Chapter 5
The Evolution of Poverty between 2010 and 2016 for ELCA households

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

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5.1. Introduction

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

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

5.2. Poverty indicators

A household's average annual expenditure is an interesting first approximation to be able to understand their standards of living. Expenditures, excluding the consumption of durable goods, are constructed by using a detailed model that we harmonized for the three ELCA rounds. The calculations that are presented in the following table were made from a total of 3,441 urban households and 3,491 rural households, only taking into consideration those households that had not changed their municipality of residence and that remained in the survey for all three rounds. The restriction of remaining in the same municipality guarantees that we are comparing the household expenditure of one particular place over time. The restriction of remaining in the survey for all three rounds guarantees that our analysis does not suffer from possible problems with selection that could be the result of the loss of a sample over time. The average expenditures are calculated based on constant 2016 prices so as they can be compared over time and their real growth can be ascertained. Table 5.1 presents the average per capita expenditure for households located in five urban regions. Also, the percentage change of the amount of money that the households are spending throughout the years is presented; in this way, we can understand some of the changes in wellbeing that they have undergone.

Table 5.1.
Average expenditure per capita in urban regions (2016 prices).

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

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

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

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

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

Table 5.2 presents the real sizes and increases of the average per capita expenditure for 2010, 2013, and 2016 in the four micro-regions of the rural zone. The real increase of per capita expenditure in rural areas between 2010 and 2016 is 25.9%. When analyzing the behavior of expenditure on a regional level, it is possible to see that, as with urban zones, there is an important heterogeneity in expenditure dynamics. The center-eastern region presents a 74.66% growth in its expenditure between 2010 and 2016. This phenomenon can be, in part, explained by the elevated increase in the land tenure in this region and also by the important number of oil and mining municipalities that can be found there.

The Eje Cafetero and Atlántico Medio regions also show an important increase in their expenditure: 34.73% and 25.15% respectively. Lastly, within the rural area taken into consideration by the survey, the Cundi-boyacense micro-region is the only one that lags behind, and its expenditure decreased between 2010 and 2016. This reduction can be explained by a strong reduction in expenditure between 2010 and 2016, which was not high enough to compensate for the reduction in the first three years.

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

Table 5.2.
Average expenditure per capita in rural micro-regions (2016 prices).

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

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

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

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

From the urban regions, the Atlantic region presented the least amount of growth in terms of the percentage of households with savings (1.35%), but the highest increase in terms of the percentage of houses with loans (14.01%) between 2010 and 2016. The increase in loans in this region is important; in 2010, this was the region where households had the least amount of loans, and in 2016 it changed to being the region with the highest proportion of households with loans. This leads us to think that the previously detailed increase in expenditure could have been largely financed by this increase in loans in the region and the reduction in the rate of saving. It is possible to observe that in all the rural regions there was an increase in the percentage of households with loans between 2010 and 2016; however, the Cundi-boyacence region only presented a 2% increase while the Atlántica Media region grew by 32.14%. The low amount of loans in the Cundi-boyacence micro-region could also be related to the decrease in expenditure of the four micro-regions in this study. The Eje Cafetero and the Centro-Oriente micro-regions show an intermediate panorama in terms of the increase in loans by 16.06% and 13.98%, respectively. These data reinforce the conclusion to which we previously arrived: part of the increase in expenditure that can be seen in the period between 2010 and 2016 is financed by an increase in the number of households with loans. Regions with a high increase in their expenditure, for example the Eje Cafetero, Centro Oriente, and the Atlántica Media regions, also present an increase in the percentage of homes with loans.

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

Table 5.3.
Percentage of households with savings

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

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

Table 5.4.
Percentage of households with loans

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

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

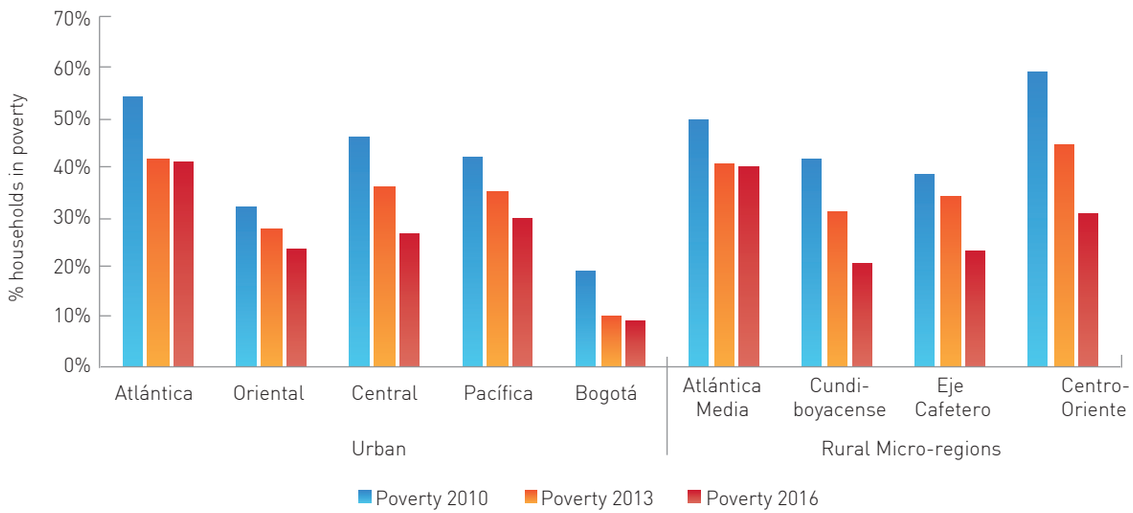
All the regions, in both the rural and urban areas, have experienced a sustained reduction in the percentage of households that are below the PL. While in 2010, 39.8% of households in urban areas lived below the PL, in 2016 this number decreased to 26.5%.

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

Graph 5.1 shows the percentage of households below the Poverty Line in 2010, 2013, and 2016 by region in the rural and urban areas. The first aspect that can be seen from the graph is that all the regions, in both the rural and urban areas, have experienced a sustained reduction in the percentage of households that are below the PL. While in 2010, 39.8% of households in urban areas lived below the PL, in 2016 this number decreased to 26.5%: a reduction of more than 13 percentage points in 6 years. The rural zones were in an even better situation. In 2010, 49% of households were below the PL; however, for 2016, this figure was 31.05%, which is an 18 percentage-point reduction in 6 years. Moreover, it is worthwhile noting that this reduction in households that live below the PL has not been the same pace for the 6 years of analysis. Between 2010 and 2013, there was a much sharper reduction than in the 3 following years, which was consistent with the average rates of increase aand with the trend in poverty indicators that had been calculated by the DANE.[3] In urban regions, the

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

Graph 5.1.
Households living in poverty by zone and region (Poverty Line).



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

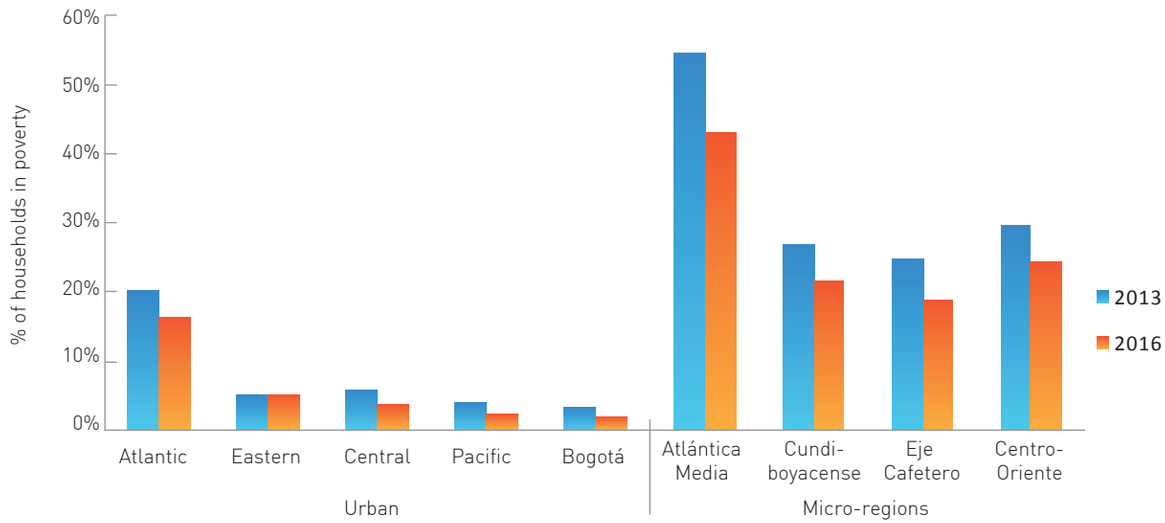
reduction in these first years was almost 9 percentage points; however, in the following 3 years it was 4.5 percentage points. In rural zones, there was a ten percentage point reduction between 2010 and 2013, and, subsequently, a little less than 8 percentage points in the following years. If this is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

The PL, despite being rather easy to measure, has been criticized for falling short as a poverty indicator in the broadest sense of the term, which is known as multidimensional poverty. Authors such as Sen (1999) criticize the fact that this measure only focuses its attention on the monetary dimension of poverty. This leaves aside an aspect that Sen believes to be fundamental when measuring poverty: the opportunities that people have to develop proficiencies and skills in their lives. Furthermore, critics of monetary measures of poverty argue that this can be calculated incorrectly if other types of hardships that the households could have, such as those relating to health, education, housing, etc. (United Nations, 2009) are not taken into consideration. Based on this, the calculation and analysis of the PT that was presented above will be complemented by constructing a Multidimensional Poverty Index (MPI). This was developed by the Oxford Poverty & Human Development Initiative (OPHI) at the University of Oxford[4]. The MPI focuses on the opportunities and access to provisions and services that allows the family to improve their well-being (OPHI, 2015). The MPI considers fifteen dimensions, based on which a family is considered to be in Multidimensional Poverty if it has at least five out of the fifteen hardships. Due to a lack of information, it is not possible to calculate this index for 2010, but the variables are complete and so we can make calculations for 2013 and 2016.

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

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

Graph 5.2.
Households living in poverty by zone and region (MPI).



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

that are in poverty according to the MPI between 2013 and 2016. For all the regions surveyed in the ELCA -with the exception of the Eastern region-, there was a strong reduction in this percentage: the Atlantic region presented the greatest reduction in terms of the urban zones (3.9 percentage points) and the Atlántica Media region in terms of the rural micro-regions (11.56 percentage points). In contrast, Bogotá presented one if the lowest reductions in the percentage of households in poverty; it had a reduction of 1.3 percentage points, and only the Eastern region had less reductions.

As the MPI has fifteen different indicators to measure household hardships, analyzing this can hide a broad heterogeneity in the dynamics of its different components. In terms of the ELCA household, it is important to highlight that almost all the MPI indicators show improvement (represented by a reduction) between 2013 and 2016 in different regions throughout the country, the health indicator worsened in 4 of the 9 regions (Eastern, Central, Pacific, and Center-Eastern). This can be explained by a fall in the access to health services due to a perceived need and not a deterioration in people's affiliation to the system. These two indicators are shown as part of the MPI health component.

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

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

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

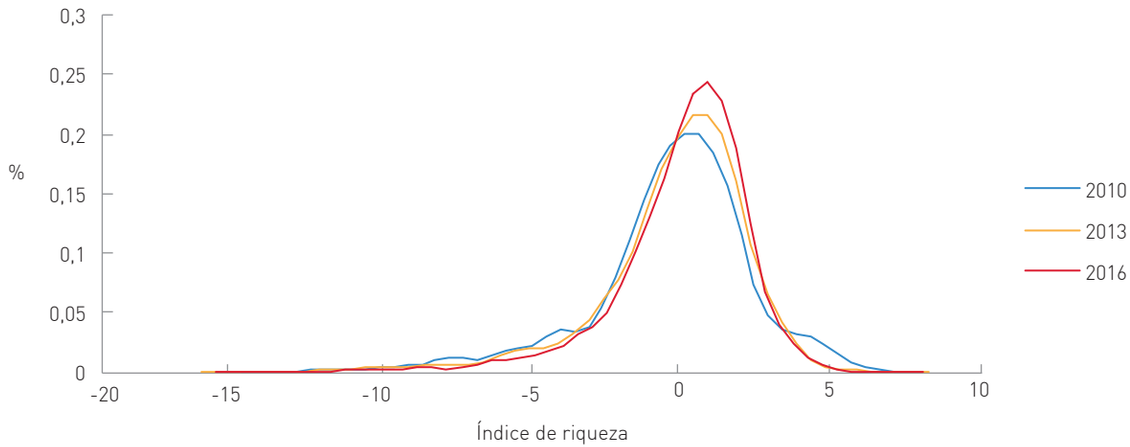
in poverty in Colombia between 2010 and 2016. In addition to the above, it is possible to see that the average wealth index in urban zones has, in every year, been higher than in the rural micro-regions.

The analysis that has been undertaken until now allows us to understand the general dynamics of expenditure, poverty, and the wealth index for the 3 years of interest for the households that were surveyed. However, it is possible to take advantage of the fact that ELCA is a longitudinal survey. Monitoring the same households over time allows us to understand the transitions that each household has gone through. As such, we can find out, for example, the wealth tertile to which each household belongs and look at how they have evolved in each round. Table 5.5 shows the transition matrices of wealth tertiles for the rural and urban areas. These were constructed at 2 different times, which are specified in each matrix (for example, the 2013 tertile and the 2016 tertile) and they show the percentage of households that are in the tertiles indicated in each one of the years. Table 5.6 presents a summary of these matrices as it shows the percentage of households that improve, worsen, and stay the same in the wealth tertile between the specified years. Several interesting conclusions can be derived from this table. Firstly, the majority of households stay in the same tertile between 2010 and 2016: this number is higher for urban zones (61.84%) than it is for rural zones (53.76%).

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

Graph 5.3.

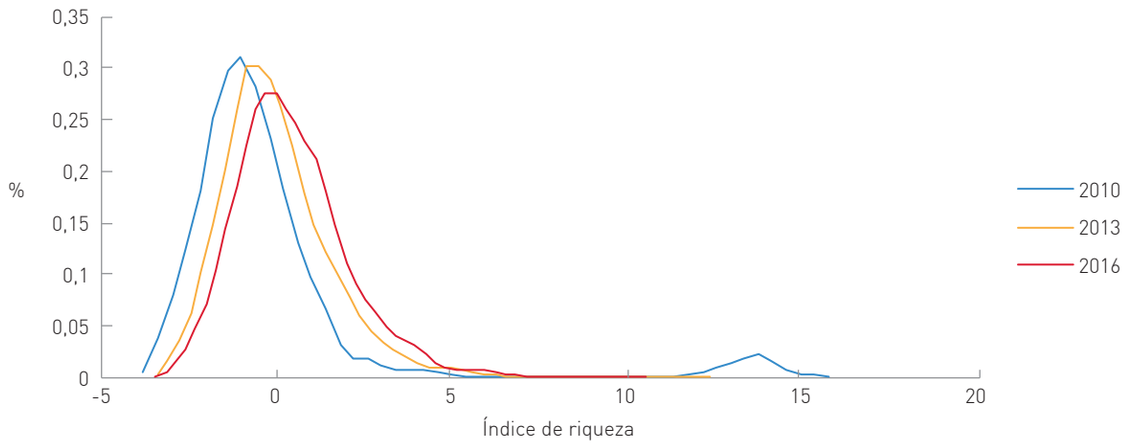
Distribution of the wealth index in urban regions.



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

Graph 5.4.

Distribution of the wealth index in rural micro-regions.



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

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

Table 5.5.
Transition matrix of wealth tertiles

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

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

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

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

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

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

There are also important increases in the number of fridges and washing machines in both urban and rural zones. Between 2010 and 2016, in the urban zone, there was an 8% increase in ownership of fridges and a 17% increase in the ownership of washing machines. Similarly, in the rural micro-regions, there was a 15% increase in the ownership of fridges and a 16% increase in the number of washing machines. It is important to highlight that, although there were similar increases in the ownership of some durable goods, there is a huge difference in ownership of these types of goods between the rural and urban areas of the country. Just like the previous indicators of poverty, the rural areas seriously lag behind the urban areas. While 75% of urban households owned a washing machine in 2016, only 35% of rural households owned one. The difference is particularly marked in terms of computers, which is a complementary good used for the creation of human capital and something that opens access to opportunities within different markets. In comparison, with 53.9% of urban households, only 8.8% of rural households have a computer.

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

Table 5.6.
Summary matrix

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

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

increase in coverage for almost all public services in both rural and urban zones. The only significant fall in access to public services is the telephone in urban zones, which reflects the substitution that households are making from fixed line telephones to mobile telephones. In 2016, in both rural and urban zones, approximately 98% of houses had a mobile telephone. Access to natural gas was the biggest increase in both rural (15%) and urban (14%) areas. Similarly to the possession of durable goods, it is important to highlight that the similarities in the increases in public services does not imply that there is similarity between the increases of public services in rural and urban zones. There is a dramatic gap between both zones: there is only patchy coverage of important services such as water mains, sewage, and waste disposal in rural areas where only 11.4% of households have sewage while in urban zone, this figure is 93.6%. In terms of waste disposal, 13.4% of rural households have this service, whereas 97.8% of urban households do. 63.75% of rural households have access to running water, in comparison to 97.98% of urban households.

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

Table 5.7.
Ownership of durable goods by household

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

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

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

Table 5.8.
Access to public services by household

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

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

Table 5.9.
Access to sewage

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

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

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

In terms of rural zones, it is possible to see that two regions stand out. For both sewage and access to running water, the Eje Cafetero has a higher coverage than the other rural regions, and the Atlantic region has much lower coverage. In 2016 for example, 28.1% of households in the Eje Cafetero had sewage while in the following rural region (Centro-Oriente), only 9.63% of households had access to this service. The Atlántica Media region, in which only 50% of households have access to running water, has a much lower coverage than the other rural micro-regions in the country. However, it is worthwhile pointing out the large increase in this region between 2010 and 2016. Coverage of access to running water has increased by 21.65%, and sewage by 6.31%. Although it is difficult to attribute this increase to one single factor, it is important to mention the contribution that the General System of Royalties (SGR by its acronym in spanish) is making. These funds are used, for the most part, for infrastructure in the regions as well as for the development of public services. According to the Directorate for Supervising Royalties, which is part of the National Department of Planning (DNP, 2016), between 2015-2016, 3,559 projects were approved that had a total of COP$7.8 billion. Projects undertaken in the Atlantic region were worth a value of COP$2 billion, which is equivalent to 26.4% of the total value of all the projects that were carried out in the two-year period. Only the Llanos region has projects that have a greater value than those that were carried out in the Atlantic region. In addition, of the 1,773 projects that were visited in 2015, 495 were being carried out in the Atlantic region. This is 27.9% of the total, which is a much higher percentage than any other region. The previous leads us to the opinion that the use of the funds that come from the General System of Royalties (SGR) plays an important role in increasing coverage of basic services and, probably, in increasing the expenditure that we have previously seen in this chapter for households in the Atlantic region.

Table 5.10.
Access to running water

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

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

These important differences between urban and rural zones in terms of the ownership of durable goods and access to public services complicates the picture that has been presented thus far. Although poverty seems to have reduced between 2010 and 2016, there is still a long way to go: particularly in urban zones. Precarious access to public services reduces the standards of living of these households that, with no sewage or waste disposal, are exposed to many diseases.

5.3. Access to social programs

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

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

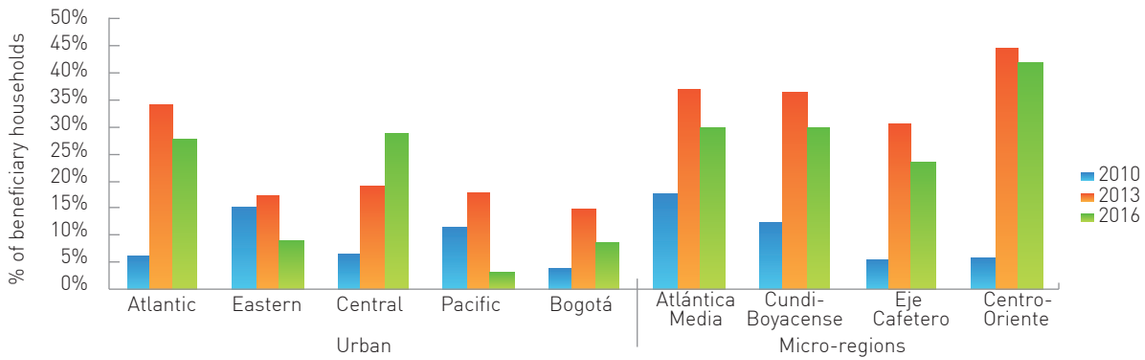
5. The Colombian Institute of Family Wellbeing.
6. The National Service for Apprenticeships (Servicio Nacional de Aprendizaje) (SENA) is a Colombian public institution focused on the development of professional training programs.
7. This is a strategy that seeks to contribute to improving families' living conditions, improve the accumulation of social and human capital and, consequently, to the reduction of the levels of poverty.
8. This program helps families with children under 18 who need financial support for food and for the children to remain in education.

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

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

Graph 5.5.

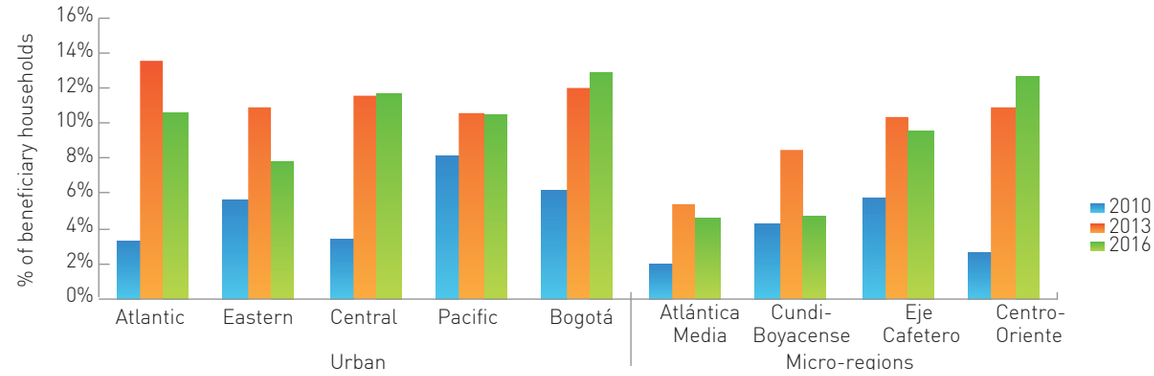
Participation in ICBF's social programs (percentage of eligible households)



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

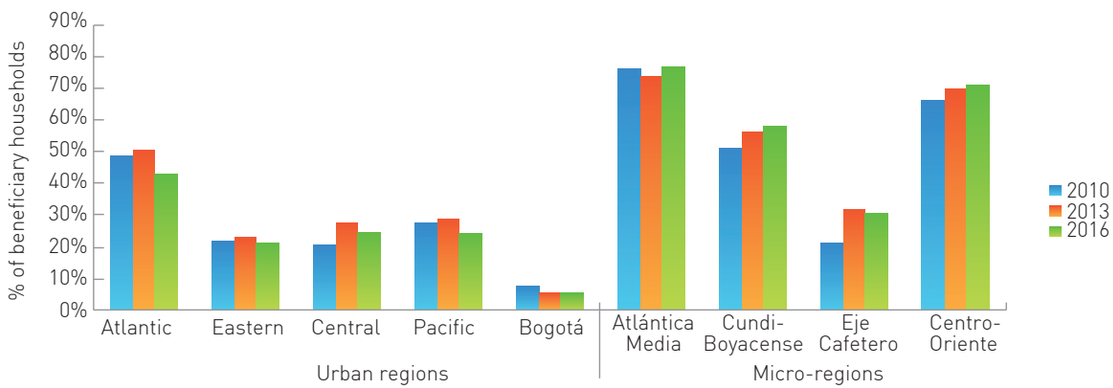
Graph 5.6.

Participation in SENA's social programs (percentage of eligible households)



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

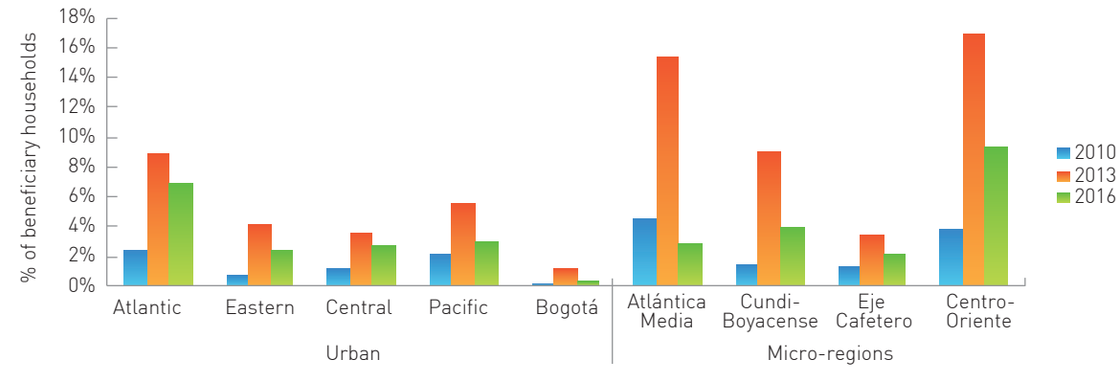
Graph 5.7.
Participation in Familias en Action (percentage of eligible households)



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

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

Graph 5.8.
Participation in Red Unidos



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

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

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

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

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

5.4. Conclusions

This chapter has demonstrated a reduction in the poverty in Colombia, which has been measured by different indicators. Among these indicators are: per capita expenditure, the number of households below the Poverty Line, the Multidimensional Poverty Index, and the Filmer and Pritchett wealth index. However, there has been a deceleration in the reduction in poverty over the past three years with respect to the fall between 2010 and 2013. The indicators analyzed show that between 2013 and 2016 there was a smaller reduction in poverty than between 2010 and 2013. If this can be considered as a normal phenomenon (it is marginally more expensive/ difficult to remove a household from poverty) it also demonstrates the difficulties that the social public policies will have to confront in the future. A more general view of poverty must consider the conditions that the households develop based on help from social programs in order that their escape from poverty endures and is sustainable.

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

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

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

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