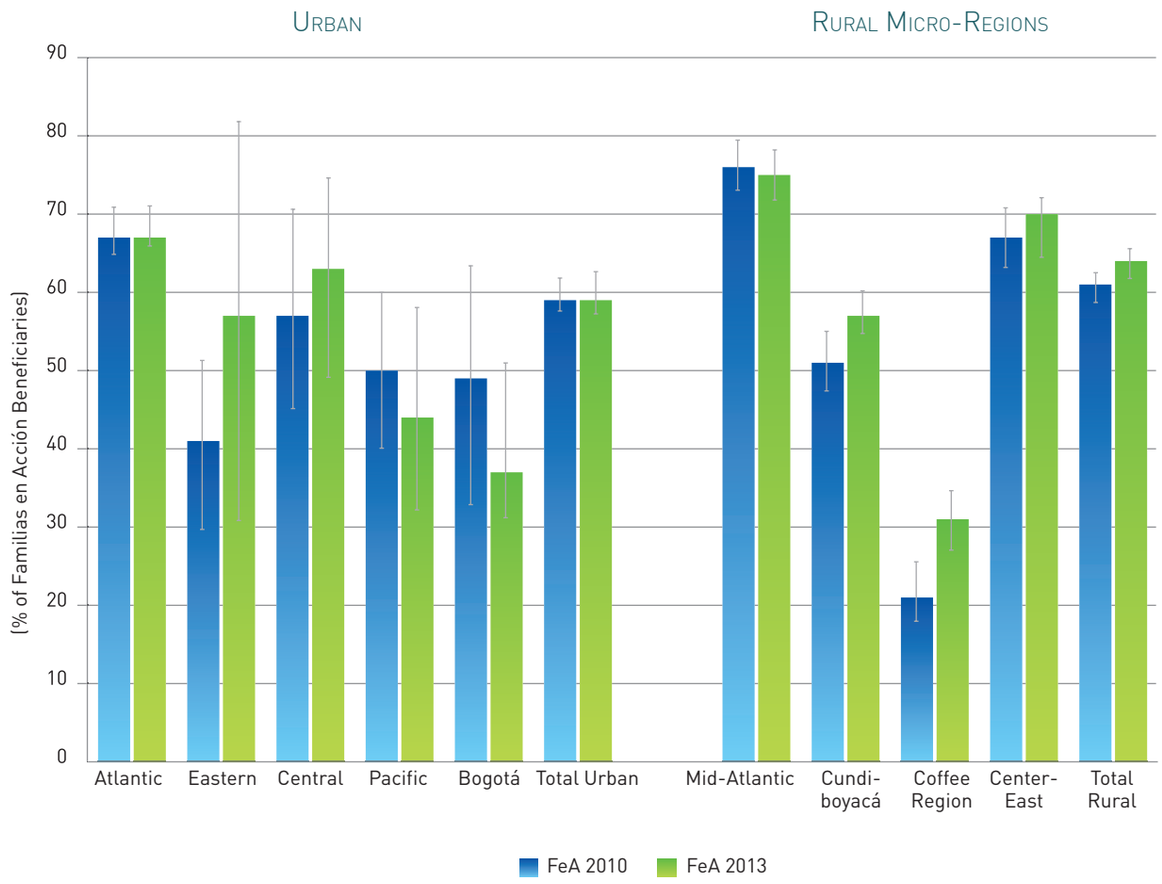
Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

4.3. Access to social programs

Given that the ultimate purpose of social programs is to improve the households' quality of life in the short term and to reduce poverty in the long term, our goal in this section was to shed light on households' access to social programs and relate that to the poverty reduction evidenced in the survey. Figure 4.4 presents the percentage of families registered in the Familias en Acción program by region, understanding a group of eligible families as those that belonged to stratum one[5] and with household members under eighteen years of age. The coverage of Familias en Acción in rural and urban areas was of approximately 60%, although within the rural area, coverage in the Coffee Region was less than half what it was in the mid-Atlantic region. The levels of participation in the rural and urban areas of the Atlantic region were much higher than other regions. There is no evidence of a large expansion of the Familias en Acción program between 2010 and 2013, as was expected given the almost nation-wide coverage it had at the time of the first wave of the ELCA.

Figure 4.4.
Familias en Acción beneficiaries by area, region, and year (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

The figure shows the percentage of households among those eligible that were beneficiaries of the Familias en Acción program; that is, those that belong to stratum one in the urban area and have members under eighteen years of age in the urban and rural areas. The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

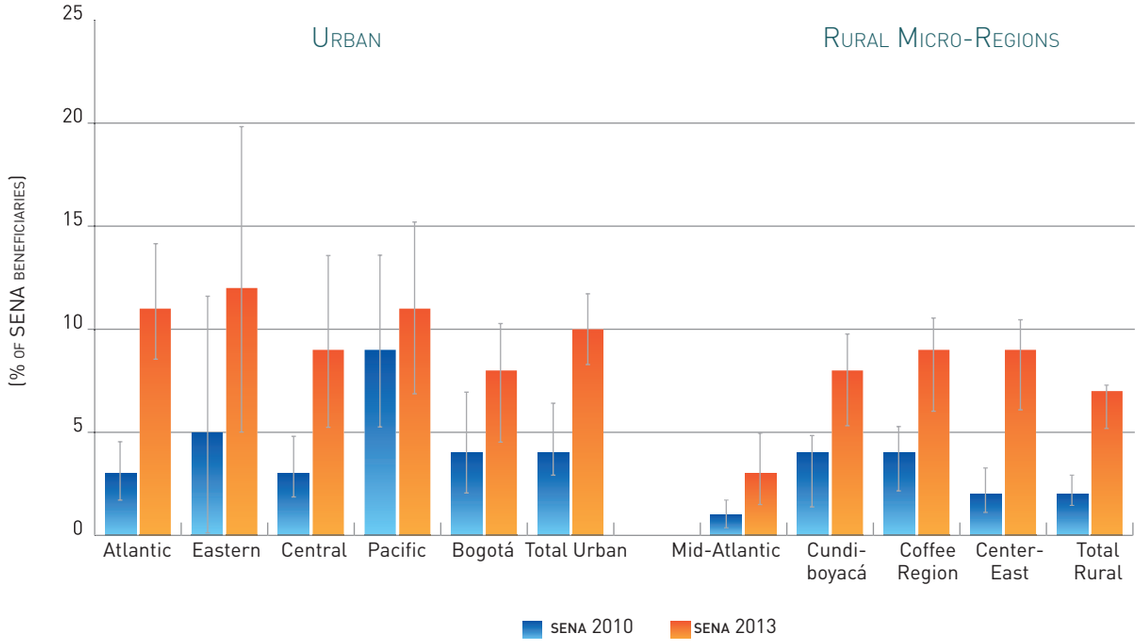
5. The eligibility criteria for different social programs are provided by the Sisbén level. Given that ELCA does not have precise information of the households' Sisbén levels, the socioeconomic stratum is used as a proxy for the Sisbén level.

To calculate the coverage of SENA programs, our target population comprised those households with members whose education levels were higher than ninth grade. As shown in Figure 4.5, first, there was greater coverage in the urban area, which is consistent with the average levels of education in these two areas and, second, there was a significant increase in the availability of SENA training courses between 2010 and 2013. Even though coverage in the rural area was of less than a digit, the increase of coverage for 2013 is noteworthy.

Figure 4.6 presents the households' access to ICBF services, whose coverage is calculated with respect to the number of strata one or two families with children under six. Within the urban area, 7% of the households had access to services provided by ICBF in 2010 and this went up to 21% in 2013. The expansion of the services provided was significant, especially in the Atlantic and Central Regions and Bogotá. ICBF program coverage was 12% in the rural area in 2010, and it increased to 38% in 2013. Based on a simple exercise, comparing the main activity of women household heads or spouses in 2010 and 2013, we were able to shed light on the fact that the expansion of ICBF services allows women more time available to participate in the labor market.

FIGURE 4.5.

SENA BENEFICIARIES BY AREA, REGION, AND YEAR (PERCENTAGE OF HOUSEHOLDS).

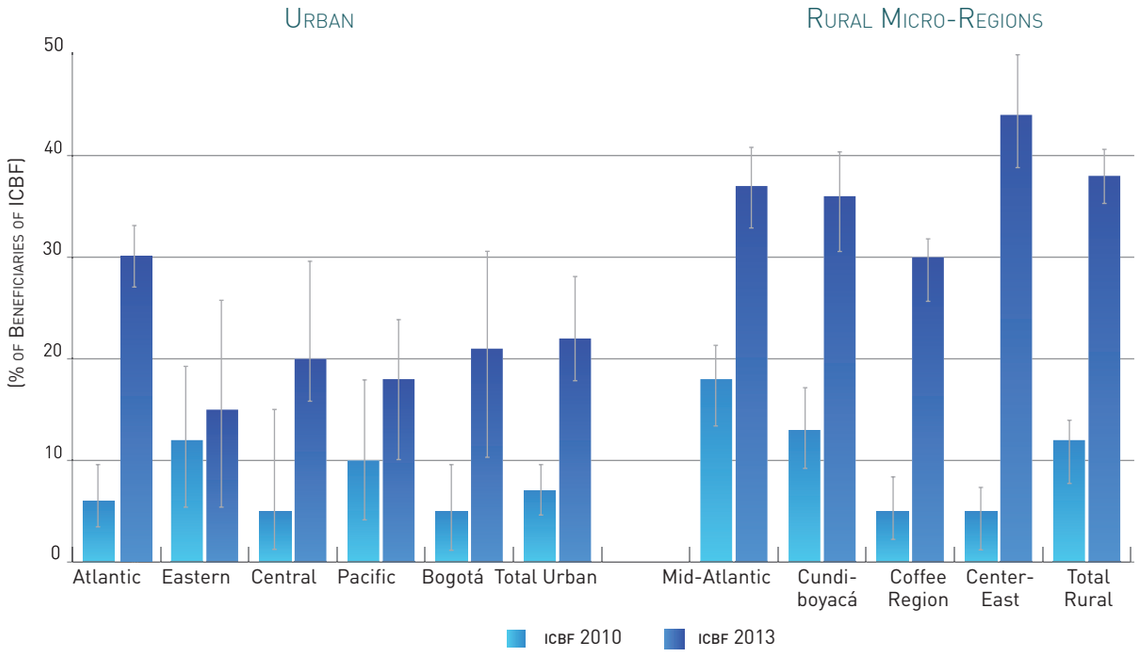


Source: Authors' calculations based on ELCA 2010 and 2013

The figure shows the percentage of households that are SENA beneficiaries. The target population are all households that have members with a ninth grade education or higher. The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Figure 4.6.

ICBF BENEFICIARIES BY AREA, REGION, AND YEAR (PERCENTAGE OF HOUSEHOLDS).



Source: Authors' calculations based on ELCA 2010 and 2013

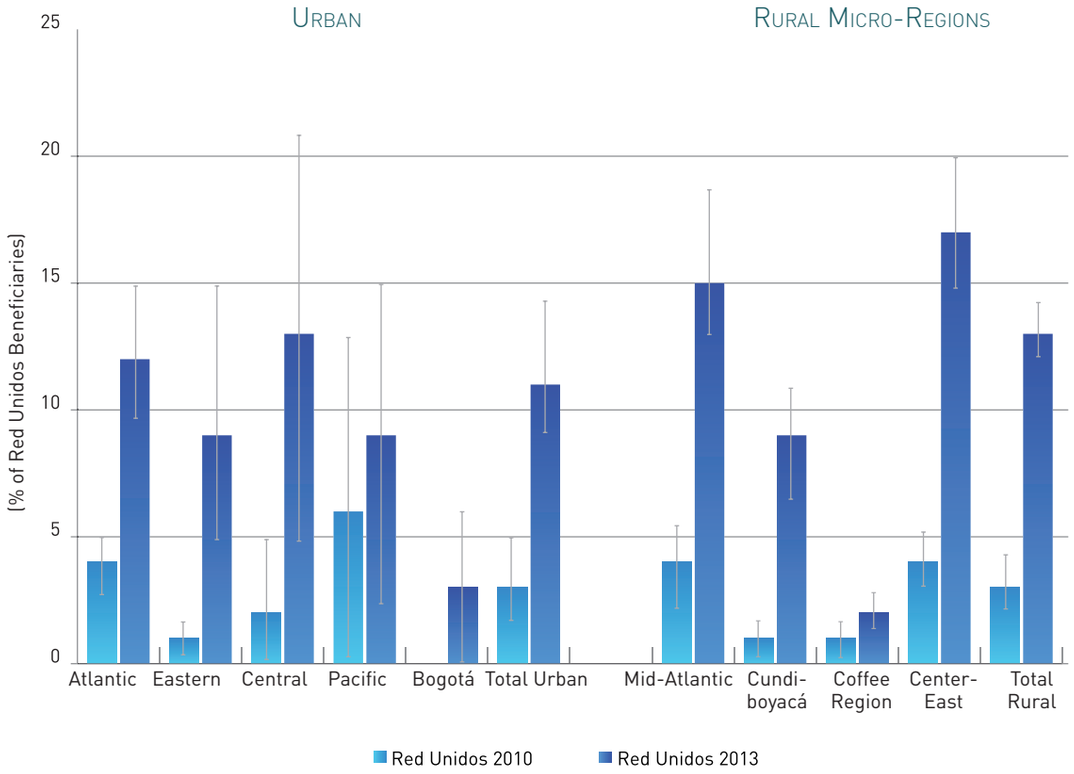
The figure shows the percentage of households that are ICBF beneficiaries. The coverage of this program is calculated taking into account the number of households with children under six in the urban and rural areas and that belong to strata one or two in the urban area. The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

→ María Blanca Rincón of the Villa Hermosa neighborhood (Medellín) dreams of receiving a subsidy from the State to help her with her difficult financial situation. She has never in her life received a thing.

One last program that is considered and presented in Figure 4.7 is the Red Unidos program, which is much newer than those previously mentioned. It is therefore no surprise that for the 2010 – 2013 period, there is evidence of a great expansion in the program's coverage, calculated considering all the households in stratum one. Red Unidos focuses on the extremely poor population and the ELCA data shows that it concentrates on assisting the rural population.

Figure 4.7.

Red Unidos beneficiaries by area, region, and year (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

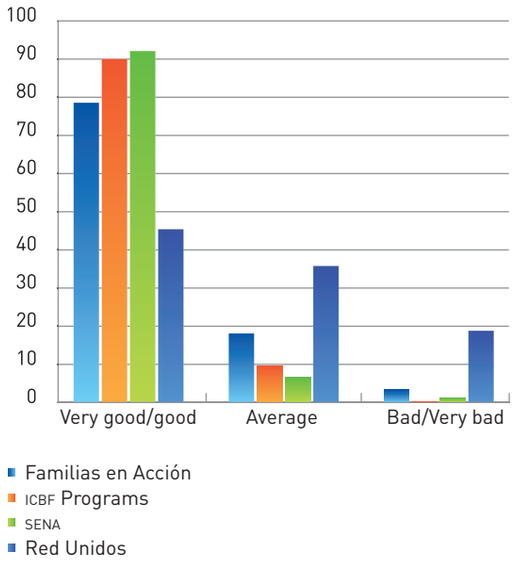
The figure shows the percentage of urban strata one households that are beneficiaries of Red Unidos. The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Health service coverage in both waves and areas was quite high and stable (between 93% and 95%). Coverage of the contributory system and the subsidized system was different between the areas, at a ratio of 70/30 in the urban area and 12/88 in the rural area. The prevalence of the subsidized system in the rural area is worrying if it is directly related to informal labor.

Access rates to social programs can be found in other sources of information, including the administrative data of each program. A unique factor pertaining to ELCA is that it is able to query the beneficiaries regarding their perception of the aforementioned social programs with the exception of the subsidized system. Figure 4.8 presents the beneficiaries' perception of these programs, divided into three categories: I) very good or good II) average III) bad or very bad. It is interesting to observe that programs that offer subsidies upon demand such as Familias en Acción, SENA, and ICBF are perceived positively by more than 80% of the users. Whereas Red Unidos, which offers accompaniment in the households and information on other programs, has a favorability of a little less than 50%. These results are very similar in both the urban and rural areas.

Figure 4.8.

Perception of social programs in 2013 by area.



Source: Authors' calculations based on ELCA 2010 and 2013

The figure shows the perceptions held of the different social programs. The information is based on reported data for households in both waves of the study.

Table 4.5.

Poverty characteristics and dynamics in the urban area (percentage of households).

Variable	Below the poverty line	Rising above the poverty line	Falling below the poverty line	Out of poverty
Familias en Acción (%)	47,83	23,90	26,34	7,67
SENA (%)	8,59	10,65	11,29	7,82
ICBF (%)	14,84	7,66	11,02	3,88
Red Unidos (%)	10,50	6,49	6,72	1,05
Household head wage ($)	567.077	843.834	630.455	1.274.015
Household head works (%)	74,76	80,96	77,30	78,00
Household head age (years)	46,62	45,44	45,06	47,84
Education level of household head (years)	6,28	8,21	8,20	10,30
Sisbén score increased (%)	55,64	64,81	49,19	56,67
Wealth tercile rose (%)	20,66	29,48	21,24	21,81
Health shock medium to high impact (%)	24,39	21,69	18,55	19,17
Violence shock medium to high impact (%)	2,00	1,43	0,54	1,15
Natural disaster shock medium to high impact (%)	10,33	4,68	4,57	3,04

Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. Households in poverty are those that remain poor in both waves of the survey. Rising above the poverty line refers to those that were poor in 2010 and rose out of poverty by 2013. Falling below the poverty line refers to those that were not poor in 2010 but found themselves poor in 2013. Out of poverty are those families that were not poor in 2010 or in 2013.

4.4. Characteristics that determine permanence in, entry into or exit out of poverty

In this last section, we examine the association of some of the households' characteristics with the dynamics of permanence, falling into or rising out of poverty (below the poverty line calculated at the beginning of this chapter). In particular, a characterization of different variables is undertaken for each of the dynamics. As we can see in Table 4.5 and 4.6, for the urban and rural area, respectively, some of the characteristics that are examined are: participation in social programs, participation in the labor market, education level and age of the household head, indicator of improvement in the wealth or poverty indexes (a rise in the Sisbén score and a tercile in wealth), and shocks experienced by the households.

Table 4.6.

Characteristics and dynamics of poverty in the rural micro-regions (percentage of households).

Variable	Below the poverty line	Rising above the poverty line	Falling below the poverty line	Out of poverty
Familias en Acción (%)	63,45	44,85	46,06	28,71
SENA (%)	4,78	5,57	5,34	7,98
ICBF (%)	18,02	10,29	13,99	10,11
Red Unidos (%)	16,93	12,18	9,67	6,09
Household head works (%)	74,75	79,60	75,06	80,83
Household head age (years)	49,14	49,52	49,24	50,00
Education level of household head (years)	3,66	4,26	4,31	5,15
Sisbén score increased (%)	55,16	58,61	48,09	51,07
Wealth tercile rose (%)	23,22	27,94	19,85	22,42
Health shock medium to high impact (%)	20,62	20,90	24,68	23,30
Violence shock medium to high impact (%)	0,84	1,16	0,51	0,69
Natural disaster shock medium to high impact (%)	13,83	10,19	10,94	12,44

Source: Authors' calculations based on ELCA 2010 and 2013

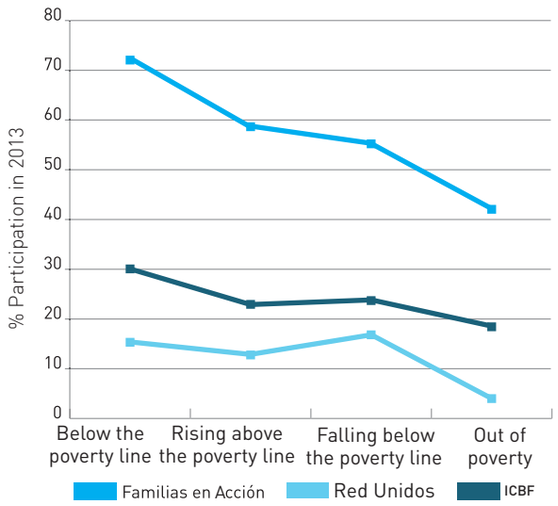
The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.
Households in poverty are those that remain poor in both waves of the survey. Rising above the poverty line refers to those that were poor in 2010 and rose out of poverty by 2013. Falling below the poverty line refers to those that were not poor in 2010 but found themselves poor in 2013. Out of poverty are those families that were not poor in 2010 or in 2013.

The tables report the average of each of these characteristics for the following four groups in the two waves of surveys: those that have always been poor, those that were poor in 2010 and rose above the poverty line by 2013, those that were not poor in 2010 but who fell below the poverty line in 2013, and lastly those households which have never been poor.

With a first look at the data in the figures in this chapter, we are able to identify characteristics, which seem to go hand-in-hand with poverty or the other way around. A direct relationship can be seen in the case of three of the four social programs, which were previously evaluated with respect to poverty. Specifically, in Figures 4.9 and 4.10, we can see that for the urban and rural areas, respectively, the households that suffered a greater level of poverty were more closely accompanied by programs such as Familias en Acción, ICBF and Red Unidos. In the rural area, this same pattern is repeated with the exception of households that had never been below the poverty line in which the participation in ICBF programs was lower (this could be due to these households' access to other types of early childhood services). It is interesting to note that this was not the case for the SENA program. As shown in Figure 4.11, SENA seems to be the only program that promotes and accompanies the households in rising above the poverty line in rural areas. In the urban area, this same pattern seems to repeat with the exception of households that had never been below the poverty line, where participation in SENA programs was lower (this could be due to these households' access to other types of higher education institutions).

Figure 4.9.

Participation in social programs by poverty dynamics for the urban area (percentage of households).

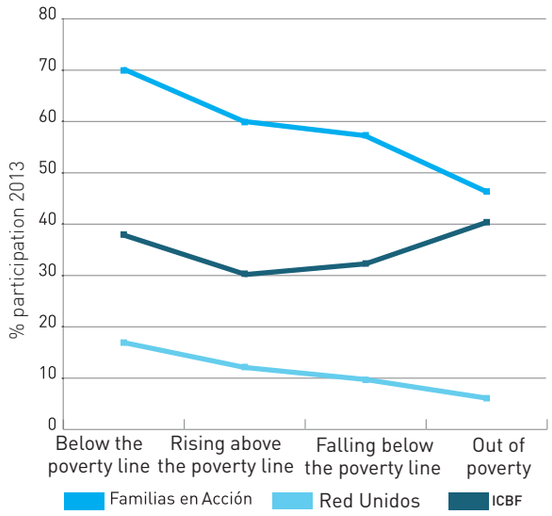


Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study.

Figure 4.10.

Participation in social programs by poverty dynamics for the rural micro-regions (percentage of households).

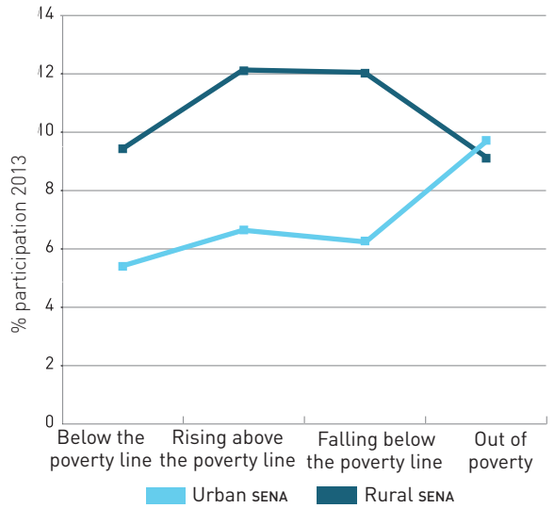


Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Figure 4.11.

Participation in SENA by poverty dynamics by area (percentage of households).



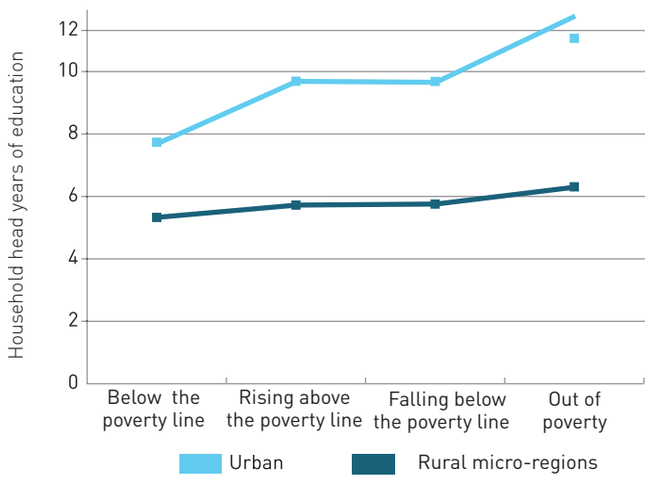
Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

To analyze the characteristics of the household head, we considered whether she/he worked, their level of education and their age. Of the data reported in Tables 4.5 and 4.6, it is notable that the average work participation of the household head was higher in households which were not below the poverty line with respect to those that were, but it is also evident that participation in the labor market was four percentage points higher for households which were coming out of poverty with respect to those that were just falling below. This can be due to the fact that the condition of poverty being measured included only monetary conditions. Furthermore, there is no evidence that the age of the household head is a determining factor in the transitions into and out of poverty. Insofar as education, it is interesting to see that in both the rural and the urban areas, it is positively and very clearly linked with the households rising above the poverty line (see Figure 4.12).

Figure 4.12.

Education level of household head by poverty dynamics (years of education).

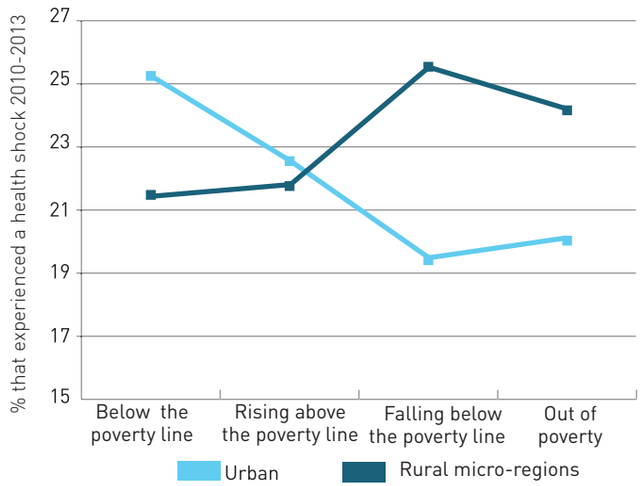


Source: Authors' calculations based on ELCA 2010 and 2013

The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Figure 4.13.

Households that experienced some kind of health shock by poverty dynamics (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

Households which experienced at least one medium-high impact health shock. The information is based on reported data for households in both waves of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Finally, we analyzed the improvements that the households may have experienced in terms of wealth indicators and the Sisbén score. To determine poverty, these indicators take into account additional factors to those that are strictly monetary and short-term. Tables 4.5 and 4.6 clearly show that the households rising above the monetary poverty line were those that were increasing their wealth level on the wealth index and on the Sisbén score the most. Similarly, those households that were falling below the poverty line in monetary terms presented the lowest increase in their Sisbén score and on the wealth index.

There seems to be no clear relationship between experiencing shocks between 2010 and 2013, and rising above or falling below the poverty line. This can be due to the temporality of the shock with respect to the poverty measurement being used at the time of the survey, or it could indicate fast recovery from shocks. A very interesting pattern that can be observed in Figure 4.13 is that the health shocks experienced by the households in the urban and rural areas had very different impacts in terms of poverty. In the urban area, these shocks seem to have affected the poor to a lesser extent, whereas, in rural areas, the opposite happened, possibly due to the households' type of health insurance. Another issue to highlight is that, in the urban area, both the violence and natural disaster shocks had a far greater impact on the poor —almost double— than on those who were not poor.

→ Every night, the living room and three bedrooms in the Palacios Campo household become collective dormitories. Almost 35 people sleep there.

→ Simijaca (Cundinamarca). Tomás Calderón Ávila, 84 years old, lives with his spouse, Abigail Solano, 71, who has Parkinson. Their daughters take care of them.

Conclusions

In sum, the results presented in this chapter imply two general conclusions. On the one hand, when considering the indicators of monetary poverty and the households' per capita expenditure, we can observe a notable poverty reduction in the dynamics of the Colombian households between 2010 and 2013. This was especially true for the urban area of the Atlantic region and for the rural area of the Center-East micro-region. However, when analyzing poverty indicators such as the Sisbén score or the wealth index by its principal components (which capture more structural characteristics of household wealth such as the asset ownership or housing materials), we can see that the households reduced their poverty but that these reductions were not as significant as the changes observed in terms of the monetary indicators.

On the other hand, by 2013, there was a higher participation of Colombian households in different social programs such as: Familias en Acción, SENA, ICBF services, and the Red Unidos. By analyzing the dynamics of permanence, and the transition into and out of poverty, we can see that the majority of these programs focus on the households that remain in poverty. These programs are well-accepted among Colombian households, especially those which provide subsidized help on demand.

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→ At the Jácome School, in rural Gramalote, Elva Marina Santander teaches her students the history of the town that disappeared. She also encourages them to save water and other natural resources so as to, she says, "avoid another tragedy."


tiene belleza, hermoso.
RURAL JACOME
GRAMALOTE

→ Carlos Rodríguez returned to live with his mother and his sister, Angie, in Simijaca. The death of their father forced their mother to work and be away from them.

Chapter 5
Children and youth in Colombia: Their evolution through the 2010-2013 period

Catherine Rodríguez Orgales[1]

→ It takes twelve-year-old Daniela Cruz a 30 to 40 minute cycle along a dirt track to get to school in Simijaca, Cundinamarca.

→ 5.1. Introduction

One of the most outstanding characteristics of ELCA is that it allows a detailed follow-up of the physical and cognitive development and general well-being of a representative sample of children in Colombia that in 2010 were aged between zero and nine. These children are perhaps the individuals that will be most carefully followed over the next waves of ELCA, as we will have a concrete understanding of the problems they may face as they grow up, helping us understand their life stories once they enter adulthood. More importantly, the information provided by this longitudinal study will allow us to design and assess policies and programs to improve the current situation and the future of this and the following generations of Colombians.

As well as researching issues commonly treated in other surveys carried out in Colombia on children and youths' education and work, ELCA gathers detailed information, which does not exist in any other representative survey at a national level. Moreover, the questions and issues dealt with in the survey regarding these individuals will increase and become enriched as they grow, adapting to the stages

1. The author would like to thank the excellent research assistance of Román David Zárate and the comments made by the members of the National Committee of ELCA, in particular those of the director, Ximena Cadena. This document is financed and promoted by the Center for Studies on Economic Development, (CEDE).

of their lives. In line with this idea, the second wave of ELCA has a specific module dedicated to studying the attitudes, social capital, smoking and alcohol-consumption habits, use of time, dreams and life plans, etc., of youths between the ages of ten and thirteen.

This chapter presents a brief introduction to the richness of data pertaining to this longitudinal survey and, as such, reveals some of the most significant changes that these children and youths experienced over the three years. Specifically, this chapter presents the most salient characteristics of three issues: the youths' education, their participation in household work and in the labor force, and some of the risks they are subject to as well as their dreams for the future. The choice of these three issues is not random; it is in line with their importance in the future lives of the children and youths in the study.

Education is probably the most important factor leading to social mobility and decreasing levels of poverty and inequality. The level and quality of education that individuals receive will determine their employment options and with these, their levels of income, economic stability and personal and family development in the future.[2] Similarly, the decisions regarding children and youths' participation in the labor market are crucial, complex and important to understand. On the one hand, child labor may benefit both the youths and their families in the short-term, thanks to the resources immediately available to the household. However, in the long-term, this activity can imply significant sacrifices in terms of lower levels of schooling or child abuse, depending on the conditions of their participation.[3] Finally, with a sound understanding of the risks that youths are subject to and their future life plans, it will be possible to design policies to mitigate the former and foster the latter.

5.2. Who are they?

This chapter uses information from two groups of Colombian children and youths depending on the issue dealt with and the availability of data in the two waves of ELCA. For education and labor force related issues, the sample corresponds to those children in the study that in 2010 were the children of the household heads or their spouses and who were aged between five and nine. The sample is restricted to those surveyed both in the baseline and the follow-up surveys in order to create a balanced panel that sheds light on their evolution over the three years.[4] For the section related to risks faced by the youths and their future dreams in 2013, it is necessary to clarify two points. First of all, given that this is a new section of questions, it is not possible to compare the responses with 2010. We therefore only present the statistics for 2013. However, even though only follow-up children and youths were questioned in this section, the sample widened given that even those who had not been interviewed in 2010 were surveyed in 2013. The analysis of the last section of this chapter takes advantage of all the existing information and is based on this extended sample.[5]

Table 5.1 shows some basic characteristics about these children and youths for the urban area (upper panel) and for the rural micro-regions (lower panel). The first two columns present the information for children and youths surveyed in both the 2010 and the 2013 waves and thus included in our panel. The third column presents information relating to youths over ten years of age surveyed in 2013. For both samples, statistics are presented in terms of age, gender and wealth level of the children on whom this chapter is based.

5.3. Education: Attendance, educational lag, and desertion

In accordance with Colombian legislation, mandatory education begins at the age of five and goes from grade zero (transition) to nine in basic education. This implies that all children between the ages of five and fifteen must attend an educational

2. See, for example, Duflo (2001) among many others.
3. See, for example, Beegle, Dehajia and Gatti (2009).
4. Furthermore, to maintain the representativeness of the rural and urban sample, the analysis is restricted to those individuals who did not migrate between rural and urban areas.
5. Even though the second wave of the ELCA gathers information about education and labor force for this expanded sample, the analysis is restricted to the panel sample for these two topics so as to study their evolution over the three years.

Table 5.1.
Characteristics of the panel of children and youths ten years and older in 2013.

	Panel sample		Youths
	2010	2013	2013
Urban			
Average age (years)	7,07	10,04	11,50
Male (%)	48,52	49,66	49,96
Wealth (%)			
Low (%)	24,82	22,21	19,95
Medium (%)	35,89	33,50	37,70
High (%)	39,30	44,30	42,35
Observations	1.729		1.369
Rural micro-regions			
Average age (years)	7,09	10,11	11,53
Male (%)	50,07	50,26	50,85
Wealth (%)			
Low (%)	31,74	31,71	23,99
Medium (%)	31,54	31,53	33,45
High (%)	36,72	36,76	42,56
Observations	1.994		1.657

Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

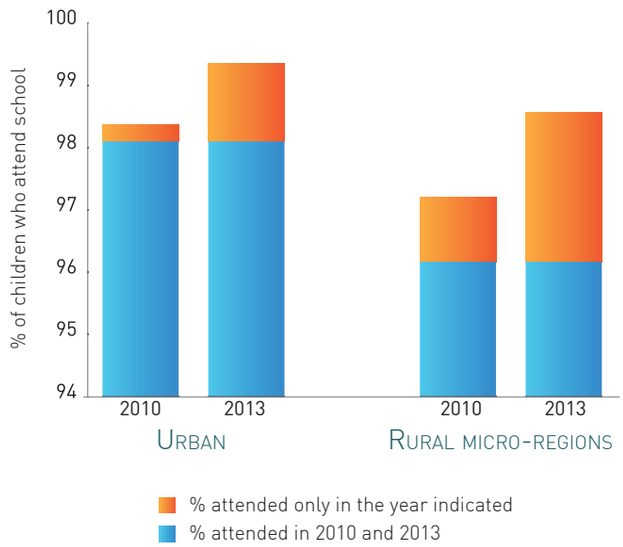
center and be enrolled in a specific grade in accordance with their age. This last point determines that children that are behind the appropriate grade level for their age are, according to the law, considered to be in educational lag.[6] [7] In addition to knowing whether the child or youth is attending school, it is also important to understand and quantify the education lag. A number of studies have shown that educational lag is highly correlated with school desertion and with involvement in undesirable activities such as taking drugs, juvenile delinquency, and teenage pregnancy.[8]

Figures 5.1 and 5.2 analyze how the school attendance and educational lag rates for the children and youths in the study have changed over the three years in the urban area and in the four rural micro-regions. After detailed analysis, three clear messages stood out. First, over the three years, school attendance increased almost universally for the groups of children and youths who in 2010 were aged between five and nine. In 2013, only 0.5% and 1.4% of the children included in the urban and rural study respectively did not attend school, implying that, at least in these early stages, school desertion rates are not a huge problem requiring immediate action.[9] Second, in contrast to the attendance

6. In this chapter, we define a child as being lagged if she/he is in a grade that does not correspond to her/his age. Specifically, an individual is considered to be lagged if she/he is two or more years older than the generally recognized age for each educational grade in accordance with the law. For example, we consider a child to be lagged if she/he is seven and in grade zero or not attending school altogether; a student of eight years of age who is in first grade or less; a nine-year-old student in second grade or less and so on until fourteen-year-old student in seventh grade or less. Those who do not attend school are also considered as being behind, given that children are required to attend school by law.
7. The definition of educational lag as used in this chapter is stricter than that used by the National Ministry of Education (MEN) when referring to over-age students. In accordance with MEN, students are considered over-age when they are two or three years older than the average expected age for a certain grade.
8. See for example Rodríguez and Sánchez (2012) and Romero (2012).
9. This is consistent with the rates of net coverage reported by the National Ministry of Education for the year 2012 and shows an encouraging panorama in this aspect.

Figure 5.1.

School attendance of the panel of children and youths by area (percentage of children).



Source: Authors' calculations based on ELCA 2010 and 2013

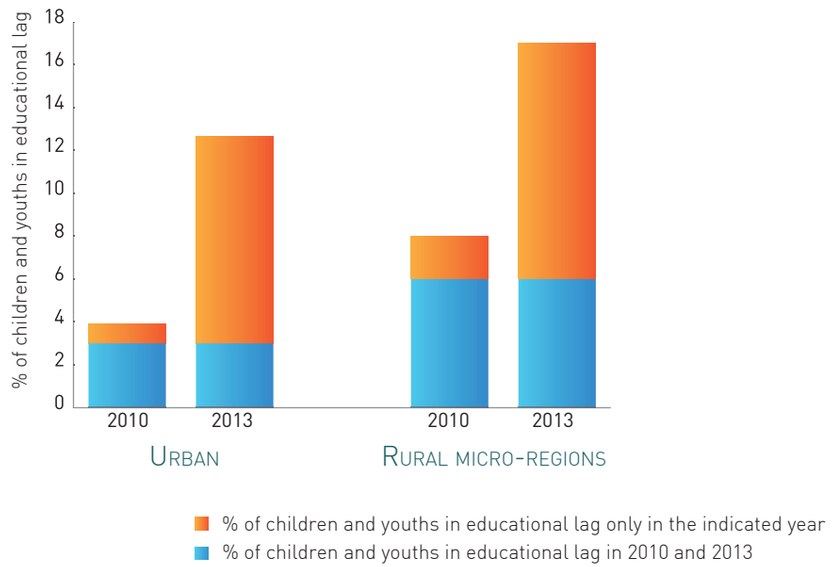
This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

→ Luis Fernando Moreno dreamed of his son Cristian becoming a professional soccer player. He remembers that his son played for Envigado FC for 14 years. He only had the final step to go.

rates, educational lag is a problem that exists at these ages and, during the three years, it increased significantly in both areas. Between 2010 and 2013, educational lag increased by almost eight percentage points in both urban and rural areas for the panel of children who in 2010 were between the ages of five and nine. Although considered natural that the percentage of those in educational lag would rise as they grow, the increases recorded with the information taken from ELCA are far greater than what was expected. Third, the inequalities between these two areas are evident even at these early ages. The non-attendance rate in the rural area is almost three times greater than in the urban area and educational lag is 30% greater in rural areas than in urban ones.

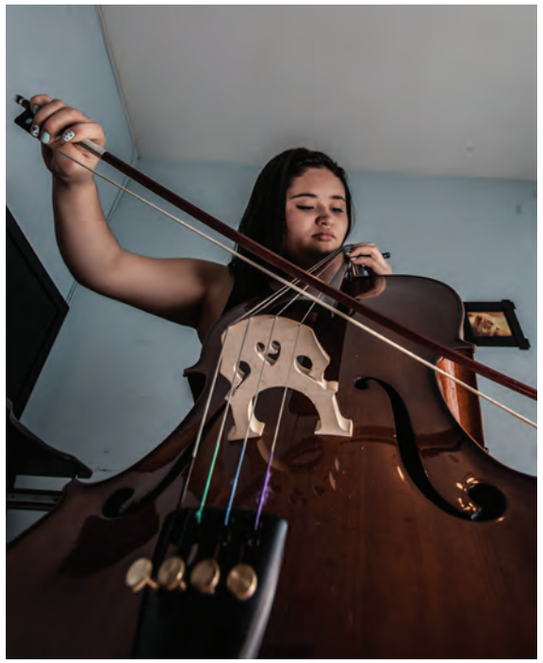
Figure 5.2.

Educational lag of the panel of children and youths by area (percentage of children).



Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.



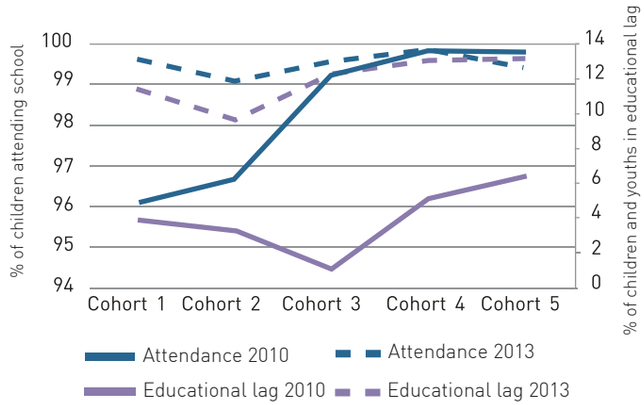
→ Antonia Pelaez dreams of being a musician. She is learning to play violoncello in Villa Hermosa, Medellín. She has all the support of her mother and grandmother.

As expected, these rates vary considerably depending on the socio-economic characteristics of the children and their families. Figures 5.3 and 5.4 show the attendance and educational lag of the ELCA children who were residents in the urban and rural areas in 2010 and 2013, in accordance with their respective ages. The left axes show the percentages of attendance or school coverage, while the ones on the right show the percentages of children and youths that are lagged. The information is divided into five cohorts. Cohort one is made up of all the children in the study who in 2010 were five years old, cohort two is made up of those who in 2010 were six, cohort three includes those who were seven years of age, cohort four is for those who were eight years old, and finally cohort five is for those children in the study who were nine years old in 2010. For the second wave, the average ages of each cohort increased by three years, beginning each cohort from approximately eight years of age to thirteen years of age, respectively.

Two important points stand out. First, upon comparing the rates of school attendance between 2010 and 2013, we can see that these increased for the first two cohorts, which can be explained by the late entry of younger children into the school system. For the other groups, attendance remains almost identical implying that nearly 100% of the children in these cohorts attended school in 2010 and continued doing so in 2013. Second, educational lag increased for all the cohorts in the three years in both areas, meaning that the phenomenon occurs from an early age and that educational policies are essential in overcoming this problem.

Figure 5.3.

Attendance and educational lag of the panel of urban children and youths by cohort and year (percentage of children).

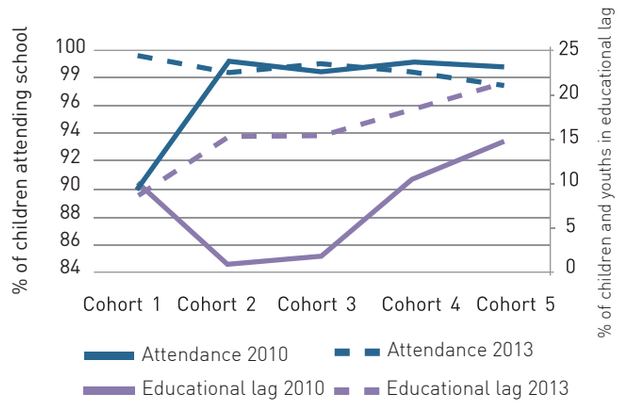


Source: Authors' calculations based on ELCA 2010 and 2013.

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013.

Figure 5.4.

Attendance and educational lag of the panel of rural micro-region children and youths by cohort and year (percentage of children).



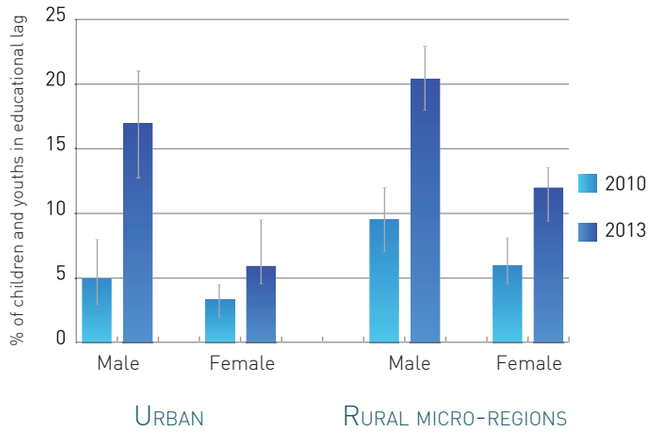
Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

Figures 5.5 and 5.6 also show interesting patterns of educational lag, which is much greater for men than for women, a gender-based difference that increased significantly over the three years. Furthermore, the correlation between educational lag and levels of wealth is negative, increased over time and, as expected, the children and youths who belonged to the poorest households presented the highest rates of educational lag. Figure 5.7 shows that, in accordance with the Peabody Picture Vocabulary Test (PPVT) applied to these children and youths in 2010, educational lag was greater in 2013, and for children with lower scores. It also increased more significantly over the three years. As seen in the previous case, the differences are statistically significant.

Figure 5.5.

Educational lag of the panel of children and youths by gender, year and area (percentage of children).

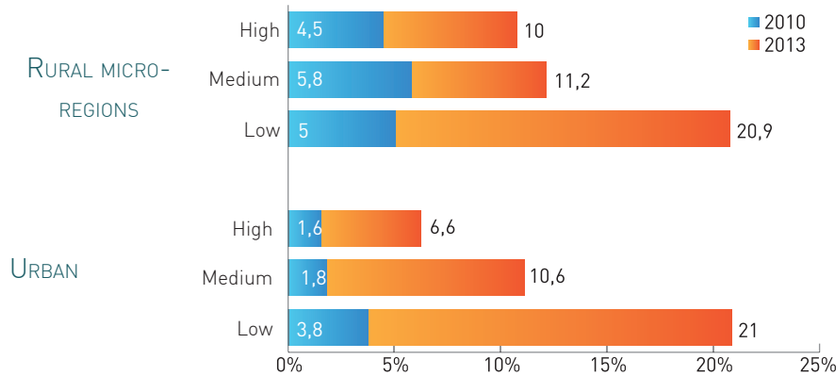


Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions. A 95% confidence interval is reported.

Figure 5.6.

Educational lag of the panel of children and youths by wealth level, year and area (percentage of children).

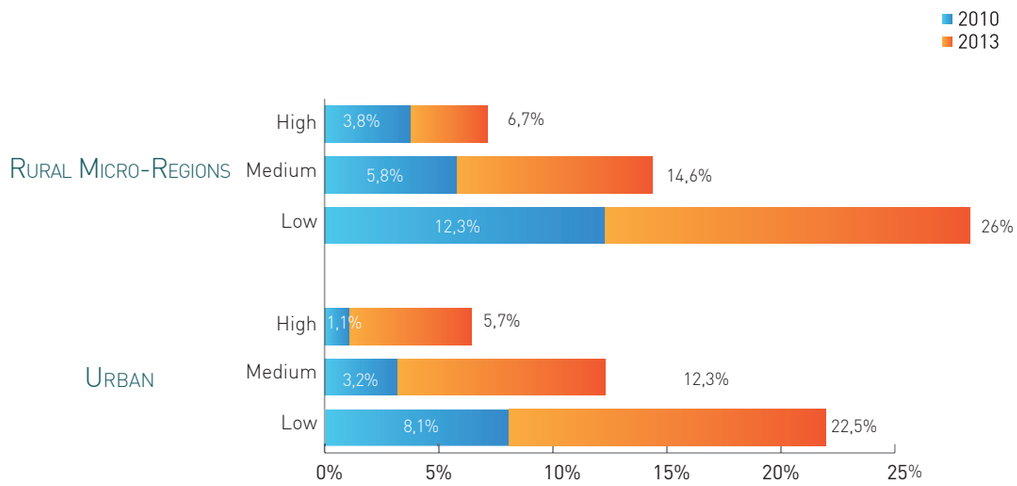


Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The wealth level corresponds to the terciles of a continuous wealth index, based on durable goods and households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions. A 95% confidence interval is reported.

Figure 5.7.

Educational lag of the panel of children and youths by PPVT score, year and area (percentage of children).



Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions. A 95% confidence interval is reported.

→ Natasha Moncayo attends Escuela Nueva in Córdoba (Quindío) where she shares her classroom and teacher with other children at different levels of learning.

Table 5.2 reveals that there are also important differences in the evolution of the education variables of ELCA children and youths in accordance with their place of residence. For example, the increase in educational coverage between the 2010 and 2013 was greater for the children in urban areas in the Pacific region where it increased by 3.6 percentage points, without yet reaching universal coverage. In the rural areas, the biggest increase was in the Center-East micro-region. As previously mentioned, these increases are probably due to the children who entered the school system late. Table 5.2 also shows the regional differences in terms of educational lag rates.

There are many factors that can explain the educational lag of these children and youths in Colombia. In addition to late entry into the school system, educational lag can also be explained by repetition or short periods of desertion. For example, in accordance with ELCA data, an average rate of 3.5% of the children in the urban study and 4.5% of the rural children dropped out of school at some point for a period greater than two months between 2010 and 2013, which can increase the educational lag. Table 5.2 shows that the children and youths living in Bogotá were those who most dropped out for periods greater than two months in the urban areas. In the rural areas, children living in the Coffee Region were those who most reported having dropped out at some point during the three years. However, it is worth clarifying that the majority of these youths eventually returned to the school system, thus, affecting educational lag but not the general coverage rates as was mentioned earlier and as can be seen in the first figures of this chapter.

Similarly, household shocks can also negatively affect educational achievements. ELCA data suggests that, at least for the children and youths aged between eight and thirteen in 2013, when faced with unexpected events, their families did not react in a way that affected their accumulation of human capital. This is excellent news, given that doing so would be perhaps the most costly response and would carry many more negative repercussions in the long-term. The only case in which a shock increased the probability of desertion or educational lag, both in the urban area and the four micro-regions, was when the shocks were due to a natural disaster. This is probably highly correlated with damage to the physical school infrastructure or road infrastructure and, therefore, can and should be managed by efficient State policies.

→ Early in the morning, Luisa Rodríguez has her breakfast in the kitchen so she can head out to school. She lives with her aunt and uncle, cousins and grandparents in a house in rural Puente Nacional.

Table 5.2.

Educational variables of the panel of children and youths by region (percentage of children).

Region	Attendance (2010)	Educational lag (2010)	Attendance (2013)	Educational lag (2013)	Temporary desertion in the three years
Urban					
Atlantic (%)	99,3	4,8	99,4	9,9	4,0
Eastern (%)	99,7	0,7	99,7	7,7	1,5
Central (%)	98,1	3,2	99,5	14,5	3,3
Pacific (%)	95,0	8,6	98,6	9,0	4,1
Bogotá (%)	99,2	2,7	100,0	8,1	4,7
Rural Micro-Regions					
Mid-Atlantic (%)	99,0	7,4	99,1	19,5	2,5
Cundiboyacá (%)	97,5	4,9	99,0	8,9	3,6
Coffee Region (%)	97,0	9,8	97,6	17,5	7,3
Center-East (%)	94,3	9,8	97,7	16,1	4,6

Source: Authors' calculations based on ELCA 2010 and 2013

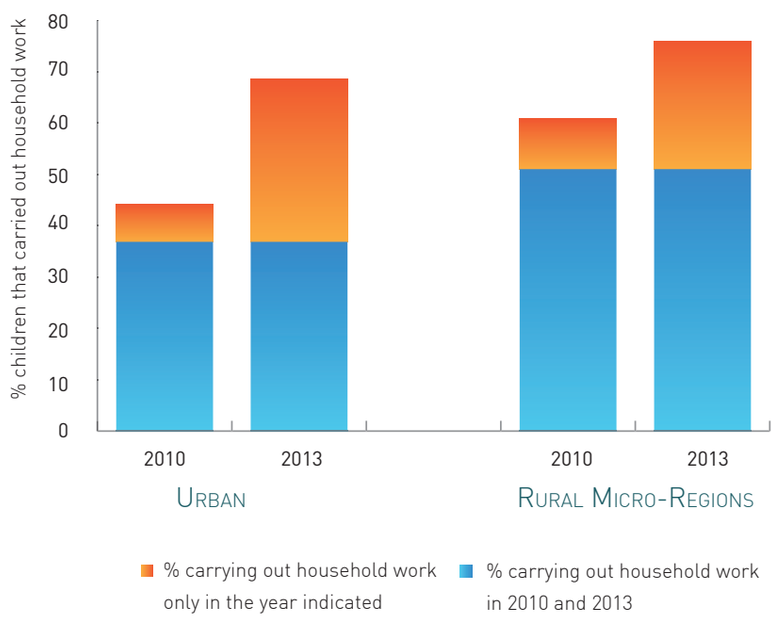
This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

5.4. Household work and the labor force

The ELCA also investigates the children and youths' participation in work activities with specific questions according to the different age ranges. For all the children over five, the survey enquires into whether they helped with household work. Children between the ages of five and nine were asked whether they worked, collaborated with or helped anyone in their work during the previous week, whereas those over ten were asked questions similar to those applied to the adults, regarding their participation in the labor market. With this information, two variables were constructed to identify collaboration with household work and participation in other work in the labor market for all of the children and youths in the panel sample. These questions were applied both in 2010 and 2013, which means that we were able to analyze this topic along with the panel of children to see the changes they experienced in this aspect.[10]

Figures 5.8 and 5.9 show how participation in these activities evolved over the three years as the children in the study grew. As was to be expected, we can see that the participation in household work and the labor force of the panel of children and youths increased as they grew. For example, while 44.8% of children between the ages of five and nine carried out household work in the urban area in 2010, this percentage increased to 68% in

Figure 5.8.
Participation in household work of the panel of children and youths by year and area (percentage of children).



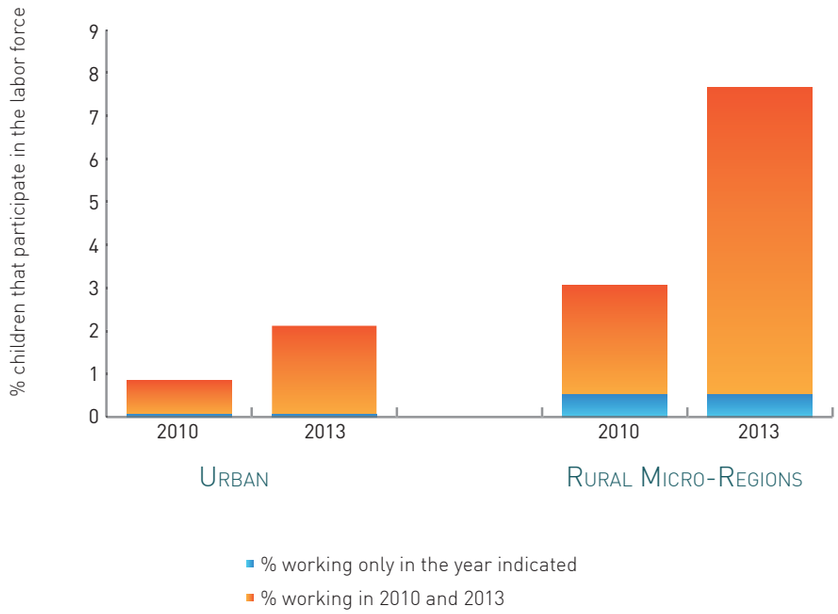
Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

10. For the construction of the labor participation variable, information is included for all ages; that is, we take into account whether the child helped someone in their work or whether they participated directly in the labor market.

Figure 5.9.

Participation in the labor force of the panel of children and youths by year and area (percentage of children).



Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

2013 when these same children were aged between eight and thirteen. This increase is marked by 31.8% of the total number of children that did not carry out household work in 2010, but did so in 2013. Likewise, for the rural area, 60.8% and 75.9% of the children in the study undertook household work in 2010 and 2013, respectively. Furthermore, we can see that the ELCA children's participation in child labor in the urban area increased from 0.8% in 2010 to 2.1% in 2013. At the same time, for the rural area, the children's participation in child labor increased from 3.1% in 2010 to 7.7% in 2013, of which 7.12% of the total number of children did not undertake any labor activity in 2010, but did so in 2013.

Table 5.3 shows the percentage of children and youths in the first and second waves of ELCA that reported undertaking household work and working in the labor markets in urban and rural areas, respectively, in accordance with some of their socio-economic characteristics. In analyzing the responses, common trends can be identified both in the urban area and in the rural micro-regions. First, on average for both years and for all of the children and youths, undertaking household work was significantly greater than participation in the labor market. Second, while the participation of women in household work was greater than that of men, the opposite occurs in terms of participating

in the labor market. Over the three years, the rise in collaboration with household work was greater for women than for men, whereas in the case of the labor force, the increases were greater for men than for women. Third, the rate of collaboration in household work in the urban area and in the micro-regions is quite similar and, in general, the majority helped with washing, cleaning, cooking, taking care of children and running errands.

Table 5.3 also shows the important differences between these two variables. The first notable difference can be seen when comparing participation in the urban and rural labor force. While, on average, only 2.05% of the children and youths in the urban area reported carrying out this activity in 2013, in the same wave for the rural area, the percentage was 11.5% and especially high for men (15.93%). The second difference can be observed when comparing the percentages of participation in accordance with the households' wealth level. In the urban area, children and youths belonging to wealthier households reported doing household work and participating in the labor force to a lesser extent than their peers belonging to less wealthy households. In the rural area, in contrast, there are no important differences in the rates of participation in these two activities in accordance with the level of wealth.

Table 5.3.

Participation in household work and the labor force of the panel of children and youths by gender and wealth level (percentage of children).

	Household work			Labor participation		
	2010	2013	Change	2010	2013	Change
Urban Area						
Gender						
Male	42,84%	62,84%	20,0	1,22%	2,86%	1,6
Female	51,18%	77,06%	25,9	0,55%	1,27%	0,7
Wealth level						
Low	48,88%	72,86%	24,0	1,84%	3,56%	1,7
Medium	53,77%	71,78%	18,0	0,73%	2,59%	1,9
High	39,20%	65,67%	26,5	0,12%	0,88%	0,8
Rural micro-regions						
Gender						
Male	63,26%	72,28%	9,0	5,22%	15,93%	10,7
Female	62,12%	83,74%	21,6	1,82%	6,73%	4,9
Wealth level						
Low	64,45%	79,01%	14,6	3,92%	10,49%	6,6
Medium	65,01%	76,47%	11,5	3,81%	12,52%	8,7
High	58,02%	78,25%	20,2	2,70%	11,77%	9,1

Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The wealth level corresponds to the terciles of a continuous wealth index, based on durable goods and the households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

There are also a number of differences in terms of the participation rates in the labor force across the four rural micro-regions.[11] The greatest increase in the number of young workers was observed in the Center-East region, whereas the lowest increase occurred in the Coffee Region, and the youths in the mid-Atlantic region were those less likely to be working in 2013. The data also indicates that the time that youths dedicate to these two activities increases as they grow. While in 2010, children in the urban and rural areas dedicated an average of 2.2 and 2.9 hours to household work, in 2013, they dedicated 2.8 and 3.7 hours to such activities, respectively. These same values for labor activities were 3.3 and 3.7 in 2010, and 4.5 and 6.3 in 2013, respectively. Furthermore, as was to be expected, for both years, the higher the child or youth's level of wealth, the less time they dedicated to work.

As with the educational variables, it is interesting to know how participation in these activities changes when households are subject to high-impact shocks. Figure 5.10 presents the impact of those shocks that significantly affected each one of these activities in the urban region and the four micro-regions respectively for 2013. What stands out is that, in the urban area, the shocks only affected the probability of undertaking household work, whereas in the four micro-regions, these only affected the probability of working in the labor force.

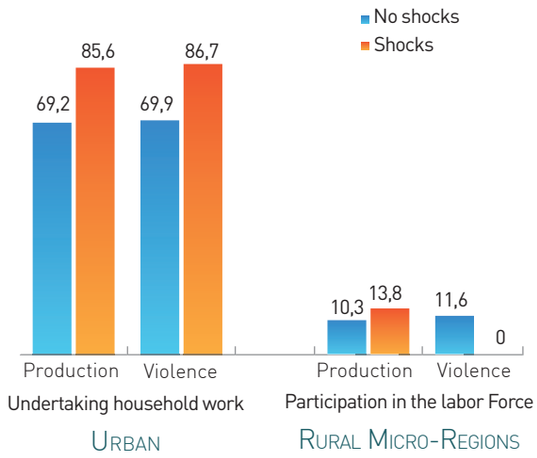
Specifically, if the urban households experienced a production shock (associated with the bankruptcy of their business or store) or a violence shock between 2010 and 2013, the probability of the children or youths undertaking household labor increased by between sixteen and eighteen percentage points respectively. This may be due to the fact that these shocks increase the work participation of the adults, forcing minors to replace them in taking responsibility for household work. In the four micro-regions, the children and youths increased their participation in the labor force by three percentage points, and they reduced it by eleven percentage points if their households experienced a high impact production or violence shock, respectively. In the first of these cases, the increase could be due to the fact that families resort to child labor as a means of cushioning the negative effects of the shock. The second case is consistent with the idea that, in the most violent places, parents perhaps protect minors more and minimize the time they spend outside the home and, as such, the risks they may be subject to. Alternatively, the decrease could also be due to the fact that there are fewer adequate work activities for them in such areas.

5.5. The youth of 2013: Their dreams and the risks they face

As previously mentioned, the second wave of ELCA contains a special section dedicated to youths aged between ten and thirteen. This section of the survey was created to account for the fact that the

11. In the urban area, there are no significant differences to report.

Figure 5.10.
Participation in household work and in the labor force by household shocks (percentage of children).



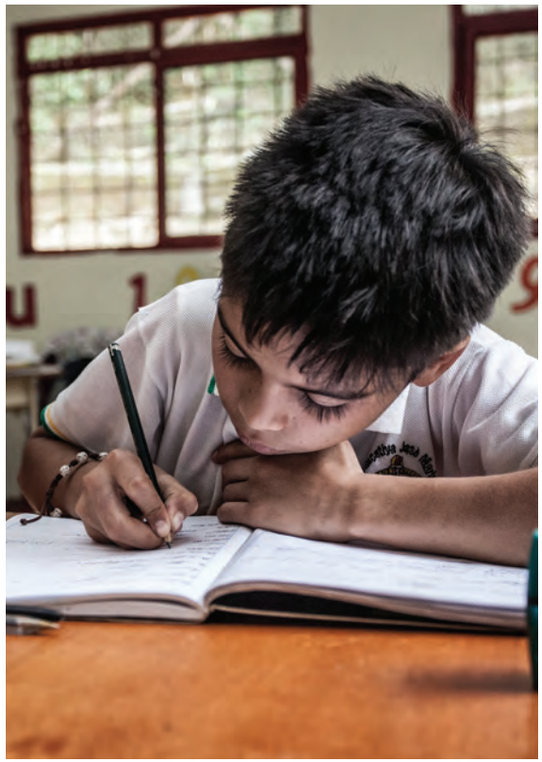
Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The occurrence of shocks refers to the households, which over the three years experienced some destabilizing event that had a medium to high impact on their economic stability. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions.

main subjects of the study are growing up and, in their preadolescence, facing situations that will affect their future lives. Such factors are, therefore, important to recognize and understand. Among the aspects that this study investigates are the youths' attitudes with regard to their peers, their social capital, their involvement with gangs, their smoking and alcohol consumption habits, their plans and dreams for the future and their use of free time during the week and on weekends. This chapter presents a number of the results regarding some of the risks they face and their dreams for the future in 2013.

Among the risks, the ELCA results provide information about the youths' smoking and alcohol consumption habits. The data shows that cigarette consumption is very low among those between ten and thirteen years of age. In fact, only about 2% of the youths in the rural and urban areas reported to have tried a cigarette in their lives. However, the situation is very different when it comes to alcohol consumption. In the urban area, 36% of the youths between the ages of ten and thirteen reported having tried an alcoholic drink; of these, 34% reported consuming alcohol more than twice a year. In the rural area, these same percentages are 43% and 44%, respectively. Furthermore, the ages at which they drink alcohol for the first time are relatively low. In the urban and rural area, 60% and 73%, respectively, tried alcohol between the ages of eight and ten. Significant regional differences were observed in terms of alcohol consumption. In particular, the youths living in the Eastern urban region and in the rural Cundiboyacá micro-region reported having tried and consumed alcohol more frequently than their peers in other regions. Additionally, the youths with higher scores on the 2010 PPVT and who belonged to households where members habitually consume alcohol reported higher rates of alcohol consumption.

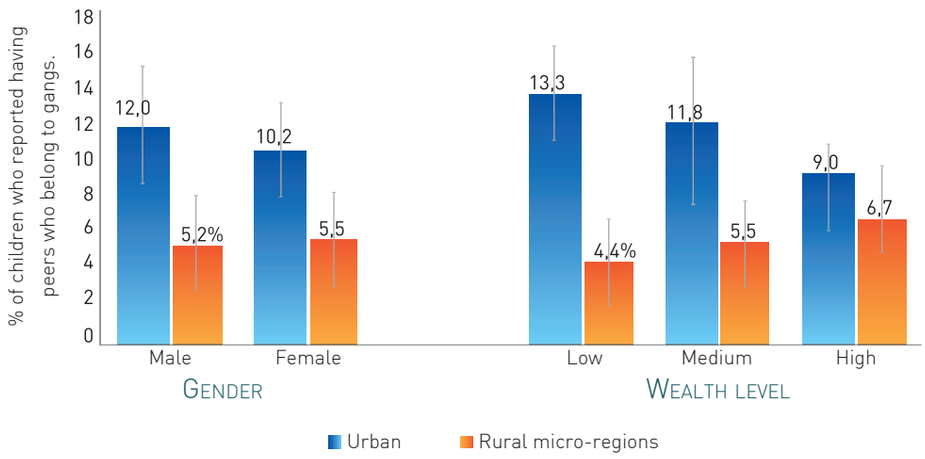
Youths nowadays are also exposed to the risk of being recruited for future criminal activities by neighborhood gangs. ELCA confirms that this is an urban problem more than it is a rural one and, as such, urban areas are where prevention policies are most urgently needed. While 36% of the young residents in the urban areas reported that they had gangs in their neighborhoods, in the rural area, only 7% report their existence. In the urban area, the proportion of men from lower-income households that reported the existence of gangs in their neighborhoods was significantly greater, indicating that the problem is particularly acute for this area of the population. ELCA also includes a question about whether or not an individual is part of a gang. The percentages here are very low as less than 1% in the urban area and 0.1% in the rural area reported belonging to a gang. However, these youths, especially in the urban area, are at risk of joining or being in direct contact with such organizations



→ Sebastián Bolaños has to walk thirty minutes to get to school from his home in Córdoba (Quindío). The school was closed for five years because of the winter spell.

Figure 5.11.

Youths that reported having a peer belonging to a gang in 2013 by gender and wealth level (percentage of youths).



Source: Authors' calculations based on ELCA 2010 and 2013

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The wealth level corresponds to the terciles of a continuous wealth index, based on durable goods and households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions. A 95% confidence interval is reported.

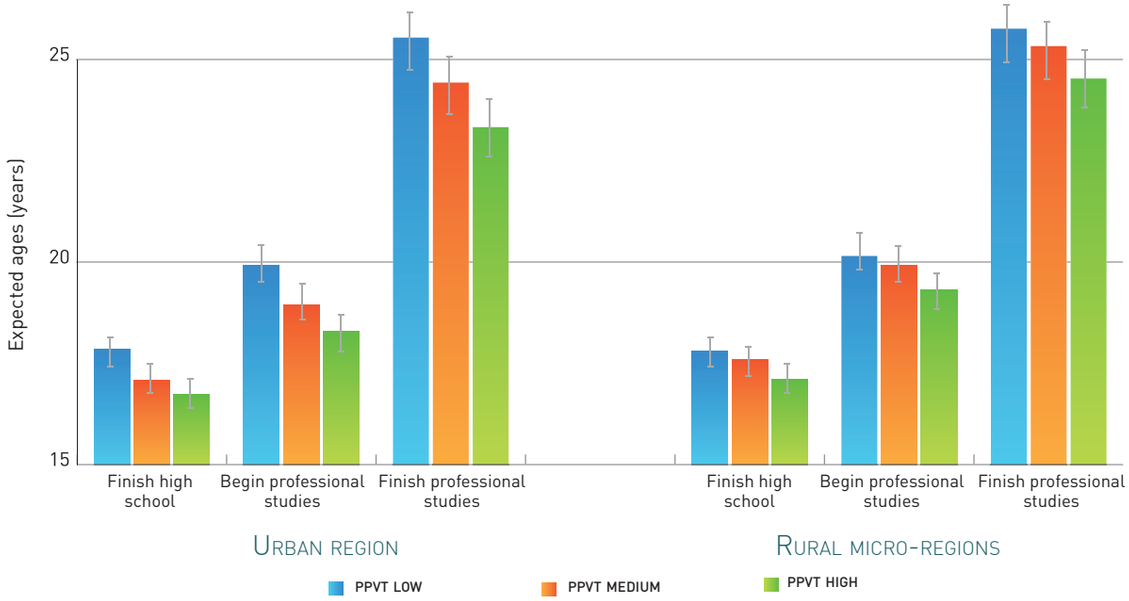
in the future given that 11% of them answered affirmatively to the question of whether or not any of their classmates belonged to a gang. Figure 5.11 shows that the greatest risk, once again, is for men in urban low-income households.

The last questions the youths were asked in the ELCA study had to do with their plans and dreams and what they thought their lives would be like in the future. What is immediately striking about the results are the responses on life expectancy. Youths in Colombia want to live longer than they expect to live. In the urban area, the youths reported wanting to live to be 98, believing that they will only live to be 81. In the rural area, as was to be expected, life expectancy is lower. Youths in the micro-regions reported wanting to live to 94 years of age but only really expecting to live to be 77. There are no gender differences in these expectations in the urban area. In the rural area, however, women reported wanting and expecting to live four and three years respectively less than men. The differences are statistically significant and stand out because in these regions it would be expected for men to be those most affected by the armed conflict that impacts these populations significantly and influences their expectations.

Insofar as family, it was found that the vast majority —approximately 80%— of the young residents in the urban area hoped to get married and have children. In the rural area, 73% of the youths hoped to get married and 76% hoped to have children. When comparing these dreams by gender, we can see that on both rural and urban areas, the probability of a woman wanting to have children is ten percentage points less than men, which makes these differences significant. On average, the youths that live in the urban Atlantic region and rural mid-Atlantic region are more likely to want to get married and have children than any other youth in any other region. The average age at which they hope that both events occur in the urban and rural area is at 27 and 29 years of age, respectively, and less than 1% of youths hope to have children before they turn nineteen. This clearly shows that the high rates of teenage pregnancy and teenage mothers are a result of unwanted pregnancies, at least in cases whereby the mothers are between ten and thirteen years of age.

Finally, it is worth mentioning the youths' expectations in terms of their future educational achievements. In the urban area, 99% hope to finish their

Figure 5.12.
Expected ages for educational achievements reported by youths in 2013 by 2010 PPVT results and area (percentages of children).



Source: Authors' calculations based on ELCA 2010 and 2013

It is worth mentioning the youths' expectations in terms of their future educational achievements. In the urban area, 99% hope to finish their high school studies, 96% hope to start professional studies, and 95% hope to finish their professional studies.

This information refers to children surveyed in both waves of ELCA who were aged between five and nine in 2010, and between eight and thirteen in 2013. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and the Center-East micro-regions. A 95% confidence interval is reported.

high school studies, 96% hope to start professional studies, and 95% hope to finish their professional studies. These same percentages for youths in the four rural micro-regions are 96%, 91%, and 90%, respectively. These expectations are quite different from what really happens, whereby only 25% finish high school and a professional career. As expected, there are also significant differences by gender in terms of youths' expectations of entering higher education. Compared to their male peers, women presented a greater expectation of beginning and finishing professional studies, in both urban and rural areas. The high and positive expectations regarding their future educational achievements explains why there were no significant differences according to the youths' scores obtained in the 2010 PPVT. However, when analyzing the ages by which the youths expected to achieve these three educational goals, the differences in accordance with the PPVT scores are significant and important especially in the urban area. Youths who in 2010 obtained a high score on the PPVT hoped to graduate from high school and complete professional studies 1.1, 1.6 and 2.2 years before youths that obtained a low score.

5.6. Conclusions

The data analyzed in this chapter shed light on the positive and negative aspects of the lives of the youths included in the ELCA study over the three years. Some of the positive aspects are that the majority of them attended school, few were part of the labor force, and the majority had great dreams and expectations for their futures. It is worth fostering and ensuring that they all fulfill their dreams of finishing high school and higher education. However, it is important for policy makers to account for the significant risks, which can have costly repercussions on society as a whole in the future; for example, the educational lag found at these early stages of life is high and has increased rapidly for these individuals in both the urban and rural areas. With this in mind, educational policy should ensure that late entry into the educational system stops occurring, given that it is probably highly correlated with educational lag. Furthermore, specialized educational policy, particularly for children and youths with learning difficulties, should be applied and available in all official educational institutions. Undoubtedly, the implementation of such programs could help reduce educational lag rates in the country. There is also a need for public policy aimed at controlling gangs and early forced recruitment of youths as, according to the data, this seems to present a current risk, especially for young men in the urban area.

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→ The daughters of Tomás Calderón, 84 years old and Abigail Solano, 71, take turns taking care of their sick parents on a farm in Simijaca.

→ Teobaldo Betancourt received aid from the State. Thanks to this and to the help of his son, he was able to put in a floor and build a kitchen in his house in Montería.

Chapter 6
Colombian politics in the light of ELCA: Between disinterest and clientelism

Leopoldo Fergusson
Juan Felipe Riaño*

→ In addition to being a director in the remaking of Gramalote, Mildred Leal works in her micro-enterprise of pickled foods.

6.1. Introduction

→ This chapter presents some characteristics of the ways in which Colombians relate to politics, based on the information gathered in the ELCA for the first time in 2013. Even when there are differences in accordance with the characteristics of the households, which cannot be avoided, Colombians demonstrate a general pattern of disinterest for political topics. Additionally, the distance between citizens and political parties is notorious. Colombian politics, as pointed out by many political commentators and experts, is strongly self-oriented.

An important symptom (and maybe also a cause) of these phenomena of disinterest and weakness of the political institutions is the prevalence of clientelism, which can be measured in the ELCA based on one of its most extreme manifestations: vote buying. Beyond simply being a type of electoral fraud that worries authorities, vote buying exemplifies a style of "accountability" —if we can call it this— whereby citizens give their vote in exchange for some kind of particular, immediate and private benefit. Thus, politicians dedicate their efforts to winning over specific groups of citizens with these

* We would like to thank Juan Camilo Cárdenas for his comments

benefits instead of designing programs, which impact a broad range of individuals in society. Priority is given to private transference over the public good, and to the interpersonal connection over liking and identifying with programs or ideologies.

This chapter documents these patterns and takes advantage of the richness of information provided in the survey to propose initial hypotheses regarding the factors that either aggravate or mitigate the problem of clientelism manifested through vote buying.[2] Section 6.2 studies the (dis)interest of Colombians for politics and some aspects of their political positions and their relationship with politicians. Section 6.3 discusses vote buying as an example of clientelism showing both its prevalence as well as the factors that seem to aggravate or mitigate it. The chapter concludes with some final reflections on the implications of this reality.

6.2. (Dis)interest in politics

The set of questions related with Colombians' interest in politics included in the ELCA obtain some important conclusions.[3]

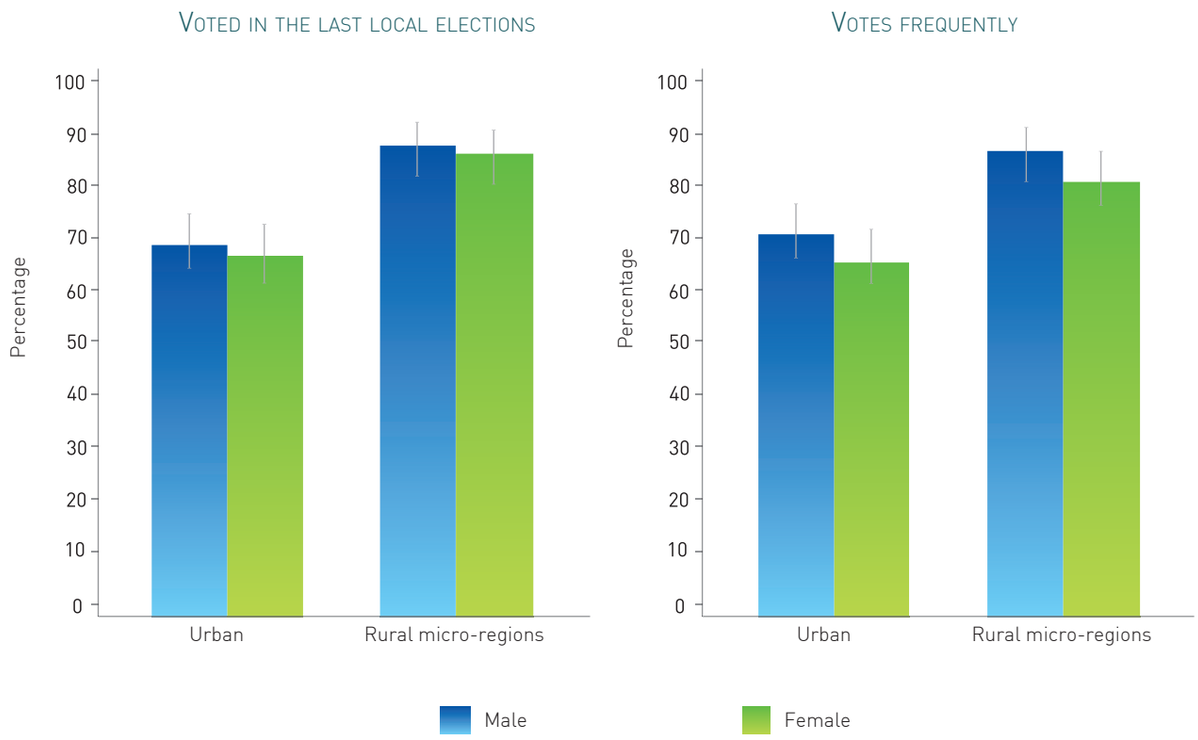
In the first place, citizens, on average, have little interest in politics. This can be seen not only in their electoral behavior, but also in other manifestations such as the little frequency with which Colombians discuss politics with other individuals in their surroundings and how seldom they actually remember candidates and representatives. A second message frequently cited as a worrying aspect of Colombian politics is that it is more self-oriented than it is geared towards parties. Furthermore, the majority of citizens do not identify ideologically on the left-right spectrum. Finally, even though this is the general panorama, there are some differences according to gender and region. In general, women and the urban population seem to be less interested in politics and less in tune with the political parties than males and residents of the rural areas. The information that supports these conclusions is summarized below in order to briefly discuss its implications.

Figure 6.1 shows that participation is greater in the rural area than in the urban area and, even though the difference is small, men also participate more than women. The figure on the left shows the percentage of people who reported having participated in the last local elections, discriminating by gender and by urban or rural region. There is a notable and statistically significant difference between the urban area, where around 68% of the citizens participate, and the rural, where the proportion is higher, reaching approximately 87%. In contrast, the difference between men and women is not significant, but men report a slightly higher percentage of participation (69% against 67% in the urban area, and 87% against 86% in the rural). The figure on the right shows the proportion of individuals that say they participate "always" or "usually" in the elections with a very similar pattern. In contrast, the citizens seem to report a percentage of participation, which is greater than it really is. According to data taken from the National Registry of Civil Status, in the local elections of 2011, participation reached 56.78% and this figure is calculated with respect to the electoral census (a sub-group of individuals of age, who are registered to vote). Thus, more than a precise indicator of the participation of the Colombians, this variable is useful to mark the difference between the rural and urban areas in the degree of political participation.

1. It is worth emphasizing that all of this makes up a small fraction of the universe of questions, which can be explored with the new ELCA political module introduced in 2013. The module was designed by Leopoldo Fergusson and Ximena Cadena. The full ELCA academic committee contributed, especially Raquel Bernal, Adriana Camacho and Juan Camilo Cárdenas, as well as Professor, Marcela Eslava, all of the School of Economics at Universidad de los Andes. We also want to express gratitude for the generous comments of experts consulted, such as professors, Felipe Botero, Miguel García and Juan Carlos Rodríguez of the Department of Political Science at Universidad de los Andes, Chap Lawson of the Massachusetts Institute of Technology (MIT), Gabe Lenz at the University of California, Berkeley, Gianmarco Leon from Universidad Pompeu Fabra and Jim Snyder of Harvard.
2. The module on politics was applied to one adult member of each household surveyed in the ELCA. The participant was chosen randomly between the household head and his/her spouse, if one existed. For the households without spouses, the questions are directed at the household head only. It is worth pointing out that before starting the module, informed consent was verified from the individuals participating in answering this part of the questionnaire. Only 5% of the households refused to participate.

Figure 6.1.

Participation in the local elections of 2011 and self-reported voting frequency by area and gender (percentage of individuals).



Source: Authors' calculations based on ELCA 2010 and 2013

The figure on the left indicates the percentage of people who affirm having voted in the local elections of 2011. The figure on the right indicates the percentage of participants who claim to "always" or "almost always" vote in elections. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Figure 6.2.

Do you remember the name of your Mayor? The cases of Bogotá and Medellín.

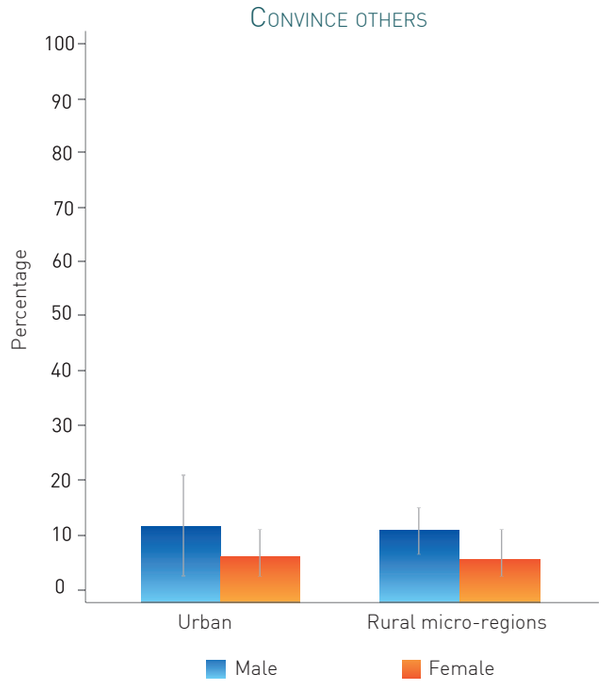
The figure shows the responses for the city of Bogotá (upper-part) and Medellín (lower part) when asked the question: What is the name of the mayor of your city or municipality? The size of the name is proportional to the frequency with which it was mentioned by the participants. Thus, the larger names are associated with frequent responses.

Source: Authors' calculations based on ELCA 2010 and 2013

Participation in the voting process is not the only form by which citizens can show their interest in politics. One way to analyze citizen interest is by verifying whether they are aware of current political affairs. With this focus, the module includes a question (open) enquiring the name of the mayor of the municipality where the person lives. The responses affirm the lack of interest of a large proportion of the participants in various Colombian cities and municipalities. The responses for the cities of Bogotá and Medellín (Figure 6.2) are an example of this. In the figure, the frequency by which a name appears is proportional to the size of the name in the image. In Bogotá, for example, even though the majority of the participants get it right at indicating that Gustavo Petro is the mayor of the city, there are still incorrect or outdated responses such as Noel Petro or Samuel Moreno. Likewise, in the case of Medellín, the name of the current mayor, Aníbal Gaviria, and the ex-mayor and governor of the department, Sergio Fajardo tend to get mixed up.

Figure 6.3.

People who have tried to convince others to vote for a certain candidate by area and gender (percentage of people).



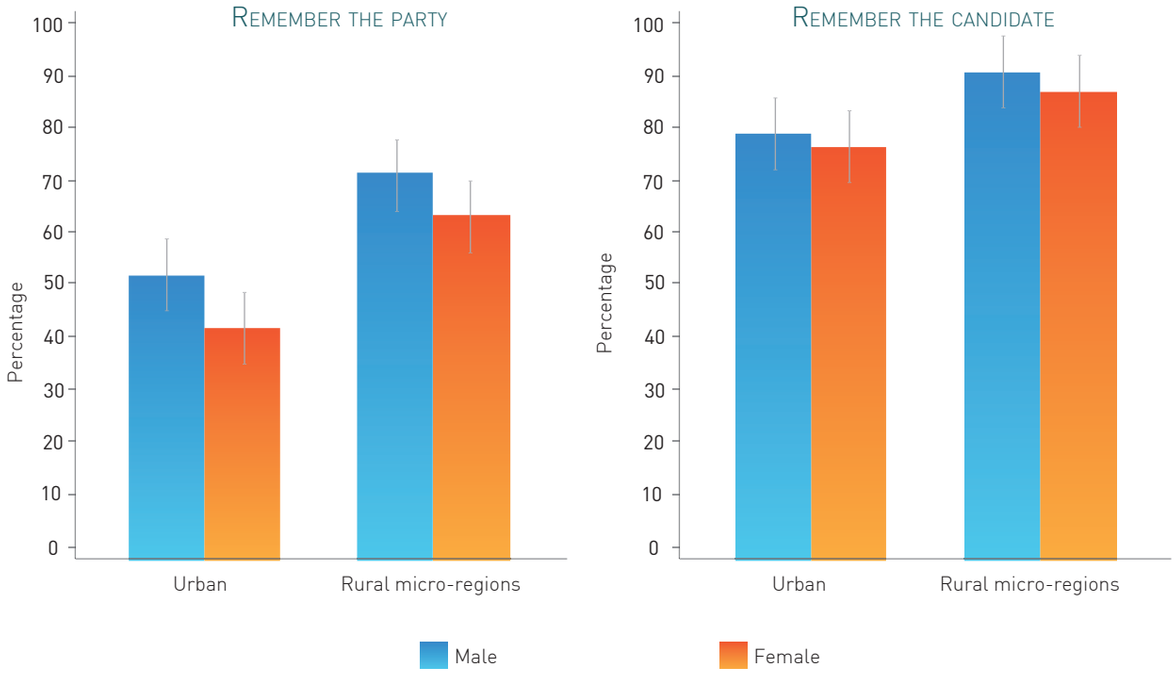
The figure shows the percentage of people that respond "frequently" or "sometimes" to the question: How often have you tried to convince other people to vote for a certain candidate or political party? The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Source: Authors' calculations based on ELCA 2010 and 2013

Another way of estimating the population's level of interest in politics is by examining the frequency with which they engage other individuals with the intention of convincing them to vote for a candidate of their liking. This implies a more committed participation than the simple act of going to the voting booth or knowing the name of the current mayor. The results shown in Figure 6.3 suggest that citizens do not get deeply involved in politics. Very few people (a little over 10% of men and between 5% and 7% of women) "frequently" or "sometimes" try to convince other people that they should vote for a particular party or candidate.

Figure 6.4.

Participants that remember having voted in the local elections of 2011 by area and gender (percentage of people).



The figures show the percentage of participants that remembered the name of the political party or candidate that they voted for in the 2011 local elections. The figure on the left indicates the percentage of participants who remember the name of the political party, and the figure on the right shows the percentage of the population that remembered the name of the candidate. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Source: Authors' calculations based on ELCA 2010 and 2013

Figure 6.4 shows an important aspect of Colombians' relationship with politics, which may influence the apparently low rates of interest: Colombians' relationship with the candidates and their parties. The parties' weakness is evident as well as the prevalence of a more self-oriented sense of politics. For all of the groups and regions, the proportion of voters who remembered the name of the candidate (nearly 80%) is greater than the number of voters who remembered the political party they voted for (varies from 40% to 70%). In addition to this, a greater number of people remembered the political party or the name of the candidate they voted for in the rural area, which coincides with the greater electoral participation reported by the individuals in this area. The contrast is particularly strong in the case of the question about candidates' political parties. In the rural area, people remem-

Figure 6.5.

Loyal voting patterns and identifying with a political party by area and gender (percentage of people).

Source: Authors' calculations based on ELCA 2010 and 2013

The figure on the left shows the percentage of participants that report "always" or "usually" voting for the same political party in the elections while the figure on the right summarizes the percentage of the participants who claim to identify with a particular political party. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

bered the candidate's party, on average, in 65% to 75% of the cases (women and men, respectively), while in the cities, these figures fell to 45% and 55%. It can be confirmed then, that, in the rural area, there is greater interest in politics in accordance with these estimates. Furthermore, it is evident that there is a greater weakness of the parties in the urban area as well as among women.

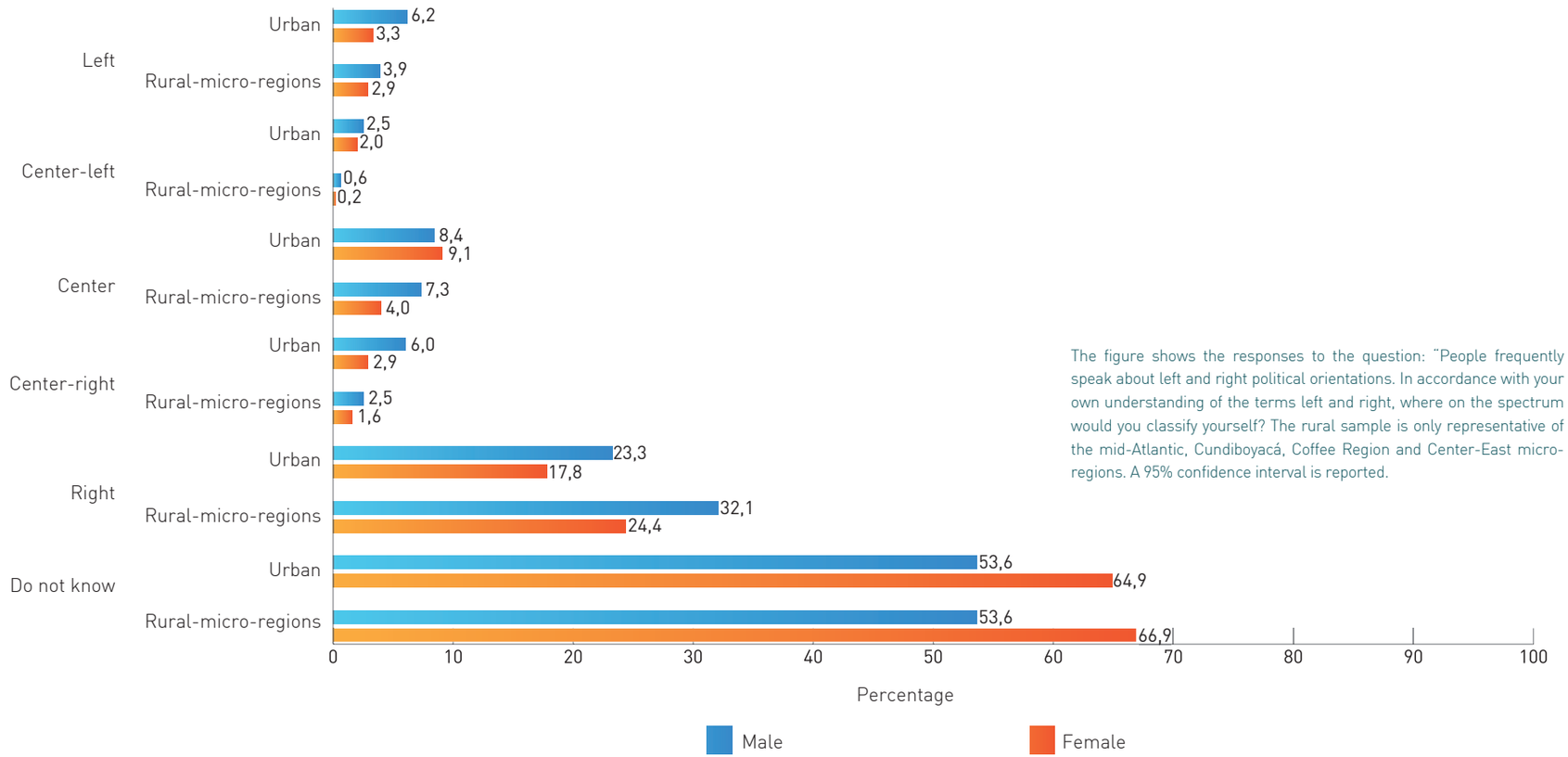
Figure 6.5 confirms the lack of identification between the parties and the citizens. The left panel shows that, in the cities, approximately only one in every four citizens say they "always" or "usually" vote for the same party. In the rural area, the proportion is greater, but still only reaches 50%. It is interesting that this difference between the rural and urban areas in terms of loyalty in voting with regards to parties is not so great upon analyzing identification with regards to a particular political party, as can be seen in the panel on the right. Simply put, a greater proportion of men than women claim to identify with a particular party and the identification is also greater in the rural area than in the urban area. Nevertheless, among all the differences, the latter is of a smaller magnitude. Ad-

ditionally, in any case, the frequency with which the individuals claim to identify with a particular political party is very low. The highest, for men in the rural area, does not even reach 25%.

One last aspect which is consistent both with the low number of Colombians appearing to identify with a political party as well as the little interest displayed by Colombians in politics is that the great majority affirm that they do not know their own political orientation (left or right) (Figure 6.6). Also, in line with what has been described up to this point, this tendency is especially clear among women, whereby approximately two of three, expressed themselves this way in rural and urban areas. Likewise, even though the proportion is lower among men, the number of those who claimed not to know their political orientation is also greater. This reaches nearly 54% in the two areas. Among the minority that does express a preference, most are found leaning to the right, followed by center, left and center-right. Therefore, there is a bias for the right which, although present in both men and women, seems to be more notable in men.

Figure 6.6.

Ideological identification reported by area and gender (percentage of people).



The figure shows the responses to the question: "People frequently speak about left and right political orientations. In accordance with your own understanding of the terms left and right, where on the spectrum would you classify yourself? The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Source: Authors' calculations based on ELCA 2010 and 2013

→ Helped by his eldest son, Antonio Franco Seña built a new house in Ciénaga de Oro (Córdoba)

Even though it is difficult to offer a comparative description for many countries, the figures for the Mexican case —another scenario where clientelism is rife— denotes that the lack of interest in identifying with a particular political party or ideology is particularly notable in Colombia. According to the study by Lawson et al. (2012), 57.5% of men and 60.8% of women in Mexican cities identify with some political party and, in the rural areas, the percentages are 59.6% and 63%. Furthermore, the percentage of individuals, by gender and area, who do not know how to respond to the question regarding their ideological orientation (left or right) does not go over 30%.

In sum, Colombians' disinterest in politics is generalized as is the lack of ideological identity and identification with and loyalty to political parties.

Despite this general phenomenon, the situation is even more pronounced for women and for the urban areas. In a society where the political environment is still heavily dominated by men, this is not so surprising. On the other hand, that the urban population expresses less interest than the rural, can be interesting given that people in cities have greater incomes and are more highly educated and, at least in the international milieu, a higher level of education is generally related with an increased interest in politics (or at least a greater probability of participating in elections and being informed about basic aspects of politics).

An interpretation which is a bit pessimistic of this reality despite being somewhat plausible, is that the most well-educated individuals are particularly disillusioned with politics, precisely for being better informed. In terms of identifying with and feeling loyal to political parties, this could be another symptom of the lack of interest in politics. But it could also be one of the causes: if the parties are not able to channel the concerns and needs of the voters, these same people can lose interest in the political process. Maybe of greater importance is that this lack of interest can be related with a style of politics where an exchange of personal favors for votes prevails rather than an exchange of electoral support for identification with the parties' ideologies and programs. Following is an exploration of the problem of clientelism and one of its clearest manifestations.

6.3. Clientelism: The case of vote buying

This section presents an initial analysis of one of the most innovative questions of the political module, which allows us to study the phenomenon of vote buying in Colombian society. The question is inspired by the contingent valuation method (CVM) widely used in environmental economics and economic policy to value environmental resources and public goods.[3]

A better understanding of vote buying is important because its prevalence puts the correct functioning of democracy at risk. More concretely, vote buying is a manifestation of clientelism, understood as the practice of exchanging one's vote for personal benefits such as money, employment and others.

3. CVM has received important critiques. For example, one worrying factor relates to whether the individuals have sufficient information to answer hypothetical questions regarding the price of non-tradable goods or that the situation of paying for a non-tradable good is too hypothetical to be taken seriously by the participants. Despite these preoccupations, there are multiple applications in the valuation of environmental goods and in other fields such as health. However, there is no CVM application, as far as we have been able to verify, for the estimation of the price of a vote even though critiques, such as those mentioned, even if very important in the valuation of environmental resources, are less relevant in the case of vote valuation. In this case, the markets for votes do exist, individuals possibly have some information regarding this, and the situation proposed by the survey taker is, therefore, more credible.

Clientelism is usually considered harmful due to the fact that this kind of political accountability is seen as detrimental to the programmatic linkages between citizens and the people who govern them. Simply put, clientelism means that citizens exchange electoral support for personal gains such as employment in a public entity, help in procuring medication, a few bags of cement, groceries and even 'whiskey and cash' (Ardila, 2014). When this happens, rather than designing public policies, which result in general benefits for the masses, the politicians spend their time and energy in arranging these specific benefits at the expense of State resources.

Thus, a wide-ranging tradition in political science proposes that under clientelism, private benefits prevail for a minority of the relevant electorate above the delivery of more general goods and services of public interest (Stokes, 2005, 2007). Furthermore, in the Colombian case, the influence of clientelism in its distinct manifestations has been widely documented and studied (see, for example, Leal and Dávila (1990).

6.3.1. The offer curve of votes in Colombia

The question regarding the willingness to accept money in exchange for votes is formulated as follows:

"As you know, some politicians offer money to citizens in exchange for their vote. Do you believe that a person similar to you, from your community or neighborhood, would accept $X amount of pesos for their vote?"

It is important to point out two aspects regarding the formulation of this question: First, the existence of a "social desirability bias" may lead the participants to not answer the question honestly but rather resort to what they believe would be the correct answer. To minimize this risk, the question is formulated indirectly. Instead of asking about the participants' own willingness to accept money in exchange for their vote, a hypothetical situation is proposed in which "a person who is similar to you, who is part of your community or neighborhood" receives an offer of money in exchange for their vote. This reduces the risk that the participants may seek to hide their own true preferences out of fear of being judged. This method has been employed in different surveys, including those related to the prevalence of clientelism and vote buying, as for example, the study by Lawson *et al.* (2007) for Mexico. Nevertheless, one possible cost of this method, important in the interpretation of all the results, is that the response may include not only the evaluation that an individual makes regarding his typical behavior, but it could also reveal the level of skepticism with which he judges his peers. This exception is especially important when comparing the responses between different groups of individuals.[4]

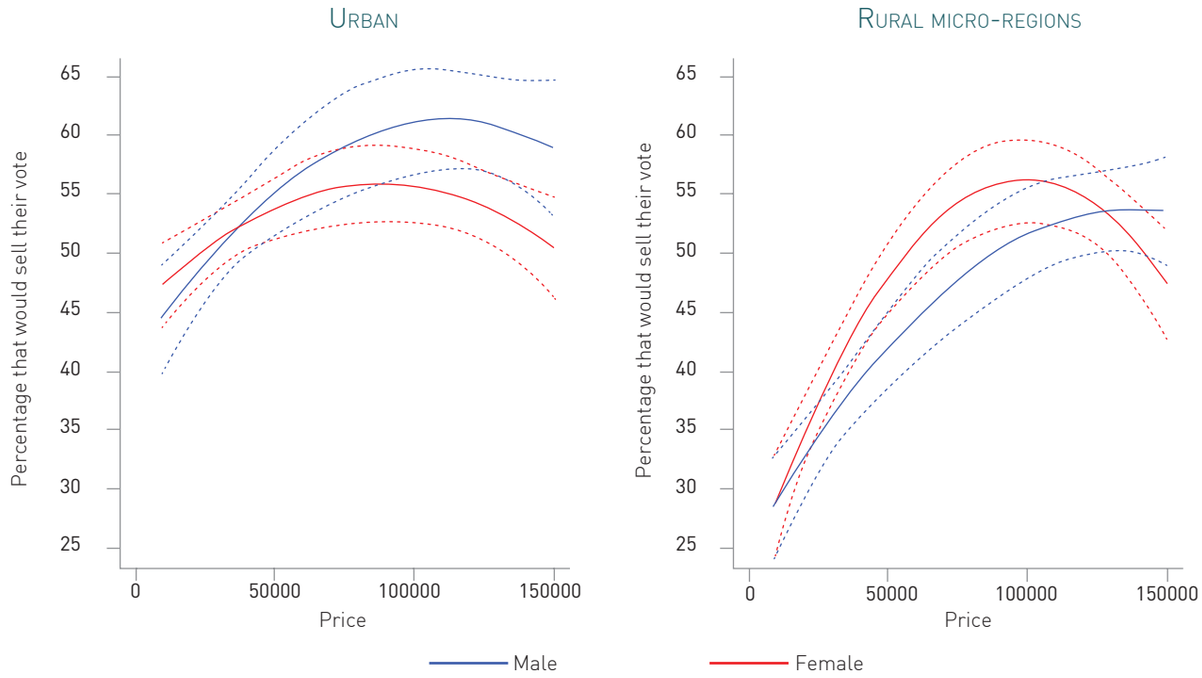
Second, each individual is asked the question using a specific sum of money ($X) offered hypothetically in exchange for the vote. This sum is randomly varied from participant to participant. The assigned values are 10, 30, 50, 100 and 150 thousand Colombian pesos. As pointed out by Hoyos and Mariel (2013), the use of this format is one of the most important in the contingent valuation method. This dichotomous format (also known as "referendum" or "close-ended") can show the compatibility of incentives; that is, it compels the participants to reveal their true preferences. Additionally, it enormously simplifies the cognitive effort required of the participants.[5]

4. For example, if women answer "no" to this question less frequently than men do, they may be mixing their view of men and women in such a way that the result can be due to the consequence of the fact that women think that it is less probable that citizens sell their votes and not just that women tend to sell their votes less than men do.
5. In fact, an important benchmark in the history of CVM occurred in 1992 when, upon request of the State of Alaska, Carson (1992) carried out a contingent valuation to estimate the value of the losses due to an oil spill by Exxon Valdez. After the study, there was a controversy surrounding the use of the method (Portney, 1994), which led to the National Oceanic and Atmospheric Administration (NOAA) to commission a group of experts to report on the validity of the method. Arrow *et al.* (1993) concluded that the CVM produced sufficiently reliable estimations to be used in a legal process and made a series of recommendations for the application of CVM, including the preference for the referendum method over open-ended questions.

Varying the figure or "vote price" randomly between the participants allows for obtaining the proportion of people who would sell their vote for each of the prices. In sum, the curve of the offer of votes in Colombia can be designed and is presented in Figure 6.7 by gender and area.[6] In accordance with these calculations, approximately 40 and 50% of Colombians in urban areas would sell their vote for 10 thousand pesos. The proportion increases alongside the price, reaching a majority of citizens —nearly 52% among women and 57% among men— who were willing to sell their vote for 50 thousand pesos. Beyond this, each additional peso offered seems to generate fewer votes. For example, with COP$ 150.000, the proportion of individuals willing to sell their vote grows timidly. With a more generous offer, the curve flattens out and even falls slightly. This final result was obtained for various groups of the population as will be seen further on. One hypothesis is that these values begin to operate in factors of excessive 'commercialization': the people would be reluctant to sell their vote for such a high offer, as they feel that such an excessive monetary offer for their vote erodes moral values (Sandel, 2013). Another hypothesis is that these values would be so unrealistic that the people do not cognitively consider them viable.[7] The dispersion of responses at higher values seems greater which would be in line with this possibility.

Figure 6.7.

The offer curve for vote buying by gender and area (percentage of people).



Source: Authors' calculations based on ELCA 2010 and 2013

The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos for each area and gender. The dotted lines show the 95% confidence intervals. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

6. To simplify the presentation, we summarize the results based on these offer curves by different surveyed groups. The figures show a quadratic approximation of the vote curve with a 95% confidence interval. Nevertheless, further on in the paper, the main results with a simple multivariate regression analysis will be carried out in order to more directly examine the impact of various factors on the probability of selling votes. For a description of these methods, see López-Feldman (2012).
7. Basically, in accordance with some journalistic reports, in Colombia, votes are bought for around 25 to 50 thousand pesos. In addition to the report broadcast by La Silla Vacía mentioned earlier, please see Ardila (2014b).

In the ELCA rural areas, the offer curve for selling votes also has a positive slope and this increment in the proportion of people willing to sell their vote is more pronounced in the degree that the price increases. When the monetary offer was low —of 10, 30 or 50 thousand pesos— the proportion of people willing to sell their vote was lower than in the cities, starting at nearly 30% at 10 thousand pesos and bordering on 40-45% at 50 thousand pesos. In contrast, when considering the fastest rise in the proportion according to the increase in the price in the rural area, the proportion of people that would sell their vote at 100 to 150 thousand pesos is similar in the two areas.

Figure 6.7 seems to suggest some slight differences between men and women in the willingness to sell their votes. Despite the difference not appearing to be significant at any of the possible values of the vote, in the urban area, there was a clear tendency that as the price rose, men expressed greater willingness to sell their vote. This result is interesting given that men show greater interest in politics so one might suppose that they would value the possibility of expressing their political preferences more. However, in contrast, some papers have suggested that the incidence of corruption varies in accordance with gender (for example, for the case of Brazil, Brollo and Troiano (2013) found that the incidence of corruption was lower in municipalities with female mayors than in those with male mayors), so women's lesser likelihood to sell their votes could be a reflection of gender differences insofar as attitudes toward illegality. In the rural area, however, the most notable difference between men and women has to do, not so much with the level of willingness to sell votes, but rather with the fact that for men, the proportion increases linearly with the offer, whereas with women, it reaches a point where it flattened out and, in fact, fell when the offer reached the highest amount possible. Therefore, the excessive commercialization effect may be particularly important for women.

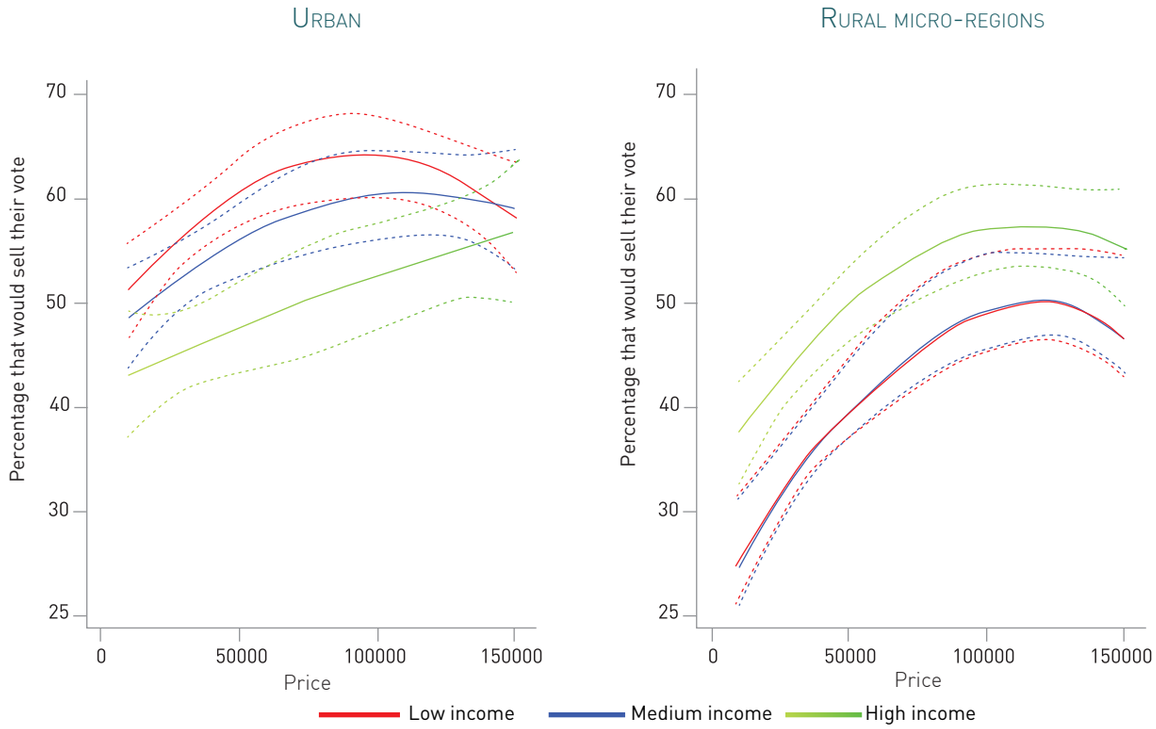
Next, we take a closer look at the variation in the vote offer curve in accordance with other characteristics in an effort to find some explications to the prevalence of this form of clientelism.

6.3.2. The mitigating and exasperating factors of vote selling: In search of explications to the prevalence of clientelism

Figure 6.8 differentiates the vote offer curves in accordance with the levels of wealth. In the case of the urban area, an intuitive result stands out. The wealthiest individuals seemed to be less willing, in accordance with these calculations, to sell their vote. Furthermore, for each additional peso offered in exchange for votes, the increase in the proportion of individuals that would sell their vote reduces. In the case of the rural area, there are two observable results. First, as was pointed out earlier, individuals seemed to be less willing to sell their votes for any of the prices. This is consistent with the previous section, whereby it appears that in the rural area people are more interested in politics and would prefer to freely and liberally exercise the right to vote than receive money in exchange for losing this autonomy. City-dwellers seem more skeptical and consider that the proportion of people who would sell their vote for money is greater. Second, there appears to be a contrasting and counterintuitive result to this in the urban area, whereby wealthy individuals were willing to sell their votes. Even though this gap is smaller than the one seen in urban areas, it still shows a statistically significant difference to that of the other levels. This result is difficult to interpret and requires more in-depth study but it is worth pointing out two exceptions. First, in the rural area, there is less income dispersion than in the urban areas in such a way that a high level of income is not that much higher than other levels of income. Second, and this applies as a caveat in the interpretation of all the results, readers must remember that to avoid the social desirability bias, we do not ask the individuals directly whether they are willing to sell their vote, but rather how they feel that people similar to them, in their communities and neighborhoods, might act. By doing this, we hope to obtain their own possible responses in similar circumstances. However, this method can also combine a level of skepticism by which they judge their peers despite being similar to themselves.

Figure 6.8.

The vote offer curve by wealth and area (percentage of people).



Source: Authors' calculations based on ELCA 2010 and 2013

The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos in accordance with the households' level of wealth. The dotted lines show the 95% confidence intervals. The level of wealth corresponds to a continuous index designed based on durable goods and the households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

The previous result for the urban area creates a potentially perverse logic, a sort of 'poverty trap' for politics. The lowest and flattest offer curve for relatively wealthy individuals is consistent with the idea that in situations of greater vulnerability, the price of the vote or the minimum value for which a person would sell the free exercise of his vote falls. In other words, for citizens in desperate situations, 10 thousand pesos are worth more than the free right to vote. For politicians, it becomes more attractive to buy votes from individuals who have the least resources. As a result, their support is bought in exchange for private and immediate benefits, in detriment of public goods and programs with longer-term benefits and greater implications for public welfare. However, wealthier individuals whose vote is more difficult to buy are the ones that need to be convinced and seduced by programs and good management.

In line with the possibility that individuals who find themselves in vulnerable situations may be more willing to sell their votes, falling into this perverse logic, Figure 6.9 investigates whether individuals who have experienced medium to high impact shocks are also more willing to sell their vote. In this case, we consider those affected by shocks as all those in the household who reported having suffered an adverse event, in the three years, that had a medium to high impact on their economic stability. These events are studied in greater detail by Ximena Cadena and Claudia Quintero in Chapter 3 of this book. In effect, the vote offer curve for those af-

fected by shocks is greater than that for those who have not been affected, even though in the case of the rural area, the difference is less.

When individuals believe in the secret ballot, the rate of vote buying at any of the prices is lower. This provides a ray of hope to authorities in that it manifests that if the electoral institutions are strengthened to the point that they build trust in terms of voter confidentiality, the incidence of vote buying may fall.

Figure 6.9.
The vote offer curve in accordance with shocks by area (percentage of people).

Source: Authors' calculations based on ELCA 2010 and 2013

The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos in accordance with their exposure to shocks in the household. The dotted lines show the 95% confidence intervals. We consider those affected by shocks as those who reported having suffered an adverse event that had a medium to high impact on their economic stability over the three years of the study. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

A secret ballot makes vote buying more difficult, at least in theory. This is why ballots issued by the electoral authorities were introduced to replace the versions handed out by the parties and there has been a general strengthening of controls in order to reduce the influence of corruption in the elections. But, even with official ballots and measures of control, the institutional weakness, the politicians' and their intermediaries' dealings or citizens' simple lack of trust can lead to individuals arriving at the conclusion that the voting process is not secret. This is why ELCA includes this question and Figure 6.10 verifies whether the sale of votes varies depending on whether the individual believes that the vote is secret or not. The results are quite clear in both areas and with special contrast in the urban area. When individuals believe in the secret ballot, the rate of vote buying at any of the prices is lower. This provides a ray of hope to authorities in that it manifests that if the electoral institutions are strengthened to the point that they build trust in terms of voter confidentiality, the incidence of vote buying may fall.

Figure 6.10.

The vote offer curve in accordance with the perception of vote confidentiality by area (percentage of people).

Source: Authors' calculations based on ELCA 2010 and 2013

The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos. The dotted lines show the 95% confidence intervals. The adjusted difference is shown for people that respond 'it is confidential' to the question: Do you believe the voting process is confidential or not confidential? The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

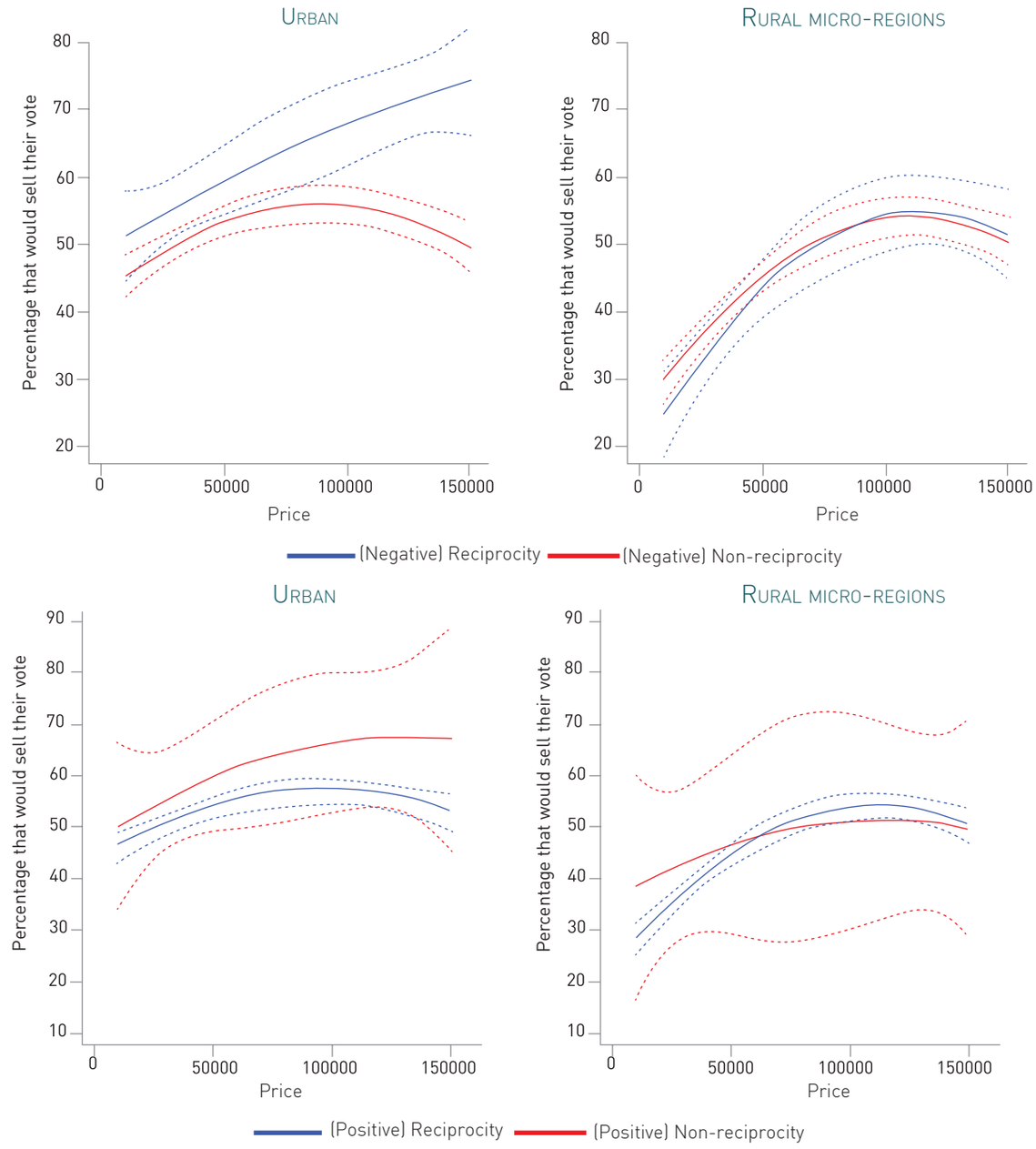
Nevertheless, it is clear that even when voting is confidential and it is public knowledge, the buying and selling of votes can still go on. In this case, the level of reciprocity that the individuals exhibit can be decisive for defining whether the individuals are or not willing to sell their vote easily and whether the politicians are willing to buy them. Finan and Schechter (2012) suggest that politicians seek out individuals of common interests when buying votes, in particular when they hope the vote is secret. They need to trust that their contribution will be reciprocated.[8] These ideas are examined in Figure 6.11, which finds that, effectively, in the urban area the frequency with which votes are sold by individuals that show they are in agreement with negative reciprocity (this refers to those who 'totally agree' or 'agree' with the affirmation "what goes around comes around") is greater than for those who reject this type of reciprocity (the 'totally disagree' or 'disagree'). In the rural area, the distance between these two curves is much less and there does not appear to be a notable difference. In the case of positive reciprocity (the degree of agreement with the affirmation: "you must always help those who help you"), no decisive conclusions can be drawn. This is because there are very few individuals in the non-reciprocity group in accordance with this measurement so the estimation of the vote offer curve has a lot of uncertainty associated with it.

→ From 3:30 a.m., Cecilia Quiroga is up. She prepares food for her family of nine and goes out to work on a farm in Puente Nacional.

8. Intimately linked to this idea is that of social capital having a 'perverse side' that can foster corruption (an example of a study on the case of vote buying is Callahan, (2005). The exercise presented here is only a first look at this relation, but as will be made clear in the next chapter of this book, ELCA includes a selection of questions on social capital, some present in the politics module, which will allow further study of the issue.

Figure 6.11.

The vote offer curve in accordance with the level of negative and positive reciprocity by area (percentage of people).



The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos. The dotted lines show the 95% confidence intervals. The upper panel shows the differentiated adjustment if the households report being beneficiaries of some of the following governmental programs in the last twelve months prior to the survey: Familias en Acción, programs for senior citizens, SENA, Red Unidos, ICBF, aid for displaced people, wasteland and farmland allocation, the Ley de Víctimas, Agro Ingreso Seguro, Desarrollo Rural con Equidad, Oportunidades Rurales and Familias Guardabosques. The lower panel differentiates between beneficiaries and non-beneficiaries of Familias en Acción in the last twelve months. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

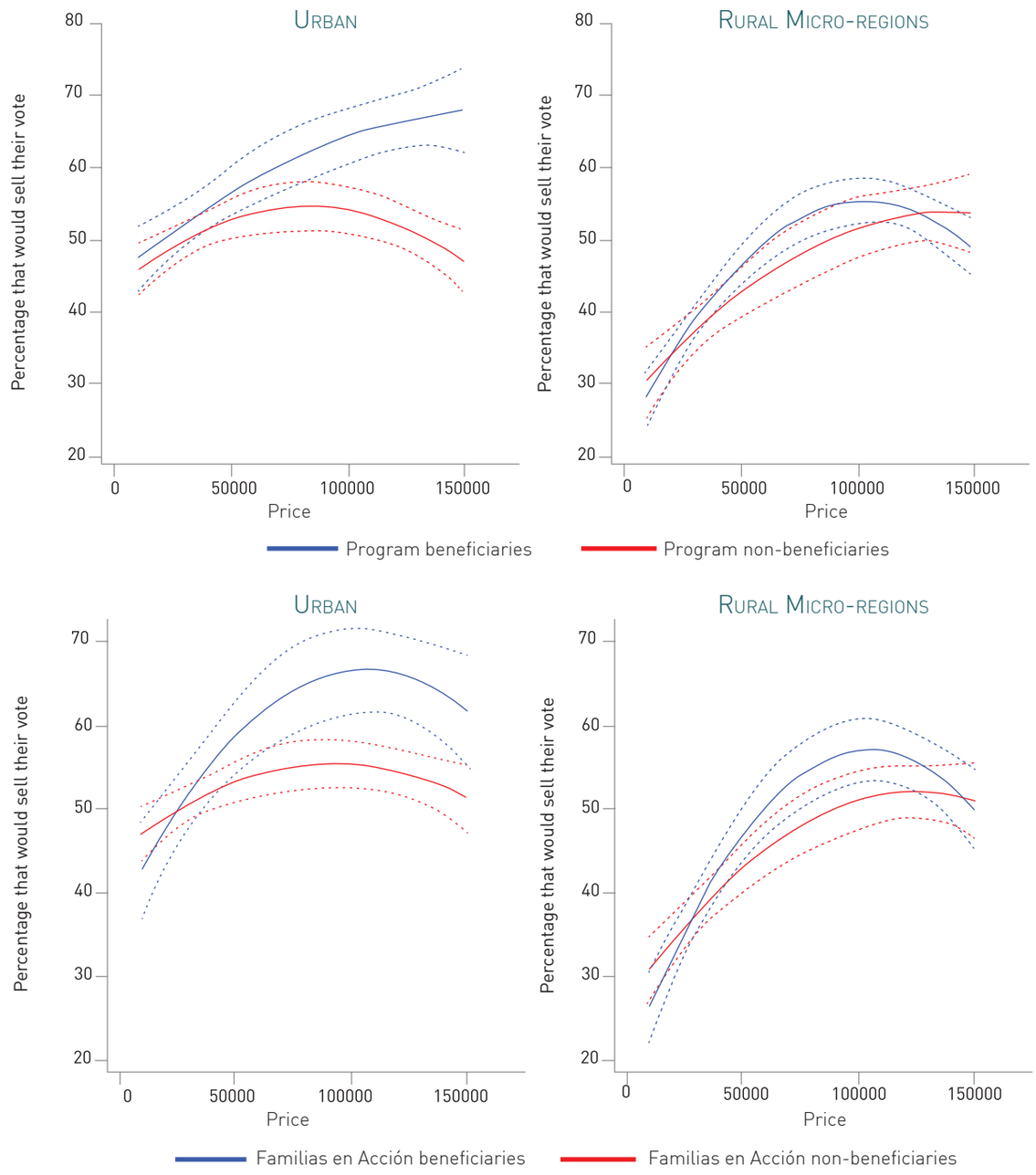
Source: Authors' calculations based on ELCA 2010 and 2013

Another potentially important aspect for determining the ease with which the citizens sell their votes has to do with their relationship with the State. For example, one may think that those individuals who have a more direct relationship with the State would be more interested in expressing their political preferences. Or, alternatively, that this closeness leads citizens to expect more direct benefits from the politicians or candidates, positively influencing the ease with which they exchange their vote. The latter is perhaps particularly important in conditional cash transfer programs, where the relationship with the State is direct and works with monetary benefits. Figure 6.12 shows the vote offer curves in the rural and urban areas differentiating whether the household participates in some governmental program (the upper panel) and whether it participates in Familias en Acción, its main conditional cash transfer program (lower panel). Although these differences do not always seem statistically significant, in general, the effect points out that individuals with benefits from State programs tend to sell their vote more easily than those who are non-beneficiaries. Of course, this cannot be interpreted as definitive evidence that State programs exacerbate clientelism, among other reasons, because we know that in some areas, the poorest households (probably, at the same time, recipients of some form of State help) tend to sell their vote more easily. However, it would be interesting to study the possible impact of these State programs on the political attitudes of the citizens in more detail.

→ Each month, Carmen Santander receives 120 grocery packs, which she gives out to 120 disaster-affected families in Gramalote. She also helps out in her family store.

Figure 6.12.

The vote offer curve in accordance with the access to governmental programs by area (percentage of people).

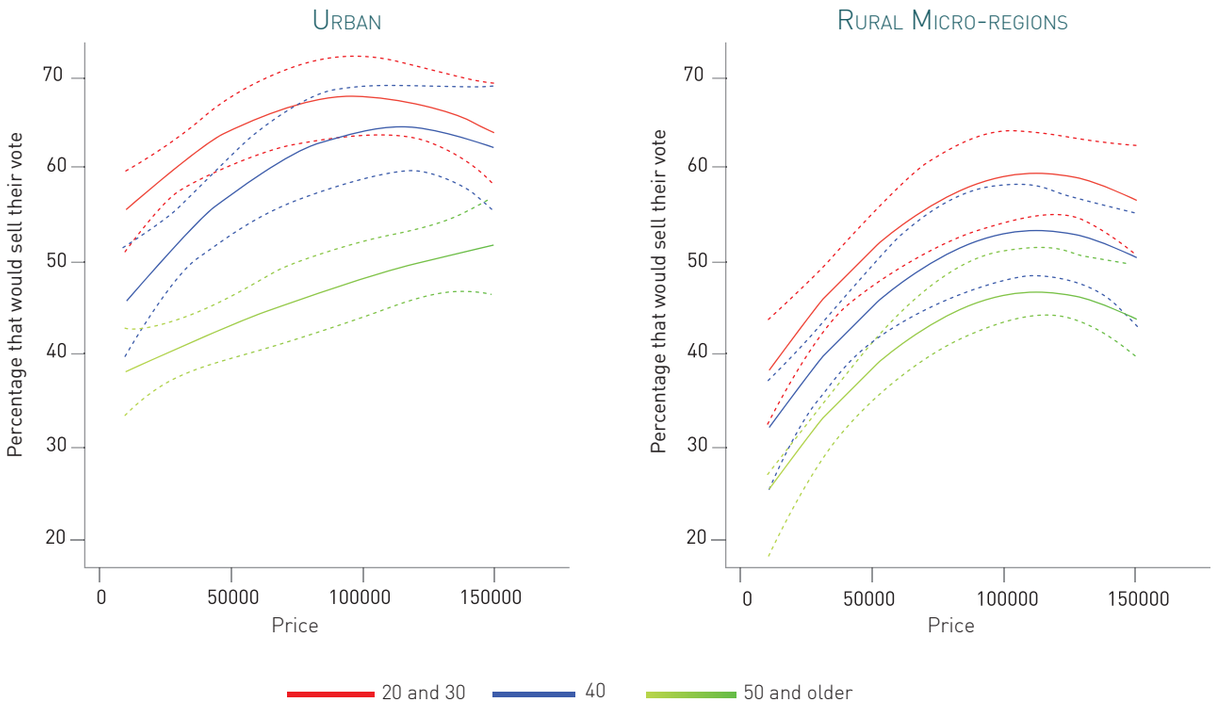


Source: Calculations created by authors based on ELCA 2010 and 2013

The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos. The dotted lines show the 95% confidence intervals. The upper panel shows the differentiated adjustment if the homes report being beneficiaries of some of the following governmental programs in the last twelve months prior to the survey: Familias en Acción, programs for senior citizens, SENA, Red Unidos, ICBF, aid for displaced people, wasteland and farmland allocation, the Ley de Víctimas, Agro Ingreso Seguro, Desarrollo Rural con Equidad, Oportunidades Rurales and Familias Guardabosques. The lower panel differentiates between beneficiaries and non-beneficiaries of Familias en Acción in 2012. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Figure 6.13.

The vote offer curve by age and by area (percentage of people).



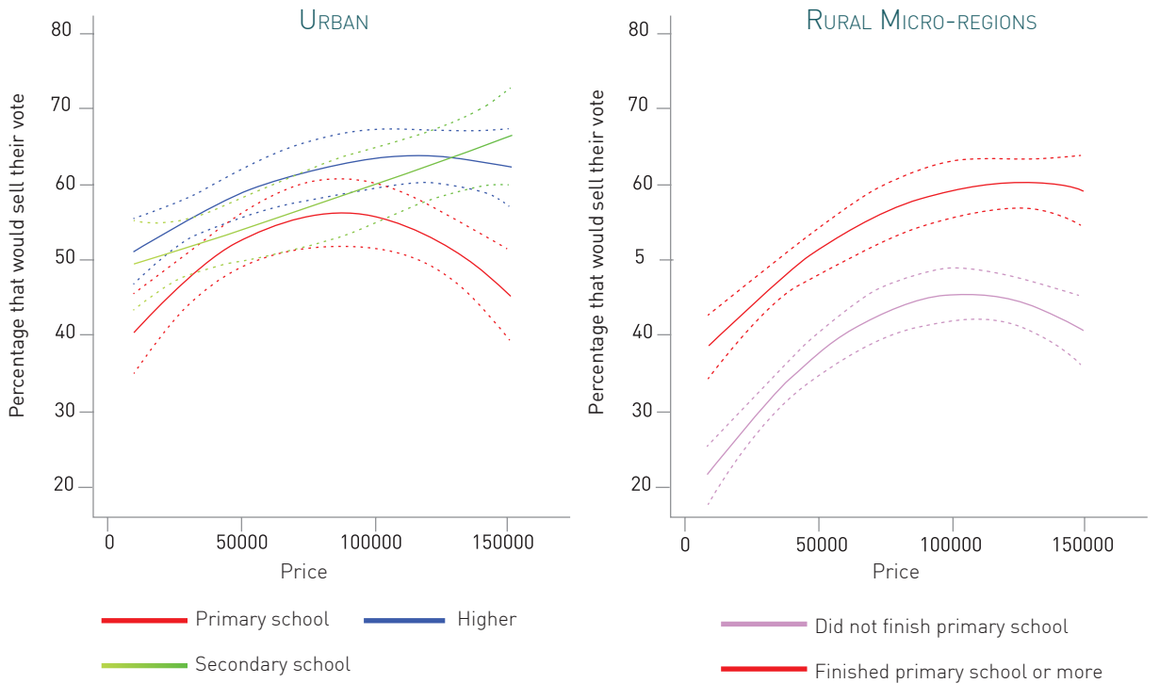
The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos. The dotted lines show the 95% confidence intervals. The age ranges are defined as follows: 20 and 30 for individuals between 18 and 39 years of age, 40 for individuals between 40 and 49 years of age; and 50 and older for people who are 50 years of age or over. This corresponds approximately to the three terciles of age among the participants in the politics module. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Source: Authors' calculations based on ELCA 2010 and 2013

Finally, a crucial question has to do with the evolution of this phenomenon over time. Even though there are no comparable questions from the past, it is possible to compare the response of the individuals in accordance with age. In Figure 6.13, it is evident that to the extent that the average age of the participants increases, the percentage of people selling their votes decreases. It is possible that youths, in general, are more willing to sell their votes (or consider that their peers are more likely to do so), but this pattern can also reflect an increase over time in the willingness to sell votes, which makes the new generations more likely to accept the phenomenon as something 'normal.'

Figure 6.14.

The vote offer curve by level of education and by area (percentage of people).



The solid lines show the best adjustment with the quadratic function of the percentage of people that would sell their vote at 10, 30, 50, 100 and 150 thousand pesos differentiated by the participants' level of education. The dotted lines show the 95% confidence intervals. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Source: Authors' calculations based on ELCA 2010 and 2013

These comparisons, in addition to shedding some light on the mitigating circumstances of clientelism and its possible causes, show that the phenomenon is generalized. What can be done? Beyond strengthening the measures of control and the electoral institutions, perhaps the most obvious solution to such a problem —where clientelism is accompanied by illegality— is education. Figure 6.14 shows the vote offer curves in accordance with the level of education. In the urban area, the only clear conclusion is that those with a higher level of education have a flatter offer curve, whereby each additional peso produces a lower increase in the proportion of people willing to sell their votes. But, for everything else the relationship between education and the frequency of selling votes is not simple: it depends on the price of the vote and, even when, on average, the individuals with higher levels

of education sell fewer votes than other groups, the frequency of selling votes is higher among those who completed either a few grades or the whole of secondary school than for those with a primary education or less. In the case of the rural area, education does not seem to be a clear mitigating factor; on the contrary, the vote offer curve for individuals with primary education or more is above that of those with incomplete primary education or less.

In sum, and to compare the statistical significance of the determining factors of vote selling examined in this section, Table 6.1 presents the results of running a regression for the sale of votes where the explicative variables are, in addition to the offered price, each of the variables described in the rows.[9] We summarize the bivariate regression results which include, in addition to offered price, only one determinant at a time, as well as the multivariate regressions results where all the determinants simultaneously enter into the regression, allowing the "control" of various factors that influence vote selling. The table allows us to glimpse at the principal findings of this section. In particular, we can highlight the following:

1. Even though in the rural area we surprisingly found that the wealthiest individuals are more willing to sell their votes, the evidence for the urban area as well as the findings in the two areas with respect to the influence of shocks suggest that it is the most vulnerable individuals that are willing to sell their votes.

2. The negative relationship between the probability of vote selling and the belief that votes are confidential is very convincing and robust.

3. Even though the results are not convincing, the evidence between reciprocating individuals, especially for the negative reciprocity in the urban area, suggests that vote buying is more common among individuals who agree with the idea that "what goes around, comes around."

4. The beneficiaries of government programs, especially in the urban area, seem more willing to sell their vote, even after controlling for other characteristics of the household such as income.

5. Younger individuals are more willing to sell their votes.

6. The relationship between formal education and the probability of answering affirmatively to the question regarding vote selling, even when controlling for other determinants, is contradictory at first sight. Educated individuals report a greater probability of vote selling, which can, in part, reflect the skepticism with which they evaluate their peers and not only their own disposition to sell.

→ *La Esperanza*, the Álvarez Tapia family store in Chinú, Córdoba, provides their main source of income. They sell beer and have a billiard table and card games.

9. More specifically, a probit model is estimated where the dependent variable is a binary variable that is equal to one if the individual responds affirmatively to the question regarding vote buying and zero otherwise. The independent variables are the offered price and the respective determinants indicated in the rows.

Table 6.1.
Determinants of vote selling

Area	Rural micro-regions		Urban regions	
Type of regression	Bivariate	Multivariate	Bivariate	Multivariate
Women	+	0	0	0
Medium income	-	0	0	0
High income	+	+	-	-
Affected by shock	+	+	+	0
Believe the vote is confidential	-	-	-	-
Reciprocity (negative)	0	0	+	+
Reciprocity (positive)	0	0	0	-
Beneficiary of some program	0	0	+	+
Familias en Acción beneficiary	0	0	+	0
40[a]	0	-	0	-
50[a]	-	-	-	-
Finished primary school or higher[b]	+	+		
Secondary[b] school			+	+
Higher[b]			0	+

Source: Authors' calculations based on ELCA 2010 and 2013

The + and – symbols indicate a significant statistical relationship (positive and negative, respectfully), between the probability of vote selling and the determinant considered in each row. The "0" indicates that the association found is not statistically significant. The results are obtained from the estimation of a probit model where the dependent variable is a binary variable equal to 1 if the individual answers affirmatively to the question regarding vote buying and zero otherwise, and the independent variables are the offered price and the determinants are indicated in the rows. The bivariate regressions include, in addition to the price of the vote, only one determinant at a time, while in the multivariates all the determinants enter simultaneously in the regression. a) The group of age comparison is of individuals between 20 and 30 years of age, and the fields with 40 and 50 are those which are interpreted as the level in which the probability of vote selling is compared, for these groups, with the youngest individuals. b) In the rural area, the educational comparison group includes those individuals with incomplete primary education or less and, in the urban area, the educational comparison group includes those individuals with primary education. For this reason, the row which says "Finished primary school or higher" in the rural area and those marked with "secondary school or higher" in the urban area are interpreted as the level in which the probability of vote selling is compared, for these groups, with the least educated individuals. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

6.4. Final Reflections

Even though in Colombia there are individuals that are more interested in politics than others, this chapter confirms, based on the new ELCA politics module for 2013, that the general pattern is one of disinterest. Furthermore, the citizens do not seem drawn to political parties and politics. Rather, the focus is more self-oriented. This is a favorable scenario for the growth of clientelism, which is understood as the provision of direct, private and more or less immediate benefits provided by the candidates to the citizens in exchange for their electoral support. The result is expensive if the politicians dedicate their efforts to convince specific groups of citizens with these benefits instead of designing programs that will impact a wider set of individuals in society. For this reason, despite the module on politics allowing us to evaluate many other questions, this chapter concentrated on examining one of the clearest manifestations of this style of political exchange: vote buying.

The first thing that can be pointed out is that the phenomenon of vote buying is generalized. Additionally, some aspects such as education or greater income are not guarantees of a lower incidence of the phenomenon. However, it does seem that households in situations of vulnerability have a greater probability of entering into a political exchange of vote buying. This is a problem that deserves attention and must be studied in depth as it can foster a perverse logic. For the politicians, it is more attractive to buy individual votes from people with low economic resources in exchange for private and immediate benefits, while possibly putting public goods and programs for long-term welfare benefits at risk of detriment.

We also found that individuals that believe in voter confidentiality to a lesser degree would sell their vote more easily. This opens the possibility of lowering the incidence of vote buying/selling if the electoral institutions are strengthened and trust is built. Other messages are less optimistic: for example, formal education does not seem to be a simple solution to this situation. The most educated individuals do not seem to sell their votes less (on occasion quite the opposite). Nevertheless, there is international experience, which indicates that specific campaigns aimed at combating the sale of votes with educational messages on the value of freely exercising the right to vote can be effective (Vicente, 2014).

Despite the pessimistic interpretation of the results of this chapter, indicating that until the political arena in Colombia changes the citizens will not stop selling their votes, there is also another, more optimistic, interpretation: politicians are not indispensible in the fight against vote selling. Efforts can be made from the other side of the transaction by educating citizens so that they do not sell their votes. In fact, when the vote curve was examined against certain citizen beliefs, for example, their level of agreement with negative reciprocity ("what goes around comes around"), differences appeared in the vote offer curve. This gives us reasons to belief that if we can exercise influence on societal beliefs through educational campaigns, the incidence of vote buying and other manifestations of clientelism can change.

This chapter presents more questions than answers. It is worthwhile to emphasize that the conclusions presented here should be placed under closer scrutiny to fully take advantage of the richness of the survey. To conclude, it is also worth remembering that there are many other hypotheses which were left out but which make up part of the research agenda opened up by the new ELCA module on politics. The community now has a unique tool to continue constructing useful knowledge not only for academia but also for those interested in evaluating the problems of our political system and designing informed strategies to reach solutions.

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→ Every day, John Monroy starts work at 3:30 a.m. by milking the cows belonging to Fernando Martínez and Sandra Ruíz. He has to finish before 6:00 a.m. when the milk truck passes and he does it all over again at 1:30 p.m.

→ The Institutional Educational Project at the Jácome School, in Gramalote, cares for the environment in favor of food security.

Chapter 7
Participation and aid in Colombia: Social organizations and prosocial behavior through the lens of ELCA

Juan Camilo Cárdenas
Paula Juliana Sarmiento

→ Luis Eduardo Palacios, 46 years old, has seven children and two grandchildren. He works in informal jobs in Barranca and his salary is divided between two households.

→ 7.1. Introduction

The analyses carried out over the waves of the ELCA allow us to describe, for the first time in this country, the dynamic of Colombian households' participation in civic life and their propensity to help others between 2010 and 2013. In the first place, during those three years, a general increase was observed in the activities associated with help given to others by rural and urban households. Similarly, there was an increase in participation in social organizations, especially in the case of religious and union-related organizations with respect to the measurements taken in 2010. In contrast, the reported levels of help given to others and to community projects, in terms of the use of time, continue to be very low even though a slight improvement can be noted. These two measurements (participation in organizations and pro-social actions) are also interrelated. Those who participate show a greater propensity to act for the benefit of others. Nevertheless, this increase in the participation has been characterized by an important mobility, with a considerable quantity of new households that have started participating in social organizations. However, at the same time, there is a considerable number that have abandoned them, reflecting a construction, albeit precarious, of civic

social capital. On the one hand, we found that participation in the leadership of these organizations decreased as a percentage of member households. In other words, the total number of members increased but not their participation in the leadership of the organizations. Furthermore, it was found that levels of interpersonal trust are relatively low. Even though households agree on the importance of solidarity and helping others, very few report having strong ties with their neighbors in terms of social networks and unconditional help. Surprisingly, community leaders, in contrast to the surveyed households, report a fall in the levels of trust and mutual help between neighbors.

It is the first time that a study is carried out in Colombia which follows up on the dynamics of a household's participation in social organizations and its prosocial actions or help to others. These dimensions have been related to the concept of "social capital" and recognized as fundamental for the comprehensive development of a society.

The information is derived from various questions linked to actions, perceptions and attitudes reported by the household heads and their spouses on their activities of "associativity" with their neighbors and social organizations. It also delves into their trust and reciprocity with the rest of society or concrete work carried out to help others. Interviews with neighborhood and rural settlement leaders where the surveyed households are located were also carried out.

Thanks in part to a number of the questions found in the 2010 and 2013 questionnaires, it was possible to carry out a dynamic analysis to evaluate, in the same households, the changes observed in these two dimensions of participation in social organizations and of helping and trusting others. In 2013, new questions were included. Some of these were taken from the political module that Leopoldo Fergusson and Juan Felipe Riaño analyzed in Chapter 6 of this book.

→ Luis Fernando Moreno works from 9:00 p.m. to 6 a.m. in the Noel Cookie and Cracker Plant. He sleeps until 1:00 p.m. and in the afternoon helps out in the Community Action Board (JAC) in his neighborhood in Envigado.

Below are some of the answers to the question regarding the level of "associativity" and prosocial actions taken by the Colombian households over the last few years. By "associativity" we understand the participation of households in free civic society associations that provide some kind of public good for the service of the group or of the society as a whole. Traditional Community Action Boards, school Parent Associations, and religious and union organizations, all make up part of the spaces in which civil society participates to resolve problems related to collective action and provide goods and services that benefit each household, other households in the neighborhood and even the common good, as is the case with ecological groups. Furthermore, we study "pro-sociality", understood as actions and attitudes of individuals towards others and, in particular, those that imply assuming a personal cost to help others. Tomasello (2010) refers to cooperation through three concrete actions: help, inform and share. While helping, they participate in a process with others —usually through work— to achieve a goal that improves their own well-being and that of others. When they inform, they provide information to others to help them achieve their goals. When they share, they sacrifice their own resources to transfer them to others. In any of these instances, individual and social benefits are fostered.

A number of these dimensions have been studied within the concept of social capital but there is a wide array of conceptions about its meaning in accordance with the disciplinary focus of the case. This creates much controversy (Bowles and Gintis, 2002). Another way of explaining these communitarian processes is through the concept of 'collective efficacy' (Sampson *et al.*,1997) defined as the "connection of shared trust and availability to intervene in the common good."

In Colombia, the use of the concept of social capital began with the work of John Sudarski (1999) and Barcas (barometer of social capital in Colombia). Among the dimensions of Barcas, social capital is measured through questions about the first three (1. Solidarity and mutuality. 2. Hierarchy or vertical articulation. 3. Horizontal relations) closely related to this analysis. In his definition, Sudarski includes ten dimensions, a number of which are not included in the ELCA analysis.[1]

The economic importance of investing in these social and community relations has been documented both nationally and internationally. Polania (2005) has studied the relationship between horizontal social capital in the urban households and income through household surveys applied in Colombia. On the international scene, Knack and Keefer (1997) had already shown, using data from the World Values Survey, the positive relationship between the social norms and trust and economic performance indicators in a sample of twenty-nine countries. For the case of interpersonal trust, Zak and Knack (2001) show similar results in a general equilibrium growth model supported by empirical evidence also for a sample of countries.

Below, we present the most important patterns of these variables for ELCA, pointing out some important differences by region and by urban and rural populations. The availability of data from the same households in the two waves of the survey allows us to, first, analyze the dynamic of entering and leaving social organizations, and then to present an outline of a discussion on some of the linkages between these variables. This, in turn, allows certain conclusions or conjectures on the importance of these dimensions in the daily life of the Colombian households.

7.2. Associativity: To what extent do Colombians participate in social organizations?

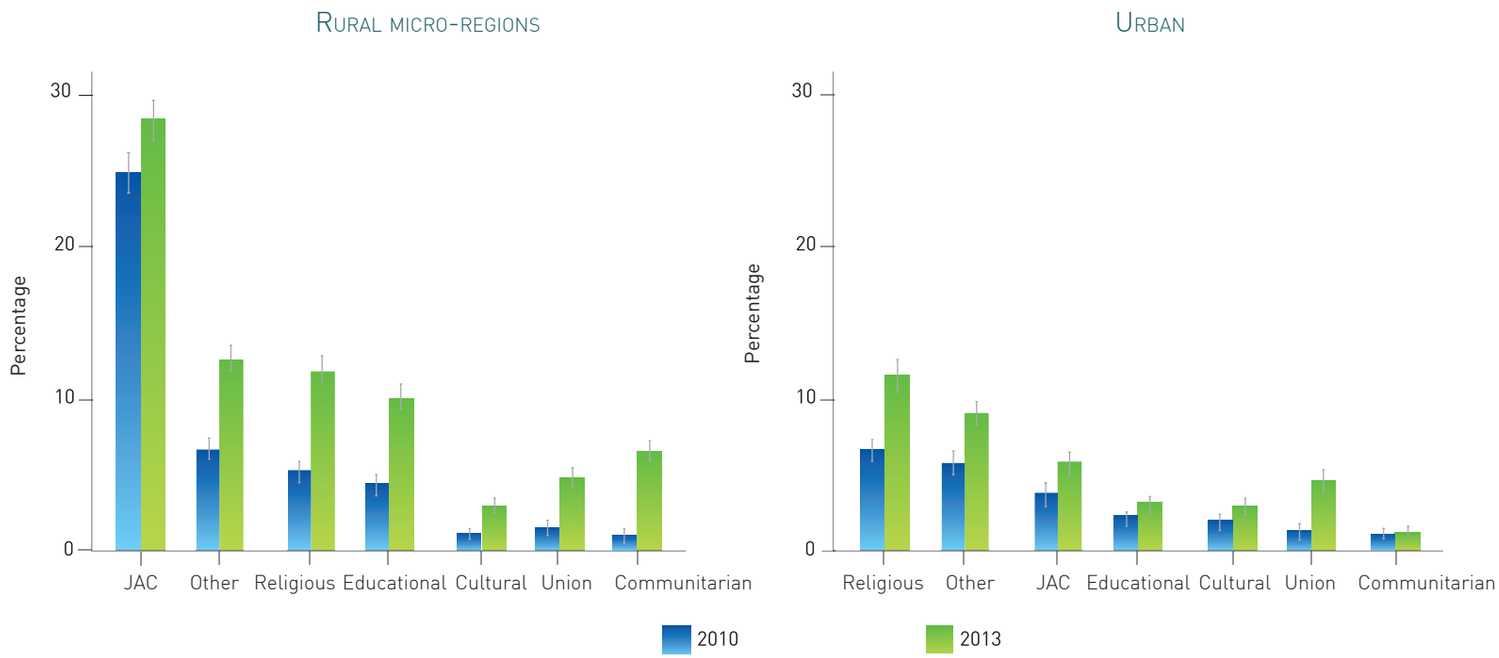
Latin America has traditionally had low levels of social capital given the weakness of its civic organizations in representing our concerns as workers, neighbors, beneficiaries of a clean environment, consumers, or as voters. Even though the recent dynamic of social movements in Latin America has been marked by a multitude of mobilization processes based on identity such as the indigenous peoples or the farmers' processes, and the union movements in past decades (Yasher, 2005), the pertinence and participation of the region's inhabitants in regular spaces of social organizations is relatively low when compared with other latitudes. In accordance with the Latinobarometer survey (Cruz, 2009), Colombia appears among the countries with the lowest participation by its citizens in Parent Association meetings with only 19.9%, whereas in countries such as Perú, Ecuador and Bolivia, current percentages are between 26 and 28%.

The ELCA outlines that from 2010 to 2013, the percentage of memberships in social organizations increased substantially from 16.3% to 27.7% in the rural case and from 35.5% to 47.5% in the urban sample. Figure 7.1 shows that this increase was produced to a large extent by greater participation in religious organizations in the urban and rural areas. We can also see that rural Community Action Boards accumulate the greatest percentage of participation, while, in the urban area, the greatest increase can be seen in the religious organizations. Also in the urban area, we can see that there is an important increase in the participation of the households in unions and associations, whereas the rural area presents a notable increase in collaboration in educational and community organizations, among others.[2]

1. The dimensions of Barcas are: 1. Solidarity and mutuality. 2. Hierarchy or vertical articulation. 3. Horizontal relations. 4. Social control. 5. Institutional trust. 6. Civic participation. 7. Political participation. 8. Media. 9. Civic republicanism and 10. Information and transparency. For Sudarski, the first three make up the concept of social capital.
2. In 'others' we add charitable, State, ethnic, cultural and sport organizations as well as movements and political parties, building boards, and others.

Figure 7.1.

Households' participation in social organizations by area (percentage of households).



Source: Author's calculations based on the ELCA 2010 and 2013

Household participation refers to when the household head or the spouse has participated in some organization. The classification other contains charity, State, ethnic, cultural and sport organizations, political movements and parties, and buildings' boards of co-owners, among others. In the unions category, it is important to highlight that, in 2010, there was only one classification for participating in unions or in work cooperatives or farming organizations, while in the 2013 survey, it was separated into two categories: on the one hand, unions and, on the other, the work cooperatives or farming organizations. Thus, the calculations were made by bringing together both categories to maintain the comparability of the two waves. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

→ Adriana Díaz is a fervent Catholic. She conducts prayer and Bible study groups four days a week in her neighborhood church, in Armenia.

As we can see from the data collected in 2006 by Chong, Ñopo and Cárdenas (2013), these percentages of participation in social organizations are also low for the capital cities of the Latin American region. In that study, Bogotá (45.3%) showed membership levels, which were slightly higher than capitals such as Lima (33.5%), Montevideo (38%), San José (42.1%), and Caracas (44.6%), although it came in below Buenos Aires (47%). With respect to the percentage of attendance to meetings, the figures drop considerably to an average of 38.3% for the abovementioned capitals, and the average participation in decision-making decreases even more, to an average of 28.6%.

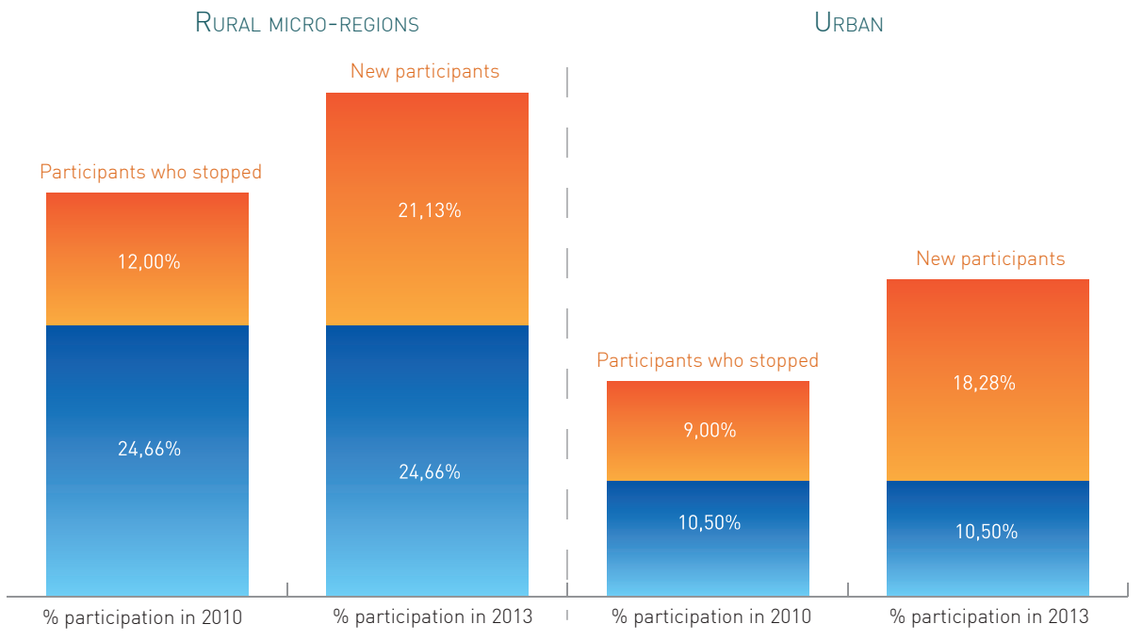
The social capital of a society produces returns only while these are being used and, therefore, as proposed by Bowles and Gintis (2002), this should only be viewed as a process and not as a tradition. One of the great advantages of ELCA is that in addition to allowing a view of two photos in time, it also allows us to put together a video of the same families to explore the community processes of social organization. The data at hand displays a rather unstable activity of households' investment in social organizations, providing evidence of the fragility of attempting to build social capital. Figure 7.2 shows the dynamic of households' participation in social organizations in 2010 and 2013.[3] In the rural area, of the 37% of households that were participating in social organizations in 2010, only 25% continued participating in 2013. Thus, of the 46% of the participants in 2013, 21% were new participants, meaning that this 21% did not participate in 2010, and only began participating in 2013.

These changes are similar in the urban area whereby of the 20% of the households that participated in 2010, only 11% continued participating in 2013. Thus, of the 29% of participating households in 2013, 18% were new participants. The net balance is encouraging to the degree that the percentage of households that began participating is substantially higher than the percentage of households that stopped participating; particularly, the religious organizations, unions and guilds deserve focused attention. In the rural area, 8.5% of the households that in 2010 did not belong to religious organizations began to participate in these; whereas the figure for participation in unions was 5.25%. In the urban area, these figures were 9% and 4.3% respectively. These figures are comparatively high with respect to the households which stopped participating in these organizations. In the rural area, those that stopped participating in religious organizations were 2.9%, and 1.2% in unions; in the urban area, the figures were 3.9% and 1%, respectively.[4]

3. The calculations of global participation in organizations were undertaken after including the expansion factors of our sample and only considering the households surveyed both in 2010 and 2013. Nevertheless, the broken down calculations by type of organization were not undertaken with these expansion factors and include all of the surveyed households in each wave by which it is possible that the percentage sums do not coincide with precision.
4. With respect to the category of unions it is important to highlight that in 2010, there was only one classification for participating in unions or in work cooperatives or farming organizations, while in the 2013 survey, it was separated into two categories: on the one hand, the unions and on the other, the work cooperatives or farming organizations in such a way that the calculations were undertaken by bringing together both categories to maintain the comparability of the two rounds.

Figure 7.2.

Dynamic of household participation in social organizations by area (percentage of households).



Source: Author's calculations based on the ELCA 2010 and 2013

Household participation" refers to when the household head or the spouse has participated in some organization. In the Figure, the first bar represents the percentage of households that participated in organizations in 2010. The upper part of the bar indicates the percentage of households that participated in organizations in 2010 but stopped doing so in 2013. The lower part of the bar shows those that were participating in 2010 and who continued to participate in 2013. The second bar indicates the percentage of households that participated in organizations in 2013, where the upper part of the bar represents the percentage of new participating households, implying that they did not participate in 2010 but did so in 2013. The same can be observed in the urban area. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions.

While the percentage of households that are leaders in social organizations increased slightly in both areas, the percentage of households that were leaders over the total of households that participated in organizations decreased significantly.

Additionally, ELCA gathers information about the social capital formed and in formation. In this sense, it is key to analyze the typologies of participation in social organizations, not only from the point of view of being a member of one, but also analyzing how active these individuals are in these organizations. To do this, in addition to collecting information on memberships, participants were asked questions regarding their attendance to meetings and their leadership in the organizations. Figure 7.3 shows the change in the percentage of households that are leaders in social organizations for both areas.

In general terms, the households in the rural area present a more active participation than those in the urban area. The rural percentages for membership, attendance to meetings and leadership in the organizations are substantially higher than those presented in the urban area, both in 2010 as in 2013, when rural households' participation in organizations extends to almost half the total rural households. However, in both areas, important increases are seen in the three forms of participation described.[5]

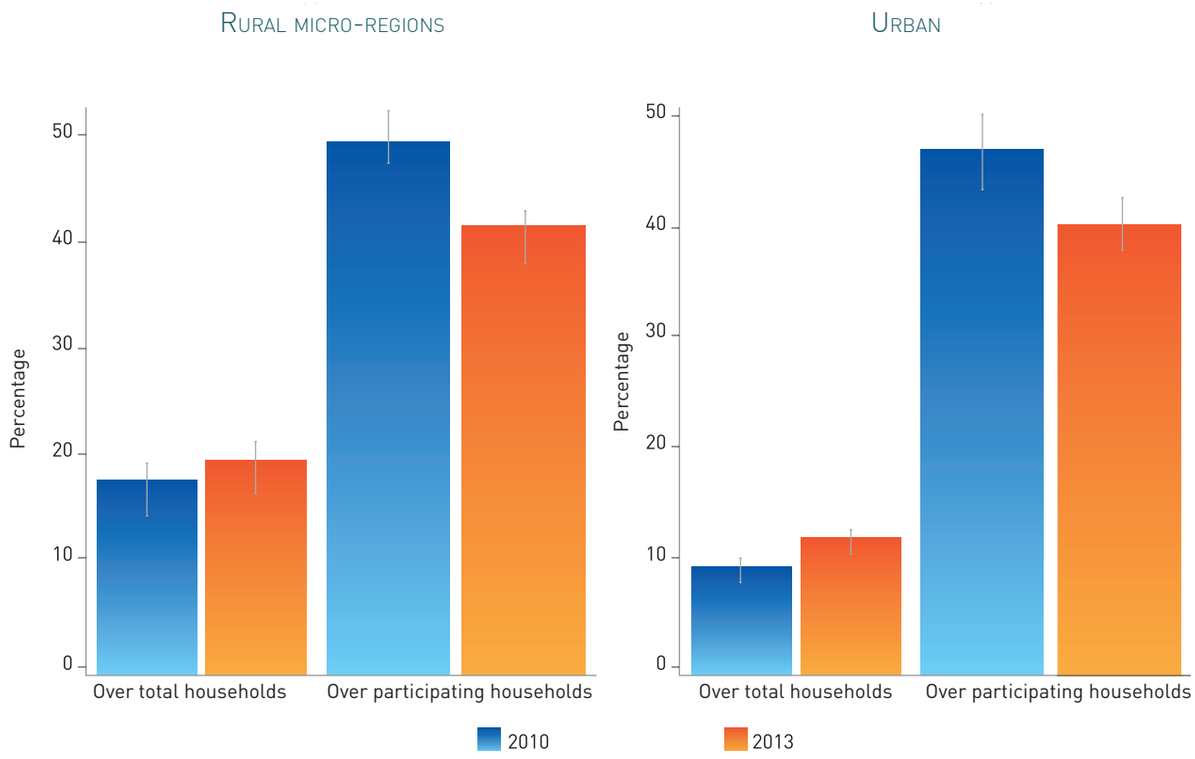
In the same vein, while the percentage of households that are leaders in social organizations increased slightly in both areas, the percentage of households that were leaders over the total of households that participated in organizations decreased significantly (see Figure 7.3). This may be related to the data shown in Figure 7.2, where a large percentage of those participating in 2013 were new participants. The latter once again reflects the absence of stability and consistency in the social capital formation process, which despite the encouraging figures on membership in organizations, does not consolidate over time.

→ Antonio Franco grows corn on his farm in Ciénaga de Oro (Córdoba). "When others do the planting, it doesn't go so well. Antonio has a green thumb," says his wife.

5. The data on attendance to organizations reports percentages that are very similar to those related to participation in organizations.

Figure 7.3.

Households' leadership in social organizations by area (percentage of households).



Source: Author's calculations based on the ELCA 2010 and 2013

Leadership is defined as the household head or the spouse being leaders within an organization of which they are members. In the first two bars of each figure, the percentage of households that are leaders within the social organizations of which they are members is shown over the total of households, which include those that are not leaders because they do not even participate in any organization. The second two bars of each figure show the percentage of households that are leaders over the total number of households that participate in some kind of social organization. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

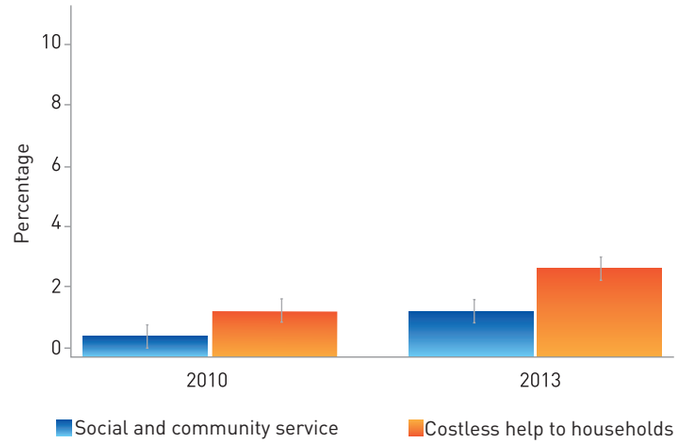
7.3. Prosocial behavior: To what extent do Colombians help one another?

A second dimension looks at what we call 'prosocial behavior.' In addition to belonging to social organizations, the households dedicate efforts to contributing to their communities through work or other forms of transference to community and neighborhood projects or to the people closest to them. The ELCA shows that in Colombia, citizens sometimes resort to informal mechanisms of mutual support through relations based on exchanges, loans and gifts with people they know and outside the formal private or state system. These calculations are based on the survey's use of time module, from where we extract the time spent helping others freely and helping out with social and community projects.

It is clearly evident that this dimension of social capital is the most discouraging. Despite there being an increase in the percentage of rural households that dedicate time to social service or to the community or to helping other households for free, these percentages continue to be extremely low. Moreover, by observing the changes in these types of behavior by regions, we can see that the increase is marked in the mid-Atlantic and Center-East regions, given that in the Cundiboyacá and Coffee regions, the percentage for this type of activity actually decreased (see Figure 7.5).

Figure 7.4.

Households that dedicate time to prosocial activities: social and community service or costless help to households in the rural area (percentages of households).

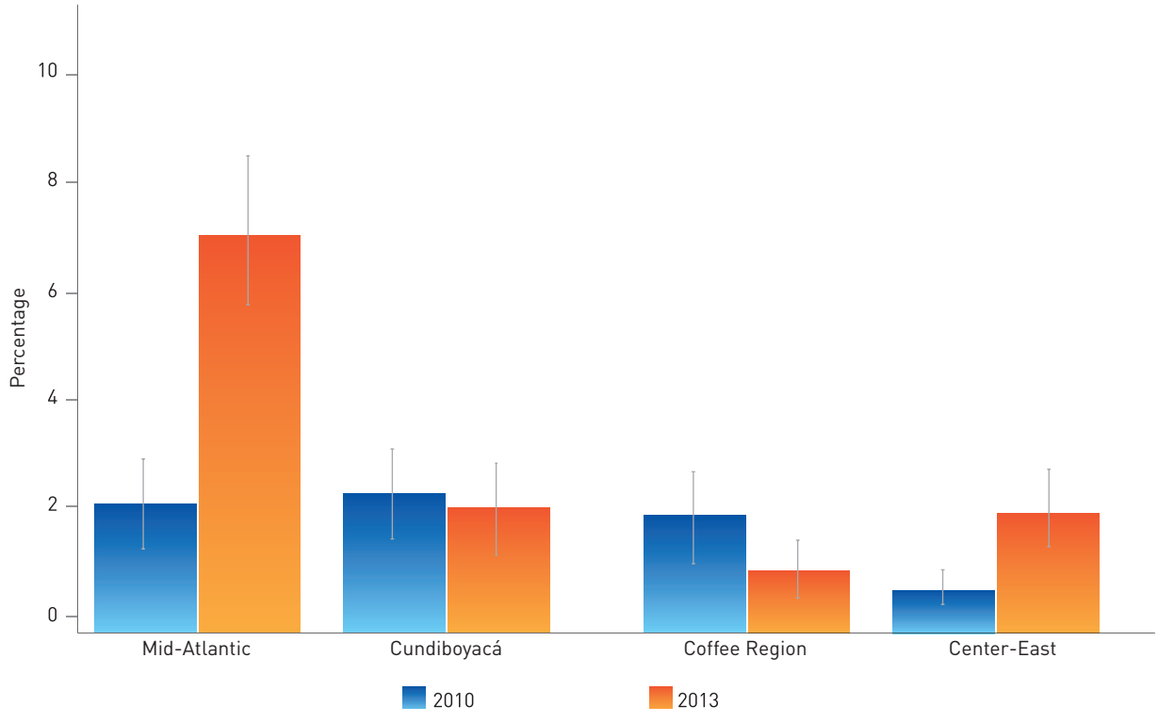


Source: Author's calculations based on the ELCA 2010 and 2013

The figure shows the percentage of households that affirm that they dedicate time to social or community service (blue bars) and those that state that they offer costless help to other households (red bars) both for 2010 and 2013. Dedicating time is defined as the household head or the spouse affirming they spend time doing these activities. These data are only available for the rural sample, which is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

Figure 7.5.

Households that dedicate time to prosocial activities in the rural area by region (percentage of households).



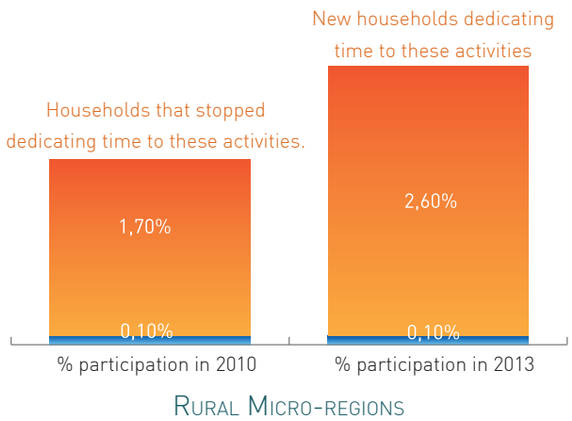
The figure shows the percentage of households that affirm that they dedicate time to social or community service (blue bars) and those that state that they offer costless help to other households (red bars) both for 2010 and 2013. Dedicating time is defined as the household head or the spouse affirming they spend time doing these activities. These data are only available for the rural sample, which is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

Source: Authors' calculations based on ELCA 2010 and 2013

However, even though the figures suggest a discouraging panorama, Figure 7.6 displays a more motivating aspect of the situation. In the rural area, 2.6% of the households which in 2010 did not dedicate time to these activities did so in 2013. This percentage is higher than the 1.7% who dedicated time to these activities in 2010 but stopped doing so in 2013.

Figure 7.6.

Dynamic of households that dedicate time to prosocial activities: social and community service or costless help to households in the rural area (percentage of households).



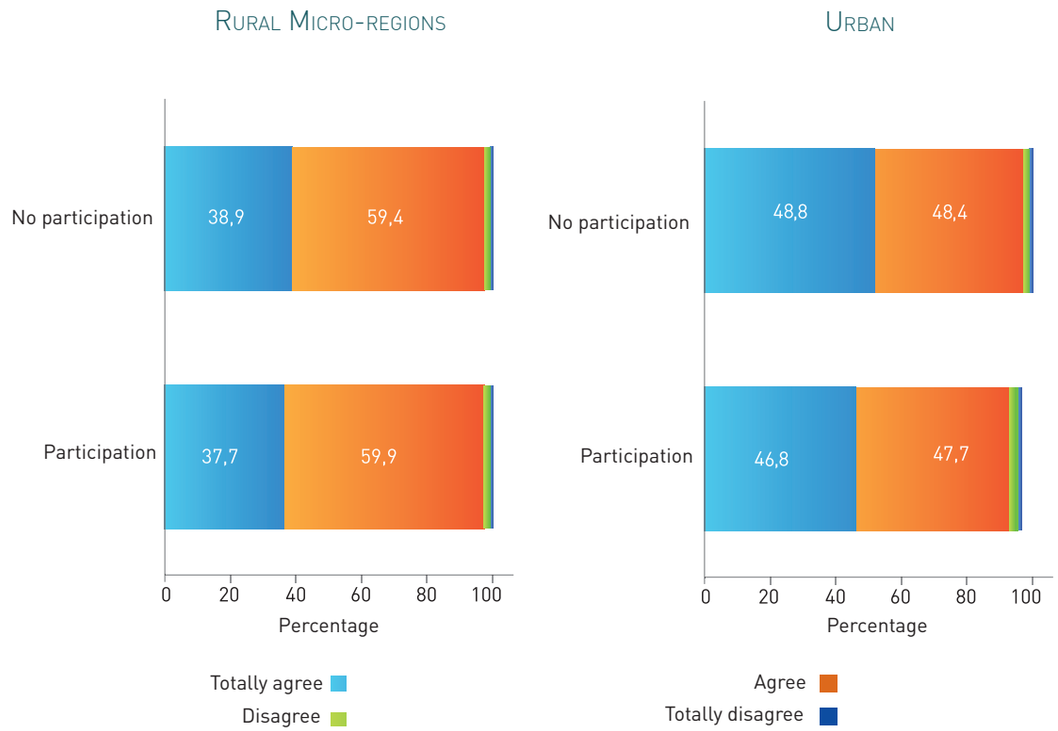
In the figure, the first bar shows the percentage of households that affirmed that they dedicated time to social or community service and those that affirmed that they offered costless help to other households in 2010. Dedicating time is defined as the household head or the spouse affirming they spend time doing these activities. The upper part of the bar indicates the percentage of households that stopped dedicating time to these activities (i.e., that in 2010 they engaged in the activities and in 2013, they no longer did). In the lower part of the bar, it is possible to observe the percentage of households that dedicated time to these activities in 2010 and continued doing so in 2013. The second bar indicates the number of households that affirmed dedicating time to these activities in 2013. The upper part of this bar indicates the percentage of households that started dedicating time to these activities (i.e., that they did not engage in such activities in 2010, but did so in 2013). These data are only available for the rural sample that is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions.

Source: Authors' calculations based on ELCA 2010 and 2013

As we can see in the participants' responses to the question regarding helping those who help us, the figures above contrast enormously with those related to their responses regarding their opinion on altruistic reciprocity, (see Figure 7.7). In addition to the fact that these manifestations express greater prosocial behavior in opinion than in action, the only aspect to highlight is that it would appear that in this question, fewer surveyed people in the rural areas are in full agreement than their urban counterparts. This contrasts with greater rural participation in social organizations.[6]

6. There are potential difficulties in making this comparison due to the fact that the responses from the surveyed participants can reflect differences in how the individuals in distinct zones show themselves to be more or less inclined to express strong opinions.

Figure 7.7.
Participation in organizations and reciprocity by area (percentage of persons).



Source: Author's calculations based on the ELCA 2010 and 2013

The figure shows the percentage of people who respond "Totally agree", "Agree", "Disagree" or "Totally disagree" to the affirmation: "You should always help those who help you." These data are only available for the rural sample that is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions.

Upon observing the opinions of the ELCA households and comparing these with those reported by Chong, Ñopo and Cardenas (2013), it is interesting to note that there is a high percentage of opinions in favor of some prosocial attitudes. For example, on average 90.4% of the surveyed participants —in the same Latin American Capitals as mentioned in the previous section— affirm that they agree with the idea that "people should worry about the well-being of other people" and an average of 70.6% agree with the idea that "people have the moral obligation to share part of their resources with people less fortunate."

Now, the informal mechanisms of mutual support on the inside of community and social networks are a fundamental component for the well-being of the households, particularly in developing countries (Baird and Gray, 2014). One of the questions asked in the 2013 survey was as follows: "Supposing that each one of your neighbors in this community or neighborhood have $50.000 Colombian Pesos in their pockets, how many of them would immediately loan you the $50.000 to cover the expenses of a medical emergency with the simple commitment that you will pay them back whenever you can?"

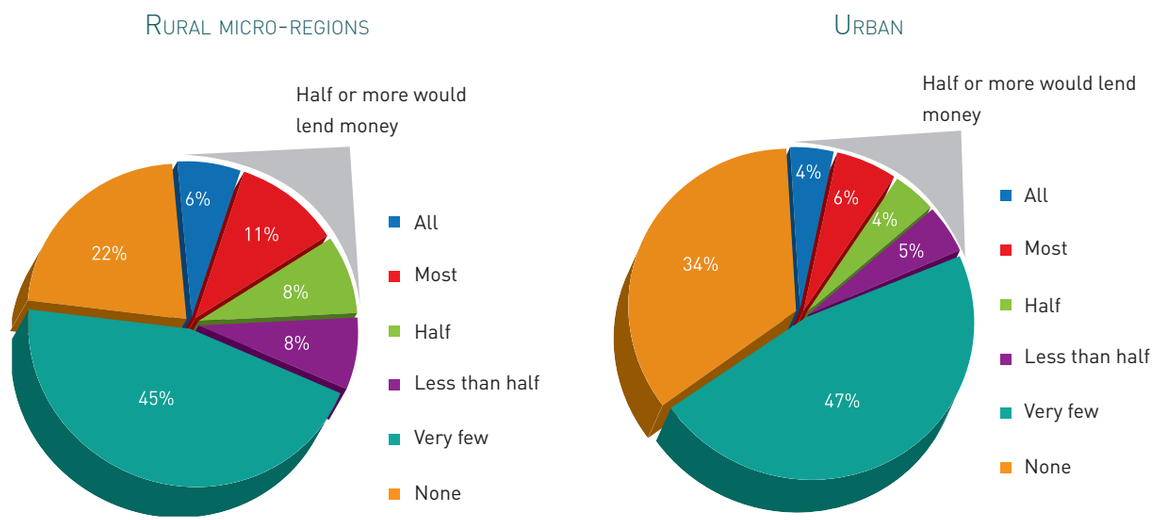
In Colombia, people tend to resort to friends and relatives when they need credit, for example. This group makes up the second most important source of financing in the country after banks and financial institutions. Of the 51% of urban households that currently have some type of credit, 20% report having them with friends and relatives. In the rural area,

this is even more important: 31% of the households with credit reported having been loaned the money from friends and relatives. Nevertheless, in the urban area, the percentage of individuals that claim no one would lend them money is relatively high even though this fraction decreases in the rural area from 34.8% to 22% respectively (see Figure 7.8). In both areas, the majority of individuals affirm that very few people would unconditionally lend them money. These data corroborate the measurements of interpersonal

In Colombia, people tend to resort to friends and relatives when they need credit, for example. This group makes up the second most important source of financing in the country, after banks and financial institutions.

Figure 7.8.

Network of trust between neighbors: Loans for medical emergencies, by area (percentage of people).



Source: Author's calculations based on the ELCA 2010 and 2013

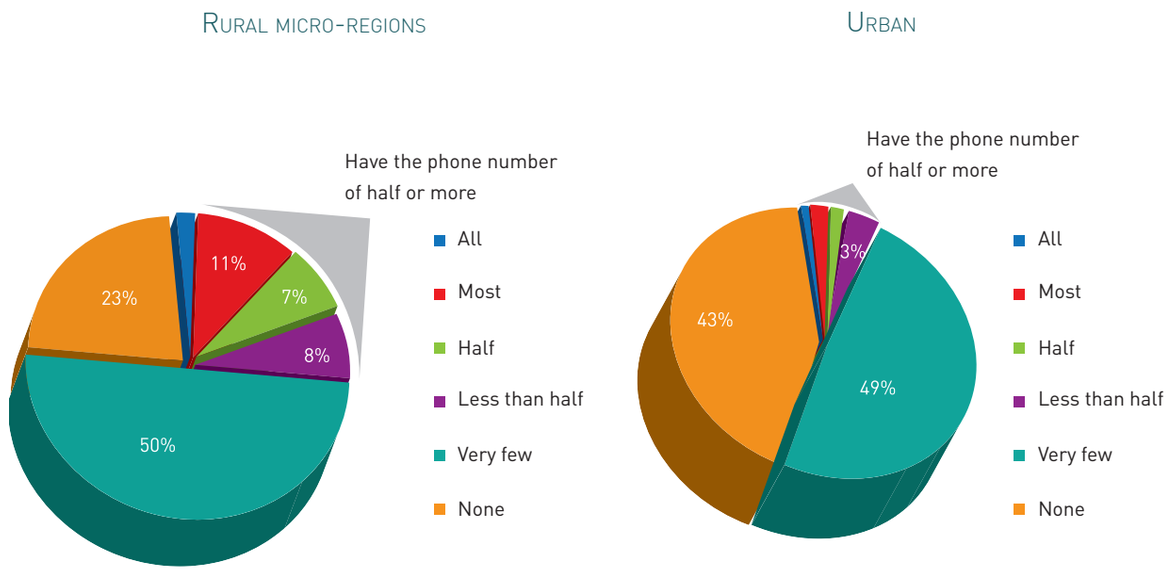
The figure shows the percentage of people who respond "All," "Most," "Half," "Less than half," "Very few," or "None" to the question: "Supposing that each one of your neighbors in this community or neighborhood have $50.000 Colombian pesos in their pockets, how many of them would immediately loan you the $50.000 to cover the expenses of a medical emergency with the simple commitment that you will pay them back whenever you can?" These data are only available for the rural sample that is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

trust made in the country by the World Survey of Values and some experimental studies (Chong, Ñopo and Cárdenas, 2008), showing that levels of interpersonal trust are rather low.

Additionally, one of the key factors to building trust and long-term relationships in a society is the establishment of communication networks between neighbors. In 2013, the ELCA asked the surveyed individuals how many of their neighbors had their phone number written down in case they needed to call them in an emergency; in the urban area, a substantially high percentage of the individuals affirmed not having the phone numbers of any of their neighbors at hand (44%), even though in the rural area this percentage was much lower, at 23%. Nevertheless, the majority of individuals in both areas reported having the cell phone number of very few of their neighbors (see Figure 7.9). Even though there are no available statistics to compare, there are reasons to believe that these percentages are low. The differences between the opinion questions regarding the importance of helping others and the concrete actions taken to carry through with this, confirm the need to follow-up on the dynamics of prosocial behavior in the households through different questions.[7]

Figure 7.9.

Trust networks between neighbors: Communication in case of emergency by area (percentage of people).



Source: Author's calculations based on the ELCA 2010 and 2013

The figure shows the percentage of people who responded "All," "Most," "Half," "Less than half," "Very few," or "None" to the question: "How many phone numbers of your neighbors do you have at hand in case you need to call them in an emergency?" These data are only available for the rural sample that is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions.

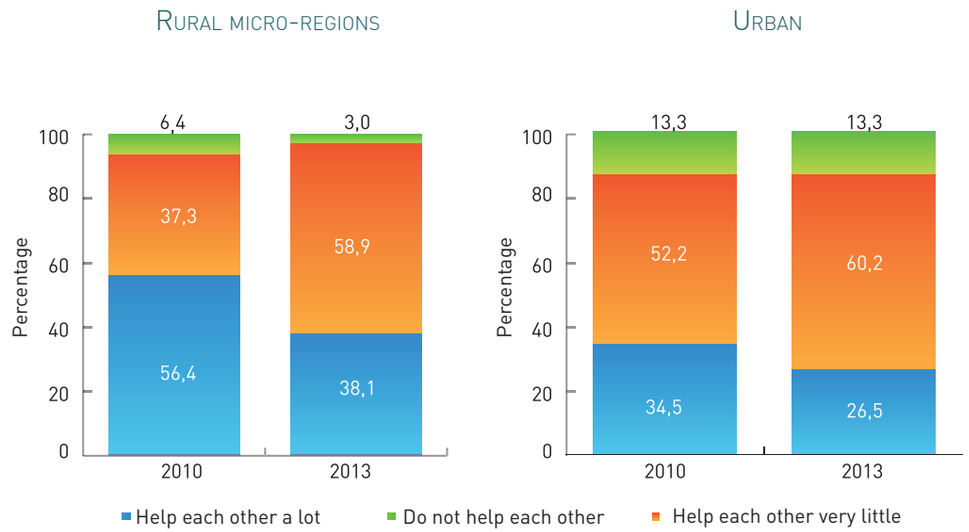
7. The correlation between reporting "totally in agreement" to the affirmation "we must always help those who help us" and dedicating time to prosocial activities (offering costless help to households or dedicating time to social or communitarian service) is positive (0,0112) and significant at 5%.

7.4. What do the community leaders have to say?

Another module of the survey was applied to hundreds of community leaders of the rural and urban samples. The responses of these leaders contrast with those of the households regarding the dynamics of collective action in the neighborhood or the rural settlement. Figure 7.10 presents the change in the perception of the leaders from 2010 to 2013. In the rural area, we can see a significant negative change perceived by the leaders, given that in 2010, 56% of them responded that the inhabitants of the rural settlement "help each other a lot," while this percentage fell to 38% in 2013. The percentage of those who said "they help each other a little" increased from 37% to 59%. This contrasts with the increase reported in previous sections of the percentage of households that stated they were dedicating time to activities such as social and community service, and to helping other households.

Negative changes appear also in the urban area, but to a lesser extent, where the percentage of community leaders that affirmed the inhabitants of their neighborhoods "help each other a lot", fell eight percentage points between 2010 and 2013, whereas, the percentage that reported that their neighbors "help each other a little" increased by the same amount.

Figure 7.10.
How much do the inhabitants of your community help each other? Community survey by area (percentage of communities).



Source: Authors' calculations based on ELCA 2010 and 2013

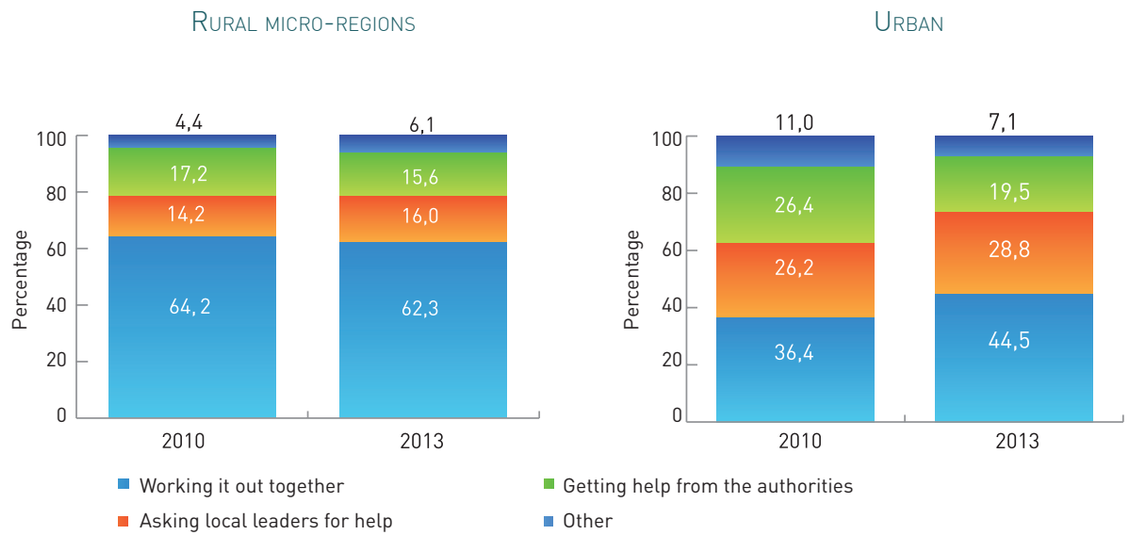
The figure shows the percentage of community leaders that responded that, in their opinion, the inhabitants of their rural settlement "help each other a lot," "help each other a little" or "do not help each other." The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions.

The leaders' perceived reduction of how much the community members and neighbors helped one another between 2010 and 2013 is not reflected in their perception of their ability to resolve conflicts. The way in which conflicts are resolved remains stable between the two waves of the survey, but the differences between the urban and rural populations are significant (see Figure 7.11). According to the leaders, in comparison to the urban areas, the rural ones show almost double the percentage of the population resolving their conflicts by working together.

One possible explanation, which would require more research, regarding the greater percentage of households in the urban area that resort to the authorities and to community leaders, is that the State mechanisms set in place for conflict resolution could be more effective or be more available to the households in the urban areas than in the rural areas. Additionally, despite the fact that the leaders report less solidarity amongst neighbors in the urban sample, the percentage of conflicts that they resolve by working together increased from 36% to 44.5% and the need to ask the authorities for help decreased from 26.4% to 19.5%. This would confirm the observed trend in the prosocial behaviors of the urban households.

Figure 7.11.

How do neighbors mainly resolve non-criminal conflicts? Community surveys by area (percentage of communities).



Source: Author's calculations based on the ELCA 2010 and 2013

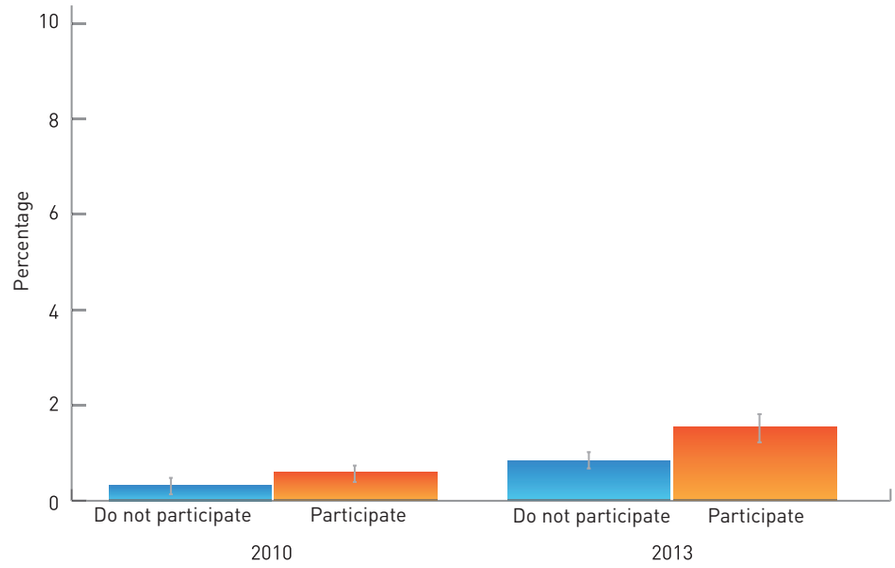
The Figure shows the percentage of community leaders who responded to the question on how neighbors in their rural settlements resolve conflicts that do not involve crimes. The category of other includes asking other neighbors for help, asking armed groups for help, asking friends and relatives that live elsewhere for help, asking religious leaders for help or other forms of asking for help. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions.

7.5. Interpretations of the dynamics of association and aid

7.5.1. Is there a relationship between participation in organizations and prosocial behavior?

As mentioned throughout this chapter, associativity and prosocial behavior respond to a community process which is fuelled from distinct community spaces and allows for the building of what some call social capital or, as previously mentioned, 'collective efficacy' (Sampson, Rudenbush and Earls, 1997). Participation in social organizations allows the exercise of collective efficacy as it creates a discussion space to communicate and represent the collective concerns. Prosocial actions, on the other hand, are a direct manifestation of this collective efficacy. In Figure 7.12, we can see that despite the dismally low percentages of households that dedicate time to social and community service, the households that participate in some organization dedicate more time to helping others both in 2010 and 2013.[8] Now, in both cases, whether they participate or not, there is an increase in the time reported helping others, which suggests a general increase in prosocial behavior. This correlation between participating and helping suggests that the social organizations are aimed at opening spaces designed to helping others.

Figure 7.12.
Households which dedicate time to social or community service in the rural area according to their participation in social organizations (percentage of households).



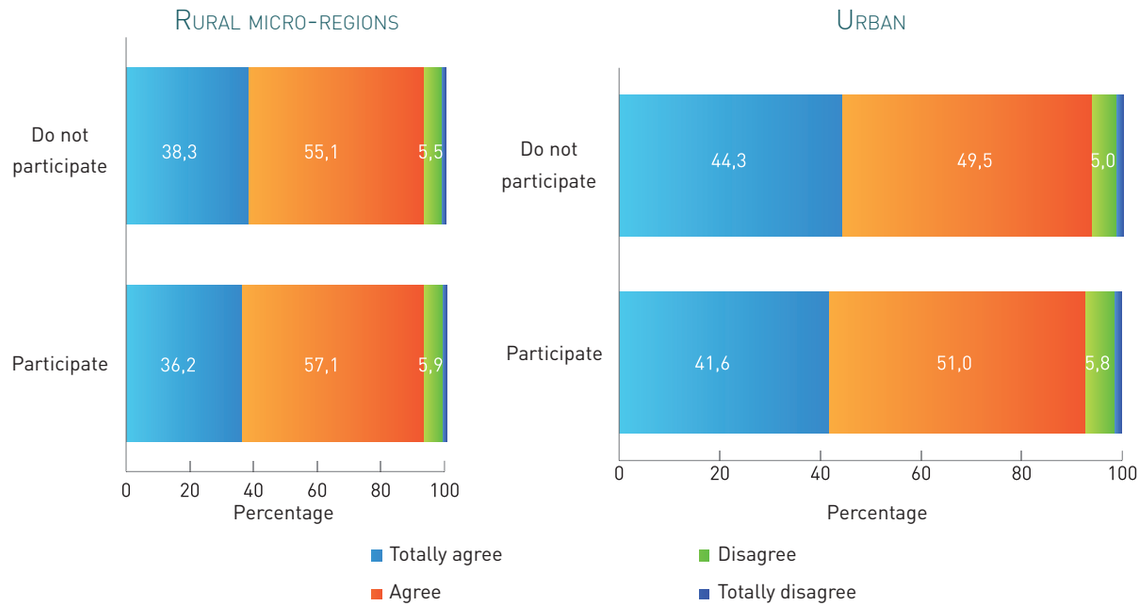
Source: Author's calculations based on the ELCA 2010 and 2013

Dedicating time refers to when the household head or spouse affirms dedicating time to this kind of activity differentiating on whether any household member participated in some social organization in 2013. These data are only available for the rural sample that is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

8. The correlation between membership in organizations and dedicating time to social and community services is positive but weak (0.028) and it is statistically significant at 5%.

Figure 7.13.

People who agreed with: "The Government must implement strong policies to reduce the inequalities between the rich and the poor" by area (percentage of people).



The figure shows the percentage of people that responded "Totally agree," "Agree," "Disagree" or "Totally disagree" to the statement: "The Government must implement strong policies to reduce the gap between the poor and the wealthy." The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

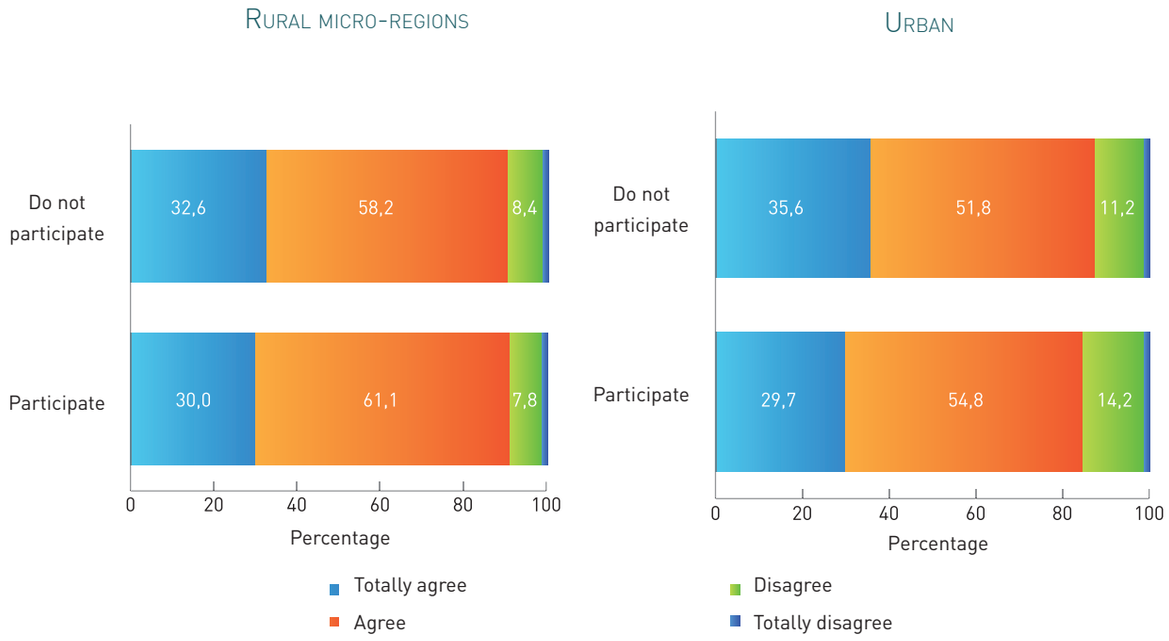
Source: Authors' calculations based on ELCA 2010 and 2013

7.5.2. Social organizations, prosocial behavior and the welfare state

Participation in social organizations and prosocial actions aim at creating well-being at a collective level through collective action. As in previous sections, the great majority are in agreement or totally in agreement with the idea that individuals must help each other. Before the modern welfare state, this was the source of social benefits and the redistribution of aid for those most in need. However, today there is a welfare state that, supported by public resources, creates programs to support the most vulnerable groups of society. Moreover, the ELCA participants clearly support this role of the State as the generator of welfare and redistribution, as can be seen in Figure 7.13.

Figure 7.14.

People who agree with: "The Government is the main entity responsible for overseeing people's welfare", by area (percentage of people).



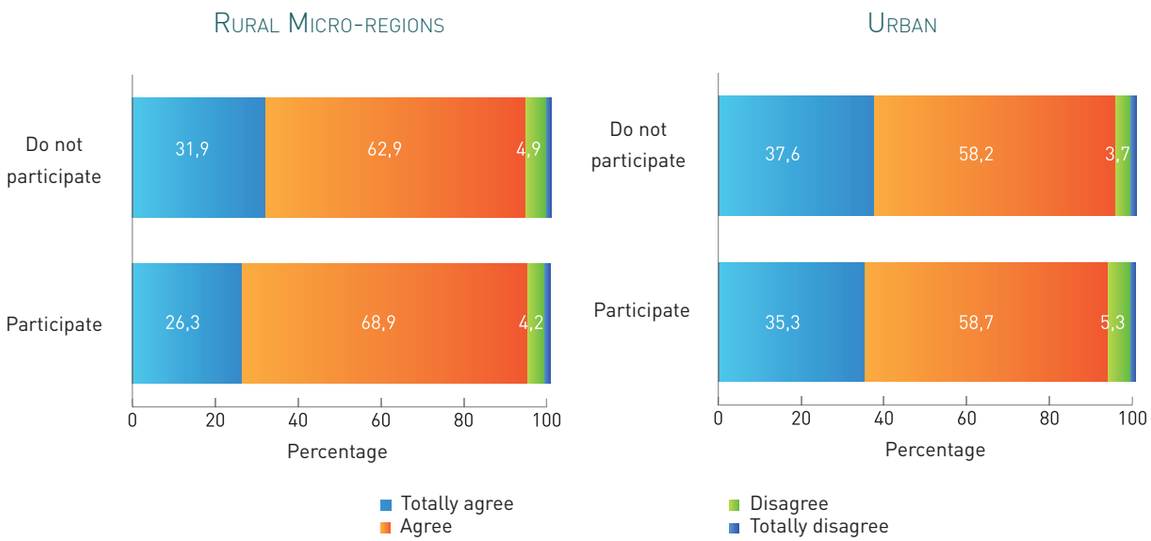
The figure shows the percentage of people that responded "Totally agree," "Agree," "Disagree" or "Totally disagree" to the statement: "The Government is the main entity responsible for overseeing people's welfare." The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

Source: Authors' calculations based on ELCA 2010 and 2013

The questions regarding whether the government or each individual should be the main person or entity responsible for people's well-being show that there is a balance in the degree to which the surveyed participants see a major role played by both actors without a clear preference. What stands out in Figures 7.14 and 7.15 is that the percentages of "totally agree" responses are lower in both cases for the rural area.

Figure 7.15.

People who agree with the statement: "each individual is responsible for his/her own well-being", by area (percentage of people).



The figure shows the percentage of people that responded "Totally agree," "Agree," "Disagree" or "Totally disagree" to the statement: "Each individual is responsible for his/her own well-being." The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

Source: Author's calculations based on the ELCA 2010 and 2013

At the same time, we studied the correlation between the variables of associativity (do you participate in any social organization?), the network of trust among the neighbors (would you lend someone $50.000?), and the opinion regarding the welfare state and redistribution, solidarity and reciprocity. Table 7.1 shows the results. Each cell highlights whether the correlation was negative (-), positive (+) or statistically insignificant (.) for the urban and rural samples. The results show that those who participated in social organizations agreed to a lesser extent with either the State or individuals being primarily responsible, and with negative reciprocity. In the rural case, those who participated in social organizations agreed to a lesser extent with solidarity. Nevertheless, the question about the networks of trust among neighbors exhibited fewer cases of significant correlation, except in the urban area and regarding the issue of the Government being primarily responsible for redistribution.[9]

9. The positive correlation implies that the person is "more in agreement" with the statement and the opposite is true for the negative correlation. To the left you can read the direction of the correlations that are significant in the urban zone and to the right you can read the same for the rural area. Where no sign appears, the correlation is not significant to 5%.

Table 7.1.

Correlations between associativity and the network of trust among neighbors against opinions regarding the welfare state and redistribution, solidarity and reciprocity.

	The government is the main entity responsible for ensuring people's welfare	Each individual is responsible for his/her own welfare	The government must implement strong policies to reduce the gap between the poor and the wealthy.	You must always help those who help you.	What goes around comes around
Someone in the household participates in some social organization.	- / ·	- / -	- / ·	- / ·	- / -
How many of your neighbors would lend you COP$50.000?	+ / ·	· / ·	· / ·	· / ·	· / ·

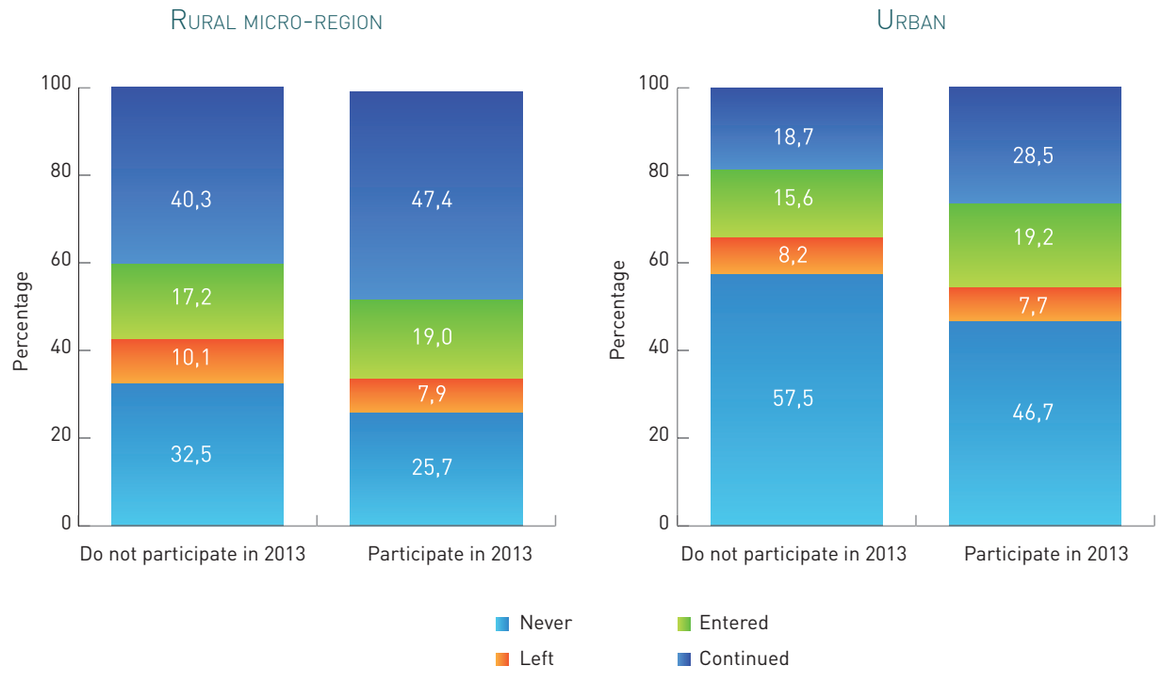
Source: Author's calculations based on the ELCA 2010 and 2013

The table shows the correlation between the variables of associativity (someone in the household participates in some social organization) and the network of trust among neighbors (how many would lend you COP$50.000) against the responses of opinions on the welfare state and redistribution, solidarity and reciprocity, for the urban and rural area. Each cell highlights whether the resulting correlation is negative (-), positive (+) or statistically insignificant (.). The positive correlation implies that the person is "more in agreement" with the statement and vice versa for the negative correlation. To the left you can read the direction of the correlations that are significant in the urban area, and to the right, those for the rural area. Where there are no signs, this implies that the correlation is not significant to 5%. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

The question as to whether these social programs have any relationship with the households' participation and prosocial behavior is now opened. Using ELCA information on the participation of the households in State programs, we were able to analyze the frequency with which the households participate and their prosocial activities and participation in civil society organizations. Beyond this, we were able to carry out a dynamic analysis assessing whether the households entered, continued or left these social programs[10] and whether this is related to their prosocial behavior and associativity. Figure 7.16 presents this analysis as a result of a regression, which allows us to deduce that the probability of belonging to a social organization is determined by a household entering a State program or continuing to benefit from one.

10. The social or government programs considered are, for the rural area: Familias en Acción, programs for the elderly, SENA, Red Juntos-Unidos, ICBF, aid for natural disasters, aid for displaced people, titling of abandoned land, land allocation programs, Ley de Víctimas y Ley de Tierras, Agroingreso Seguro or Desarrollo Rural con Equidad, Oportunidades Rurales, Familias Guardabosques and any other rural development or related programs. And for the urban area: Familias en Acción, programs for senior citizens, SENA, Red Juntos-Unidos, ICBF, aid for natural disasters, aid for displaced people and other programs.

Figure 7.16.
Panel of the dynamic of households entering into and leaving State programs differentiated by participation in social organizations (percentage of households).



Source: Authors' calculations based on ELCA 2010 and 2013

The figure shows the percentage of households that have never been beneficiaries of a State program (in 2010 or in 2013), the households that left or stopped being beneficiaries (in 2010 someone in the household was the beneficiary of a program and in 2013 stopped being one), the households that entered programs (in 2010 no one in the household was a program beneficiary but was in 2013), and the households that continued being beneficiaries (someone in the household was a beneficiary of a program in 2010 and also in 2013). These classifications are differentiated by whether or not someone in the household was a member of a social organization in 2013. The social or governmental programs considered are, for the rural area: Familias en Acción, programs for the elderly, SENA, Red Juntos-Unidos , ICBF, aid for natural disasters, aid for displaced people, titling of abandoned land, land allocation programs, the Victims and Land Restitution Law, Agroingreso Seguro or Desarrollo Rural con Equidad, Oportunidades Rurales, Familias Guardabosques and any other rural development or related programs. Urban area: Familias en Acción, programs for senior citizens, SENA, Red Juntos-Unidos, ICBF, aid for natural disasters, aid for displaced people and other programs. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region, and Center-East micro-regions. A 95% confidence interval is reported.

→ In the afternoon, Octavio Ballesteros, his wife Alicia Torres and their adopted son, Felipe García, milk the cows and check on the livestock, in Susa (Cundinamarca).

The left panel shows the data for the rural case. Each bar represents the probability of a household participating (right) or not (left) in social organizations. In general, we can see that the probability of participating in a social organization increases for the households that entered or continued in State programs between 2010 and 2013, when compared to those that never participated or those that left these programs. A similar pattern can be observed for the urban case.

These data suggest that the State programs can be contributing to opening spaces of associativity for the rural and urban households. What is not clear is the transmission mechanism. However, it is quite plausible that this effect is generated by the programs' implementation of conditions that often include the need to join, in order to receive the benefits. For example, the Familias en Acción[11] program is one of the most common in the country and therefore the ELCA sample explicitly includes, among its categories, participation in spaces of community welfare such as the "Municipality Assembly of more Familias en Acción," the "Leader Mothers' Committee", and the "Well-Being Meetings."

It is difficult to evaluate the impact of these conditions on the construction of social capital, in a profound sense of the word, and even more difficult, to evaluate their impact on the households' prosocial actions. In fact, upon evaluating whether entering or staying in the programs between 2010 and 2013 had some effect on the prosocial behaviors of helping and trusting others, no causal relationship was found. The next wave of the ELCA will surely shed light on this point.

11. See http://www.dps.gov.co/Ingreso_Social/FamiliasenAccion.aspx

7.6. Conclusions

Throughout this chapter, we evaluated the ELCA households' role of participation in social organizations and prosocial actions in the rural and urban households as symptoms of the construction of the collective efficacy of the urban and rural communities in the ELCA sample. Even though the levels of prosocial behavior in terms of providing help to others and to community and social projects are very low, and the participation of the households in social organizations show positive signs, between 2010 and 2013 there was an increase in the participation and the prosocial actions that can be associated with an attempt to construct social capital and collective efficacy. Given that there is a weak but positive correlation of this participation with the prosocial actions of individuals, it could be said that, in general, a positive trend in this aspect can be observed. It is worth pointing out that the increase in the participation of the households in religious organizations and unions is especially high. This would seem to open spaces of organization which, in the first place, can be derived from the growing explosion of new churches other than the Catholic Church and, in the second place, due to the opening up of democracy and fewer threats to the lives of union members.

Nevertheless, it is also important to point out the high mobility in terms of the households' entering and leaving these organizations, which can point to a fragility in these processes of attempting to construct social capital that can only now be quantified through the application of this longitudinal survey. The data suggest that only 10% of the urban households and 25% of the rural ones maintained their participation in social organizations between 2010 and 2013, with respect to households entering and leaving organizations temporarily. This impedes a consolidated construction of a social fabric of mutual help and representation among the households in the public and collective sphere. More clearly —as discussed in the previous section— it is a reflection of a dynamic promoted by governmental programs where the opportunism of an obligatory membership to organizations is the cause behind this growth in participation. Time will be a better evaluator of the transformation of associativity in prosocial behavior. Additionally, it is worth mentioning the regional differences; while the Atlantic and Center-East regions saw an important increase in this participation, the Cundiboyacá and Coffee regions showed low or even negative tendencies.

The apparent disconnection between this dynamic of increasing participation and prosocial behavior and that reported by the surveyed leaders is interesting. In the case of the leaders, even though it is not possible to carry out a longitudinal analysis given that the same leaders were not interviewed throughout, it is worth pointing out that, in general, the leaders in the 2013 survey reported levels of trust and help among neighbors as being lower than those reported in 2010. The new ELCA question regarding whether or not a neighbor would unconditionally lend COP $50.000 in a case of emergency confirms the assessment of very low levels of interpersonal trust and prosocial actions in general. This was also reflected in the little connectivity between the surveyed individuals and their neighbors (i.e., that they did not have their neighbors' phone numbers saved in their cell phones as a sign of the connectivity in their social networks).

The possible positive relations found between the governmental programs and participation in social organizations, but not with prosocial behavior, lead to questions that can only be answered over time. If these programs aim at constructing greater social capital by demanding that the beneficiaries be associated, could this requirement transform the relations of interpersonal trust and of prosocial actions between individuals? It is difficult to respond to this question with the available data, but it does open a debate on the role of the welfare state and the communities in generating the minimum social capital that must exist to act as a network of social protection in case these governmental programs stop functioning due to lack of resources or because beneficiaries move on.

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→ For the inhabitants of the rural areas of Barrancabermeja, located in the Ciénaga de San Silvestre, the possibilities of economic sustenance are limited to fishing. There are fewer and fewer fish each day due to the deterioration and invasion of the waterways.


CAT

→ Benedicto Rodríguez gets up at 5:00 a.m. to extract honey from the beehives he has on his farm in Simijaca. In the afternoon, he goes to town and sells it.

Chapter 8
What happened in the rural areas between 2010 and 2013: Contribution to land access, negative shocks and state programs geared towards the well-being of rural households

Ana María Ibáñez
Laura Montenegro

→ Rodrigo Ballesteros changed his village life for farming. In the photo, he is picking his zucchini harvest with his son Cristian, in Buena Vista (Boyacá).

→ 8.1. Introduction

The country's rural areas are home to a little less than 25% of the Colombian population, but to a higher percentage of the poor (32%) and extremely poor (49,2%) populations.[1] If it is true that the incidence of poverty in the country has fallen since 1997, the reduction has been more accelerated in the urban areas of Colombia in such a way that, in 2013, the incidence of urban poverty was 26.9%, while that of the rural population was 42.8%. This urban-rural gap is not, however, a recent phenomenon. Greater rural poverty has been a constant in the country.

The disproportional presence of the poor in rural areas and the slow reduction of rural poverty could be a consequence of diverse factors. In the first place, State presence in rural areas is weak and in some areas, non-existent. This limits the provision of social services and public goods, which are fundamental for rural income generation and for assuring greater future incomes.

1. Source: www.dane.gov.co.

In the second place, the armed conflict takes place to a greater extent in the country's rural areas, meaning that the rural population has suffered the rigors of the conflict to a greater proportion. The displaced population is primarily rural, land dispossession as a consequence of the armed conflict happens in rural regions, and the inhabitants who have not been displaced face high levels of victimization (Ibáñez, 2008).

In the third place, land access and the concentration of rural property in Colombia limit the opportunities of the rural population. Only 41.6% of the population has access to land through formal or informal tenure agreements. Moreover, 47.7% of property owners do not have formal property deeds, which in turn eases eviction from lands and reduces the incentives to invest in the lots. In 2012, the Gini index for rural property reached 0.87 (Gáfaro, Ibáñez and Zarruk, 2012).

In the fourth place, rural producers in general are subject to a greater risk. Climatic shocks, damage to their harvests and the high variation in agricultural prices are some of the usual risks that agricultural and livestock workers face. During 2010 and 2011, the excessive rains brought about by the phenomenon known as La Niña affected a number of the country's rural regions. Moreover, the fall and revaluation of agricultural prices reduced the profitability of various crops, which in turn caused the coffee growers and peasant farmers' strikes in 2013.

The aim of this chapter is to analyze the changes in the well-being of the ELCA rural households and to explore the possible causes of those changes. In particular, an approximation of household welfare was made through the observation of aggregate consumption. In this way, we examined the changes in household consumption and their relationship to land access, state programs and credit markets. Moreover, the incidence of negative shocks on household consumption was examined. Before detailing the results, we present a short summary of the main events in the four micro-regions.

8.2. The four ELCA micro-regions: Main events between 2010 and 2013

The country's rural regions went through three common phenomena during 2010 and 2013. In the first place, the winter spell, which began in 2010, had a harsh impact on the rural regions, with the exception of the Coffee Region and the Center–East part of the country. In the second place, the fall in agricultural production and in some prices deteriorated the market conditions and provoked protests and strikes to demand State aid. In the third place, the violence, despite being reduced, still had a strong impact in the rural areas and in some cases changed from paramilitary violence to criminal violence, as well as the continued presence of guerrilla groups. These phenomena are examined for each region in the following paragraphs.

→ Eduard Álvarez is a farmer in Sabanalarga, Chinú. He does not get any relief from the harsh climate in Córdoba, so he avoids working under direct sunlight at midday

8.2.1. Mid-Atlantic

The winter spell had an important impact on the departments of Córdoba and Sucre. In June 2011, the areas most affected by flooding corresponded to 11.2% of the area under study in the department of Sucre and 5.7% in Córdoba. The floods particularly affected the ground used for crops, pastures and forests (Ideam, 2011), implying a reduction in agricultural and livestock production in these departments.

→ Raising and selling pigs is an extra source of income for the González Valenzuela family in Puente Nacional. The household head is a farmer.

The participation of farmers in Córdoba and Sucre —traditionally known for peasant farmer activity, and an important history of protests and agrarian organization— was considerably low in the national agrarian strike in mid-2013. This could be interpreted as one of the effects of the violence in this region that obliged its population to withdraw into their homes.

Violence in the mid-Atlantic region increased after the paramilitary demobilizations. Currently, criminal groups constitute the biggest risk for security in the region. In Chinú and Sahagún, there have been reports of attacks against various sectors of the population, commerce and homes (Red Acción Eje Cafetero, 2012a), as well as against indigenous communities (Zenú ethnic group) who have reservations in the rural areas (VerdadAbierta.com 2014a). According to the Human Rights Observatory and the UN Office for the Coordination of Humanitarian Affairs (OCHA), there were massacres in Ciénaga de Oro in 2010; in Sahagún on November 20, 2010; and in Sampués (Sucre), threats to the inhabitants and an attack on the house of a civic leader were reported on January 14, 2104.

8.2.2. Coffee Region

The Coffee Region witnessed a number of strikes over the three years. In October 2012, Quindío and Risaralda joined the national march to protest against the coffee crisis (Red Acción Eje Cafetero, 2012b). In February 2013, they were the focus of the coffee growers' strike (Red Acción Eje Cafetero, 2013), and after that, the strike in September 2013. The recurring lack of State presence in the rural area and the low prices for coffee, together with the revaluation of the peso to the dollar, were the main causes of the strike.

Violence in the Coffee Region was caused mainly by gangs of delinquents associated with drug trafficking. In the municipalities of Risaralda and Quindío, the Cordillera and Los Rolos gangs have been particularly violent (Caracol, 2011). The violence in the Pacific region has also generated migration towards the Valle del Cauca and the Coffee Region. The worsening of this situation meant that heart attacks and violence were the principal causes of mortality in Risaralda in November 2013 (El Diario del Otún, 2013)

8.2.3. Center-East

The national agrarian strike, despite starting timidly in Tolima (Redacción El Nuevo Día, 2013), soon intensified because of the road blockages and confrontations with the public forces, especially in the small rural settlement of Castilla (Coyaima), located near Purificación, Ortega and Natagaima (Equipo Ecos de Combeima, 2013). Some organizations in Tolima, such as the National Agricultural and Livestock Roundtable (Mesa Nacional Agropecuaria de Interlocución) that participated in the strike, group together small rented or sharecropped producers.

After the paramilitary demobilization, various criminal groups that shared territory with the FARC sprang up. Among them, it is worth mentioning Los Rastrojos, the Pijao Block (presumably dismantled in 2009), the Conquistadores del Tolima[2] and other armed groups (VerdadAbierta.com, 2012). The FARC were the protagonists of various violent incidents in Ortega during 2011 and in Natagaima between 2010 and 2013.

8.2.4. Cundiboyacá

The winter spell had an important impact in Santander, Cundinamarca and Boyacá, especially in two municipalities in the Cundiboyacá region. These departments suffered important losses of transitory and permanent crops which affected family agriculture as well as cattle ranching (Cepal, 2012).

2. Who, at least until the middle of 2012, organized kidnappings and extortions in the municipality of Ortega.

Even though the region has an important history of paramilitary activity, (VerdadAbierta.com 2014b), since 2012, one of the main problems of the violence in Boyacá is attributed to the rivalry between the emerald workers that Víctor Carranza left behind (6am Hoy por Hoy, 2013). This is a silent war being waged in the region, which was only brought to light with the attack against Pedro Orejas in Pauna. This rivalry has affected municipalities close to Cundinamarca such as Susa and Simijaca. Other violent activities include the massacre reported by the OCHA in Moniquirá (near Puente Nacional) on December 31, 2011.

8.3. Changes in household well-being between 2010 and 2013: Exploring some possible causes

This section analyses the evolution of consumption and land use between 2010 and 2013 and explores possible causes that brought changes in both dimensions. In order to evaluate changes in terms of well-being and their possible causes, the ELCA collected detailed information about household consumption and their main sources of income. Household consumption can be financed by household income, by production on the plot of land (self-consumption) or by financial transfers between families, friends or the State.

Table 8.1 presents the changes in annual aggregate consumption by household between 2010 and 2013, as well as the changes in their components of self-consumption and transfers. The purpose of this chapter is to evaluate how well-being changes in different circumstances and to identify the mechanisms adopted by the households for mitigating the adverse effects of these shocks. Finally, we examine aggregate consumption for household well-being and consumption supplied by the production of the plot of land (self-consumption) or by transfers by families, friends or the State. Consumption based on purchases is the major component of aggregate consumption, it is not analyzed separately, and is reported in 2013 prices. For the four micro-regions, real average consumption showed an increase of 12.6% in three years; that is to say, it passed from COP$7.9 million (COP$1.9 million per capita) in 2010 to COP$8.9 million (COP$2.3 million per capita) in 2013. The Center-East region reported the biggest growth, 20.6%, while the Coffee Region showed smaller growth, 6%. The low growth in the Coffee Region can be associated with its weak productive performance, which also contributed to the protests of the coffee-growers' strike.

Self-consumption reflects the capacity of households for producing food on their own plots of land. An increase in self-consumption can be positive when it is the result of a bigger agricultural production on the plot of land, either for the market sales or for household consumption. On the other hand, an increase in violence or major isolation from the markets can make the households increase their production of basic crops in order to protect food consumption, thus converting this into a survival strategy, denoting negative dynamics. Self-consumption increased in three of the four micro-regions and the changes differ significantly between regions. Self-consumption in the mid-Atlantic region and the Center-East region grew by 38.2 % and 95%, respectively.

Transfers and aid from families, friends, and State organizations contributed to the financing of household consumption. It is expected for transfers to increase in times of crisis and negative shocks in the household, and consumption coming from transfers increased in the Cundiboyacá and the Center-East regions.

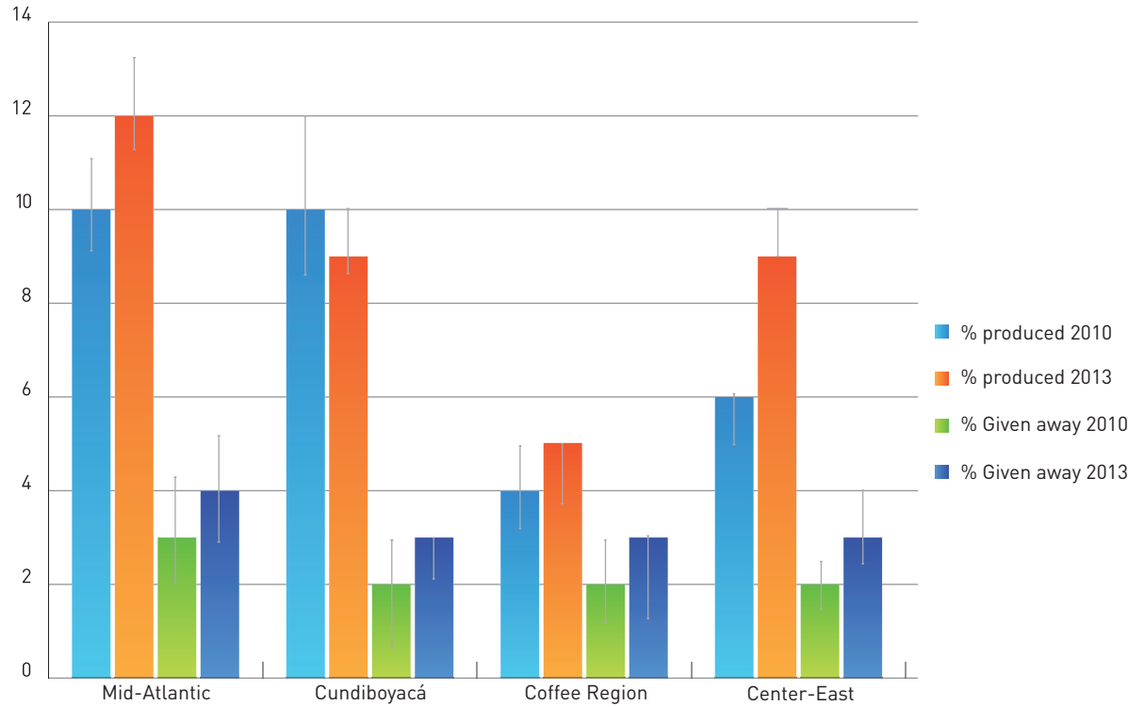
The bad winter spell in 2010 seemed to have had a significant impact on the rural households in the Cundiboyacá region. Self-consumption contracted by 5.8%, while rising in the other three regions. Moreover, transfers increased in this region by 53.5%. It is possible that the contraction in agricultural and livestock production, and in the household income obliged households to resort to support from family, friends and government programs in order to finance household consumption. Changes in the self-consumption, participation, and in the transfers of aggregate household consumption denote a major dependence on these sources of financing. (See Figure 8.1). This phenomenon is particularly strong for the mid-Atlantic

and Center-East regions where self-consumption finances 12% and 9% of total consumption, respectively. Transfers as a source of financing increased in all the regions, financing between 3% and 4% of total consumption.

Transfers and aid from families, friends, and State organizations contributed to the financing of household consumption. It is expected for transfers to increase in times of crisis and negative shocks in the household.

Figure 8.1.

Participation of self-consumption and transfers in household consumption by year and region (percentage).



Source: Authors' calculations based on ELCA 2010 and 2013

The total aggregate consumption refers to the total number of non-durable goods that a household reported having consumed. Self-consumption is whatever is produced on the plots of land and transfers refer to that which is received from other people. For the rural areas, the methodology that measures the households' well-being through aggregate consumption is preferred to that which measures this well-being through wage. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Table 8.1.
Total aggregate consumption (In 2013 pesos).

	Total				Self-consumption				Transfers			
	Mean (sd)		Changes		Mean (sd)		Changes		Mean (sd)		Changes	
Region	2010	2013	Change	Signif.	2010	2013	Change	Signif.	2010	2013	Change	Signif.
Mid-Atlantic	8.271.290	9.095.288	9,96%	***	725.138	1.001.951	38,17%	***	238.110	286.667	20,39%	***
	(5,390,514)	(4,892,878)			(754,811)	(863,646)			(550,833)	(465,105)		
Cundiboyacá	8.406.462	9.493.311	12,93%	***	811.306	764.548	-5,76%	**	125.497	192.628	53,49%	***
	(4,575,821)	(5,577,672)			(897,672)	(725,253)			(373,840)	(425,278)		
Coffee Region	8.242.560	8.740.511	6,04%	***	336.979	404.922	20,16%	***	160.348	211.300	31,78%	***
	(4,647,421)	(5,022,912)			(478,217)	(501,325)			(312,363)	(441,792)		
Center-East	6.762.655	8.153.514	20,57%	***	360.327	702.662	95,01%	***	89.636	222.243	147,94%	***
	(3,580,676)	(4,996,775)			(463,700)	(692,412)			(324,994)	(476,910)		
Total	7.876.574	8.865.907	12,56%	***	586.599	784.995	33,82%	***	162.575	238.635	46,78%	***
	(4,720,011)	(4,929,737)			(715,587)	(458,703)			(434,986)	(425,881)		

Source: Authors' calculations based on ELCA 2010 and 2013

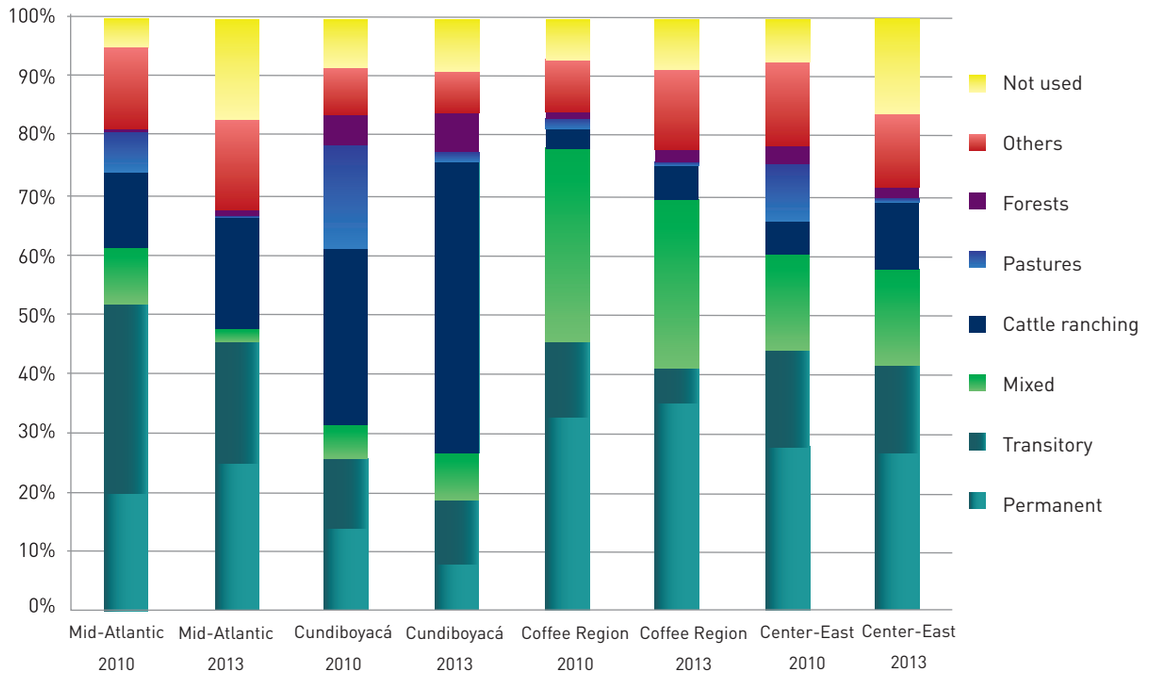
* Significant at 10% ** Significant at 5% *** Significant at 1%.

The total aggregate consumption refers to the total number of non-durable goods that a household reported having consumed. Self-consumption is whatever is produced on the plots of land and transfers refer to that which is received from other people. For the rural areas, the methodology that measures the households' well-being through aggregate consumption is preferred to that which measures this well-being through wage. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

As mentioned earlier, if the increases in self-consumption are accompanied by greater agricultural production, this can be seen as a result of positive household dynamics. With the aim of determining whether agricultural and livestock production increased, Figure 8.2 shows the changes in land use between 2010 and 2013.[3] In the mid-Atlantic and Center-East regions —which reported the biggest increase in self-consumption— the percentage of unexploited land increased significantly, reaching levels of 20% in both regions. The biggest percentage of unused land can result from negative dynamics that obligate households to retract from the markets and protect their food consumption or from positive dynamics due to a bigger acquisition of new, unexploited lands. An important increase in land use relating to cattle ranching at the expense of transitory, and mixed crops was shown in the four regions, and the expense of permanent crops in the Cundiboyacá region. Even if not profitable on a small scale, cattle ranching is an easy way to capitalize when faced with negative shocks, providing daily cash flow and less price volatility with respect to the agricultural goods.

Figure 8.2.

Land use distribution by year and region (percentage of total area of plots).



Source: Authors' calculations based on ELCA 2010 and 2013

The total amount of land belonging to the household was tallied in terms of each type of use (this could be divided up into several plots of land), this was used to obtain the proportion of each type of use over the total of the household's land. The table presents the averages of these types of uses by household, region and year. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

3. Permanent crops are those that are planted once but that can be harvested more than once. An example of this is the coffee plant. Transitory crops have a planting and harvesting cycle of less than a year and, in contrast to permanent crops, after being harvested, they have to be planted again. For example, potatoes and carrots. Mixed crops include a variety of crops, both permanent and transitory, in the same area. For example shade-grown coffee. Livestock farming produces meat, milk or leather. Grass is planted for animals to feed on, and forests, for example, for timber production.

The changes in consumption, the sources of financing, and land use respond to diverse dynamics that presumably affect households. Land access, the incidence of negative shocks, production decisions and coverage of State programs could be some of these factors. The following paragraphs evaluate each one of these dynamics and identify their relationship to consumption changes.

8.3.1. Land markets and lost lands

A preliminary analysis of the changes in the size of the plots of land seems to suggest that the land markets are quite static and that little happened between 2010 and 2013. The average size of ELCA household plots between 2010 and 2013 is presented in Table 8.2. The changes in the average size of the plots for the mid-Atlantic and Cundiboyacá regions are not statistically significant. The average size of plots in the Coffee Region diminished by a total of 10.7%, and in the Center-East region increased by 44.4%. Given the small sizes of the plots, these changes are not particularly significant: 0.25 ha for the Coffee Region, and 1.1 ha for the Center-East region.

Table 8.2.
Size of the plots of land by household (average in hectares).

	2010	2013		
Region	Size (sd)		Change	Significance
Mid-Atlantic	3,04	3,12	2,6%	
	(6.11)	(7.02)		
Cundiboyacá	3,17	2,97	-6,3%	
	(5.15)	(4.16)		
Coffee Region	2,33	2,08	-10,7%	*
	(3.44)	(5.04)		
Center-East	2,5	3,61	44,4%	***
	(4.78)	(8.59)		

Source: Authors' calculations based on ELCA 2010 and 2013

* Significant at 10% ** Significant at 5% *** Significant at 1%.
The size of the plots of land correspond to the reported average. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

Government aid for land purchase is scarce in the ELCA sample: only 0.6% benefitted from subsidies for financing land purchase through the agrarian reform programs

Table 8.3.
Changes in the tenure of plots of land between 2010 and 2013 (percentage of households).

	Mid-Atlantic	Cundiboyacá	Coffee Region	Center-East	Total
Land acquisition	10,1	7,9	6,7	9,8	9,1
Formalized	7	10,7	10,7	13,1	10,2
Sold	3,5	1,8	3,1	1,7	2,6
Lost	0,4	1,9	2,4	5,4	2,4

Source: Authors' calculations based on ELCA 2010 and 2013

The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

The small changes in the average size of plots of land hide the big volatility in the land market in all the regions (see Table 8.3). Almost 9.1% of households acquired lands between 2010 and 2013, particularly in the mid-Atlantic and Center-East regions. This acquisition of lands in these regions could explain the increase in the percentage of unexploited lands, which was discussed in the previous section. The higher percentage of unexploited lands in these regions could be the result of larger plots of land that have not been exploited. A share of 10.2% of the households that held land under informal tenure agreements were formalized, thus improving the judicial security of the households and generating incentives for bigger investment. Lastly, 2.6% of the households sold lands and 2.4% lost lands. The loss of lands was especially high in the Center-East region.

Market mechanisms, despite playing an important role in land access, are not the principal mechanisms. Households acquired new lands principally through inheritance (47.6%) and purchases (42.5%). Illegal settling and occupation of lands (4.3%) persists, nonetheless, as a more effective mechanism for land access than the government adjudication programs. Land transactions are still available in segmented markets so that the majority of small owners buy land from other small landowners. Family members, friends or acquaintances, made almost 95% of all land purchases. Moreover, resorting to financial markets does not appear to be a possibility for many households. Table 8.4 indicates that almost 75% of households finance the purchase of lands outside the financial markets. This could be with their own resources, the sale of properties or loans from family members or friends. Government aid for land purchase is scarce in the ELCA sample: only 0.6% benefitted from subsidies for financing land purchase through the agrarian reform programs.

Table 8.4.

Changes in the tenure of plots of land between 2010 and 2013 (percentage of households).

Financing purchase of land lot	Percentage
Own resources	65,7
Financial entity	18,8
Sold properties	8,2
Family loan	6,4
Private loan	0,4
State subsidy	0,6
Total	100

Source: Authors' calculations based on ELCA 2010 and 2013

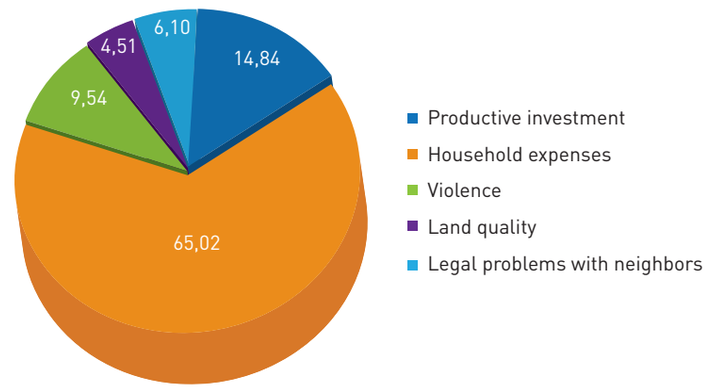
The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

Land loss is a consequence of negative shocks on households. Some 88.1% of households lost their lands due to natural disasters, 5.7% to family disputes and 3.5% as a consequence of forced displacement. This loss must have a high impact on the capacity to generate income in these households and ultimately on their well-being.

The reasons behind land sale point to a process of decapitalization of these households in order to finance household expenses. These reasons are outlined in Figure 8.3, which shows that 65% of the households sell land in order to finance the household's immediate needs; that is, they substitute a future income by selling a productive asset to finance present consumption. Only 14.8 % of the households sell land to finance productivity investments. Violence (9.5%) and legal problems with neighbors (6.1%) are other additional negative dynamics that oblige households to sell land.

Figure 8.3.

Destination of resources obtained from the sale of land between 2010 and 2013 (percentage of plots of land).



Source: Authors' calculations based on ELCA 2010 and 2013

The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

→ Delfina Segura had to close her vegetable shop in Facatativá because of low prices. She now works with her husband Carlos in Corabastos.

Four conclusions can be drawn from these results. First, although the average size of the plots of land did not change much, the markets and tenure were fairly dynamic. Second, this dynamism seems to be dictated more by negative phenomena than by a rigorous process of vigorous recuperation in the four micro-regions. Many households sell their lands to cover urgent needs. Natural disasters bring with them land losses and violence continues to be a determining factor in the sale and loss of property. Third, the government's role in access to land is weak: few households benefit from subsidies to acquire lands, while settling and occupation continue to be the main State mechanism for awarding lands to peasant farmers.

The changes in the formality of land tenure between 2010 and 2013 are shown in Table 8.5.[4] The sample analyzed in the following paragraphs corresponds to a panel of households in both rounds of the survey. The percentage of landowners increased significantly from 24.9% to 31.2%, pulled along mainly by the mid-Atlantic region. A percentage of the households with informal tenure in 2010 was formalized in 2013, but the formal tenure in 2013 diminished especially in the mid-Atlantic region. It is probable that the acquisition of new plots of land was carried out informally, perpetuating the high levels of informality: 36.8% for 2013. The informality of the land also remained at similar levels with a reduction of inadvertent informal tenure; that is to say, the households which have an informal property deed that they consider formal due to their lack of knowledge of the necessary legal requirements. The land tenure structure remained relatively unaltered between 2010 and 2013 in spite of the movements within this period.

4. Formal tenure is defined as having public deeds (or resolution of assignment) and property registration at the Public Records Office. Inadvertent informal tenure refers to when owners claim to have formal tenure but the deeds are not duly legalized be it because of the lack of public deeds or the registration. Self-reported informal tenure does not have the correct deeds and the owners are conscious of the fact. Land workers are those who access land through other types of contracts such share-cropping, renting, antichresis, among others.

Table 8.5.
Type of land tenure (percentage of households).

	Mid-Atlantic		Cundiboyacá		Coffee Region		Center-East		Total	
	2010	2013	2010	2013	2010	2013	2010	2013	2010	2013
Type of tenure*										
Formal tenure	30,01	21,42	60,82	58,38	50,16	52,74	32,15	35,2	39,91	36,8
Informal tenure (inadvertent)	34,32	27,79	9,82	10,08	16,33	16,3	37,19	27,97	27,65	22,73
Informal tenure (self-reported)	7,56	11,43	9,64	6,67	5,56	3,02	6,77	10,57	7,53	9,25
Land worker/non-owner	28,1	39,36	19,71	24,87	27,95	27,93	23,88	26,26	24,92	31,21
Change of type of tenure**										
Formalized	7		10,7		10,7		13,1		10,2	
Returned to being informal	12,7		11,5		9,4		10,9		11,5	

Source: Authors' calculations based on ELCA 2010 and 2013

*Contains the sample of households that were in both rounds of ELCA, and that reported owning land either in the 2010 round, the 2013 one, or both. ** Contains the sample of households that were in both rounds of ELCA, and which reported owning land in both years. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

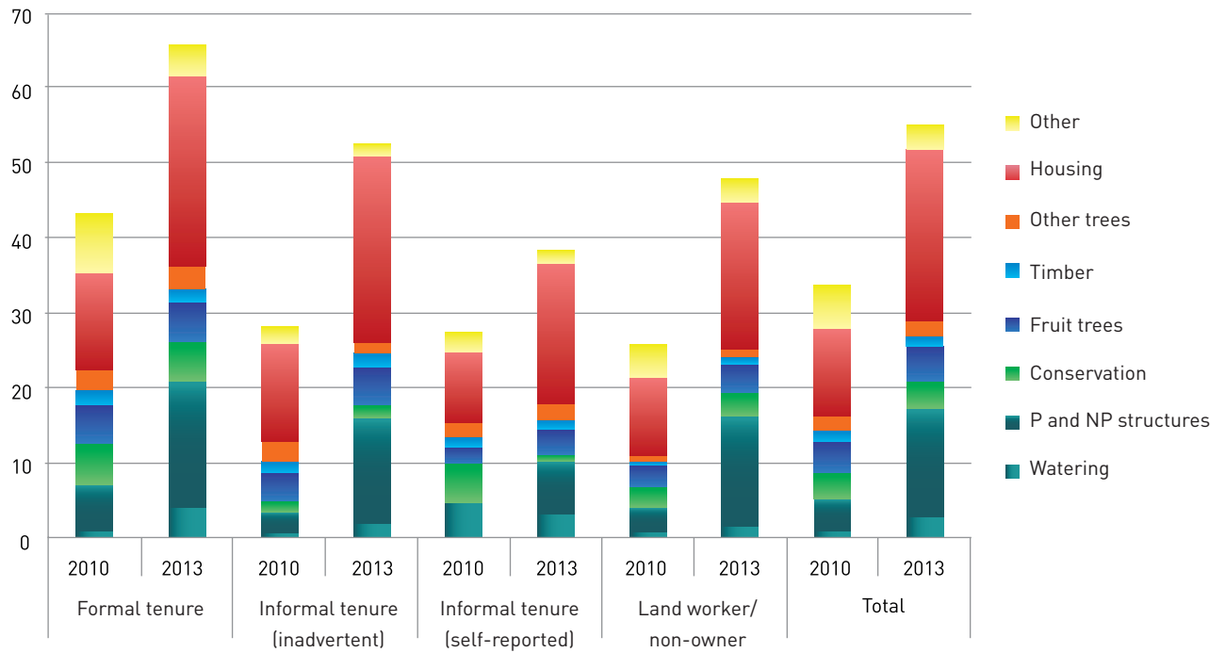
8.3.2. Production decisions: Credit and investments

Production decisions in the households can improve agricultural production and household income. Two decisions are examined: access to credit and household investments. Some 49.7% of households had some type of credit in 2013, be it formal or informal. Access to credit was highest for formal owners (53.5%) and land workers (50.4%).

The investment decisions are summarized in Figure 8.4. Total investments for each type of owner over the three years are reported. Household investment grew significantly and in particular for investments in permanent structures and in housing. In 2010, some 27% of households reported at least one investment and in 2013 this figure rose to 42.6%. The principal increase was shown in the investment in permanent and semi-permanent structures, with increases of 4.4% and 14.6%, which improved the productive capacity of the plot of land and increased the long-term household income.

Investments in housing also grew significantly, from 11.8% to 22.8% of households. Increases in investments were higher for informal owners and land workers. However, formal owners invested more, in such a way that one in each of the formal households reported one investment over the three years (2010-2013), while one in every three self-reported informal owners made investments. The formal owners have a high certainty of recovering their investment and ultimately the incentives for investing in their plots of land are higher.

Figure 8.4.
Investment in households by type of land tenure (percentage of households).



The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions.

Source: Authors' calculations based on ELCA 2010 and 2013

8.3.3. Access to State programs

The offer of State programs in rural areas can be divided into three. First, there are the social programs offered for urban and rural populations. Familias en Acción is the emblematic program, but there are other programs, and their objective is to complement household incomes and to avoid the drastic reduction in consumption and expenditure in education when faced with reductions in their incomes. The second part consists of programs designed specifically for rural areas and that seek to improve the productive capacity of the rural producers and the generation of household incomes. Finally, there are the SENA programs whose goal is to strengthen human capital among the rural population.

Table 8.6 reports the access to these aggregated programs by type of program. This access focuses on welfare programs —among which Familias en Acción— which complement household incomes. Some 62.9% of households access these types of programs, mainly Familias en Acción. In contrast, only 2.6% of households are beneficiaries of programs that contribute to strengthening autonomous capacity for generating income. All the programs reported in this set have coverage of less than 2% and, in almost all, this is less than 1%, with the exception of Alianzas Productivas. The coverage of SENA programs in rural areas appears to be limited (5.8% of households).

These figures highlight the weakness of State rural development policy, which focuses on assistance and general programs for the Colombian population. These assistance programs, moreover, do not take into account some particular aspects of rural households. Coverage to improve current and future productive capacity and income generation is quite low. The productive and training programs cover less than 10% of the population.

The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

Table 8.6.
Access to State programs
(percentage of households)

Household Programs	62,94
Familias en Acción	49,32
Program for senior citizens	12,62
Red Unidos	12,45
ICBF (Colombian Institute for Family Welfare)	14,21
Emergency aid	1,65
Aid for displaced people	2,60
Productive Programs	**2,62**
Titling vacant lands	0,24
Lands program	0,48
Ley de Víctimas	0,19
Agro ingreso seguro	0,25
Oportunidades rurales	0,19
Alianza productiva	1,61
Park guards	0,11
Other rural program	0,78
Training Programs	**5,80**
SENA	5,80

Source: Authors' calculations based on ELCA 2010 and 2013

8.3.4. Negative shocks between 2010 and 2013

The economic literature has amply documented the high incidence of negative shocks for rural households.[5] Rural households in Colombia are not the exception. Table 8.7 shows the said incidence for the four ELCA micro-regions,[6] (for a detailed description of shock models, see Cadena and Quintero's analysis in Chapter 3 of this book). Rural households were subject to diverse shocks throughout the three years. The three principal shocks are production shocks (40.6%), health (28%), and natural disasters (25.4%). It is interesting to note that violence continues to be an important shock in three of the four micro-regions. The results reveal a high variation in the types of shock that affect the four micro-regions. The production shocks are particularly high in the mid-Atlantic and Cundiboyacá regions. The incidence of natural disasters is high, presumably due to the bad winter spell in 2010, but the percentage of households affected in the mid-Atlantic region is almost double compared with the other three regions. The incidence of health shocks in the Cundiboyacá region is higher than in the other three regions; this could be the result of its demographic structure.

Table 8.7.

Rural households, which experienced shocks over the three-year period (percentage of households).

Region	Health	Family	Employ-ment	Production	Assets	Violence	Disasters
Mid-Atlantic	29,3	16,5	11,3	44,2	13,8	2	40
Cundiboyacá	35,4	18,8	8,5	50,3	13,4	0,8	13,7
Coffee Region	28,9	18,9	10,4	24,7	16,7	4,8	19,5
Center-East	20,4	18,9	7,2	36,8	14,7	2,3	17,4
Total	28	18	9,5	40,6	14,4	2,2	25,4

Source: Authors' calculations based on ELCA 2010 and 2013

Health shocks include diseases and accidents suffered by members of the households. Family shocks include death or abandonment of any of the members of the households or the separation of spouses. Employment shocks include loss of employment by the spouse or other family member of the household head. Asset shocks involve losing or having to abandon the family home, the closure of family businesses, the loss or cessation of consignments, the loss of farms or plots of land, harvests or livestock. Finally, violent shocks refer to whether those involved were the victims of violence. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

5. See among others, Barrett, Carter and Timmer, 2010; Dercon and Christiaensen, 2008; Fafchamps and Lund, 2003; Paxson, 1992; Rosenzweig and Wolping, 1993.
6. Health shocks include diseases and accidents suffered by members of the households. Family shocks include death or abandonment of any of the members of the households or the separation of spouses. Employment shocks include loss of employment by the spouse or other family member of the household head. Asset shocks involve losing or having to abandon the family home, the closure of family businesses, the loss or cessation of consignments, the loss of farms or plots of land, harvests or livestock. Finally, violent shocks refer to whether those involved were the victims of violence.

8.3.5. Changes in consumption: Their relationship with land access, State programs, shocks and production decisions

ELCA offers a unique opportunity in Colombia for understanding the dynamics that determine the change in the well-being of rural households. The following paragraphs demonstrate the first approximation by exploring the association between consumption changes and those discussed in sections 8.3.1 to 8.3.4. It is important to highlight that these associations do not suggest causality between the occurrence of a particular phenomenon and the change in consumption. Figure 8.5 presents the relationships between changes in consumption and changes in the phenomena analyzed.

The households appear to have insurance systems that are sufficiently solid to avoid falls in aggregated consumption after a shock. Many of the insurance mechanisms appear to come from informal mechanisms, such as self-consumption and transfers, or from State aid programs. A negative family or employment shock is not related with changes in total consumption. This could be in part determined by transfers received by the families, friends or other institutions in order to mitigate the falls in income. An adverse family or employment shock increases consumption by transfers by between 60.4% and 105.5%, respectively. At the same time, a violent shock is related with an approximately 93% rise in self-consumption. This confirms similar findings in other countries: households living in the midst of a conflict resort to self-consumption in order to protect the food security of their members. (Bruck, 2004).

Access to land and its formalization are significantly associated with the well-being of the households. The formalization of land tenure is related to an increase of 58.1 % in the total consumption and a 65.5% rise in self-consumption. It is probable that households formalized their plots of land after receiving a bigger income or received a bigger income after formalization. However, the greater production on the plots of land appears to suggest that the households increase production after the formalization of their plots.

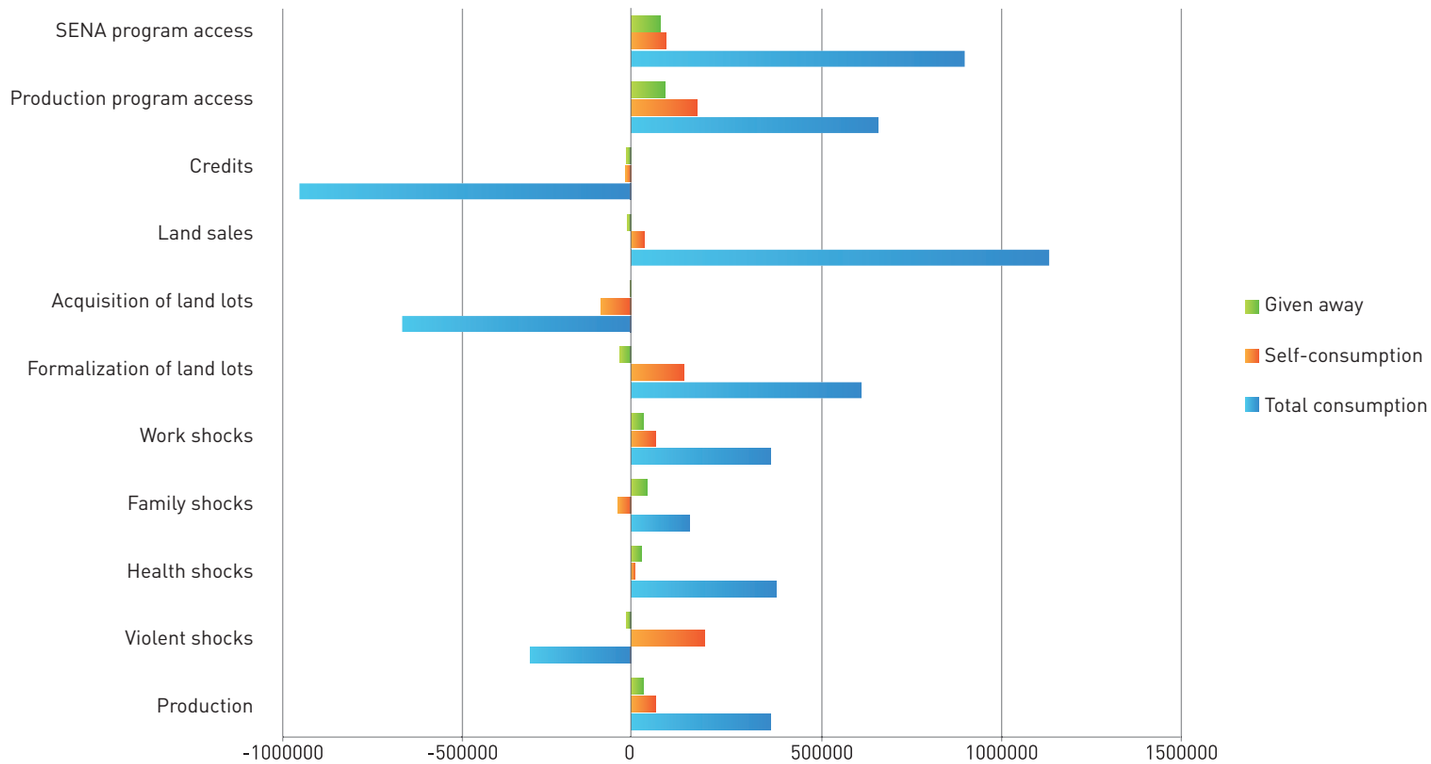
Land dynamics are strongly associated with the well-being of households. The acquisition of plots of land is related to a 54% fall in consumption, suggesting that households temporarily restrict consumption in order to accumulate more capital. The opposite happens in the sale of lands. It could be argued that households decide to decapitalize in order to finance their consumption: the sale of land is related to a 98% increase in consumption.

State programs are also related with the well-being of the households. On the one hand, household programs are not related with changes in consumption. This is to be expected since the principal objective of these programs is to aid households to lessen consumption in such a way that falls in income do not necessarily have to lead to falls in consumption. On the other hand, the programs whose goal is to strengthen the capacity to generate present and future incomes are associated with increases in consumption. Production programs are related to a greater production on the plots of land, measured by self-consumption, while the training programs are jointly related to a greater total consumption.

Even though the well-being of rural households increased between 2010 and 2013, the results suggest that they are still very vulnerable. Even though the households managed to avoid falls in present consumption due to shocks, it was at the expense of future consumption given their decapitalization. Moreover, capital is accumulated at the expense of the households' consumption. For example, access to credit is associated with a 79.8% fall in consumption and the acquisition of land is associated with a fall in consumption. It is possible that households decide to reduce their consumption to finance the accumulation of their assets and therefore improve their ability to generate income in the future. However, these are co-related analyses. A more rigorous analysis should be carried out in order to establish whether, in effect, this is a casual relationship, i.e., if access to credit reduces household consumption.

Figure 8.5.

Determining factors in the change in consumption in households between 2010 and 2013 (in 2013 pesos).



Source: Authors' calculations based on ELCA 2010 and 2013

The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions

8.4. Conclusions

The results of the two rounds of the ELCA show a slight improvement in rural household conditions. Real consumption rose, access to land improved slightly and investments increased even though a high percentage of these investments appear to be a result of the destruction of homes as a consequence of the bad winter spell.

Access to land plays a determining role in changes in terms of well-being in the households as the analysis in the previous paragraphs shows. However, State programs could also contribute to the improvement of the condition of rural households by expanding their productive and income generation capacities. Although access to productive programs is very low, there is a positive relationship between these programs and changes in consumption. The results show that giving more and better lands to the rural population, formalizing land tenure and designing programs to strengthen the household production capacity, will have a significant impact on their well-being.

Although the households are insured against adverse shocks, the mechanisms used are not ideal. The sale of lands suggests that the households reduce capital after a shock in order to finance present consumption at the expense of future consumption. Policies and investments to reduce vulnerability when faced with shocks, and formal insurance mechanisms, would prevent households from adopting strategies that considerably reduce their future consumption and that put them in highly vulnerable conditions in terms of future shocks.

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→ As well as his cows and bees, Benedicto Rodríguez, has a vegetable garden in Simijaca, with over 20 species of fruit, vegetables and herbs.

→ Hugo Peña has supported his family through his building work. This photograph was taken when he was working on the restoration of the cemetery in Puente Nacional.

Chapter 9
Changes in time use in rural households

Ximena Peña
Camila Uribe

→ Teresa Narváez is a leader of coffee growers and farmers in her village in Quindío. Her husband covers the household expenses, but she likes to work.

→ 9.1. Introduction

The attitudes and activities of the people who make up the communities have permitted their development to the stage we know today. One relevant aspect to understand the contributions of all the members of the communities to society in general and its economic growth is the study of their time use. This not only allows us to understand the aggregate behavior of a society, but also the differences observed between different groups of the population. It also allows us to go beyond the analysis of the household as a unit, helping us to understand what each of the members of the household does as well as the division of household work. At the same time, it is necessary to study the daily routines of the individuals to examine the interactions that determine their quality of life and to focus public policies on the groups that need them most for a more equal society (Ayala, 2003).

Measuring and quantifying time use has gained importance in the economic field as it allows us to understand the contribution of all the members of a growing society more than what is traditionally measured by gross domestic product (GDP). These

indicators also present opportunities to redesign public policies since we can highlight the activities and products, that, when generated inside the household, do not enter into the market and are currently excluded from the traditional measurement of economic activity. The study of time use has become more important in recent decades, with a number of developed countries now having surveys or specific modules that quantify it. This aspect is also becoming increasingly relevant in Latin America.

One of the principal contributions of time use study is measuring the difference between men and women. While men dedicate much of their time to paid work, women principally spend their time on household work that is unpaid and whose significant economic impact and importance to society is not seen. This difference in time use constitutes a new glass ceiling for women in trying to close the existing gaps to achieve equal opportunities. Issues such as access to university education that constituted this glass ceiling a few decades ago have been improving, but new advances have fostered new barriers. These have brought about what we call a second-generation glass ceiling involving, for example, the aforementioned differences in time use. (Peña and Uribe, 2013). In developed countries, the rise of female labor participation has been accompanied by a substantial reduction in female domestic work hours. By contrast, in developing countries, the rise in female labor participation has not been accompanied by fewer care work responsibilities. This brings with it a growing asymmetry in the distribution of working and leisure hours between men and women with possible adverse consequences on female labor productivity, women's and children's well-being, and even the accumulation of human capital (Johnson and Lipscomb, 2006; Peña and Uribe, 2013).

The Colombian Longitudinal Survey, or ELCA, by Universidad de los Andes, gathers information on time use for rural households at two points in time. Given the importance of this information, it is possible to study time use for different population groups; for example, men and women, ethnic groups or Familias en Acción beneficiaries. On the other hand, by counting on two waves, the study allows us to compare time use in households between 2010 and 2013. In this chapter, we will explore the time use trends in two-parent families in the rural zone, taking advantage of the panel study and the availability of information in the different modules of the survey. The focus on two-parent households is due to the fact that it is here that the most unequal distributions of labor —paid and unpaid— are observed (Peña and Uribe, 2013). This leaves a sample of 2,778 rural two-parent households that reported information for the two waves. Of these, 26% were in the Coffee Region, 28% in the mid-Atlantic region and the remaining 46% was distributed equally in the Center-East and Cundiboyacá regions.
This chapter analyses time use in the four rural micro-regions by gender differences, differences between regions and education levels, and by the impact of subsidized programs in Colombia on time use behavior. Understanding these dynamics helps us to design pro-development policies, which in turn prevent inequalities and impede the generation of new obstacles.

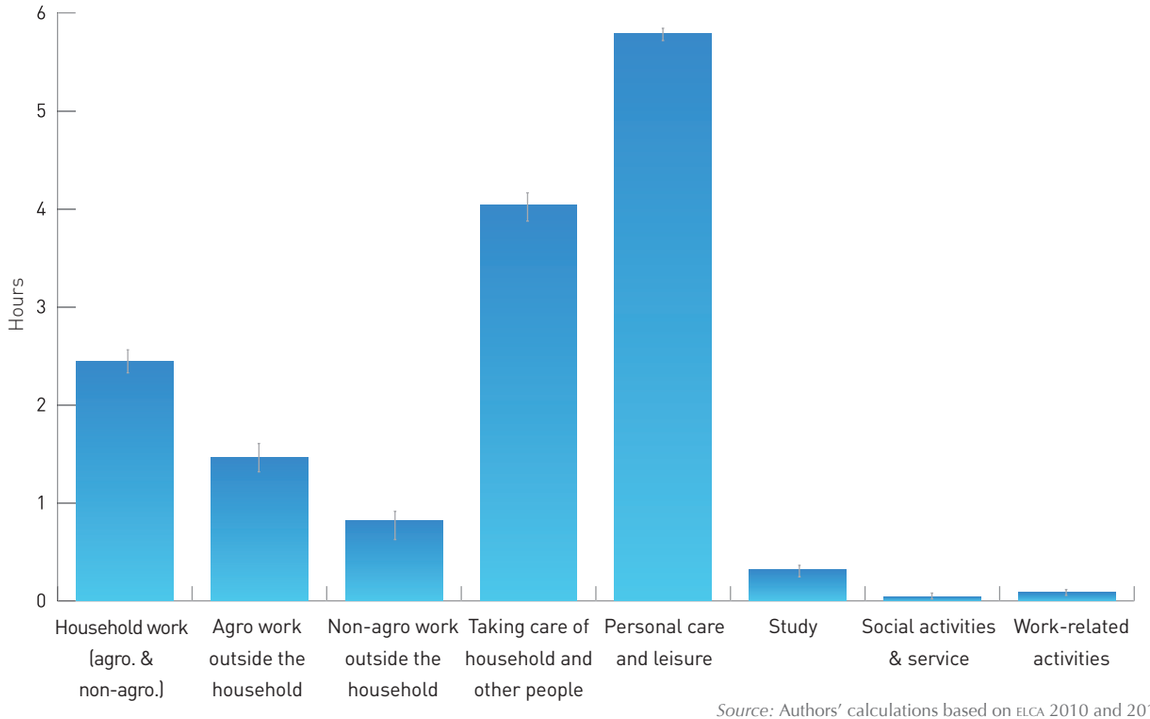
9.2. Description of time use in rural households

In this article, two principal time use activities are distinguished: paid and unpaid. Paid labor includes: (1) agricultural and livestock and non-agricultural and livestock work on farms, household businesses or companies;[1] (2) agricultural and livestock work on farms, household businesses or companies outside the household;[2] (3) non-agricultural and livestock work on farms, household businesses or companies outside the household.[3] This classification is based on the idea that the rural area has different types of work that imply labor and contributions of a different kind (Ibáñez, Fernández and Peña, 2011). Work inside and outside the household is distinguished in order to better understand the division of labor. Moreover, given the evolution of agricultural and livestock work in Colombia, and given that important differences in diverse characteristics exist, we differentiate work outside the household between agricultural and livestock and

1. Includes paid activities in the household, such as production activities on the household's own farm, making blankets or handicrafts, preparation and sale of food for rural school-children, preparation and sale of other foodstuffs such as *tamales*, *empanadas*, curd cheese and cheese, crops and agricultural products, etc.
2. Agricultural and livestock work outside the household tends to be undertaken on a daily pay basis, where workers pick crops or look after crops and livestock.

non-agricultural and livestock labor. Regarding work inside the household, we do not differentiate between agricultural and livestock and non-agricultural and livestock labor since it was more difficult to do so because of the simultaneous nature of the activities and self-consumption. Insofar as unpaid work, we include (1) looking after the household and other people,[4] (2) leisure time,[5] (3) study,[6] (4) work-related activities such as looking for work, commuting to and from work and the procedures to obtain loans, and (5) social activities such as social service initiatives for the community. Figure 9.1 shows the average number of hours that the household heads and spouses dedicated to work in each of the 2,778 two-parent households.

Figure 9.1.
Time use for household heads and spouses in the four rural micro-regions in 2013 (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

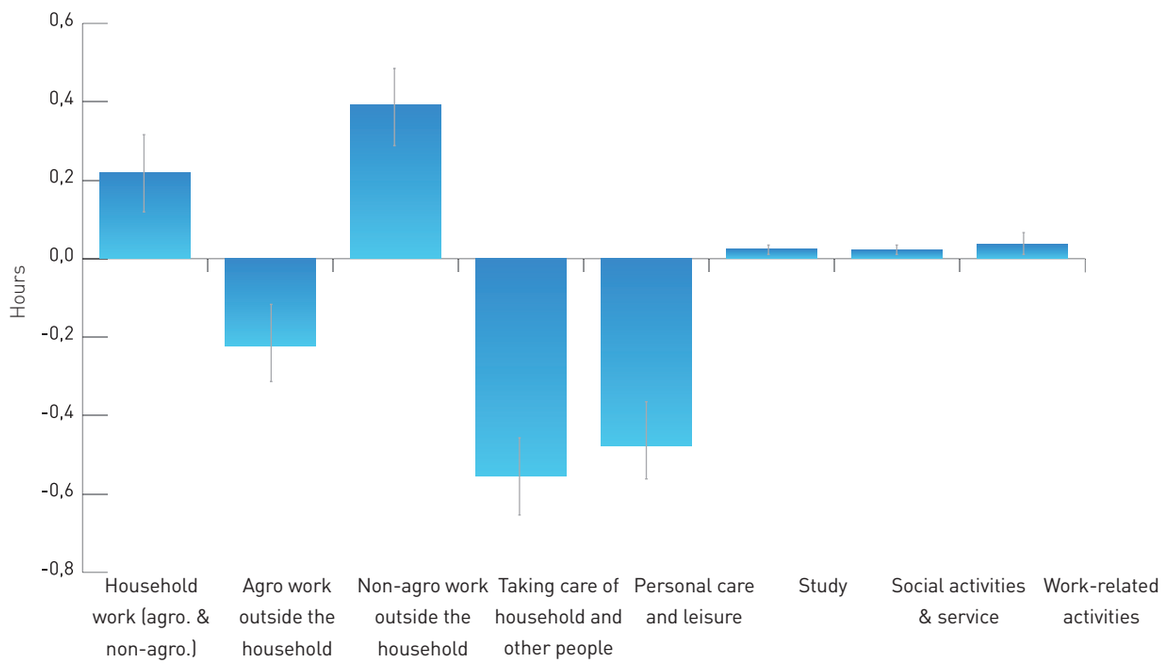
3. The activities can include transporting passengers on motorbikes, in taxis or vans, hauling, construction work, domestic work in other people's houses, managing shops, receiving a salary for non-agricultural and livestock work, etc.
4. These activities include household work such as washing, ironing, putting clothes and shoes away, cleaning up, cooking, shopping, paying the bills, looking after the garden and animals, collecting water, collecting wood, repairing and maintaining the vehicles, doing the electric repairs, building the house itself, looking after the household's children and the elderly and/or the sick and disabled.
5 These activities include personal care such as eating, sleeping showering, and getting dressed, as well as carrying out health treatments. It also includes leisure activities such as not doing anything, exclusively watching TV or listening to the radio, exercising or doing sports, spending time with family and friends, going to shows, events, cinema, theatre, sports events, praying, meditating, taking part in religious rituals, or any other activity that the individuals enjoy doing.
6. Includes attending educational institutions, commuting to and from the institution and doing homework and other work outside of the educational center.

In total, for paid and unpaid work, people reported an average of fifteen hours a day on an ordinary workday. Figure 9.1 shows that the four rural micro-regions in the survey demonstrate a tendency towards paid work within the household, followed by agricultural and livestock work outside. Paid jobs in the rural micro-regions are different to those in the urban areas, and a concentration of time use in these jobs is presented. Regarding unpaid work, Figure 9.1 shows a marked tendency towards taking care of other people's households (four hours per day), and towards leisure time and personal care (5.8 hours per day). Less time is spent on the other three activities such as study, social and service activities, and work-related activities.[7]

Figure 9.2 shows how time use changed for the eight activities mentioned between 2010 and 2013. While work within the household rose by almost 0.2 hours and work outside the household on non-agricultural and livestock activities rose even more (0.4 hours), agricultural and livestock activities diminished in importance, reducing by 0.2 hours. In terms of unpaid work, we can see that leisure time and taking care of the household was reduced by approximately 0.5 hours, showing that the average net increase in paid work is greater than the average net reduction in unpaid work. This tends towards an increase in work and income, while sacrificing time for leisure and taking care of the household.

Figure 9.2.

Change in time use for household heads and spouses in rural zones between 2010 and 2013 (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

7. As well as presenting a very low hourly dedication, we found no economically significant changes in the analysis of these three categories. We therefore decided not to include them in the rest of the chapter.

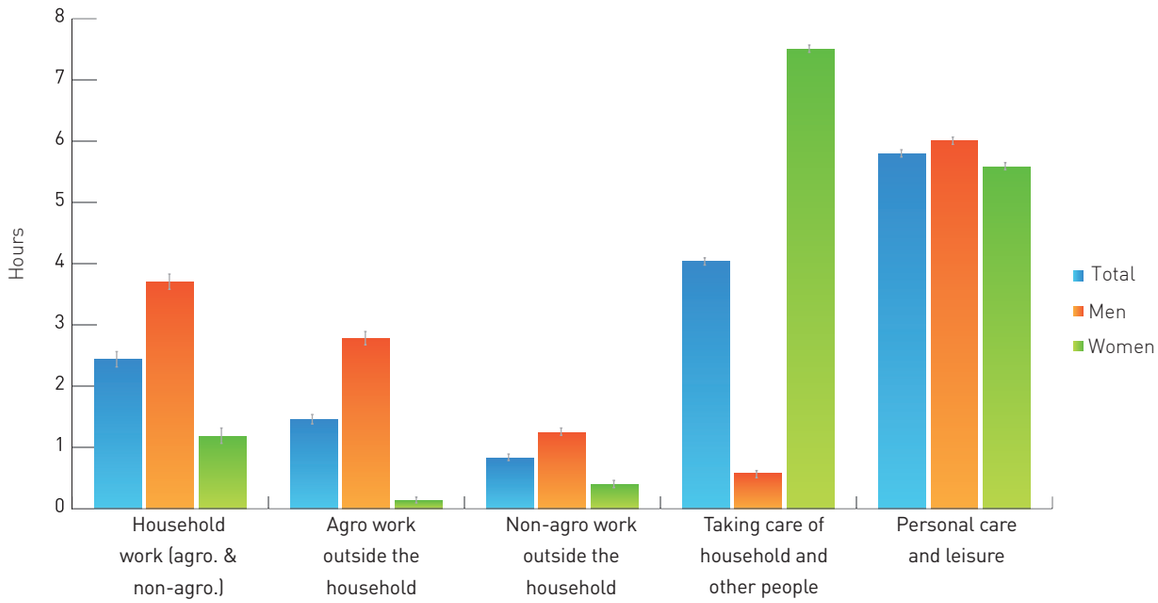
9.3. Division of labor by gender

Analyzing the time use differences by gender helps us to better understand the dynamics inside rural households. We can observe the traditional gender roles where the work done by women is of a lower profile and is less appreciated despite its economic input. Figures 9.3 and 9.4 show the hourly distribution in 2013 and the changes that have been occurring over time.

Despite the photo of 2013 showing the traditional gender roles, it seems that the situation did change between 2010 and 2103. Women increased the amount of time they spend on all paid work, principally those in the household, and non-agricultural and livestock activities outside the household. In contrast, men only significantly increased their participation in activities related to non-agricultural and livestock work outside the household. It seems that in the micro-regions, women are raising their work participation and that they are generating their own incomes, breaking with the first glass-ceiling barrier. Given that their work participation has not been accompanied by a redistribution of household work, this is generating a second-generation glass ceiling for this group: the female double shift. Women are reducing their time dedicated to household work in the same magnitude as men; however, they are increasing their time dedicated to paid work 100% more than men. While men increased their paid work time by approximately 15 minutes a day, women increased theirs by almost half an hour. Thus, women tend to sacrifice leisure time in order to do what they still have to do in the home, instead of redistributing the time spent taking care of the household more equally in order to compensate for their entry into the labor market. In this way, even though men and women spend more time working, the increase in daily hours worked is greater for women thus generating a double shift for them.

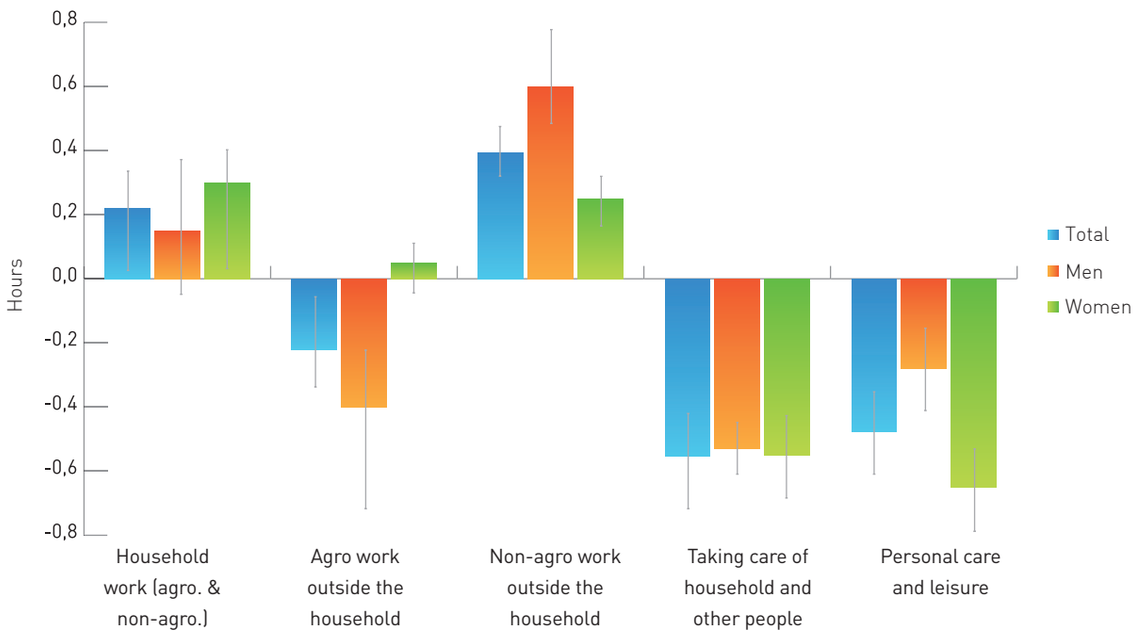
Figure 9.3.
Time use for household heads and spouses by gender in 2013 (hours per day).

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.



Source: Authors' calculations based on ELCA 2010 and 2013

Figure 9.4.
Change in time use between 2010 and 2013 for household heads and spouses by gender (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

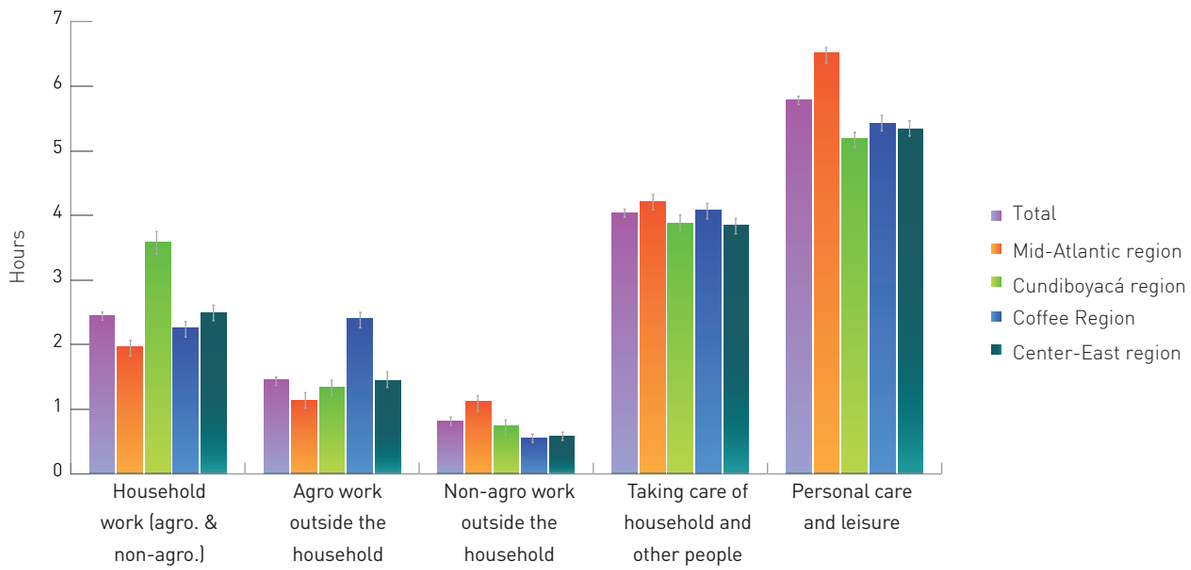
9.4. Regional differences

There are interesting differences in time use tendencies in the four rural micro-regions. Figure 9.5 shows that the regions differ in time use according to culture, land and the possibilities available in the area, especially in terms of paid work. The mid-Atlantic region shows a higher proportion of leisure time with respect to the rest of the population. Regarding paid work, the mid-Atlantic region shows a tendency towards paid non-agricultural and livestock work outside the household with respect to the average population, with a difference of 0.4 hours.

In contrast, the Cundiboyacá region dedicates more time to paid household work by an average of 3.6 hours daily. The principal paid activity in the Coffee Region is agricultural and livestock work outside the household; recording an hour more than the average for the population. Lastly, the Center-East region shows a time use similar to the average in all activities. The only activity that does not show substantial differences between the micro-regions is taking care of the household.

Figure 9.5.

Change in time use in 2013 for household heads and spouses (hours per day).



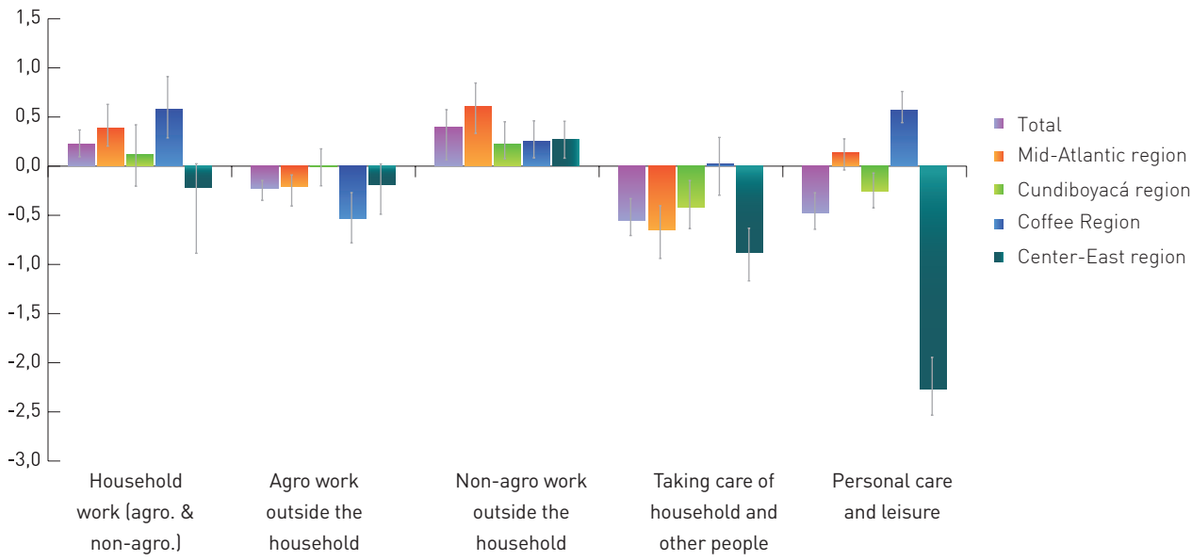
Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

→ Maryuvis Palacios Campo serves Sunday lunch for the 50 members of her family during an outing to the Ciénaga de San Silvestre

In terms of change of time use over the three years, there are also significant differences according to region. Agricultural and livestock work outside the household diminished particularly in the Coffee Region, while non-agricultural and livestock paid work outside the households increased for all the regions. The mid-Atlantic was the only region where the increase was more than the national average. Finally, the change in time dedicated to leisure varied the most between regions. While the Coffee Region increased its time dedicated to these activities, in the Cundiboyacá region and the Center-East regions, it decreased.

Figure 9.6.
Change in time use between 2010 and 2013 for household heads and spouses for each region (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

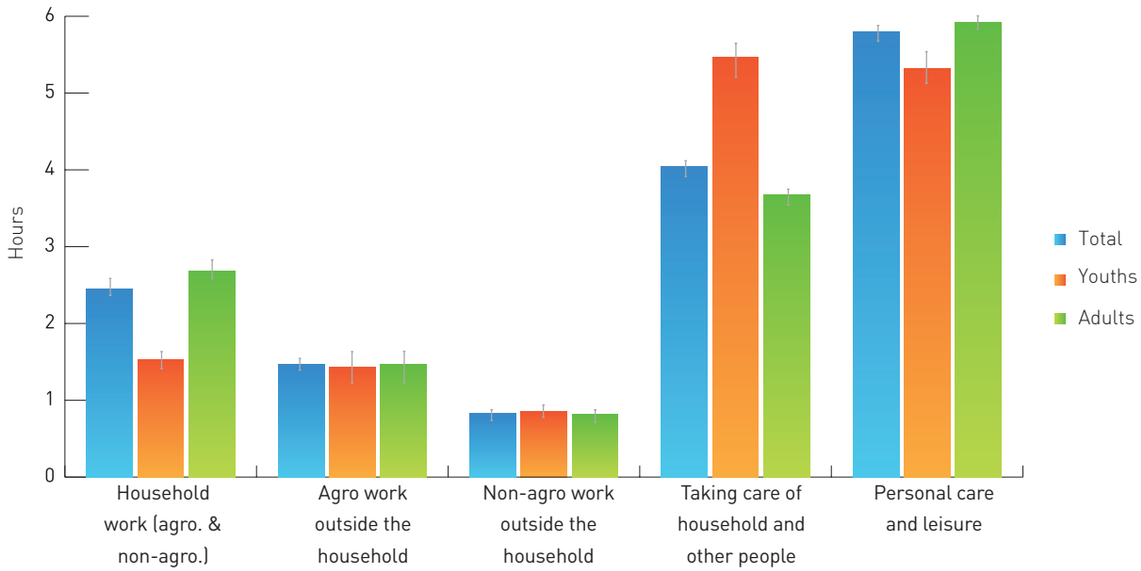
9.5. Age groups

Household heads and spouses are classified in two age groups: youths between 14 and 34 years and adults of 35 years or more. This classification helps to determine the generational differences in terms of time use. The panel shows the changes that took place over the three-year period; thus, analyzing the "photo" for each of these two groups, allows us to observe whether there were any substantial changes during the three-year period.

Figure 9.7 shows that there are no differences in time use between youths and adults outside the household. However, adults dedicated more time to paid work in the household, while youths dedicated more time to taking care of other people's households. This is probably because their children are still young and so household responsibilities fall on the parents, especially the mother. To support this idea, we can see that adults dedicate more time to leisure and to personal care. These results are consistent with the findings of Peña and Uribe (2013): women and youths between 26 and 35 years dedicate more time to unpaid work.

There are no significant differences in terms of the change in time use between 2010 and 2013 according to age group.

Figure 9.7.
Change in time use in 2013 for household heads and spouses by age group (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

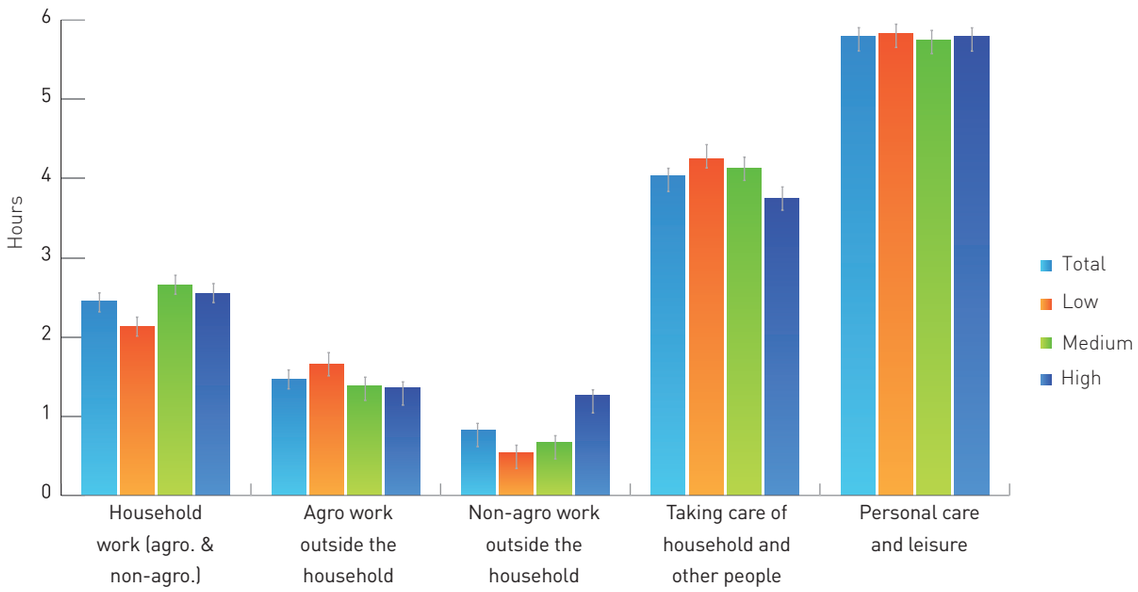
This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. Youths are those people aged between 14 and 34 years and adults, those who are 35 or over. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

9.6. Time use and wealth

International studies show that the level of wealth is one of the factors that most determines time use (Ayala, 2003). This is because a greater income increases the capacity to pay private household services. Taking a wealth index that includes access to goods and services, Figure 9.8 shows that wealthier households dedicated more hours to unpaid agricultural and livestock activities outside the household and less time to caring for the household and for other people. Analyzing this change in time use for the three-year period, significant differences can be observed according to the level of wealth in three aspects (Figure 9.9). First, households with a high wealth index are the only ones that did not decrease time dedicated to agricultural and livestock work outside the household, compared to households with a medium or low wealth index. Second, the former increased the time dedicated to non-agricultural and livestock work outside the household by a greater proportion. Third, individuals from low-wealth level households reduced the time they dedicated to leisure activities less than households with high and medium-high levels of wealth.

Figure 9.8.

Change in time use in 2013 for household heads and spouses by wealth levels (hours per day).

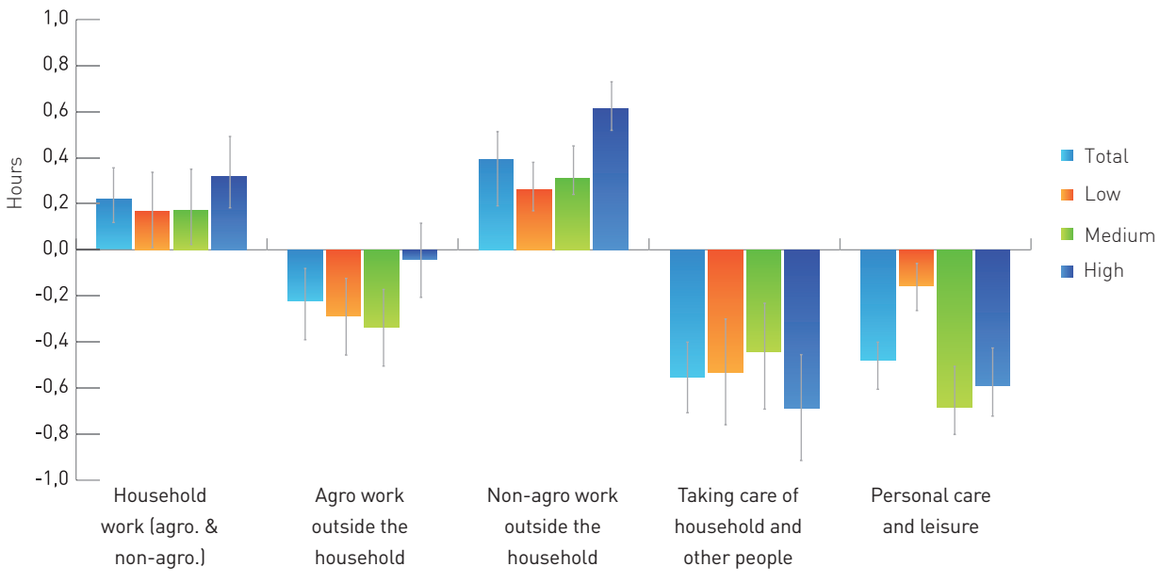


→ Donny Juan Pablo Lozano in Gramalote

Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The level of wealth corresponds to terciles in a continuous wealth index, based on durable goods and households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Figure 9.9.
Change in time use between 2010 and 2013 for household heads and spouses according to wealth levels (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The level of wealth corresponds to terciles in a continuous wealth index, based on durable goods and households' access to services. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

9.7. Familias en Acción beneficiaries

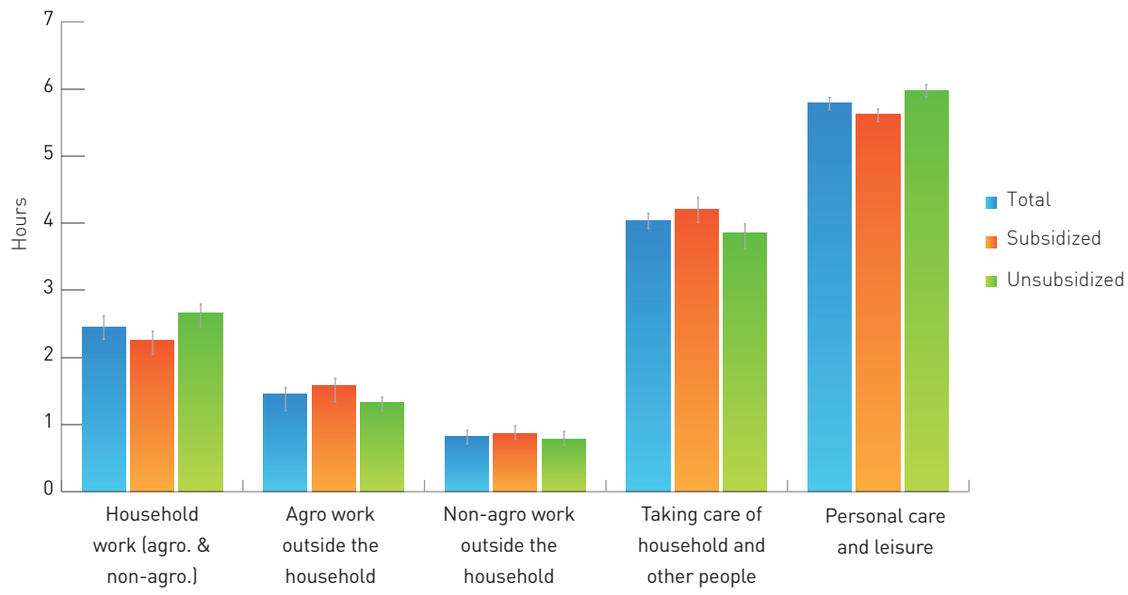
One of the problems of the conditional cash transfer programs is that they can deepen traditional gender roles. This is because the fulfillment of program requirements takes time and it is usually the mothers who are responsible for these tasks. However, it is worth asking whether the fulfillment of the requirements fosters substantial differences in time use. Is there a difference between caring for the household and caring for other members of the family in households with subsidies and those without? Households that benefit from Familias en Acción are probably very distinct from those that do not receive subsidies in different dimensions beyond simply not receiving the transfers and fulfilling the requirements. For this reason, the following analysis does not aim to establish a casual relationship between being a beneficiary of the program and the differences in time use; it only presents a correlation analysis.

Figure 9.10 suggests that having access to Familias en Acción is related to more time spent taking care of the household. The difference is almost 0.4 hours daily; that is to say, a little more than two hours per week. Additionally, the tendency for paid work is more concentrated on activities within the household for people without access to subsidies, while people who receive subsidies tend to belong to the labor market outside the household. These results are interesting and it would be worth exploring them further. Lastly, throughout time, the only changes observed are those related to leisure since the households with subsidies decreased their leisure time much more than the rest of the households (see Figure 9.11)

→ Visiting bathing areas like La Represa in the Ciénega de San Silvestre, close to Barrancabermeja, is a weekend leisure option.

Figure 9.10.

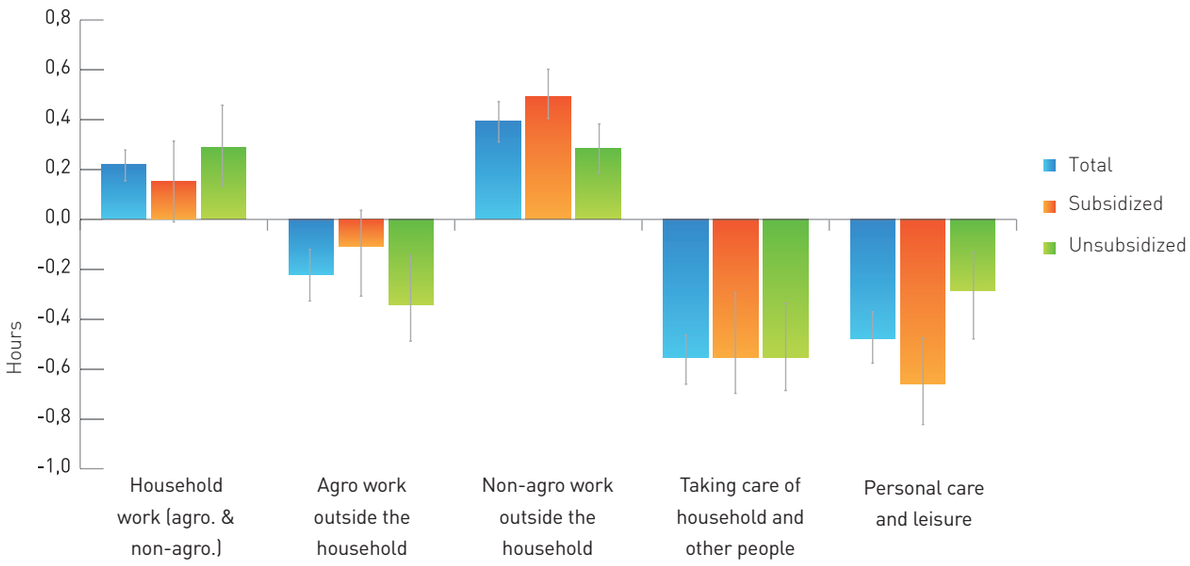
Time use for household heads and spouses according to whether they are beneficiaries of Familias en Acción.



Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Figure 9.11.
Change in time use between 2010 and 2013 for household heads and spouses according to whether they are beneficiaries of Familias en Acción (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

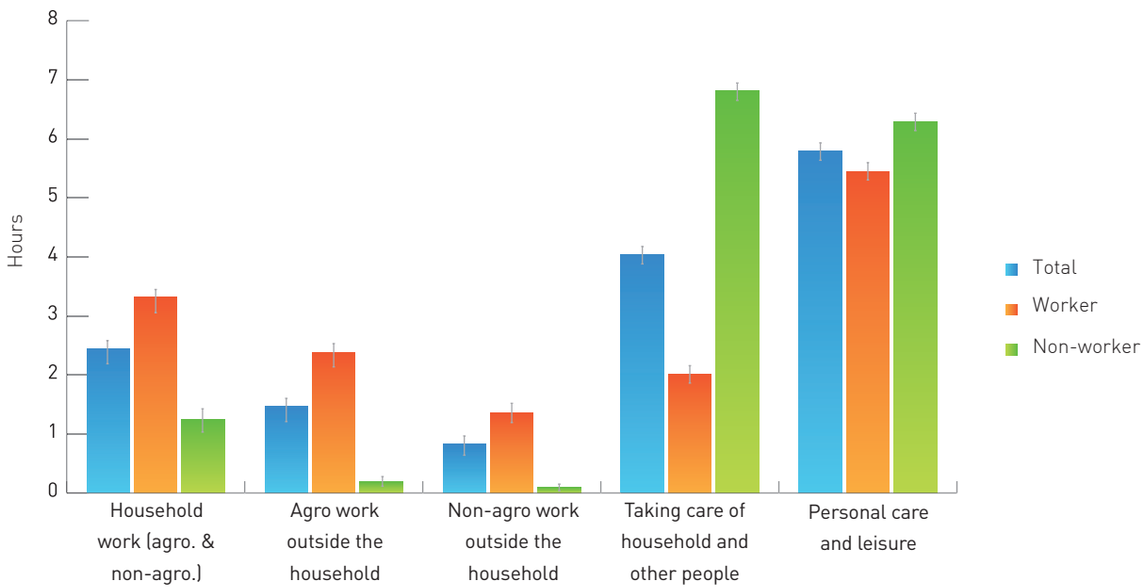
This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

9.8. Access to paid work

A comparative study was carried out among the people who affirmed they were working based on a standard labor market question. The people who were working are characterized as those who, in the 2013 survey, answered that they worked at least one paid hour per day in the week prior to the survey. Those who said they did not carry out paid work during this lapse of time were considered people who did not work. Time use has two distributions that are presented according to the type of work carried out by that person. Figure 9.12 shows that, as expected, people who worked in the paid market dedicated most of their time to paid work, while people who worked in the unpaid market undertook activities to economically support society, but which were not paid nor visible in their environment.

Figure 9.12.

Time use for household heads and spouses in 2013 according to whether they worked or not (hours per day).

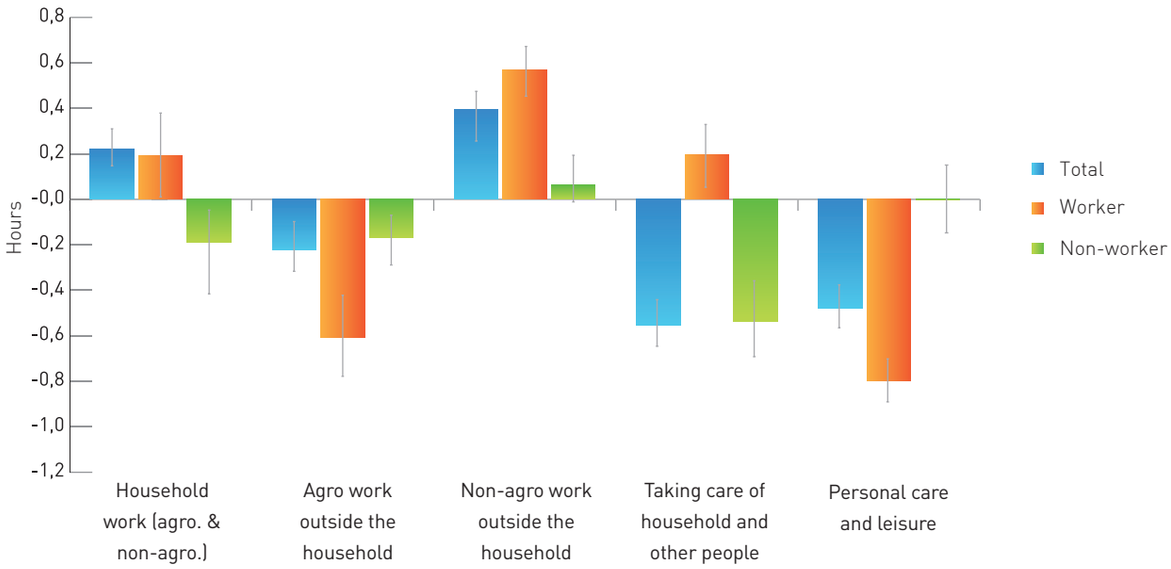


Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

Figure 9.13 shows the change in time use for the year 2013 for people who worked and people who did not work. People who worked increased the time dedicated to non-agricultural and livestock work outside the household as well as the time in which they took care of their household. This appears to be positive for the sharing of tasks among people who work and those who do not. Finally, the same people reduced their leisure time and their personal-care time, while those who did not work decreased the time they worked in the household, the time they spent on agricultural and livestock work outside the household, and on care work.

Figure 9.13.
Change in time use for household heads and spouses between 2010 and 2013 according to work (hours per day).



Source: Authors' calculations based on ELCA 2010 and 2013

This information is based on the data reported by the followed household head and spouse that were surveyed in both waves of ELCA. The rural sample is only representative of the mid-Atlantic, Cundiboyacá, Coffee Region and Center-East micro-regions. A 95% confidence interval is reported.

9.9. More similar than different

Time use differences were also analyzed taking into account other variables such as educational level, skin color or type of household (single-parent or two-parent). In these variables, we expected to find substantial differences in household behavior. However, in analyzing the data, no significant differences were found between these groups which is why they were not described in the previous sections. A similar situation presents itself in households that received negative shocks and those that did not. In spite of having been affected by negative shocks such as the death of household members or a natural disaster, no changes in the households' time use were found. This could be due to two principal factors: On the one hand, time use on a 'normal' day for the previous week was considered, and so the shock would have had to have been very harsh in order to permanently affect time use. On the other hand, the shocks could have happened at any point over the three-year period, making it difficult to find effects on time use in the previous week.

9.10. Conclusions

The time use analysis in the four rural micro-regions is an alternative way of studying rural labor markets and understanding the tendencies of paid and unpaid work. This chapter exposes the most important changes in time use over the three-year period identified in the ELCA.

In the dynamics shown, the rise in paid work in the household can be noticed in three main subgroups. The first is the Coffee Region, which shows a higher than average increase of more than half an hour in this kind of work between 2010 and 2013. The second is a rise in the time spent on these kinds of activities by women, presenting a significant rise of a quarter of an hour compared with men. The last and final is a rise of twenty minutes, which is shown in the subgroup whose socioeconomic index is high. Work within the household is being strengthened to produce more and generate economic growth with its own assets.

Three groups influence the reduction of almost a quarter of an hour in paid agricultural and livestock work outside the household between 2010 and 2013 for the objective sample. The first includes men who reduced their time spent on these activities by almost half an hour, demonstrating a lower tendency of tie use in the agricultural and livestock sector given that it is they who mainly work on these tasks. The second is the Coffee Region, which during the three years, reduced its agricultural and livestock work outside the household by a little over half an hour. The last subgroup that showed a strong fall is the group of youths. Its reduction of almost twenty minutes daily shows that the new generations are reducing their time spent on agricultural and livestock activities in order to spend it on other forms of production, especially when they are working people.

The rise in paid non-agricultural and livestock work outside the household, equal to almost an additional half an hour of work, is influenced by four principal subgroups. Men, in first instance, are those who most increased their time spent on this kind of work by more than half an hour. Additionally, the mid-Atlantic region is one of the regions that showed an increase of approximately 35 minutes in this kind of work. In relation to the socioeconomic index, those that showed the biggest increase in the time spent on non-agricultural and livestock work, outside the household, are from the higher wealth levels. With this in mind, it can be observed that men continue to leave their households for the labor market, but they are inclined to prefer non-agricultural and livestock work, especially when they belong to high socioeconomic levels and they want to increase their social status as well as their incomes.

To conclude, we can see that there is a general tendency for paid work to distance itself from agricultural and livestock work unless this is done for personal production in the household. This shows a rising interest in earning a higher income and economic growth because, on the one hand, household work represents the production of capital and, on the other hand, non-agricultural and livestock work outside the household represents initiatives to enter the better-paid sectors. It is principally men who tend to look for income outside the household in other sectors of the economy, while women lead the initiative to increase work inside the household in order to generate more income. This continues to be an impediment in terms of the distribution of unpaid work since women continue to stay at home; however, it is an advance in terms of income generation. Equally, it is the higher socioeconomic levels that, in general, lead these two increases. This shows more motivation and the search for better incomes. We can also observe differentiated tendencies among the regions, perhaps due to cultural factors or the predominant industries in these regions.

We can see that the Center-East region, high socioeconomic levels, people who do not work, and people who work in private companies earning a salary are in the lead when it comes to taking care of the household and looking after other people. A

number of conclusions can be drawn from this. On the one hand, the changes observed in the analyzed micro-regions are more highly differentiated insofar as paid work than unpaid. Seemingly, the latter were less dynamic in terms of changes in time use over the three years. We also conclude that the higher the socioeconomic level, the less time is dedicated to household work, possibly due to the two following facts: 1) an increase in women's paid work, and 2) the possibility to hire people to do such work. Unfortunately, in terms of equality in time use distribution, we can see that both women and men reduce their dedication to such activities by the same rate. Given the above, we can see that the increase in women's paid work is not being compensated by a redistribution of work, but rather, redistribution in terms of their own time or by access to other ways of contracting out this type of work. Finally, those who most reduce the time they spend on such tasks are those who are about to be gainfully employed (to work outside the home in non-agricultural and livestock work), who tend to be mainly men. This is even more worrying for women in terms of the unequal distribution of household work as there is no evidence of a reduction of their double shift in the four rural micro-regions, but rather, the opposite is true.

Finally, the almost half-hour reduction of time spent on leisure activities is presented in various subgroups. The first is the subgroup of women, showing more proof that there isn't a trend towards an equal division of labor but rather a trend towards an increase in the double shift and the second generation glass ceiling in terms of gender equality. The Center-East region, again, leads this reduction. It would be interesting to analyze what is happening in the region and the reasons behind such drastic changes in the dedication of time to unpaid labor, which, in terms of leisure, falls by two hours and fifteen minutes. Those who most reduce their time dedication to such activities are youths and those from high and medium socioeconomic levels. This adds to the theory that these individuals are more motivated by the idea of dedicating their time to generating income. It is also interesting to note that Familias en Acción beneficiaries reduced their leisure time, despite being a low socioeconomic level group. Given that the purpose of this subsidy is to improve the lives of the poorest sector of children, this may be a positive effect as it means that parents are tending towards avoiding leisure time, despite the fact that the opposite trend is true for the low-income population.

To sum up, we wish to point out the need to tackle this topic by implementing public policy in order to mitigate the second generation glass ceiling effect and reverse traditional gender roles in the four ELCA micro-regions. It is possible to create policies to narrow this gap and instead promote growth and income generation, taking advantage of the general trend of the households to propel their own development. One way to approach the problem is to analyze different regions in order to understand their policies and cultural beliefs and, in turn, the relationship between such factors and the communities' distribution of time use. We also propose a policy to encourage low-income households to think about other ways in which they could generate income. We could think about policies whereby women generate additional income in these households, creating programs that drive entrepreneurship among these women in order to allow them to change the traditional notions of gender roles. Finally, we propose that in-depth studies be carried out to research crossovers between these variables, given that we believe that the effect may be even greater when the women are from low-income households.

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Chapter 1
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