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VIOLENCE AND THE FORMATION OF HOPELESSNESS AND PESSIMISTIC PROSPECTS OF UPWARD MOBILITY IN COLOMBIA

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ABSTRACT

Violence has severe material and psychological consequences. In this article we explore if it also induces hopelessness and pessimistic prospects of upward mobility. For this purpose, we bring together novel data from a sample of individuals residing in violence-torn regions in Colombia, including some who were directly victimized and displaced during last ten years. We find that victims who suffered more severe episodes of violence are hopeless and perceive overly pessimistic prospects of upward mobility. These results suggest that shocks and traumatic experiences can shatter hopes and beliefs through psychological constraints and hinder the ability of people to recover in a pervasive way.

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A propensity to hope and joy is real riches;
one to fear and sorrow real poverty.
David Hume, Essay 18: The Skeptic, 1742

1. Introduction

Recent discussions in economics have focused on the nature of hope and beliefs of socioeconomic mobility, and their relation with poverty. The interest of economists to study behavioral dimensions that had been in the realm of psychology, anthropology, and sociology, is driven by the observation that economic behavior is at a fundamental level the result of what individuals believe is possible to achieve and what they hope to achieve (Duflo, 2012). If individuals perceive limited prospects of upward mobility, they will likely adjust their goals and lower their hopes and aspirations. By doing so, they will lack incentives to invest and improve current circumstances, to gather information about the pathways to move out of poverty, and even to modify beliefs and perceptions. Interestingly, provocative discussions in anthropology (Appadurai, 2004) and economics (Ray, 2006; Banerjee and Duflo, 2011; and Duflo, 2013) suggest that the circumstances of poverty can induce hopelessness and pessimistic beliefs by imposing external and internal (psychological) constraints. The effect of poverty on such attitudinal assets would reinforce the material constraints that keep individuals poor, thus leading to a vicious cycle of pessimism, hopelessness, and persistent poverty.

The simultaneous nature of the relation between poverty and attitudinal assets –that poverty induces attitudes that tend to perpetuate poverty– poses a considerable challenge for empirical studies that attempt to understand how hope and beliefs of socioeconomic mobility are formed. Yet, recent studies have been able to analyze the formation and effects of such attitudes in the context of positive policy experiments and randomized and non-randomized development interventions. For instance, access to savings accounts (Chiapa et al., 2014), agro-input subsidies

and matched savings (Laajaj, 2013), participation in conditional cash transfers and child sponsorship programs (Chiapa et al., 2012; Glewee et al., 2013; Wydick et al., 2013), exposure to role models (Beaman et al., 2012), social interactions in the context of rural development programs (Macours and Vakis, 2009), and the experience of watching similar individuals who succeeded due to their own effort (Bernard et al., 2014) lead to longer planning horizons, optimistic beliefs, and higher aspirations, which in some cases multiply the effect of economic interventions. This body of work provides suggestive evidence on the way in which the relief of information, material, and internal constraints has positive impacts on the beliefs and hopes of the poor, and on the existence of psychological multipliers that can create virtuous cycles.

In this article, we take a different and disheartening approach to explore the formation of hope and perceived prospects of socio-economic mobility. In particular, we explore if the negative shock of forced displacement in Colombia affects victims in a profound way, altering the way in which they look towards the future and inducing hopelessness and pessimistic beliefs of upward mobility. Displaced persons suffer severe material losses as they lose their lands and assets, migrate to urban areas where their agricultural skills are of little use, and experience sharp drops in income levels from which they seem unable to recover (Ibáñez & Moya, 2010a; 2010b). In addition, the direct experience of violence makes them vulnerable to psychological trauma (Doctors Without Borders, 2006), and induces higher levels of risk aversion (Moya, 2013). Forced displacement in Colombia therefore provides an uncommon scenario to study how individuals adjust their hopes and beliefs after being victimized and falling into poverty. As we discuss in detail in Section 2, it also allows us to control for the effect of external constraints and address the role of internal constraints related to the severity of the exposure to violence.

For this purpose, we collected unique micro-level data on perceptions of prospects of upward mobility (P-POUM), hopelessness, exposure to violence, and psychological trauma from a sample of 603 individuals who reside in two conflict-torn regions in Colombia, including 285 Displaced Persons (DP). Identifying the causal impact of the shock of displacement on behavior is, nonetheless, a challenging task. To overcome the absence of longitudinal data, we compare the P-POUM and levels of hope of displaced and non-displaced persons. The underlying idea is that the two groups are similar except for the misfortune of the displaced to have been caught by violence and forced to migrate.

Of course, our strategy could be inappropriate due to unobserved selection, especially since violence in Colombia is not necessarily random and displacement could have been driven by individual characteristics and beliefs. Nonetheless, in Sections 3 and 4 we discuss how the sample design, data, and previous conflict analyses allow us to argue that the non-displaced sample provides an appropriate comparison group. In addition, in all of the econometric specifications of Sections 5 and 6 we use retrospective data to statistically control for pre-displacement observable characteristics that could have lead to selective targeting, and we also conduct a robustness check to address selection on unobservables.

We find that victims of displacement are overly pessimistic about their ability to recover and move out of poverty and exhibit higher levels of hopelessness than the non-displaced. Although these results are not surprising once we consider the challenges imposed by the material losses suffered by displaced persons, we find that the effect on these key attitudinal assets are also driven by the severity of the victimization episodes. This suggests that violence can also affect behavior and inhibit the ability of victims to move out of poverty through internal constraints.

We contribute to the emerging literature on the formation of beliefs of upward mobility and hope in several ways. First, we analyze how hopes and beliefs evolve after a traumatic shock. To the best of our knowledge, we are the first to focus on a negative shock rather than on the effect of a positive intervention. Second, we provide evidence on how these attitudinal assets are affected by external and internal constraints. Finally, we offer a novel instrument to measure perceived prospects of upward mobility.

We also contribute to the literature on the economic and behavioral consequences of violence, which suggests that wars and civil conflicts can drive victims into poverty and induce changes individual preferences and behavior.[1] Regarding the behavioral consequences of violence, several studies have identified that violence brings about changes in altruism, collective action, political participation, risk and time preferences, and social capital (Miguel and Bellows, 2009; Blattman, 2010; Bauer et al., 2011; Cassar et al., 2011; Voors et al., 2012; Callen et al., 2014; Moya, 2014).[2] However, our understanding of the behavioral consequences of violence is still limited by two factors: the lack of knowledge on the channels through which violence affects behavior, and the common use of aggregate-level violence data, which pools together individuals exposed to different levels of violence and thus provides data-weighted averages that could mask the effects on those individuals severely affected by violence. In this article we not only focus on behavioral dimensions that had not been analyzed yet in the context of violence and civil conflicts, but our data also allows us to zoom in on a population directly victimized, analyze if the behavioral consequences of violence vary according to the severity of the exposure to violence, and explore different channels through which these changes could occur.

[1] See Blattman and Miguel, 2010 and Justino, 2010 for reviews on the economic consequences of violence, and Ibáñez and Moya, 2010 and 2010a for studies focusing on income, consumption and asset losses of the forcibly displacement in Colombia.

[2] Related research has also analyzed the impact of natural disasters on risk aversion (Eckel et al., 2009; Cameron and Shah, 2011; Cassar et al., 2011a), time preferences (Cassar et al., 2011a) and trust and pro-social behavior (Carter and Castillo, 2009; Cassar et al., 2011a).

2. Displacement, hopelessness and pessimism among DP in Colombia

> "That is why I am here [at the Unit of Assistance and Orientation for DP], since they told me they could help us. I had to come alone because my husband is sick and my son is scared of going out to the street. I too have fear, but I have to do it. You know, doctor, it's been a few nights since I do not sleep, I have dreams where I see the heads of my neighbors. I see that they cry, that they supplicate, ask for mercy. I wake up crying. I start thinking about the farm, about my plants in the garden, about my chickens and cattle, and about our dogs that wanted to come with us, but we had to scare them away with rocks so that they would not follow us. I had never felt this way. I had never seen my husband so quiet; I had never seen him cry in silence. […] I do not know what's going to happen with us, only that we have God and that our life will not be the same since we are now displaced."[3]

Colombia has endured a long-lasting civil conflict triggered in the late 1940s by political disputes and decades of tension between landlords and peasants for the use and control of lands (Berry, 2006). The emergence of leftist guerrilla groups in the 1960s and of right-winged paramilitary groups a decade later, and their participation in the illicit drug trade since the 1980's, led to the escalation of violence and to increasing and persistent patterns of civilian victimization. Violence towards civilians, however, has not been a by-product of the civil conflict but instead a deliberate strategy of armed groups who rely on vicious and indiscriminate violence to spread fear and gain control of rural populations and territories (Duncan, 2006; Reyes, 2009; Grupo de Memoria Histórica, 2013). As a result, since 1993, more than 5.5 million individuals, nearly 12 percent of the population, have been displaced by a combination of threats, attacks towards rural communities, direct episodes of violence, massacres, and explicit orders of migration from armed groups (Grupo de Memoria Histórica, 2013; Unidad de Víctimas, 2014).[4]

Forced displacement causes a severe loss of material, social, and human capital, and has negative psychological consequences. The displaced, who by and large migrated from rural areas to urban slums, abandon their lands and productive assets, lose their contacts and social networks, find that their agricultural skills are worthless at reception sites, and some suffer the

[3] Doctors Without Borders (2010): Testimony of a woman in Florencia, Caquetá, who was displaced from her hometown after an armed group arrived at night to her village, killed and carved up some of her neighbors, and then made her bury them [Own translation].

[4] Official figures on displacement have been only collected since 1997 on episodes of displacement that occurred since 1993.

death of the household head or an adult family member, (Ibáñez and Moya, 2010b). As a result, 95 percent of them fall below the poverty lines and most seem unable to recover over time (Ibáñez and Moya, 2007; Ibáñez and Moya, 2010). The displaced are also at increased risk of suffering posttraumatic stress disorders, chronic depression, and anxiety disorders, among other psychological affectations (Doctors Without Borders, 2006; Botelho de Oliveira, 2011; Perez Olmos et al., 2005). Psychological trauma, in addition, has behavioral consequences. Using our same sample, Moya (2013) identified that anxiety disorders induce higher levels of risk aversion over the gains and ambiguity domains.

In this article we further explore the implications of violence and displacement, and analyze if they affect the way in which victims look towards the future and their perceptions about their ability to recover. Building on research from different disciplines, we hypothesize that victim's P-POUM and capacity to hope will be conditioned by two types of constraints: First, external – informational– constraints related to the recognition of the obstacles imposed by the loss of physical, human, and social capital. Second, internal constraints resulting from the direct experience of violence and the incidence of psychological trauma. We discuss the role of external an internal constraints in the contexts of poverty and forced displacement below.

On the one hand, the work by Appadurai (2004), Ray (2006), Dalton, Ghosal, & Mani (2011), and Duflo (2012) suggest that the assessments the poor make about what is possible to achieve are conditioned by a set of external constraints driven by the information provided by their levels of wealth, circumstances, and experiences, and by the experiences of others in the cognitive vicinity. Specifically, a poor person could be pessimistic and hopeless as a result of the observation of limited patterns of mobility and few success stories from nearby peers, a lack of information about the ways to move out of poverty, or the recognition that while progress may

be possible, it requires an amount of resources that she does not have, or a prolonged effort that she cannot guarantee.

In the context of forced displacement, external constraints could have a significant role and affect victims' judgments and perceptions through different channels. First, victims can recognize that the loss of assets pushed them down the endowment space, further out from the steady state level or, in the presence of asset-based poverty traps, below the critical asset threshold from which they cannot move out on their own (Carter and Barret, 2006). Second, victims can also acknowledge that the agricultural nature of their human capital and the death of working-age family members also hinder their ability to generate sufficient income at the urban reception sites. Third, based on their experience of displacement and migration to urban slums, victims can update their beliefs and perceive that the world is now riskier and different.[5] Finally, the observation of persistent poverty among displaced peers can make victims realize that recovery is not possible. The displaced can thus correctly recognize correctly that that the odds of failing are now higher, and that the material and human capital losses slowed their socioeconomic progress and maybe even destined them to a lower level of wellbeing.

Recent research in behavioral economics and psychology, on the other hand, has shown that internal constraints resulting from cognitive biases and psychological stress distort individual beliefs and individual behavior. Interestingly, recent research has shown that the circumstances of poverty can deplete cognitive resources and will power, exacerbate cognitive biases, make the poor less effective at focusing in the long run, and induce psychological stress (Spears, 2010; Hauschofer, de Laat, & Chemin, 2012; Mullainathan and Shafir, 2013; Mani et al., 2013). Other

[5] To illustrate this point we refer to the case of a group of DP surveyed for the World Bank's Moving Out of Poverty study in Colombia, which settled in the outskirts of Cartagena, a major tourist city. Despite receiving lands as part of a program from the governor's office, they were reluctant on investing in these plots and only grew subsistence crops. Investments in more productive crops or hoping for a better future did not make sense since, in their own words, they now knew they could be displaced one more time and lose everything again (Matijasevic, et al., 2008).

research has suggested that it is not poverty by itself, but rather negative and uncontrollable changes in life circumstances, that induce psychological stress, (Das, et al., 2007). It is therefore possible that the experience of poverty and the drastic changes in the victims' circumstances bring about psychological stress, intensify cognitive biases, and affect victims' perceptions.

One can imagine, however, that the traumatic experience of violence and displacement affects victims' beliefs and ability to hope in a more profound way. After all, research in clinical and social psychology indicates that the experience of violence not only takes a toll on the victim's mental health and triggers depressive explanatory styles, but it can also condition individuals, leading to a loss of agency and helpless behavior. According to the Learned Helplessness theory of depression, prior exposure to uncontrollable and traumatic experiences provokes a specific deficit in behavior to control aversive stimuli. After repeated inescapable situations, individuals conclude that their actions are futile, that there are few pathways for recovery, even though this may not be necessarily true, and may give up on trying to improve their circumstances (Seligman 1975; Garber and Seligman, 1980; Price et al., 2011). The incidence of Learned Helplessness is in fact consistent with the findings of different studies regarding the pessimistic views about the future of displaced persons in Colombia, their loss of agency, and an external locus of control –perceptions that they do not control their lives (Perez-Olmos et al., 2005; Londoño et al., 2005; Forero et al; 2004; Palacio et al., 2000).[6] It is therefore possible that the direct and traumatic experiences of violence and displacement condition victims of displacement, making them perceive, perhaps incorrectly, that the obstacles to move out of poverty are insurmountable and that it is not possible to recover on their own.

[6] Such behavior and avoidance arises partly as a cognitive-expectancy mechanism to escape the overwhelming pain and anxiety and to lower the exposure to future sources of stress and disappointment, and it relates to the one proposed by cognitive dissonance theory (Festinger, 1957). Cognitive dissonance can be illustrated by an individual who hopes to move up but perceives gloomy prospects and the multiple obstacles of doing so. These opposing cognitions induce a sense of discomfort and anxiety and the psychological solution is to make them compatible. Often, this is done by altering the initial objectives and to 'give up' on trying to improve future conditions as a way to reduce present anxiety. See Laajaj (2013) for a discussion on cognitive dissonance in the context of poverty.

3. Sample design, data, and methodology

To understand if and how violence and displacement induce pessimistic P-POUM and hopelessness, we employ novel micro-data collected between 2010 and 2011 from a sample of individuals residing in two conflict-torn regions of Colombia. Since longitudinal data is not available, the sample includes displaced and non-displaced individuals to compare the levels of hope and the perceptions of prospects of upward mobility between them. As a first step to ensure that both groups are comparable, the sample was drawn from the same conflict regions thus ensuring that the displaced and non-displaced were exposed to the same socio-economic environments before the former were victimized and displaced. In addition, retrospective data was collected to assess if both types of individuals were similar across different ex-ante household and individual characteristics.

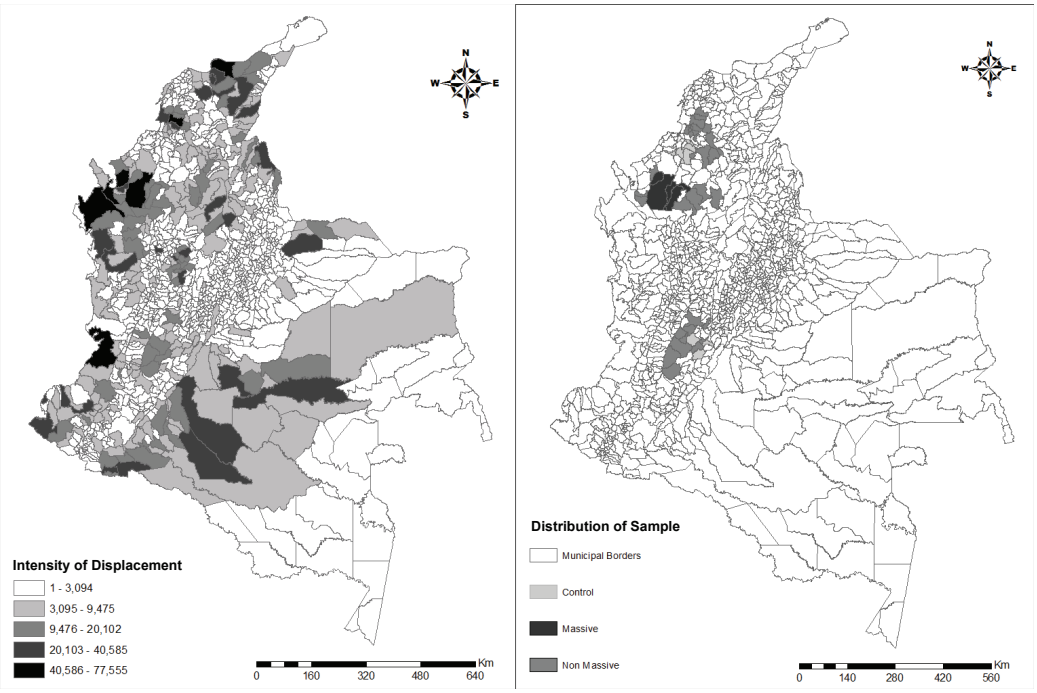
3.1. Sample design

The sample design focused on the Atlantic and Central regions of Colombia, two regions that have been torn by the civil conflict, but where violence and displacement vary considerably across municipalities.[7] While different armed groups operate throughout these two regions, the intensity of violence and displacement is much in the vicinity of three geographical corridors that provide suitable conditions for the illegal drug trade and for the movement of troops. To control such strategic corridors, armed groups have clashed in high intensity battles and have used "tactics of terror" against the populations that reside in the proximity (Defensoria del Pueblo, 2007; 2008; 2009; Human Rights Watch, 2010; Indepaz, 2011; Negrete, 2011).[8]

Figure 1. Intensity of Displacement and Geographic Distribution of the Sample

[7] Municipalities, are the lowest administrative-level units, similar to counties in the United States, and often have a municipality (urban) head and rural areas.

[8] The three corridors are: Nudo del Paramillo and Montes de María in the Atlantic region, and the Cañón de las Hermosas in the Central Region.



Notes: Data for left-hand map comes from the National Statistics on Forced Displacement from the former administrative department of Acción Social, and can now be accessed at the National Information Network of the Victims Unit http://rni.unidadvictimas.gov.co/

The sample design exploited the geographical variation in the patterns of violence to match a group of displaced individuals to a control group of individuals residing in similar and proximate rural environments, but who were exposed to lower levels of violence and were not displaced (non-displaced from here on). The displaced, in particular, resided in rural communities in the close proximity to the three strategic corridors mentioned above, and were displaced to the closest municipality head or departmental capital. The non-displaced, in turn, reside in rural communities of neighboring municipalities, but farther out from the disputed corridors, where violence is much lower. Figure 1 provides a graphical depiction of the sample, highlighting the variation in intensity of displacement across Colombian municipalities, the municipalities where the non-displaced reside, those where displaced persons migrated from, and the county-heads or departmental capitals where they migrated to.

Subjects were selected as follows: Using administrative records, victims of massive displacements –who were forcibly displaced with their entire community– were located at the county heads where they migrated to and currently reside. Members of each community were then invited to a meeting where a third of them were randomly selected to participate.[9] Afterwards, a sample of victims who migrated to the closest departmental capital, either by themselves of with a few neighbors, was drawn from the population that visited the Units of Assistance and Orientation.[10] Finally, the non-displaced were drawn from a stratified sample of the households that had been surveyed in both regions by the Colombian Longitudinal Survey (ELCA, for its Spanish acronym) in the previous six months.[11]

3.2. Household characteristics, exposure to violence, and psychological trauma

In all municipalities, fieldwork started with the collection of information on household socioeconomic characteristics, exposure to violence, and incidence of psychological stress. For the displaced sample, socioeconomic information was collected using a household survey that closely followed the ELCA and included a set of retrospective questions to characterize displaced households immediately before the episodes of violence and displacement. For the non-displaced, socioeconomic characteristics come from the ELCA data and from a short module that captured important household and community events that occurred since the date of the ELCA's administration. Data on exposure to violence was then collected using a victimization questionnaire that captured different violent events suffered by household

[9] The initial sample strategy focused only on massive displacements, which occur when entire communities are forced to migrate by widespread episodes of violence such as massacres or armed combats, where the community is caught in crossfire. Massive displacements thus provide events were violence is indiscriminate and all of the members of the community migrate, thus minimizing endogenous selection concerns. Unfortunately, security conditions worsened during fieldwork and Moya was unable to contact all of the massively displaced communities sampled. For this reason, field work moved to the closest departmental capitals, where other DP were sampled.

[10] UAOs are public offices especially set up so that DP can register as victims, receive information on different programs, and check the status on their claims. There are obvious concerns that by selecting DP from the population that seeks assistance of the government, the sample is biased towards those who have not recovered socio-economically. However, all DP are entitled to it regardless of whether they have recovered or not. What's more, the population that often asks for assistance is the one who learned to work the system and is relatively better off, whereas those that are traumatized are often reluctant of seeking assistance and providing information about their episodes of displacement. In such case, the sample would be composed of the relatively better off and less traumatized DP.

[11] A detailed description of the sample design and field protocols is available in Moya (2013).

members, the number of times they occurred, as well as the triggers, location, and timing of displacement for victims of displacement. Finally, data on psychological stress comes from the Symptoms Checklist 90-R, a psychometric scale that measures the overall level of stress, depression, anxiety, and other psychopathologies in the previous three months.[12]

Sample statistics show that both groups were relatively similar before the episodes of displacement, but were exposed to significantly different levels of violence; while 93 percent of displaced households had been victimized, only 15 percent of non-displaced households had suffered some type of violence and none of them had been displaced (Table 1, Panels A and B). There are also considerable differences in the violent events to which both groups were exposed to; the displaced directly experienced combats between armed groups, orders to migrate, indiscriminate violence, attacks, and assassinations, while victimized but non-displaced persons received threats (See Table A1 in the appendix). It is worth noting, that among victims of displacement, there is considerable variation in the number of types of violent events and in the number of events suffered by household members, the two measures that we use to gauge the severity of the exposure to violence (Panel B). Not surprisingly, the displaced exhibit levels of stress and depression well above those of the non-displaced, and 37 percent of them are at risk of suffering a major depressive disorder (Panel C).[13]

[12] The SCL-90-R has been implemented in many studies in developing countries and in conflict scenarios (Jaramillo-Velez et al., 2005; Casullo, 2008; Canaval et al., 2009). In this case, the SCL-90-R provides excellent psychometric reliability as judged by the Cronbach's alpha of .94. The scale inquires for common symptoms associated with different manifestations of stress, and the possible answers range from 0 to 4 indicating no symptoms in the last three months (0), to daily symptoms in the last three months (4). Using this information, T-scores for each psychopathology are calculated as follows: First, scores on the relevant questions for each disorder are added and divided by the total number of relevant questions answered. In the case of the GSI this corresponds to all 90 questions. The resulting net score is then converted into a T-score with mean 50 and standard deviation 10 ($Ti = 10 + 50 \times net\ score$).

[13] Incidence and severity of stress among the displaced is also considerably higher than that of the overall Colombian population. Information on the prevalence of mental trauma in the Colombian population comes from the last National Mental Health Survey conducted in 2003. Although the survey used a different scale, it still shows much lower rates of incidence of anxiety, depression, and trauma than the ones we document here for the displaced and even for the non-displaced.

Table 1. Sample Statistics

	NonDisplaced [1]	Displaced [2]	Mean Difference (1-2)
A. Household and Individual Characteristics			
Age	47.38	41.40	5.984***
	[12.93]	[13.28]	(5.47)
Male (=1)	0.648	0.668	-0.0204
	[0.479]	[0.472]	(-0.50)
Household size	4.923	4.903	0.0203
	[2.263]	[2.261]	(0.11)
Years of education	5.622	5.542	0.0804
	[3.744]	[4.025]	(0.24)
Occupation - Peasant (=1)	0.634	0.659	-0.0249
	[0.482]	[0.475]	(-0.61)
Hh member is leader in at least one organization (=1)	0.379	0.175	0.204***
	[0.486]	[0.431]	(5.14)
Lands owned (ha)	1.208	5.632	-4.424***
	[3.098]	[13.29]	(-5.58)
B. Exposure to Violence			
Number of violent events that triggered displacement	-	3.527	-
		[3.117]	
Hh member suffered at least one violent event (=1)	0.152	0.935	-0.783***
	[0.359]	[0.248]	(-30.12)
Number of types of violent events suffered	0.253	2.811	-2.558***
	[0.683]	[2.597]	(-16.38)
Number of all violent event suffered	0.461	7.753	-7.291***
	[1.330]	[11.99]	(-10.41)
C. Psychological Trauma			
Global Severity Index (GSI)	53.73	59.18	-5.452***
	[2.792]	[5.401]	(-15.31)
GSI - % Above Clinical Cutoff (T>63)	0.0101	0.210	-0.200***
	[0.100]	[0.408]	(-8.19)
Depression	55.79	61.77	-5.983***
	[4.286]	[6.051]	(-13.72)
Depression - % Above Clinical Cutoff (T>63)	0.0640	0.373	-0.309***
	[0.245]	[0.485]	(-9.74)
Observations	318	283	601

Notes: Complete data on the triggers of displacement, exposure to violence and psychological trauma are presented in Tables A1 – A3 of the appendix. Household and individual characteristics refer to those at origin sites; for displaced households these thus correspond to characteristics before displacement. Standard errors in brackets; t-statistics in parentheses; * $p<0.05$ ** $p<0.01$ *** $p<0.001$

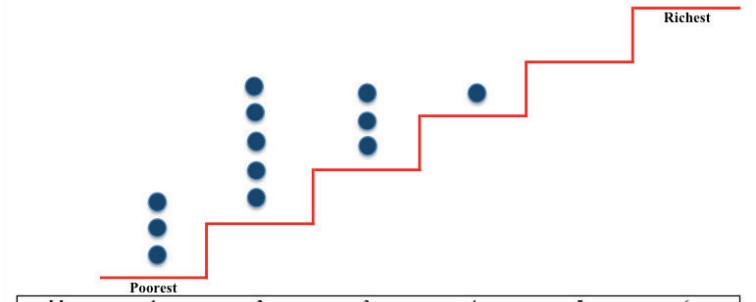
3.3. Measuring beliefs of socioeconomic mobility and hopelessness

Perceptions of prospects of upward mobility (P-POUM) were collected combining recent methods for the elicitation of probability distributions with a Ladder of Life (LL), an instrument used in qualitative research to identify factors that explain social mobility within a community.[14] Although it is a common practice to construct a LL for each community, we designed a general ladder to provide comparable perceptions of individuals who not only resided in different rural communities, but who currently reside in either urban (the displaced) or rural (the non-displaced) environments. Our ladder was therefore designed to resemble similar pre and post-displacement levels of wellbeing over the following domains: housing, access to lands, labor income, school attendance of children, and consumption (see Figure 2).[15] The LL, in addition, distinguishes between different economic classes: the extreme poor at the bottom two steps, a class of poor households with limited access to lands and employment at the following two steps, and a class of small rural and urban entrepreneurs at the top steps.

[14] See Delavande et al. (2010) for a review of the different methods to elicit probabilities and the World Bank (2007) *Moving Out of Poverty* study for descriptions and examples of the Ladder of Life.

[15] Characteristics at each step were drawn from the Moving Out of Poverty Colombian study which constructed ladders of life for displaced and non-displaced communities in conflict regions (Matijasevic et al., 2007).

Figure 2. Ladder of Life



LL	1	2	3	4	5	6
Housing	Don't have a place to live	Precarious housing without public services	Basic housing with public services	House in good conditions	House in good conditions	House in good conditions
Lands	Don't have access to lands where to grow crops	Don't have access to lands where to grow crops	Acces to a plot of land where they cultivate crops	Have lands, crops, and animals	Have lands, crops, and animals and hire laborers	Have lands, crops, and animals and hire several laborers
Income	Don't have jobs or sources of income	Have day to day informal jobs	Employment of stable source of income	Stable job or small business	Good job or business where they have some employees	Good job or business where they have several employees
Schooling	Cannot afford to send their kids to school	Cannot afford to send their kids to school	Children go to primary school	Children go all the way to high school	Children finish high school	Children finish high school and even access higher ed.
Consumption	Have inssufficient income to feed themselves.	Have some money to feed themselves but lack an appropriate diet	Enough money to feed themselves	Enough money to feed themselves appropriately	Enough money to feed themselves appropriately	Enough money to feed themselves appropriately

Implementation of the LL was carried out as follows: After collecting the data described in the previous section in each municipality, subjects were invited to a group session of 10-15 participants where we explained the different characteristics at each step of the ladder and provided examples of upward, stagnant, and downward mobility.[16] Subjects were then instructed to privately place a stone at the step of the ladder that resembled their household's past level of wellbeing –pre-displacement for the displaced and 5 years before for the non-displaced– and a different one to indicate their current level of wellbeing. Finally, subjects were instructed to distribute 12 stones along the LL according to their perceptions of the likelihood of being at each step of the ladder in the following year.

[16] Group sessions also included a field experiment to measure risk attitudes among the displaced, which are analyzed in Moya (2014).

This method allowed us to elicit perceptions of the probability distribution of future wellbeing, our measure of P-POUM, without explicitly referring to the concept of probabilities. Borrowing Ray's (2006) concept of the aspirations gap, it also allowed us to measure an expectations gap: the difference between the standard of living an individual believes it can achieve and the standard of living the individual has. Since a single year might not be enough to start making movements up the ladder, P-POUM three years ahead were also elicited. To finalize the group session, subjects stated if they looked towards the following year with hope and optimism or with hopelessness and despair. We use their answers to identify who is hopeless, although we recognize that this is an unsophisticated way of doing so.[17]

Table 2 provides sample statistics for previous and current levels of wellbeing, the elicited probabilities of being at each step of the ladder, and the incidence of hopelessness.[18] On average, victims of displacement perceive a higher likelihood of being at the lower two steps of the ladder and a lower likelihood of being at the fourth step in the following year than the non-displaced and thus seem overly pessimistic about their ability to recover and move out of poverty (Panel B, Columns 1 and 2). This is not surprising considering the external constraints experienced by the displaced; this is, the material losses suffered, their inability to become employed at reception sites, and their descent to the bottom of the LL (Panel A).[19] Perhaps surprisingly, however, the displaced seem more optimistic when thinking about the likelihood of move up within the next

[17] Originally field instruments also included Beck's Hopelessness Scale, which consists of 10 questions and provides a better and validated way of measuring hope. However, after field work with the first displaced community, this scale was dropped out of the field instruments since the subjects' responses to this scale portrayed rather optimistic views, which were inconsistent with their views of despair and lack of control over their destiny that came out during informal conversations before and after the group sessions. Looking back, however, Moya recalls that when subjects expressed hope and optimism on the Hope Scale they often referred to their trust in God. This indicates, just as they mentioned informally, that subjects perceive a lack of control over their own lives and that they place all of their hopes and beliefs on an external, and superior, agent. This behavior is consistent with an external locus of control, which has been related to a loss of agency in the discussions between poverty, stress, and aspirations (see Hauschofer et al., 2012).

[18] We combined steps 5 and 6 since we did not get enough subjects in each of them, neither before nor after displacement.

[19] DP's perceptions of past and current wellbeing, are in fact consistent with the data from the survey, which indicates that the displaced had larger farms than the non-displaced, but lost all of their lands and do not expect to recover them (Table 1). Similarly, Ibáñez and and Moya (2010b) find that forced displacement brings about considerable asset losses and condenses the asset distribution towards the lower asset-quartile.

three years, suggesting that they perceive that while displacement pushed them back and slowed down their economic progress, it did not permanently change their destination.

Table 2. Prospects of Upward Mobility and Hopelessness

	Non-Displaced	Displaced	Displaced - Violence	
			Moderate	Severe
	[1]	[2]	[3]	[4]
A. Current and past perceptions				
Location Before	2.067	2.709***	2.641	2.862
	[0.830]	[0.947]	[0.939]	[0.954]
Location Today	2.450	1.440***	1.554	1.184
	[0.808]	[0.729]	[0.800]	[0.445]
B. P-POUM one year ahead				
Probability of being at step 1	0.053	0.071*	0.057	0.101
	[0.106]	[0.133]	[0.118]	[0.159]
Probability of being at step 2	0.243	0.272	0.248	0.327
	[0.216]	[0.256]	[0.234]	[0.293]
Probability of being at step 3	0.358	0.336	0.342	0.324
	[0.190]	[0.205]	[0.196]	[0.224]
Probability of being at step 4	0.252	0.206***	0.226	0.163
	[0.195]	[0.193]	[0.198]	[0.175]
Probability of being at step 5	0.166	0.197	0.216	0.152
	[0.251]	[0.269]	[0.269]	[0.266]
C. P-POUM three years ahead				
Probability of being at step 1	0.039	0.031	0.022	0.051
	[0.088]	[0.081]	[0.0600]	[0.110]
Probability of being at step 2	0.185	0.134***	0.127	0.149
	[0.205]	[0.181]	[0.182]	[0.179]
Probability of being at step 3	0.327	0.304	0.285	0.345
	[0.205]	[0.238]	[0.218]	[0.275]
Probability of being at step 4	0.284	0.335***	0.349	0.303
	[0.206]	[0.234]	[0.227]	[0.246]
Probability of being at step 5	0.124	0.150	0.169	0.107
	[0.175]	[0.206]	[0.212]	[0.186]
D. Hopelessness				
Looks towards following year with hopelessness (=1)	0.505	0.539	0.513	0.600
	[0.501]	[0.499]	[0.501]	[0.493]
Observations	318	282	195	87

Moderate exposure to violence are defined = exposure to 8 or less violent events; severe exposure = exposure to more than 8 events. Standard errors in brackets; t-statistics in parentheses; Asterisks denote significant mean differences between the displaced and non-displaced. * p<0.05 ** p<0.01 *** p<0.001

However, if we take a closer look at the data from the displaced group we can observe that the exposure to the traumatic events of violence acts as an additional force that affects victims' P-POUM. In particular, those who suffered more episodes of violence not only perceive a higher likelihood of ending up at the bottom of the ladder within the following year, but also within the following three years (Table 2, Columns 3-4). Likewise, although we do not find significant differences in the average levels of hopelessness between the displaced and non-displaced, we observe that the levels of hopelessness increase with the severity of violence (Table 2, Panel D). This initial evidence suggests that while external constraints can account for the pessimistic beliefs one year ahead, internal constraints related to the traumatic experience of violence condition victims' perceptions and magnify the obstacles to move out of poverty.

3.4. A Markovian/Transition Matrix Approach to the Ladder of Life Data

One way to analyze the ladder of life data is to use it to estimate a transition matrix that defines the perceived probability of transitioning from ladder step j to ladder step k within some time period. Specifically define the define the one period transition matrix

$$P = \begin{bmatrix} p_{11} & \cdots & p_{15} \\ \vdots & \ddots & \vdots \\ p_{51} & \cdots & p_{55} \end{bmatrix}$$

where element p_{jk} is the probability that an individual at step j in period t perceives that she or he will be at step k in period $t+1$. Let the 5x1 vector d_t denote the time t population distribution across the 5 steps of the ladder of life. Given P, the expected distribution of the population in period $t+1$ will thus be $d_{t+1} = P' d_t$.

Note that this structure is very flexible and can accommodate a wide variety of probability processes ranging from convergent to divergent or poverty trap processes. For example, if each main diagonal element (p_{jj}) equals one, there would be zero mobility in the economy with all agents expecting to stay at their current ladder position. In general, P-POUM would be signaled

by non-zero elements in the upper triangle of the transition matrix, while the lower triangle contains perceived prospects of downward mobility.

If we further assume that the transition process is a stable Markovian one (in which transition probabilities only depend on one's current position), then $d_{t+2} = P'[P'^{d_t}]$. For a well-defined probability matrix, the population distribution will converge in the long-run to the stable equilibrium distribution, d_e, given by the eigenvector associated with P for which it is true that $d_e = P'd_e$.

As described above, exposure to violence and displacement destroys assets and pushes families down on to a lower rung on the ladder of life. While those one-time losses are severe and would alter the short to medium term distribution of well-being amongst the displaced, the question we wish to answer here is whether exposure to violence and displacement alters the P-POUM transition matrix, implying a less favorable long-term or equilibrium distribution. That is, do those who were displaced and exposed to more severe episodes of violence perceive themselves as effectively living in a different economy –one with less hope and lower prospects of upward mobility– than those not subjected to those forces? Empirically, this hypothesis implies that those exposed to violence and displacement perceive a greater probability in the lower triangle of P-POUM transition matrix and a less favorable equilibrium distribution. We now turn to our strategy to estimate P-POUM transition matrices for both displaced and non-displaced populations.

4. Econometric Model and Identification

As explained in section 3.3, we elicited information from each survey respondent on their past and current positions on the ladder of life, as well as their perceived probabilities that they would find themselves on each step of the ladder in the future (one and three years hence). This section

discusses identification problems and proposes a way to understand the impacts of violence on those perceived probabilities.

4.1. Modeling the Impact of Displacement and Exposure to violence on P-POUM

One approach to analyzing this ladder of life data would be to specify a system of five equations, one for each future ladder of life position. For example for future ladder position 1, we could write:

$$\text{Prob}\left(\text{Step}_{\text{i,t+1}} = 1\right) = \left[\sum_{\text{j=1}}^{5} p_{j1}\mathbf{1}\left(\text{Step}_{\text{i,t}} = \text{j}\right)\right] + V_i\left[\sum_{\text{j=1}}^{5} \delta_{\text{j1}}\mathbf{1}\left(\text{Step}_{\text{i,t}} = \text{j}\right)\right] + \varepsilon_i, \qquad (1)$$

where $\text{Prob}\left(\text{Step}_{\text{i,t+1}} = 1\right)$ is the probability respondent *i* assigns to being at step *1* next year. $\mathbf{1}\left(\text{Step}_{\text{i,t}} = \text{j}\right)$ is an indicator function that takes on the value of 1 if individual *i* is currently at step *j*, V_i is a measure of the severity of violence to which individual *i* has been exposed and ε_i is an error term. Note that the p_{jk} terms are the probabilities to be estimated for both the non-displaced and the displaced population, while the δ_{jk} indicate how those probabilities shift for individuals exposed to more severe violence. An analogue equation can be written for each of the other 4 future ladder positions.

Note that each equation estimates the probabilities associated with a column of the P-POUM transition matrix defined above. Also note that each individual only reports probabilities relative to her or his current wellbeing; this is, the probabilities for the row of the P-POUM matrix associated with their current livelihood step. For example, the probabilities of moving up from step 1 would be estimated using information from both displaced and non-displaced households currently found at step 1, and the key parameter vector δ_{1k} would capture differences in the responses according to the severity of the exposure to violence for all individuals, displaced and non-displaced, currently at step 1. The credibility of these estimates ultimately depends on the comparability of these two groups –are the non-displaced a good "control" group for estimating

the counterfactual probabilities that the displaced would have had absent the experience of violence and displacement?

There are two reasons for potentially doubting the veracity of this control group structure and identification of the impacts of violence on P-POUM using equation (1). First, the non-displaced individuals were not randomly assigned to their places on the ladder of life. Instead, their positions are likely to be correlated with a host of individual attributes and skills. The same statement could be made about the displaced prior to their exposure to violence and displacement. Given that violence and displacement knocked the typical person down 2 steps in the ladder of life, many displaced people were, say, step 3-type individuals prior to displacement. Using non-displaced, step 1-type individuals as a control group for the displaced who fell to step 1 is likely incorrect and will lead to a systematically downwardly biased estimate of the impacts of violence and displacement on P-POUM. A more natural control group for the displaced would thus seem to be individuals who occupied the same step that the displaced immediately prior to the violence that resulted in displacement.

We thus propose to modify equation (1) above and instead estimate a system of equations compromised of the following specification:

$$\text{Prob}\left(\text{Step}_{\text{i,t+1}} = 1\right) = \left[\sum_{\text{j}=1}^{5} p_{j1}\mathbf{1}\left(\text{Step}_{\text{i,t}-5} = \text{j}\right) + \gamma_{j1}\mathbf{1}\left(\text{Step}_{\text{i,t}} = \text{j}\right)\right] + V_i\left[\sum_{\text{j}=1}^{5} \delta_{\text{j}1}\mathbf{1}\left(\text{Step}_{\text{i,t}-5} = \text{j}\right)\right] + \varepsilon_i, \quad (2)$$

where $\mathbf{1}\left(\text{Step}_{\text{i,t}-5} = \text{j}\right)$ is an indicator function that takes the value of 1 when individual *i* was located at step *j* either at the time of displacement, or 5 years ago (for the non-displaced population). The strength of this specification is that in contrast to (1), the critical parameter vectors δ_k will be estimated by comparing individuals who are comparable in the sense that they shared similar living standards prior to the shock of violence and displacement. The weakness of

using this comparison group approach is that those exposed to violence currently occupy lower steps of the ladder and it would not be surprising that their next year mobility expectations would be different even if their long-term expectations were the same. To control for this problem, model (2) allows the core probability structure in the first square bracket to adjust based on the individual's current position. For example, for someone who used to be at step 3, but is now at step 1, we would expect that the chances of still being at step 1 next year would be higher than for someone who had not been displaced two steps in the last five years –*i.e.*, we would expect that $\gamma_{11} > 0$. This structure should give sufficient flexibility to reliably identify the impact of violence on long-run beliefs as it is now based on a more reliable control group comparison.

The second problem is that this specification requires that displaced and non-displaced individuals who occupied the same steps in the recent past are comparable, with the latter providing a reliable counterfactual for the former. We might be concerned that those exposed to violence and displacement are somehow intrinsically different than those who were not since the selection into violence and displacement are not necessarily random. As a result, if those targeted with violent acts were those otherwise most likely to succeed (*e.g.*, community leaders), then their pre-violence P-POUM may have been more optimistic than those of an average person, and our results will be biased. The next section examines this issue in detail.

4.2. Selection into Violence and Displacement

The validity of estimates derived from equation (2) hinges on the similarity of the displaced and non-displaced populations, and on the exogeneity of violence and displacement to community and individual characteristics. However, there are obvious concerns that this is not the case due to three selection processes. First, violence could have been driven by community characteristics and correlated with the ex-ante community endowments, information sets, and cultural identities. Second, qualitative evidence indicates that armed groups have targeted community leaders, small

holders, and rural entrepreneurs with a higher frequency than other segments of the population (Grupo de Memoria Histórica, 2013). The likelihood and severity of victimization would then be correlated with ex-ante individual characteristics such as the wealth and degree of business and social entrepreneurship. Third, the decision to migrate could be explained by ex-ante levels of hope and beliefs, for example if those inherently pessimistic and hopeless were the ones who ended up migrating. These processes imply that the ex-ante P-POUM and levels of hope of the two groups would have been different before the episodes of violence and displacement, and renders our strategy inappropriate.

We start by noting again that conflict analyses indicate that the patterns of violence in both regions are not driven by community characteristics but rather by the distance to the strategic geographic corridors (Defensoria del Pueblo, 2007; 2008; 2009; Human Rights Watch, 2010; Indepaz, 2011; Negrete, 2011). As a result, the patterns in the levels of violence and displacement across municipalities should not be correlated to community characteristics other than such distance. While we cannot statistically test this, we highlight that the non-displaced reside in municipalities are remarkably close to the ones where the displaced migrated from –the maximum distance between both types of municipalities is less than 60 and 40 miles in the Atlantic and Central regions, respectively. In addition, administrative data shows that both types of municipalities are similar across a range of geographic, socioeconomic, cultural, and institutional characteristics (See Table A4 in the appendix for detailed information on municipal characteristics). Within each region, both groups were therefore exposed to similar environments, share the same cultural identities, and should have had similar information on the patterns of socioeconomic mobility.

The above does not guarantee, however, that violence was indiscriminate within the territories besieged by armed groups. For this reason, we follow Bellows and Miguel (2009) and Voors et al. (2013) and analyze the extent of selective victimization at the individual level. Specifically, we regress a set of pre-displacement characteristics on the likelihood of suffering at least one episode of violence and on the severity of violence (Table 3, Columns 1 - 3). Although we find that the likelihood of being victimized and the severity of violence are correlated with the size of the lands owned and the participation in economic activities outside of agriculture, we can statistically control for these characteristics during the econometric analysis. Our estimates will then be conditionally unconfounded if selection was on observables (Imbens, 2003).[20]

Of course, this does not rule out that the likelihood and severity of violence was not driven by unobserved individual and household characteristics. Nonetheless, the analyses of conflict dynamics cited above indicate that as the regions in proximity to the strategic corridors are contested, violence has been characterized by the use of "tactics of terror", indiscriminate threats, and high-intensity combats between illegal armed groups. This is in fact consistent with the data on triggers of displacement, which shows that the majority of displaced persons migrated after being exposed to armed combats and widespread threats (Table A1 in the appendix). We believe this indicates that DP were victimized and displaced because they resided in the expansion paths of armed groups, and not because of observed or unobserved characteristics.

[20] Note that the analysis above suggests that victims had higher levels of wealth and entrepreneurship abilities, and all else equal should have had better P-POUM before displacement than the non-displaced.

Table 3. Selection on Observables

	Full Sample			Displaced Sample	
	Victim (=1)	Number of Types of Violent Events	Number of All Violent Events	Sum of Types of Violent Events	Sum of All Violent Events
	[1]	[2]	[3]	[4]	[5]
Age	-0.024***	-0.014	-0.036	0.021	0.034
	[0.005]	[0.008]	[0.038]	[0.013]	[0.077]
Male-headed household	0.019	-0.017	-0.064	-0.06	-0.166
	[0.025]	[0.038]	[0.149]	[0.060]	[0.288]
Household size	0.035	0.267	1.262	0.229	1.923
	[0.161]	[0.282]	[1.258]	[0.416]	[2.004]
Years of Education	-0.022	-0.015	0.051	0.034	0.286
	[0.017]	[0.027]	[0.159]	[0.045]	[0.302]
Hh member is leader in at least one organization	-0.452***	-0.627***	-1.332*	-0.411	-0.65
	[0.132]	[0.172]	[0.687]	[0.270]	[1.439]
Household devoted to agriculture	-0.265*	-0.624**	-0.987	-0.737*	-0.6
	[0.159]	[0.278]	[1.188]	[0.402]	[1.788]
Lands owned (Ha)	0.049***	0.022***	0.261**	0.015**	0.247**
	[0.016]	[0.004]	[0.111]	[0.006]	[0.119]
Constant	1.295***	2.526***	4.470*	2.295***	2.673
	[0.343]	[0.544]	[2.446]	[0.802]	[4.545]
Observations	532	532	532	250	250
R-squared		0.09	0.36	0.07	0.35

Columns 1 & 3 report the average marginal effects from the probit model, while columns 2, 3, 5 & 6 report the OLS coefficients. Columns 4- 6 report the results from analysis only on the displaced population.

Finally, we refer to the extent of endogenous displacement decisions. We recognize that we cannot statistically test for the decision to migrate since we do not have data on households who reside in the same municipalities or villages where the displaced used to reside, but were not displaced. However, the data on exposure to violence and mental trauma highlights that the displaced were exposed to diverse and numerous episodes of violence, and suffer from abnormal and even critical levels of psychological distress (see Table 1). This suggests that displacement was not a preventive strategy of individuals who were inherently pessimistic and hopeless, but

rather a decision of last resort taken by households after the exposure to traumatic violence. But even if some households did migrate preventively, the severity of the exposure to violence would be inversely correlated with the pre-displacement levels of pessimism and hopelessness, and the selection bias would operate against our hypothesis.[21]

5. Displacement, violence, and perceptions of the prospects of upward mobility

In this section we analyze if victims of displacement display overly pessimistic prospects as if they perceived living in a different world. Our basic estimation strategy is to estimate the impact of exposure to violence on the matrix P and then use the associated eigenvectors to interpret the meaning of the changes in P-POUM. For this purpose we rely on equation (2), which we slightly modify to include additional control variables:

$$\text{Prob}\left(\text{Step}_{\text{i,t+1}} = 1\right) = \left[\sum_{\text{j=1}}^{5} p_{j1}\mathbf{1}\left(\text{Step}_{\text{i,t-5}} = \text{j}\right) + \gamma_{j1}\mathbf{1}\left(\text{Step}_{\text{i,t}} = \text{j}\right)\right] +$$

$$V_i\left[\sum_{\text{j=1}}^{5} \delta_{\text{j1}}\mathbf{1}\left(\text{Step}_{\text{i,t-5}} = \text{j}\right)\right] + \overline{\text{X}}'_{\text{i,t}}\alpha_2 + \overline{\text{X}}'_{\text{i,t-1}}\alpha_3 + \phi_{\text{r}} + \varepsilon_i, \qquad (3)$$

where we have included a matrix $\overline{X}_{i,t}$ of current individual and household characteristics including the age, gender, and educational attainment of the individual, whether she is religious, and whether its household is a beneficiary of *Familias en Acción*, Colombia's conditional-cash transfer program, since they provide important information for individuals' assessments of the opportunities to progress. We do not control for productive assets since these should be captured by current location in the ladder, and because the displaced report that they lost all of their lands and other productive assets, and have not been able to recover them. Matrix $\overline{X}_{i,t-1}$, in turn, includes key retrospective variables, such as leadership positions in community organizations, the productive activity of the household, and the number of hectares of land, which explain the likelihood of being targeted by armed groups (See Table 3). Finally, we include a regional fixed

[21] We cannot rule out the possibility that among a population exposed to violence, only those who became traumatized and pessimistic migrated, while the psychologically resilient stayed behind. If this were the case, our estimates would correspond to the local effect of violence among the displaced.

effect ϕ_r to control for unobserved regional differences in the supply of public goods, economic opportunities, and culture, among others.

5.1. Results Using Data on Both the Displaced and Non-displaced Populations

Table 4 presents the results of the estimation of equation (3) through ordinary least squares. To ease the exposition of the results we omit the coefficients for the covariates included in matrices $\overline{X}_{i,t}$ and $\overline{X}_{i,t-1}$and the fixed effect (full results are available in the appendix). We first notice that individuals anchor their P-POUM to their past and current locations in the ladder, and perceive that it is unlikely that they will make it all the way out of poverty. For instance, relative to those who were at the top of the ladder in the past, subjects who were at the lowest two steps perceive a 25 to 22 percentage points higher likelihood of remaining at the bottom of the ladder in the following year, and a 13 to 29 percentage points lower likelihood of making it to the top. Likewise, relative to those who currently are at the entrepreneurial levels, subjects perceive a higher likelihood of being at the current step and of moving to following one, but a lower probability of moving all the way up.

These results highlight the way in which the rational assessments and perceptions of socioeconomic mobility of the displaced and non-displaced vary according to their dissimilar recent life trajectories and external constraints. For the later, the stagnant mobility of the last five years, leads them to perceive that the chances of moving out of poverty are low and that they will likely remain where they are or, if anything, make modest progress. In other words, non-displaced exhibit a narrow expectations gap centered at their current middle of the ladder location. For displaced persons, pre-displacement locations act as a reference point indicating that subjects perceive that they will likely gravitate towards their past levels of wellbeing. Although this can be seen as optimistic perceptions about their ability to recover, the effect of the

post-displacement location suggests that the experience of displacement acts as an opposing force that increases the perceived prospects of remaining in chronic poverty in the following year and narrows the expectations gap towards the bottom levels.

Table 4. Violence and P-POUM – 1 year ahead

	p(Step t+1 = 1)	p(Step t+1 = 2)	p(Step t+1 = 3)	p(Step t+1 = 4)	p(Step t+1 = 5)
Violence	0	-0.003***	0	-0.002	0.008***
	[0.000]	[0.001]	[0.001]	[0.001]	[0.001]
Step t-1 = 1 × Violence	0.004*	0.003	0.001	-0.003*	-0.013***
	[0.002]	[0.003]	[0.003]	[0.002]	[0.002]
Step t-1 = 2 × Violence	0.002	0.008*	-0.004	-0.001	-0.011***
	[0.002]	[0.005]	[0.003]	[0.002]	[0.003]
Step t-1 = 3 × Violence	0.001	0.003**	-0.001	0.003*	-0.011***
	[0.001]	[0.001]	[0.001]	[0.001]	[0.002]
Step t-1 = 4 × Violence	0.002	0.004***	-0.002	-0.002	-0.007**
	[0.001]	[0.001]	[0.001]	[0.002]	[0.003]
Step t-1 = 5 × Violence			Omitted		
Step t-1 = 1	0.054	0.064	0.147	0.044	0.413***
	[0.039]	[0.063]	[0.139]	[0.107]	[0.097]
Step t-1 = 2	0.023	0.069	0.19	0.051	0.401***
	[0.035]	[0.059]	[0.136]	[0.106]	[0.096]
Step t-1 = 3	0.013	-0.031	0.236	0.092	0.438***
	[0.034]	[0.055]	[0.136]	[0.105]	[0.094]
Step t-1 = 4	-0.009	-0.067	0.116	0.189*	0.554***
	[0.035]	[0.058]	[0.135]	[0.105]	[0.093]
Step t-1 = 5	-0.01	-0.123**	0.139	0.253**	0.691***
	[0.037]	[0.062]	[0.150]	[0.116]	[0.103]
Step t = 1	0.066***	0.270***	0.209	0.069	-0.250***
	[0.017]	[0.029]	[0.128]	[0.097]	[0.065]
Step t = 2	0.018	0.163***	0.286**	0.123	-0.232***
	[0.018]	[0.025]	[0.128]	[0.096]	[0.064]
Step t = 3	-0.006	0.034	0.249*	0.256***	-0.146**
	[0.017]	[0.027]	[0.129]	[0.097]	[0.065]
Step t = 4	0	-0.016	0.156	0.314***	-0.068
	[0.020]	[0.029]	[0.131]	[0.103]	[0.077]
Step t = 5			Omitted		
R2	0.32	0.67	0.79	0.7	0.44

N	529	529	529	529	527

Notes: Estimations include household and invididual controls referred to in equation 1 as well as a regional fixed effect. Full estimates are available in Table A5. Standard errors in brackets; t-statistics in parentheses; * p<0.05 ** p<0.01 *** p<0.001

Consistent with our hypothesis, we also find that violence acts as a different constraint that shifts the expectations gap downwards. For subjects who started at the bottom three levels of the LL, a one standard deviation increase in the number of violent events induces a 5 to 3 percentage points lower perceived likelihood of reaching the entrepreneurial levels. In other words, even though we compare subjects who started at the same location in the ladder, and control for current levels of wellbeing and for individual and household characteristics, we find that subjects violence the obstacles to recover and move out of poverty. These results highlight that the way in which victims pessimism is not exclusively the result of the external constraints brought about by displacement. It is the descent into poverty in conjunction with the traumatic experience of violence that induces such pessimistic perceptions of prospects of upward mobility.

The implications of the Table 4 results can be more fully explored by using the estimated coefficients to assemble the full transition matrix, P, and its associated long-run or equilibrium distribution, d_e. Specifically, to calculate element p_{jk} of the transition matrix, we take the equation for the probability of being at step k in period $t+1$, set the indicator function for step j in period t equal to two, and set all control variables, except violence, to their mean values for the overall sample. We then calculate these conditional probabilities for different levels of violence across different starting points–previous steps in the ladder.

Table 5 displays the results of these calculations when violence is set at zero and when violence is set at its value for the 90th percentile of displaced population. The results for the long-term distribution are shown in bold-faced type. As can be seen, these estimates imply that households exposed to high levels of violence are 11 percentage points more likely to end up on

the two lowest steps of the ladder of life compared to a population that suffered no exposure to violence. Correspondingly, the violence-exposed households are 17 percentage points less likely to end up at the top step of the ladder of life. While these long-run estimates are subject to the proviso that the mobility can be described as a Markov process, they sharply illustrate the impact of violence on pessimism and diminished perceived prospects of upward mobility. They also signal a large increment in the number of households that expect to be chronically poor. Because our regression framework controls for the short-term material impacts of violence and displacement, these results signal a psychological channel by which violence begets hopelessness. Those exposed to violence effectively seem to believe that they live in a different world –one with diminished prospects of upward mobility– than do the more fortunately families who escaped violence.

These results are robust when we instead use the elicited probabilities of socioeconomic mobility three years ahead to estimate equation 3, suggesting that the effects are not driven by the limited –one year ahead– time horizon. Likewise, the results are robust when we control for the current the number of children, adults, and elderly in the household, whether the household head or spouse is permanently disabled, the gender of the household head, and whether a woman assumed the household head in the past five years. This allows us to rule out that the effect of violence is capturing the direct impact on human capital, rather than a psychological effect. Results from these estimations are available in the appendix.

Table 5. Markov Transition Matrices and Long Run Distributions

		No Exposure to Violence Step in Period t+1					Long Run Distribution
		1	2	3	4	5	d_e
Step in Period *t-5*	1	8%	29%	36%	19%	15%	**2%**
	2	4%	30%	40%	19%	14%	**16%**
	3	4%	20%	45%	23%	17%	**34%**
	4	1%	16%	33%	33%	29%	**25%**
	5	1%	11%	35%	40%	43%	**22%**

		Extreme Exposure to Violence (90th percentile) Step in Period t+1					Long Run Distribution
		1	2	3	4	5	d_e
Step in Period *t-5*	1	14%	29%	37%	10%	7%	**9%**
	2	11%	29%	41%	11%	6%	**20%**
	3	10%	19%	46%	15%	9%	**40%**
	4	7%	16%	34%	25%	21%	**17%**
	5	7%	10%	36%	31%	35%	**13%**

5.2. Robustness: perceptions of prospects of upward mobility among the displaced

The results above pool data from both displaced and non-displaced households, using the latter as a control group for the former. While we argued that both groups are comparable, such strategy might be problematic due to unobserved selection and because we are comparing individuals who now live in completely different environments as most of the displaced are living at least temporarily in more urban settings.

As a way to check on the robustness of our results, we re-estimate our model dropping the non-displaced sample and identifying the impact of violence based solely on variation amongst the displaced population. By doing so, we guarantee that we compare similar individuals who experienced similar life trajectories in recent years; this is, individuals who resided in rural areas of the same municipalities, were victimized and displaced to urban areas, and lost their assets in

the process. Again, our estimates will be unbiased if violence within the displaced sample is random or explained by observables. For this reason, and after examining the extent of selective victimization as in section 3.3, we control for the land size and participation in economic activities different than agriculture, as well as for other pre-displacement characteristics (see Table 3, Columns 4-5).

Table 6. Violence and P-POUM – 1 year ahead – IDP Sample

	p(Step $_{t+1}$ = 1)	p(Step $_{t+1}$ = 2)	p(Step $_{t+1}$ = 3)	p(Step $_{t+1}$ = 4)	p(Step $_{t+1}$ = 5)
Violence	0	-0.002**	0	-0.002	0.008***
	[0.000]	[0.001]	[0.001]	[0.001]	[0.001]
Step t-1 = 1 × Violence	0.006*	0.007**	0	-0.006**	-0.014***
	[0.002]	[0.003]	[0.004]	[0.002]	[0.002]
Step t-1 = 2 × Violence	0.003	0.010	-0.005	-0.001	-0.012***
	[0.003]	[0.006]	[0.004]	[0.003]	[0.003]
Step t-1 = 3 × Violence	0	0.003*	-0.002	0.003	-0.010***
	[0.001]	[0.002]	[0.002]	[0.002]	[0.002]
Step t-1 = 4 × Violence	0.002	0.003*	-0.001	-0.001	-0.007**
	[0.001]	[0.002]	[0.002]	[0.002]	[0.003]
Step t-1 = 5 × Violence			Omitted		
Step t-1 = 1	-0.069	-0.040	0.009	-0.029	0.654***
	[0.073]	[0.120]	[0.114]	[0.097]	[0.144]
Step t-1 = 2	-0.030	0.025	0.020	-0.078	0.627***
	[0.067]	[0.100]	[0.097]	[0.083]	[0.129]
Step t-1 = 3	-0.028	-0.079	0.067	-0.040	0.636***
	[0.064]	[0.097]	[0.095]	[0.080]	[0.128]
Step t-1 = 4	-0.051	-0.074	-0.052	0.022	0.733***
	[0.068]	[0.108]	[0.104]	[0.087]	[0.142]
Step t-1 = 5	-0.047	-0.155	-0.052	0.105	0.879***
	[0.072]	[0.116]	[0.137]	[0.108]	[0.139]
Step t = 1	0.109***	0.257***	0.375***	0.184***	-0.357***
	[0.034]	[0.045]	[0.045]	[0.041]	[0.058]
Step t = 2	0.061**	0.096**	0.450***	0.268***	-0.281***
	[0.029]	[0.043]	[0.045]	[0.039]	[0.060]
Step t = 3	0.043	-0.003	0.353***	0.398***	-0.185**
	[0.037]	[0.053]	[0.055]	[0.060]	[0.077]
Step t = 4	0.043	-0.113**	0.307***	0.506***	-0.203*
	[0.035]	[0.055]	[0.086]	[0.100]	[0.116]
Step t = 5			Omitted		
R2	0.37	0.69	0.78	0.67	0.53
N	247	247	247	247	246

Notes: Estimations include household and individual controls referred to in equation 3 as well as a regional fixed effect. In addition, they include controls for the time since the episode of displacement and its squared term. Full estimates are available in Table A9. Standard errors in brackets; t-statistics in parentheses;* p<0.05 ** p<0.01 *** p<0.001

Table 6 depicts the estimated coefficients from equation 3 using the elicited probabilities of the displaced population. In this specification we also control for the time since the episodes of displacement and its squared term to allow for the possibility that P-POUM could respond to the time spent at reception sites (an adjustment effect) or to the recency of the episodes of violence and displacement. We find robust results regarding how past and current locations in the ladder, as well as the severity of violence affect victims' P-POUM.

Table 7. Markov Transition Matrices and Long Run Distributions - Displaced Sample

		Low Exposure to Violence (25th percentile) Step in Period t+1					Long Run Distribution
		1	2	3	4	5	d_e
Step in Period *t-5*	1	100%	2%	17%	38%	26%	**4%**
	2	200%	5%	24%	40%	21%	**11%**
	3	300%	5%	13%	45%	25%	**33%**
	4	400%	3%	14%	33%	31%	**26%**
	5	500%	3%	6%	34%	39%	**27%**

		Extreme Exposure to Violence (90th percentile) Step in Period t+1					Long Run Distribution
		1	2	3	4	5	d_e
Step in Period *t-5*	1	10%	25%	37%	13%	13%	**12%**
	2	13%	32%	39%	9%	12%	**21%**
	3	14%	21%	43%	13%	13%	**36%**
	4	11%	22%	32%	19%	22%	**14%**
	5	11%	14%	32%	27%	37%	**17%**

Analogous to Table 5 above, Table 7 uses the Table 6 estimates to construct transition matrices and their implied long-term population distribution along the ladder of life. Overall, the results are quite similar to those displayed in Table 5. Those exposed to high levels of violence

perceive their likelihood of ending up poverty to be much higher than those exposed to modest amounts of violence (33% versus 15%). Perceived prospects of making it to the top two steps of the ladder are also lower (31% versus 53%). In short, the results derived from the full sample do not appear to be an artifact of the selection into displacement nor a result of the short-term material losses associated with losses of physical, locational, social, and human capital that accompany displacement. Again, these results are also robust when we use the three-year ahead probabilities and when we control for the direct effect of violence on human capital. Results from these estimations are available in the appendix.

6. Violence, psychological trauma, and hopelessness

The results above indicate that victims of displacement are pessimistic about their ability to recover and move out of poverty, and that the severity of the exposure to violence triggers negative predictions of the future. We now analyze if the shock of displacement and the severity of violence also induce hopelessness. For this purpose, we estimate the linear probability model (4), where we regress a dummy variable *Hopeless* on the variable DP, which captures whether the individual was displaced or not, and control for the same set of current and pre-displacement characteristics $\overline{X}_{i,t}$ and $\overline{X}_{i,t-1}$ as before, and for the regional fixed effect ϕ_r:

$$\text{Hopeless}_i = \gamma_0 + \gamma_1 DP_i + \overline{X}'_{i,t}\gamma_2 + \overline{X}'_{i,t-1}\gamma_3 + \phi_r + \varepsilon_i \qquad (4).$$

Results of the estimation of equation 4 are depicted in Table 8, Panel A. As we suspected from sample statistics in Table 2, and despite the shock of displacement and the different consequences it brings about, we find that the displaced are no more hopeless than the non-displaced (Column 1). Yet, when we estimate the same model above controlling for the severity of violence instead of the displacement status, we find that violence has a negative and significant effect on the victim's ability to hope (Columns 2 and 3). For instance, a one standard deviation increase in the total number of violent events suffered brings about a 9.5 percentage

points increase in the likelihood of being hopeless, whereas an additional type of violent event induces a 2.7 percentage points increase in the hopelessness. Consistent with the results from the previous section, the effect of violence on hopelessness is robust in magnitude and significance when we restrict the analysis to the sample of displaced population (Columns 4 and 5), when we control for the time since displacement, and when we control for current and past locations in the ladder (Table A17 in the appendix).

Table 8. Violence, Psychological Stress, and Hopelessness

Marginal Effects	Full Sample			DP Sample	
	(1)	(2)	(3)	(4)	(5)
A. Violence					
Displacement (=1)	0.069				
	[0.046]				
Number of Types of Violent Events		0.027***		0.031**	
		[0.010]		[0.012]	
Number of All Events			0.008**		0.008*
			[0.004]		[0.004]
B. Psychological Trauma					
GSI [= 1 if Ti>63]	0.127*			0.137*	
	[0.074]			[0.081]	
Depression [= 1 if Ti>63]		0.128**			0.132**
		[0.054]			[0.066]
Household and Individual Controls	Yes	Yes	Yes	Yes	Yes
Regional Fixed Effect	Yes	Yes	Yes	Yes	Yes
Time Controls	No	No	No	Yes	Yes
Observations	529	529	529	247	247

Notes: Each cell reports the estimated coefficient of the violence variable of interest, and includes the covariates of equation 4. Full results are available in Table A17 of the appendix. Standard errors in brackets; t-statistics in parentheses; * p<0.05 ** p<0.01 *** p<0.001

To conclude, we estimate whether the elicited levels of hopelessness respond to the incidence of mental trauma using the data from the SCL-90 psychological scale. We estimate the following linear probability model:

$$\text{Hopeless}_i = \gamma_0 + \gamma_2 \text{Trauma}_i + \overline{X}_i' \gamma_3 + \overline{X}_{i,t-1}' \gamma_4 + \phi_r + \varepsilon_i \quad (5),$$

where we include the same controls $\overline{X}_{i,t}$ and $\overline{X}_{i,t-1}$ and the regional fixed-effect ϕ_r as before, and include the term *Trauma* which separately captures whether the subject scored above the critical threshold for the Global Severity Index and depression disorders. The results, displayed in Columns 1 and 2, Panel B of Table 8, are consistent with our hypothesis: individuals who score above the critical threshold for the general stress and depression scores are 12 to 13 percentage points more likely to feel hopeless. This effect is quite striking considering that more than 20 and 37 percent of the displaced population score above such thresholds. Moreover, the estimated coefficients are again stable and robust when we run the analysis only on the sample of displaced (Columns 4 and 5), and when we control for the locations in the ladder and the time since the episodes of violence and displacement and its squared term (Table A17 in the appendix). These results provide further evidence on the way in which the traumatic experience of violence induces hopelessness and pessimistic P-POUM beyond the external constraints resulting from the circumstances of displacement.

7. Discussion

A recent and upcoming body of work in economics has highlighted a two-way relation between poverty and a lack of hope. Far from being a paternalistic statement about the poor, this research suggests that the circumstances of poverty bring about different constraints that affect the poor's beliefs about the opportunities and obstacles to move up, and induce perceptions that any effort to change current circumstances is futile. A lack of prospects for real transformation can thus condition the poor's forward looking goals and hopes, hinder their willingness to try to make the best out of what they have, and reinforce the external constrains that keep them in poverty.

To understand the formation of hope and prospects of socioeconomic mobility, we take a different approach to previous studies, which focus on the impact of development programs.

Instead, we analyze if the experience of a severe shock induces hopelessness and pessimistic prospects of upward mobility. We use unique micro-level data from a population residing in conflict regions in Colombia, including some who were victimized and forcibly displaced. Our results indicate that victims of displacement are more pessimistic about the prospects of recovering and moving out of poverty but not more hopeless than those who were not displaced. While the first result is hardly surprising considering that the displaced population experiences severe losses of material, human, and social capital, we find that those who were exposed to a higher number of violent events perceive greater obstacles to move out of poverty and exhibit higher levels of pessimism. Likewise, we find that the severity of violence and the incidence of stress and depression increase the levels of hopelessness among victims of displacement.

These results provide important insights regarding the way in which the exposure to shocks affect individual judgments and beliefs and create additional obstacles for post-trauma recovery. In particular, our results highlight how the experience of severe violence magnifies victims' perceptions regarding their inability to move out of poverty. Such effect goes beyond the "true" obstacles imposed by the loss of productive assets, the disruption of social networks, and the depreciation of human capital that result from the process of displacement. In this sense, our results echo the testimony of the victim of displacement at the beginning of section 2, which portrays how the recognition of the loss of the farm, cattle, and chickens, and the experience of violence leads victims to perceive that their life will not be the same and that they cannot do anything to change this. In other words, violence restricts their ability to hope for a better future.

Although the effect of violence is robust to different specifications, to the inclusion of different controls, and to stratifications in the data, there are several caveats that are important to discuss. First, we employ measures of P-POUM one and three years ahead, but lack data on P-

POUM in the long run. It is possible that the observed pessimism is explained by the recognition that after losing so much, a few years might not be enough to fully recover, and that victims could be optimistic about their ability to recover in a longer time period. Second, while we control for other factors that could affect victims' beliefs, including past and current deprivation, and the loss of human capital, we may be missing other channels that could confound the effect of violence. Third, we are aware that our measure of hopelessness is rudimentary and does not capture forward-looking goals of socio-economic mobility.

Nevertheless, our findings are consistent with those of psychological studies with victims of violence that show that the experience of trauma triggers depressive explanatory styles and can induce learned helplessness. Such behavior emerges when individuals exposed to traumatic experiences perceive that they have no control over their current circumstances and do not attempt to bring about positive changes, even when the sources of trauma have disappeared and when there are pathways to recover and progress. Learned helplessness can thus lead victims to neglect prospects for real transformation and contribute to the persistence of poverty.

As a result, our findings have important policy implications for post-shock assistance. In the Colombian case, the Government has implemented numerous programs to assist the displaced population. However, most of this assistance focuses on guaranteeing minimum consumption needs and alleviating material constraints, while psychological programs receive are inappropriately designed and funded. As a result, less than 5 percent of the displaced population is able to access any form of psychological counseling or assistance (Comité de la Cruz Roja Internacional, 2008). Moreover, there is a lack of knowledge on the psychological consequences of displacement and their implications for the ability of victims to recover. Our results suggest that programs that help victims cope with the extreme trauma produced by violence and

displacement can be as important as food subsidies, conditional cash-transfers and asset restitution programs. With out psychological assistance, victims' behavior will be shortsighted, and will compromise the effectiveness of current programs and set seeds for persistent poverty.

Our results also speak to the analysis of the behavioral determinants of poverty (Banerjee and Duflo, 2011; Bertrand et al., 2004; Ray, 2006). In fact, research in sociology and psychology has suggested that the experience of persistent poverty can condition the poor and induce learned helplessness (Kane, 1987; Schober and Olson, 1993; Carr and Sloan, 2003), while others have identified that disadvantaged populations are more susceptible to such behavior (Smith and Seligman, 1983). In such case, the circumstances of poverty can induce detrimental personality traits and internal constraints, which could constitute an additional source for the persistence of poverty. While this discussion is still at an infant stage, at least from the perspective of economists, it offers great potential for future research and more work is certainly needed to improve our understanding of the way in which poverty induces external and internal constraints, and the way in which such constraints affect economic behavior and poverty dynamics.

Finally, our results also contribute to the emerging literature on the behavioral consequences of violence. We argue that micro-level data on the exposure to violence is required to offer a proper understanding of the way in which violence affects individual behavior. The common use of violence data at the regional or district level implicitly pools together individuals exposed to different levels of violence at different times. If the samples are not representative of the population in such regions or districts, the estimated effects are inevitably data weighted averages that can confound the heterogeneous and temporal nature of the behavioral responses to violence. In our analysis, we observed that the displaced are on average not more hopeless than the non-displaced unless we exploited the variation in the levels of violence, and that the

pessimistic prospects of the former increased with the severity of violence. The availability of such data also allows testing for the channels through which violence affects behavior and ruling out that the estimated effects are explained by unobserved differences within the sample.

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