Violence, Emotional Distress and Induced Changes in Risk Aversion among the Displaced Population in Colombia

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Índice

Summary

Violence and civil conflicts entail devastating consequences for their victims. Research from neuroscience and social psychology suggests that the incidence of emotional distress prevalent after episodes of victimization could induce changes in the risk attitudes of victims. This paper draws on the psychology literature on the determinants of behavior under uncertainty, to address how intense episodes of violence and forced displacement change risk preferences. Within the context of the Internally Displaced Population in Colombia, this paper brings together data from an economic experiment designed to measure risk aversion, with data from a living standards survey and a psychological questionnaire on chronic stress. In doing so, it makes an effort to provide a psychological basis underlying why and how preferences change after a violent shock.

To address endogeneity concerns that arise from possible 'selection into violence' and 'selection into displacement', the research design focuses on episodes of massive displacement where violence is indiscriminate and the decision to migrate is exogenous to household characteristics and preferences. To identify the causal effect of violence and forced displacement on risk attitudes, massively displaced communities were matched to a control group of communities from the same regions, which were as likely to receive the shock of violence but that in practice were not affected by it.

Results indicate that forced displacement, the intensity of violence, and the prevalence of emotional trauma induce a considerable shift towards more a risk averse behavior. While this effect does not seem to be permanent, results suggest that several years are needed for risk attitudes to return to their pre-displacement levels. The magnitude and durability of such behavioral change can therefore hinder the economic recovery of the victims of force displacement and have transcending impacts on household welfare and poverty in the long run. This paper thus provides evidence on a different channel through which victims of civil conflicts can be driven into poverty.

1.- Introduction

Countries torn by civil violence suffer devastating consequences. Existing evidence highlights the loss of lives and displacement of thousands of civilians, the destruction of physical capital and infrastructure, the loss of assets, disruption of schooling, and institutional decay among some of the visible outcomes of widespread violence and civil conflicts.[1] The long-term economic consequences of civil conflicts are, however, unknown. Interestingly, the few macro-oriented studies find few long lasting impacts of war and civil violence on growth and poverty, suggesting a story of post-war recovery and neoclassical growth convergence in the long run. Quite the opposite, findings from micro-level studies suggest different channels through which the worrisome short-run welfare consequences of violence and civil violence could persist. In particular, in the presence of asset-based poverty traps asset losses and distress sales can condemn victims to chronic poverty, the disruption of financial and informal risk sharing mechanisms increases the vulnerability of victims to future shocks, and the reliance on coping strategies such as schooling interruption can compromise the welfare of future generations.

Research from clinical and social psychology suggests yet another channel through which violence and civil conflicts have transcending and negative welfare consequences. In particular, the prevalence of emotional distress induced by episodes of victimization, not only overwhelms the ability to cope and undermines occupational activities, but can also alter risk preferences in a pervasive manner. The 'Risk as Emotions' framework (Lowenstein et al., 2001) highlights that emotions experienced at the moment when decisions are made often drive such decisions, and that different emotions lead to different patterns of risk behavior. For instance, anxious and fearful individuals have been found to exhibit high levels of risk aversion, whereas angry and hostile individuals behave in the opposite way (Lerner and Keltner, 2001). It is possible then that violence, by inducing intense emotional distress, also brings about changes in the victims' risk preferences.

This paper addresses the effect that violence has on the risk preferences of the Internally Displaced Population (IDP) in Colombia. For this purpose, the analysis builds on the psychological literature on the determinants of risk attitudes and links data from an economic experiment among a group of rural individuals who were displaced by violence at different times between 2001 and 2011, and a control group of non-displaced individuals. The experiment was designed to measure risk attitudes following the classical 'Choose Lottery' approach (Carpenter and Cardenas 2008) with three different tasks over the gains, loss, and ambiguity domains. Participants also answered a detailed household survey that included current demographic and socio-economic characteristics, as well as pre-displacement characteristics for those displaced, an in-depth question-

[1] This paper focuses on episodes of widespread violence and civil conflict. Whenever the terms violence is used, it refers to these episodes and not to more general or common types of violence, such as common delinquency and theft among others.

naire on exposure to violence, and a psychological questionnaire that measures the incidence of chronic stress and other psychological disorders.[2] By drawing on the insights of the 'Risk as Emotions' framework and collecting data on exposure to violence, symptoms of psychopathologies, and risk attitudes in an ongoing conflict scenario, this paper makes an effort to provide the psychological basis underlying the reasons why preferences change after a violent shock and how they change.

The civil conflict in Colombia provides an uncommon scenario to study the economic consequences of violence and economic behavior after a violent shock. Colombia has been devastated by a long-lasting civil conflict since the late 1940's. While the conflict dynamics, its actors, and their motives have seemingly changed through time, violence has been increasingly directed towards the civil population. As a result, four million individuals, mostly from rural areas, have been displaced by violence from their hometowns since 1993. This figure corresponds to approximately 8 percent of the Colombian population and is second worldwide only to Sudan. The IDP in Colombia thus corresponds to a specific subset of the victims of the civil conflict, and presumably the group that has suffered the most from it.

Although Colombia has managed to achieve rates of growth comparable to those of its conflict-free neighbors, the civil conflict has undoubtedly imposed economic costs on the economy and the population as a whole but particularly on the displaced population. Several studies suggest that violence and displacement can be imposing negative welfare costs on the IDP, and that these could transcend with time. Forced displacement is associated with asset losses, depreciation of human capital, malnourishment, schooling interruption, disruption of social networks, and sharp drops in income and consumption, all of which can become drivers of future vulnerability and chronic poverty (Ibañez and Moya, 2010 and 2010a). If victims of forced displacement, in addition, become more risk averse, this could potentially lead them to adjust their consumption and investment decisions in a disturbing fashion, becoming reluctant to reduce their own consumption in order to make the investments required to move out of poverty. Such behavioral change could thus reinforce the already worrying welfare consequences of displacement, and leave a legacy of poverty difficult to overcome with traditional policy interventions.

Identifying the casual impact of violence on risk preferences in the context of the IDP is, nevertheless, a challenging task. First, endogeneity concerns that arise from possible 'selection into violence' and 'selection into displacement' can lead to biased estimates of the causal impact of violence on preferences. Second, there is no information on the IDP's pre-displacement levels of risk aversion to compare against the post-displacement risk aversion behavior observed in the economic experiments. Third, the displaced popu-

[2] Moya (2011a) analyzes the effect of violence and displacement on subjective expectations using data from a module on expectations of future events that was also collected as part of the fieldwork for this project.

lation is not only victimized but also looses lands and assets, is obliged to migrate, and experiences sharp drops in consumption and income levels, all of which could also induce emotional distress and thus shift risk preferences confounding the impact of violence.

The research design addresses these methodological concerns in the following way: First, the analysis focuses on a sample of communities affected by massive displacement – where the entire community was victimized and forced to migrate – and thus where exposure to violence was random at the individual level and the decision to migrate exogenous to individual characteristics and preferences. Episodes of massive displacement were identified from administrative data and ten rural massively displaced communities from two different regions were selected with the purpose of having a sample of 300 massively displaced individuals in regions with different conflict dynamics. Unfortunately, violence escalated in both regions at the time of the fieldwork, and prevented the field team from reaching the urban areas (county heads) where four of these communities now reside. As a consequence, the sample of massively IDP is smaller than planned. The study then included a sub-sample of individually displaced persons who were displaced from the same areas where the massive displacements occurred, and resided in the closest departmental capital to those towns where the selected massively displaced communities reside. Overall, 353 IDP participated in the economic experiments and the data collection process, 223 of them corresponding to massively displaced and the rest to individually displaced. Considering the difficulties that arise when conducting research in violent zones and the escalation of violence at the time of the fieldwork, the sample of IDP is more than appropriate.

To overcome the lack of pre-war information on risk preferences, massively displaced individuals were matched with a control group of rural non-displaced individuals. This control group consists of individuals residing in communities located in the same regions where the massive displacements took place, where violence and displacement where just as likely to happen, but where in practice they did not occur. These individuals provide an appropriate counterfactual of what preferences and expectations would have looked like in the absence of violence not only because they both originally come from the same regions, but also because the control group shares similar demographic, cultural and socioeconomic characteristics as the massively displaced individuals before they were displaced; this is to say that the sample if balanced across pre-displacement and non-displaced characteristics. A total of 326 non-displaced individuals across both regions participated in the economic experiments, for an overall sample of 679 individuals.

An alternative strategy to identify the impact of violence and emotional distress on risk preferences that does not rely on the comparison of risk preferences between the displaced and the control group, was implemented during the statistical analysis by dropping the latter and using the variation in the degree of victimization and in the levels of emotional distress among the IDP as a source of identification. Finally, data on the size of the asset shock, and the level of consumption and wealth at destination sites is used

to control for the possible effects that these could have on preferences and hence to isolate the impact that violence has on risk preferences.[3]

Results indicate that victimization and forced displacement induce a considerable shift towards more risk averse behavior in both regions included in the sample. Maximum likelihood estimations show that forced displacement entails an increase in the relative risk aversion coefficient of 20 percent in the gains task, 20 percent in the loss task (albeit not significant) and 18 percent in the ambiguity task. Likewise, ordered probit estimations confirm these results as the likelihood of choosing the safest lotteries increases considerably for a displaced individual. While the effect on risk behavior does not seem permanent, a considerable period of time (over four years) is needed for the levels of risk aversion to return to their pre-displacement levels. The degree of victimization experienced by each individual also induces a higher risk aversion in the gains and ambiguity tasks, with the effect being stronger for those individuals exposed to recent episodes of victimization. When the statistical analysis focuses exclusively on the IDP sample, and uses the degree of victimization as a source of variation, the impact of violence exposure on risk aversion is still significant and considerable suggesting that an inadequate control group is not driving the above results. Finally, results indicate that emotional trauma could be driving the higher levels of risk aversion among the IDP; in particular, phobic anxiety and psychotic behavior are found to be associated with higher levels of risk aversion in the gains and in the ambiguity task respectively. These finding are consistent with the Appraisal Framework and with a substantial body of experimental results from neuroscience and social psychology that finds that fearful and anxious individuals consider ambiguous situations as threatening, prefer low reward and low risk options, and generally display higher levels of risk aversion (Weinstein, 1989; Raghunathan and Phan, 1992; Lerner and Keltner, 2001).

That violence induces worrisome changes in attitudes is at odds with recent research in experimental economics that finds 'optimistic' trends in pro-social behavior, political participation and risk preferences among victims of civil violence (Miguel and Bellows, 2009; Blattman, XXX; and Voors et al., forthcoming).[4] Closely related to this paper's objective, the recent work of Voors and colleagues finds that exposure to violence in Burundi is associated with a higher degree of risk seeking behavior, higher levels of altruism and higher impatience. Many factors could explain these differences, including the characteristics of the civil conflict in both countries, the fact that the Colombian conflict is still on going while the conflict in Burundi ended in 2005, the difference in both studies in the time lapsed between the time when the episodes of violence happened and when the

[3] This analysis is yet to be included in this version.
[4] Recent related research analyzes how preferences change after natural shocks. Carter and Castillo (2009) find that individuals more exposed to Hurricane Mitch become more pro-social, Cassal et al. (2011) find that individuals affected by the 2004 Asian Tsunami are more trusting, more trustworthy and more risk averse, and Eckel et al (2009) finds risk loving behavior among Hurricane Katrina evacuees.

economic experiments were carried out, and the way in which the group of non-victimized individuals was constructed. These differences will be discussed in detail in the concluding section.

The rest of this paper is organized as follows: Section two discusses the micro-level evidence regarding the incidence of poverty among victims of civil violence. The conceptual psychological framework on the determinants of risk attitudes, along with evidence from the psychology literature on changes in behavior after negative shocks, is discussed in section three. Next, the civil conflict in Colombia, and the evidence regarding the welfare consequences of violence and the incidence of Post Traumatic Stress Disorder (PTSD) among victims of displacement that motivates this study are described. The methodological challenges that arise when trying to identify the causal impact of violence on risk aversion and the rationale behind the sample selection and identification strategy, as well as the experimental methods and data collection methods are discussed in the following section. Section six presents results on the effect of forced displacement, violence, and emotional distress on risk behavior. The last section concludes, and provides policy recommendations and suggestions for future research.

2.- Violence and Development

After being overlooked for several years, many researchers have now turned their attention to the economic causes and consequences of violence. Blattman and Miguel (2010), for instance, have a recent survey of interdisciplinary research on the factors that give rise to civil wars, as well as on their consequences. Violent conflicts are also the topic for the World Bank 2011 World Development Report (WDR), which provides suggestive evidence on the impacts that violence and civil conflicts have on development. Among the negative consequences of violence, the WDR finds that compared to countries in the developing world, in conflict torn countries school dropouts are three times as likely, malnourishment is twice as probable, and infant mortality doubles, while poverty reduction lags by 1.5 percent for each year of civil violence (World Bank, 2011). Considering that 1.5 billion people live in areas affected by some type of civil violence, it is not surprising then that violence is considered by many as the 'main development' challenge nowadays or as 'development in reverse' (World Bank, 2011). Recent research also highlights the destruction of physical capital and infrastructure, the displacement of thousands of civilians, the erosion of social capital, and institutional decay among visible outcomes of widespread violence and civil conflicts. Nonetheless, and despite the large and negative consequences of violence in the short run, the long-term consequences are by and large unknown. Perhaps surprisingly, the few available macro-oriented research suggests that the negative economic consequences of violence eventually dissipate.

Motivated by the recovery of war-torn nations such as Germany and Japan after World War II, recent research has shown that the long run effects of war need not to transcend with time. Evidence from post-war Germany (Brakman, et al, 2004), Japan (Davis and Weinstein, 2002), and Vietnam (Miguel and Roland, 2005) finds few persistent effects of United States bombings on long-run economic performance. Using district-level data these papers find that the negative effects of the destruction of physical capital vanish over time: several decades after these wars occurred, districts or regions that were heavily bombed during WWII and the Vietnam War show no permanent consequences on growth and poverty rates. Recently, high growth rates in Mozambique and Uganda following their devastating civil wars have also led some to suggest that the negative economic and social implications of wars and violence do not necessarily hinder economic performance, and that countries can rapidly catch up with their pre war levels (Bellows and Miguel, 2009). Even Colombia has continued to grow and has achieved growth rates comparable to those of its conflict-free neighbors in spite of its continuous civil conflict (DNP, 2011).

These 'success' stories can be explained at the theoretical level by the neoclassical growth model which predicts high rates of economic growth after episodes that destroy a considerable portion of a country's productive assets (Bellows and Miguel, 2009). Any

loss of physical capital that places a country or a region farther out from its steady state level will be accompanied by higher growth rates in the short run. As long as the events that lead to the capital loss do not entail a change in the parameters of the model – for example, a different saving rate – or a shift towards a new production function, destruction of capital will be met by a temporary increase in capital accumulation that will allow the country get back to its pre-war level of capital, and eventually converge to the original steady state (Barro and Sala-i-Martin, 2003).

Macro evidence and aggregate growth rates from a few 'success' stories, however, can mask disturbing micro-level dynamics that arise from civil conflicts and violence. Recent research has shown that the costs of civil conflicts fall disproportionately on noncombatants, and that victims suffer severe welfare losses from which they seem unable to recover. While the data does not allow researchers to demonstrate if these welfare losses will persist in the long run, several findings suggest possible channels through which civil violence could drive victims into chronic poverty.[5] First, victims suffer substantial asset losses, and experience sharp drops in income and consumption levels (Brück, 2004; Matowu and Stewart, 2001; Ibañez and Moya, 2010). In the presence of asset based poverty traps, asset losses can push victims below the critical asset threshold and thus thwart their ability to recover and move out of poverty in the future (Carter and Barret, 2006). Civil conflicts also disrupt financial markets and informal risk sharing mechanisms, and as a result households lose mechanisms to cope with such shock as well as with other unexpected shocks. Victims are thus obliged to adopt costly coping strategies to generate income and satisfy minimum consumption levels. Some of these strategies include distress asset sales, which can push the victims below the asset-based poverty trap, redirecting production towards low-risk but also low-return activities thus sacrificing profitable opportunities, or child labor, which compromises the welfare of the future generations (Brück, 2004; Ibañez and Moya, 2010; Bundervoet, 2010). Civil conflicts are also associated with malnourishment and poor nutritional status of younger generations, which along with the interruption of schooling can become sources of intergenerational transmission of poverty (Justino and Verwimp, 2006; Ibañez and Moya, 2010). As the next section shows, the psychology literature points out that the effects that civil violence and conflicts have on mental health could also induce shifts on risk attitudes, which drive economic behavior and choices.

[5] See Blattman and Miguel (2010) for a discussion on the limitations that arise in micro-oriented violent studies addressing causal and long run effects of civil violence.

3.-From Violence and Emotional Distress to Risk Preferences and Poverty

> *"That is why I am here [in the Unit of Assistance and Orientation for the IDP], 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".*

Doctors Without Borders (2010): Testimony of a displaced women in Florencia, Caquetá, who was displaced from her hometown after an armed group arrived to her village and she heard how they killed and carved up some of her neighbors, and then obliged her to bury them. [Own translation]

Research in clinical and social psychology on the determinants of risk attitudes suggest that the prevalence of emotional distress among victims of civil conflicts can alter their risk attitudes and thus work as a behavioral obstacle that thwarts their economic recovery. The psychological consequences of violence include different emotional alterations that overwhelm coping mechanisms and produce severe emotional and psychological suffering (Doctors Without Borders, 2010). Exposure to violence is associated with a high incidence of emotional distress including Posttraumatic Stress Disorder (PTSD), mayor depression, fear, helplessness, and anxiety among others.[6] In a study in Uganda, for example, Vinck and colleagues find that 74 and 44 percent of victims from the Lords Resistance Army suffer from PTSD and major episodes of depression respectively (Vinck, et al., 2007). Moreover, a higher incidence of such emotional disorders is found among individuals with higher degrees of exposure to violence and victimization (Annan, 2006; Pham et al., 2004). Doctors Without Borders reports that in Colombia individuals directly exposed to violence are 3.6 times as likely to suffer from PTSD than those who were

[6] Posttraumatic stress disorder was added to the DSM-III in 1980 and is an anxiety disorder characterized by the re-experiencing of any traumatic event accompanied by symptoms of increased arousal and by avoidance of stimuli associated with trauma (APA, 2000).

bystanders or indirectly affected by violence (Doctors Without Borders, 2010), while other studies have shown that victims of forced displacement are especially prone to experience PTSD (Kienzler, 1998).

The consequences of emotional distress are disturbing and often go beyond the direct effects on mental health. PTSD, fear, depression, and anxiety cause emotional exhaustion, overwhelm the ability to cope, influence social functioning, and hinder the ability to perform different tasks. (Mollica et al., 1987; Vinck et al., 2007). What's more, the incidence of different forms of emotional distress does not necessarily dissipate with time. Quite the contrary, studies have shown that for some victims, psychopathological symptoms persist even ten years after the episodes of victimization happened, and that with time they can become worse and develop into chronic anxiety and depressive reactions, especially if victims are exposed to environments of continuing stress or violence (Alldin et al., 1996; Gruenjar, 2000; Kesler et al., XXX; Davidson et al., XXX). Psychological distress also acquires relevant connotations from an economic perspective since it can induce changes in risk preferences, which are important determinants of economic choices and welfare trajectories.

The idea that violence can produce a shift in risk preferences is at odds, however, with the canonical model in economics of behavior under uncertainty. Decision-making under risk has been hypothesized to be a purely cognitive process that involves addressing the desirability and likelihood of probable outcomes, and using this information to reach a decision that maximizes the expected utility of those probable outcomes (Lowenstein et al., 2001; DellaVigna, 2009). Choices can then be influenced by different contexts – probabilities and outcomes – whereas preferences are assumed to be time consistent and stable, exogenously determined, and somewhat uninteresting constructs. Although a considerable amount of work in experimental economics has found differences in preferences across different regions, communities, and cultures, (Henrich et al., 2001; Carpenter and Cardenas, 2008 for a review of the literature) these are thought to arise from long-term evolutionary processes, learning from past experiences, or differences in the wealth space, and thus do not challenge the hypothesis of cognitive-driven behavior (Henrich et al., 2001; Netzer, 2008; Doss et al., 2008). Emotions, at least those pertaining the emotional state of individuals at the moment of the decisions, are not considered an important part of the decision-making process.[7]

A different interpretation of decision-making under risk emerges from the "Risk as Feelings" Theory, which gives a critical role to emotions or feelings. Drawing on a wide body of work in neuroscience and social and clinical psychology, this framework indicates that anticipatory emotions, those "immediate visceral reactions" to uncertain and risky situa-

[7] Anticipated emotions, those expected to be experienced in the future when uncertainty and outcomes are realized, have been implicitly taken into account into the decision-making framework in economics, but only through the information they provide on how individuals will feel in the future under each outcome. Hence, choices are still believed to be determined in a purely cognitive process (Lowenstein et al., 2001)

tions, play an important role in decision-making processes, and most often than not are the force driving risk behavior (Lowenstein et al., 2001). Risk behavior results in part from cognitive evaluations but also from immediate emotional influences, including many of those that prevail among victims of civil violence, like fear, anger, and anxiety. The influence of emotions, and especially those arising from negative personal experiences, goes beyond a purely informational and learning process (Weinstein, 1989). Both cognitive assessments and emotions are influenced by informational inputs, such as anticipated outcomes, subjective probabilities, and other factors including the vividness, familiarity, and immediacy of the decision. Risk behavior is then the result of a complex interplay between cognitive evaluations and direct emotional influences. More often than not these two differ, and when they do, emotions usually prime and drive risk behavior for reasons related with evolutionary and physiological factors (LeDoux, 1996; Lowenstein et al, 2001). Emotions can then trigger changes in cognition processes that persist beyond the elicited situation, meaning that emotions guide cognition and behavior even in scenarios unrelated to the original source of the emotion. As a result, emotions predispose individuals to behave in a certain way, and individuals are usually unable to control or change such predispositions (Lerner and Keltner, 2001).

The 'Risk as Emotions" framework is important for the discussion of how risk preferences change after episodes of violence and forced displacement since it provides the psychological foundations that explain why this change happens. A wide body of evidence, mostly from controlled laboratory settings, further indicates that different emotions produce different patterns of risk behavior, and that those prevalent among victims (fear, anxiety, and anger) have predictable effects on risk attitudes. Anxious and fearful individuals are found to consider ambiguous situations as threatening, exhibit a preference for low-reward and low-risk, and display pessimistic estimates of uncertain options and higher levels of risk aversion (Eysenck et al.,1992; Raghunathan and Phan, 1992, Eisenberg et al., 1995; Lerner and Keltner, 2001). Angry or hostile individuals, on the other hand, display optimistic estimates and risk seeking behavior (Lerner and Keltner, 2001; Lerner and Tiedens, 2006). The above psychological framework and evidence not only suggests that it is reasonable to expect shifts in risk attitudes among victims of violence and forced displacement, but also that the higher prevalence of PTSD, fear and depression observed among the IDP should result in higher levels of risk aversion.

A high degree of risk aversion arising from exposure to violence and forced displacement is interest from the perspective of economics because it will distort economic behavior and choices, and can thus alter welfare dynamics. Intuitively, a lower tolerance for risk will induce victims to adjust consumption and investment decisions in a pervasive way, making them reluctant to reduce their own consumption and to make the investments required to move out of poverty. In practice, several papers have found that risk aversion hinders welfare trajectories, deters investments in physical capital and human capi-

tal, reinforces household vulnerability and thwarts wage growth (Levhari and Weiss, 1974; Shaw, 1996; Brown and Taylor, 2005; Ligon and Schechter, 2003).

From a theoretical perspective, whether such change is permanent or temporary will have different implications on long run welfare levels.[8] Under the classical Ramsey optimal consumption and investment problem, a permanent change in risk attitudes throws victims away from their accumulation path and into lower steady state levels of capital, income and consumption. In the language of the macro growth theory, an everlasting change in risk aversion will lead to conditional or club convergence with disturbing consequences for those victimized. A temporary change, on the other hand, delays capital accumulation and has immediate welfare consequences, but as risk aversion returns to its initial levels, victims gravitate to their original steady state and no long-run consequences are expected. Under different assumptions, for example in an economy characterized by non-convexities in the production function that give rise to asset-based poverty traps, a shift in preferences, even if temporary, can have irreversible welfare consequences.

Recent theoretical research on the dynamics of poverty highlights the existence of a critical amount of assets below which households appear to be caught in a poverty trap (Carter and Barrett, 2006). Accordingly, any escape from poverty requires either good luck or sustained investments that build the household's asset base. However, the foregone consumption required to build up the asset base might not be worthwhile in a world of risk and uncertainty, and individuals below the threshold are unable to move past it by their own means. Opposite to the predictions from the neoclassical growth model, even temporary shifts in victims' preferences have dismal and long-term welfare effects in the presence of poverty traps. As the degree of risk aversion increases, the asset-threshold shifts outwards and victims are caught into the poverty trap (Barrett et al, 2008). If the shift in risk preferences is temporary, the asset dynamics could still be sufficiently strong to drive victims towards the low level equilibrium before risk preferences return to their initial levels and the threshold shifts back to its original position.

In summary, this section has shown that victimization brings about a set of psychopathologies that hinder the ability to cope and recover, obstruct daily functioning, and could also affect risk attitudes. Drawing on the psychology literature, which suggests that decision-making under uncertainty far from being a pure cognitive process is to a large extent driven by anticipatory emotions, it is reasonable to expect that the prevalence of emotional distress among victims leads to changes in their risk attitudes. As the next section will show, high levels of fear and anxiety among the IDP in Colombia suggest that victimization and forced displacement could induce a worrisome increase in risk aversion, in addition to other negative welfare consequences.

[8] Moya (2011b) analyzes the theoretical connotations of asset losses and changes in risk preferences in detail using simulations of the Ramsey optimization and the Poverty Trap models.

Perhaps surprisingly, the scant but emerging literature on the behavioral consequences of civil violence has found positive changes in social, risk and time preferences after traumatic events. Cassar et al. (2010) find that children exposed to the war in Georgia became more pro-social and more willing to share in the Dictators Game. Bellows and Miguel (2009) find that individuals in Sierra Leone who experienced civil war more intensely become more inclined to participate in society than those who did not endure violence directly, while Blattman (2009) finds higher political participation among ex-combatants in Uganda. Regarding risk preferences Voors et al. (forthcoming) indicate that a greater degree of victimization among victims from the ethnic genocide in Burundi is associated with lower levels of risk aversion. On the other hand, Cassar et al. (2011) find negative behavioral consequences in a study in Tajikistan, where exposure to violence resulted in lower levels of trust and fairness, decreased willingness of individuals to engage in interpersonal exchange, and higher reliance of kinship-based norms of behavior. None of these studies, however, provides evidence on the psychological mechanisms that explain such behavioral changes, or on other mechanisms that could drive them. Voors et al. for instance, refer to the findings of Lerner and Keltner (2001) mentioned before to suggest that the lower levels of risk aversion found among victims in Burundi could be explained by higher levels of anger among them, but no data on anger or hostility is available to substantiate this claim. The data on Chronic Stress and other symptoms of emotional distress collected for this paper presents a unique opportunity to provide support on the psychological mechanisms that underlie the changes in risk attitudes after a shock of violence.

4.-Civil Conflict and Forced Displacement in Colombia

> *"I had to leave my house after my father was murdered. They [members of an armed group] shot him in the back, a bullet to the neck. I do not know really why. I was there when this happened. I saw it all. He fell down without even screaming, his shirt covered with blood. Immediately after, they told me: 'Tell you family that this is a warning'. In that moment my wife and I knew we could not live there anymore. We were terrified. We had to leave quickly, without thinking about the future, and trying not to think about the past. […] We left everything behind – the land, animals, and the few things we had worked to get through time – and we left immediately. […] We did not have time to think what was happening to us. We never said goodbye. I never thought we would never see each other again."*

Doctors Without Borders (2006): Testimony of a displaced household living in a slum in Sincelejo, Sucre [Own translation].

Forced displacement and civil conflict in Colombia provide a unique scenario to study if risk preferences change as a result of exposure to an episode of violence. Colombia has been devastated by civil strife since its independence from Spanish rule at the beginning of the 19th century, and since 1948 the country has been immersed in an ongoing civil conflict. While the conflict, its actors, and dynamics have changed through time, violence has increasingly imposed a heavy toll upon the civil population.

Struggles between the two major political parties in the late 1940's, and the assassination of a presidential candidate in 1948 led to the outbreak of 'La Violencia', the precedent of modern civil conflict in Colombia. Homicide rates soared during the period and official figures estimate that 30,000 people lost their lives until 1958 when a power sharing agreement brought an end to armed confrontations between the two parties (Echeverry et al. 2001). Violence was moderate for the following two decades but the civil conflict did not end. Peasants who fought along the Liberal Party during 'La Violencia' settled in what they called "independent republics" in isolated regions in the central-south region of the country and refused to abide by the peace agreements of the 1950's. During the mid sixties communist guerrilla movements emerged among these groups and aimed to overthrow the government launching irregular attacks on government forces and rural towns (Echeverry et al, 2001).

Modern civil conflict in Colombia was intensified since the late seventies by the emergence of illegal drug cultivation and trade that provided financial resources to guerrillas and fostered the creation of paramilitary groups. The latter emerged to protect wealthy landowners and drug lords, target social movements and labor unions, loot lands from small peasants for agro-industrial projects, restrain the expansion of guerrilla move-

ments, and contest their control of vast regions of the country among other reasons. Profits from drug trade and the presence of paramilitary groups intensified violence throughout the country and caused an escalating trend of attacks against the civil population (Gaviria, 2000; Thoumi, 2002). Aggressions towards rural communities and civilians have not been a causal by-product of the war, but instead a deliberate strategy of illegal armed groups to spread their territorial, economic, and social control and to diversify funding sources. Armed groups systematically target certain regions more than others to control resources to fund the civil conflict, as well as for strategic purposes. Specific regions are besieged based on the availability and quality of lands, the strength (or weakness) of property rights and land institutions, the presence of extractive activities, and the level of tolerance and support from landlords and local authorities, among others (Duncan, 2006). Strategic factors, such as the proximity to agro-industrial projects and to pathways for arms and illegal drugs trade, topographic characteristics, and the location and strongholds of rival groups also determine which regions become an objective of armed groups.

Violence against civilians has resulted in the forced displacement of a considerable proportion of rural households. Targeting the civilian population is a strategy of war to halt collective action, destroy social networks, loot lands and productive assets, and to intimidate and gain control the civilian population, and it often results in the forced displacement of the population victimized. Between January 1997 and March 2011, 3,700,381 persons have been displaced by violence, corresponding to approximately 8 per cent of the Colombian population (Accion Social, 2010). This stands as the second highest figure of IDP worldwide after Sudan. Most of the displacement episodes (82 percent) occur at the individual level, where a household or a small group of households is displaced by violence, while the remaining episodes occur massively, where a whole community is displaced due to a specific order or an intense shock of violence against the community. Figure 1 portrays the evolution of forced displacement in Colombia between 1997 and 2010 and distinguishes between individual and massive displacement.

Forced displacement is a different phenomenon than traditional (economic) migration; it is induced by an explicit order to migrate or by a direct exposure to violence, and is often the only strategy of survival. Regularly, it is preceded by an escalation of violence among rural communities. Rural communities adapt and learn how to live in such an environment, until there is a specific threat or attack against a household member or a neighbor, a widespread violent attack against the community, for example a massacre or a combat between two armed groups within the community, or an explicit order from an armed group for a household or the community as a whole to migrate (Doctors Without Borders, 2010). The rural population is obliged then to escape in order to protect their lives, abandoning assets, lands and animals. Data from 'Encuesta Nacional de Hogares Desplazados' (ENDH-2004), a nationally representative survey of the IDP conducted in 2004 by the Universidad de los Andes, supports this claim as 87 percent of the displaced

population migrated as a response to a direct violent act or threat against the household. Respondents of the ENDH accounted an average of 3.1 different types of violent events that triggered their displacement, and most report a combination of direct threats, indiscriminate violence and combats, assassinations, and orders to migrate as the drivers of displacement (Table 1).[9]

Although more than 90 percent of the municipalities in the country have reported the displacement of population, the presence of illegal armed groups and violence has been more intense in certain regions and, as a result, the bulk of forced displacement has concentrated in these regions (Figure 1). In the last five years, major military victories of the Colombian Armed Forces against the FARC guerrilla have brought about a sense that the civil conflict is close to an end. Nonetheless violence against the civilian population is still widespread and has increased in part as a result of the process of demobilization of paramilitary groups that started in 2003. Forced displacement is thus still occurring, and between 2006 and 2010 over a million people were displaced by violence following a similar geographical trend as in the overall period (Figure 2).

It is difficult to thoroughly describe and explain the recent regional conflict dynamics in a concise manner since the civil conflict in Colombia is not driven by one single factor and varies by region. Nevertheless, it is still possible to identify key features driving violence and to bring some context into the dynamics of violence in the regions that were chosen for this study. First, the demobilization of the paramilitary groups between 2003 and 2006 did not result in the reintegration of their middle and lower rank members into civilian life. Quite the contrary, former paramilitaries organized or were recruited by drug lords into smaller groups known as 'criminal bands' or 'narco-paramilitary groups', which aimed to cope territories, control drug routes and drug traffic and artisan gold mines, manipulate electoral processes, and loot lands or protect those obtained by the use of violence in the previous years (Human Rights Watch, 2010; Indepaz, 2011). Criminal bands now operate in all but two departments, and have a strong presence in 360 out of 1,102 municipalities (Figure 3). The Caribbean region, in addition to the department of Antioquia, is perhaps the region most affected by the presence of such groups, which have been reported to operate in 78 percent of municipalities in the department of Córdoba, and 65 percent of municipalities in the departments of Sucre and Bolivar (Indepaz, 2011). Moreover, in these three departments, several municipalities have been besieged by more than one of such groups. As a result, these groups have been clashing against themselves and against the Colombian military leaving an escalating trend of indiscriminate violence against civilians (Human Rights Watch, 2010). In Córdoba, for instance, criminal bands committed 10 massacres and are responsible for the massive displacement of at least 5 rural communities in the second half of 2010 (El Meridiano, 2010).

[9] Respondents were asked about the types of events that led to their displacement (assassinations, threats, combats among others) and not for the number of times they were victimized or exposed to each of these events. The above data thus reports the occurrence of each type of event.

In addition, military operations against the FARC increased in several regions since 2002, most notably in the central-south departments of Tolima, Cauca, Meta, and Caquetá, which have been traditional strongholds of the FARC and have a considerable number of coca-leaf crops. These regions have not only suffered the expansion of the criminal bands, as seen in the previous map, but combats between the Colombian Armed Forces and the FARC, and this group's confrontation strategies have also resulted in an escalation of violence against civilians. The FARC have been reported to set land mines as they retreat, abduct or recruit minors, tax and extort the civilian population to offset declining incomes, and launch irregular attacks on communities and rural towns. The military have also a share in the victimization against civilians, mainly by labeling communities previously under the influence of the FARC as pro-guerrillas, harassing their inhabitants for this reason, and engaging in extra-judicial executions of civilians and then portraying them as guerrilla members killed in combats.[10] Similar dynamics have followed in the Pacific region, in the departments of Nariño, Cauca, and Chocó, where a struggle between criminal bands for the control of drug routes, coca leaf crops, and lands for agro-industrial projects, like oil palm, in addition to military operations against the FARC, has resulted in an escalating trend of violence against the rural population and the displacement of thousands of civilians.

What are the welfare consequences of forced displacement? Ibañez and Moya (2010, 2010a) analyzed the consequences of displacement on household welfare using the ENDH-2004. Displacement brings about considerable asset losses, as well as significant drops in household income and consumption that impose negative welfare consequences. Since the majority of the displaced population migrates from rural to urban areas, their agricultural skills are not demanded in destination sites. Hence, unemployment rates soar, and since displaced households lack financial capital and contacts in destination, labor income and aggregate consumption per equivalent adult decline by 50 and 33 percent respectively (Ibañez and Moya, 2010). Neither income nor consumption aggregates improve over time, while the consequences of the asset losses persist for most displaced households. The displacement shock, aside from decreasing significantly asset holdings for its victims, condenses the asset distribution around a lower mean and median, and with time households seem unable to rebuild their asset base. Drops in consumption and income coupled with considerable asset losses oblige households to resort to costly coping strategies like child labor, which become sources for intergenerational transmission of poverty (Ibáñez and Moya, 2010a).

[10] The sources for these claims are many and do not come from a single article or reference; most come from a variety of articles on the conflict dynamics of these regions that have been published over the last four years in different magazines and newspapers. However, a personal interview with the Head Ombudsman of the department of Tolima supports many of the claims above. Extra-judicial executions of civilians are known as 'falsos positivos' and independents reports indicate that 1,741 civilians have been assassinated by official forces in this fashion. Revista semana "Falsos positivos: 23 años de horror" 21/11/11 www.semana.com

No official or nationally representative data is available in relation to the impact of forced displacement on the mental health of the IDP.[11] Nevertheless, several studies across different subgroups of the displaced population have found a high incidence of emotional distress and a high prevalence towards PTSD symptoms. Based on diagnostics of 5,064 patients in the department of Caquetá, not all of them displaced but all of them exposed to violence in some way, Doctors Without Borders (2010) finds a high incidence of depressive disorders and stress, as well as other types of symptoms, like psychotic episodes, which are seemingly unrelated to exposure to violence but can be induced by prolonged and intense stress that result from victimization. While 65 percent of the patients were not considered to be chronically impaired, they still exhibited intense psychological suffering as a result of devastating and uncontrollable external circumstances. As mentioned before, those directly exposed to violence had a higher likelihood of suffering from PTSD, chronic stress and depression – 3.6, 2.6, and 1.3 times as likely respectively – than those who were not. A different study from Doctors Without Borders (2009) using clinical reports in the departments of Cordoba, Sucre and Norte de Santander reports a high incidence of symptoms, like back pain, inexplicable fear, and stomach burns, which are psychosomatic manifestations of emotional trauma. More than one quarter of the cases attended in these departments revealed mental health disorders, especially fear and anxiety, a figure much higher than the one found by the National Health Survey for the overall Colombian population (Encuesta de Salud Mental, 2003). Other related studies depict a similar worrisome trend of high incidence of PTSD and a high level of emotional and psychological distress among victims of violence and forced displacement (Londoño, et al., 2005; Perez-Olmos et al., 2005; Sinisterra et al., 2007). Based on the above evidence and the Appraisal Theory findings of the effect of fear and anxiety on risk taking behavior (Lerner and Keltner, 2001), it is reasonable to expect that violence and forced displacement brought about higher levels of risk aversion among the IDP in Colombia.

[11] There is no data on the prevalence of mental health disorders on the Colombian population as a whole. The National Mental Heath Survey of 2003 (Encuesta Nacional de Salud Mental, 2003), the only study of such type available, focuses mostly on urban non-poor scenarios and not on the rural or displaced populations. This is striking given that violence in Colombia is potentially the factor most associated with mental health disorders, and these two segments of the population are the most exposed to violence. The above suggests a lack of interest by the government on the mental health consequences of violence and an absence of policies destined to address them.

5.-Methodology

Sample Selection and Identification Strategy

Endogeneity concerns that arise from endogenous selection driving individual victimization and displacement, and the absence of longitudinal data pose a challenge for the identification of the causal effect of violence and displacement on preferences. If violence was random and displacement exogenous to preferences or if longitudinal data were available, the effect of such shock could be easily identified. This is not the case, however. This section discusses the source of possible selection issues, the research design and sample selection implemented to address them, as well as the instruments employed during the data collection process.

Violence against civilians in Colombia is not completely random. The discussion from the previous section suggested that specific regions are more likely to be struck with violence than others conditional on certain characteristics. Among regions under intense violence, civilians' exposure to violence is to some extent a random process. Civilians are indiscriminately exposed to combats between armed groups, which take place in either isolated rural areas affecting rural households in the vicinity, or in municipal centers or rural areas, affecting wider segments of the population. In addition, both guerrillas and paramilitary groups, indiscriminately attack rural household to strengthen their military and socio-economic control over a specific region and its population, or to weaken the enemy's degree of control and popular support without particular patterns of targeting. Violence, however, is targeted in other cases and there is a degree of 'selection into violence' since certain characteristics make some households more likely to be targeted than others. Paramilitaries and neo-paramilitaries, for example, target local and community leaders to spread fear among the population, weaken the enemy's support, and undermine community driven processes. Armed groups also assault medium and small peasants with formal or informal access to land – over 70 percent of the rural population – in order to get access to lands (Kirchhoff and Ibáñez, 2002). Finally, men and women between 12 and 30 years of age are targeted either to be recruited or to weaken the enemies' recruitment and support base. Selection into violence brings about a methodological challenge since econometric estimates of the impact of violence on risk preferences will be biased if the characteristics that make individuals more prone to being victimized are related to risk attitudes.

It is also possible that forced displacement is not completely random, even after controlling for a possible selection into violence. As the previous section illustrated, forced displacement is not comparable to traditional or economic migration, and is an induced response by rural households to different degrees of exposure to violence. Often it is preceded by an escalation of violence among the communities, driven by exposure to more than one type of violence (Table 1), and is the only course of action to protect the lives of

the member of the household. In the case of direct threats or attacks, massacres, orders of displacement, or combats that take place within the community boundaries, forced displacement is arguably exogenous to individual preferences once the possible factors that drive selection into violence are accounted for. Nevertheless, there is still a small window for selection into displacement. Data from the ENDH-2004 indicates that 13 percent of displacement episodes correspond to households who migrate anticipating outbursts of violence and escalation of violence in their hometowns, or that witness violence in their communities without directly being exposed to it. Furthermore, the same violent event can mean different things for people with different degrees of fearfulness, and thus encourage some but not all to migrate, which would could then lead to a wrong interpretation of causal effects.[12] While most displacement episodes are arguably driven by direct episodes of victimization to which rural individuals are unable to deal with, the possibility of preventive displacement or of displacement driven by unobserved predispositions to fear raises the possibility of endogenous selection into displacement.

To address endogenous selection into violence and into displacement, the sample strategy focused on massive displacements, where violence is random and the decision to migrate is exogenous to individual preferences.[13] Massive displacements correspond to specific displacement episodes when an entire community is forced to migrate, and often occur in contested regions, as an armed group arrives to challenge the supremacy of a rival group resulting in either large-scale confrontations, or with indiscriminate attacks against the civilian population to create mayhem and gain control of the local population. The events that force a community as a whole to migrate are clashes between armed groups within the village, indiscriminate episodes of violence that affect many members of the community, like a massacre, or an arbitrary order by an armed group for the community to migrate. Among highly contested regions, whether a particular community is struck by such high-intensity events depends on strategic factors such as the movement of troops, the location of enemy armies, or the spatial dynamics of violence and conflict. Violence against civilians during these episodes is unsystematic, there is even less targeting at the individual level, and the individual degree of exposure to violence is random attenuating any possible selection into violence. Since the whole community is forced to migrate, the decision is not driven by individual preferences and this lessens the concerns of selection into displacement.[14] Massive displacement thus provides a quasi-experimental event where a group of

[12] Suppose for a moment that violence does not induce fear and thus that it cannot affect risk aversion levels. A violent event would make the most fearful individuals in a community migrate while the most fearless individuals remain. A sample of displaced would thus be composed of the most fearful individuals, who inherently are also more risk averse due to their predisposition to fear. An econometric estimate of the effect of displacement on risk aversion would thus spuriously state that displacement induces higher levels of risk aversion, when in practice there is no causal effect.

[13] According to Colombian legislation, massive displacement is defined as the displacement of 10 or more households (or 80 or more individuals).

[14] One could be concerned by a community-level selection into displacement if two communities receive the same type of indiscriminate event or order to migrate, and only the one whose cumulative distribution of fear or risk aversion statistically dominates the other one migrates. This is unlikely, however, and reports suggest that massively displaced communi-

households is exogenously 'treated' with a shock of violence that results in the displacement of the entire community.

To illustrate the appropriateness of massive displacement as a random episode of violence and displacement, consider the following example.[15] The massacre of El Salado a village located 18km away from the county head of the municipality of El Carmen de Bolivar, department of Bolivar is perhaps one of the most vivid and horrifying examples of paramilitary violence against the civilian population, and also an illustration of randomness in violence and forced displacement. In February 2000 paramilitary leaders Salvatore Mancuso, Jorge 40 and 'H2' coordinated a military operation against the village of El Salado with the purpose of setting panic among the civilian population arguing some form of complicity and collaboration with the FARC. This guerrilla movement, which had a strong presence in the region, had recently stolen a considerable amount of cattle from a well know businessman and political leader and the cattle had been supposedly transported through the small town of El Salado after being stolen. With the complicity of the military, which moved its troops out of the way, more than 300 paramilitaries surrounded the village killing several peasants on their path. On February 16, the paramilitary arrived to the El Salado and forced the 200 inhabitants out of their homes into the small soccer court in the middle of the village. The paramilitaries then picked people out of the crowd and tortured and assassinated them one by one in front of the rest of the population. According to testimonies from survivors and paramilitary members who participated in this massacre, victims were randomly picked. After each killing, paramilitaries would dance, play music and drink alcohol while the rest of the population waited. After 72 hours of mayhem and 66 civilians dead, the paramilitaries left El Salado ordering the rest of the population to leave the town.

Many other traumatic episodes of massive displacement like the one that took place in El Salado, where violence is unsystematic and the whole community is obliged to migrate, have occurred al throughout the country. In the past two years, for instance, 79 episodes of massive displacement have occurred and have affected 28,090 people (Accion Social, 2010). In Cordoba, one of the departments stuck viciously by the violence of 'criminal bands', for example, five communities migrated massively after massacres and threats in the second half of 2010 (El Meridiano, 2010).

The research design thus focused on events of massive forced displacement to attenuate endogeneity issues stemming from selection into violence and into displacement. For this purpose, a database on the events of individual and massive displacement at the municipal level between 1993 and 2010 was obtained from the Colombian Government as well as a

ties also experience an escalation of violence before their massive displacement and they learn to live under such pressure until an indiscriminate attack or an order displaces the community as a whole.

[15] The following description is based on Comision Nacional de Reparacion y Reconciliacion (2009, 2010)

detailed list of massive displacements that have occurred. Accordingly, in the last five years massive displacement has mostly taken place in the departments of Córdoba, Magdalena and Bolivar (Atlantic region), Antioquia, Valle del Cauca, Cauca, Chocó, and Nariño, (Pacific region), Tolima and Huila (Andean region) and Meta, Guaviare (Oriental region), and Putumayo (South Region) (see Table 2). After meeting with officials from the Colombian Government, United Nations, the Catholic Church and the Red Cross, the Pacific, Oriental and South Regions were discarded since none of the officials considered that the fieldwork could be carried out securely in these regions. Massively displaced communities in the Atlantic and Central regions, two regions with different conflict and population dynamics and characteristics, were then considered to be included in the sample.

The absence of longitudinal data on risk preferences among the IDP constituted another methodological challenge to identify the causal effect of violence and forced displacement on risk preferences. To solve this, a control group of non-displaced rural communities and households was identified following a non-standard matching procedure. The set of possible matches that was eligible to be included in the control group was required to reside in municipalities that belong to the same regions, and to be geographically proximate to those affected by massive displacements, but to have been free from the influence of massive displacement. This criterion is necessary for two reasons: First, given the spatial distribution of violence and forced displacement, as seen in the previous maps, rural communities in the close proximity of those massively displaced should have had a similar probability of being affected by forced displacement. Second, control communities should share similar characteristics – economic, cultural, and demographic - as those massively displaced in order to rule out differences in the risk aversion distributions that could arise from different geographical, socioeconomic and institutional environments. Ethnographic and behavioral studies indicate that differences in geographic, economic, social and institutional characteristics among populations shape preferences and expectations differently (Heinrich et al., 2001; Doss et al. 2008). Although there is no administrative data at the community level, by restricting the sample of control communities to those in proximate and similar municipalities, possible unobserved differences between communities are attenuated. In the absence of other contemporaneous shocks, these provide a picture of the stable distribution of risk preferences from a particular rural area that can be used to compare against the possibly shifted distribution of preferences of the massively displaced communities. By restricting the treatment and controls to the same regions, and after conditioning on observable individual characteristics, the latter should provide a counterfactual of what preferences would have looked liked in the absence of violence and displacement that allows the identification of the causal effect of this shock.

By the time the fieldwork for this project was being set up and the sample was being designed, the first round of the Colombian Longitudinal Survey of the Universidad de los Andes (ELCA by it's Spanish acronym) was under way. The ELCA is the first longitudinal survey in Colombia with a sample of 4,000 rural households and 6,000 urban households in dif-

ferent regions of the country including the Atlantic and Central regions in the departments of Córdoba, Sucre and Tolima. This provided an opportunity to draw the control communities from the ELCA sample since some of the municipalities included in its sample served as appropriate controls; this is, they were in the same region and shared similar characteristics as those were massive displacements occurred, but had not been affected by massive displacements recently. Doing so was also logistically appealing since the ELCA would have administered a detailed household survey, and thus the fieldwork with control group only required administering the psychological questionnaire and the economic experiments.

Furthermore, drawing the sample in this way was ideal since institutional, economic, and even cultural dynamics differ across both regions, and thus it is possible to observe whether these different dynamics also play a role in the behavioral responses to violence and displacement. For instance, in the central region violence has occurred almost without interruption since the beginning of *La Violencia* period in 1948, and violence has been linked to the prevalence of the FARC guerrillas and its quest to protect its historical strongholds, and consolidate its control over the economy and the population. In the Atlantic region, on the contrary, violence has been intermittent and has been characterized by the quest of paramilitaries and criminal bands to consolidate their territorial control and with a more vicious violence against the civilian population. In addition to the differences in the dynamics of violence, the socioeconomic and cultural characteristics, and the structure of land rights and land tenure across both regions, it has also been observed that in the central region there is a higher prevalence of mental disorders than in the Atlantic region. Data from the National Mental Heath Survey of 2003 indicates that the incidence of depression and related disorders is the highest in the central region, and that this can de explained by genetic factors of the population groups that first inhabited this region, and also from a persistent exposure to violence for over 60 years. It is then an empirical question if these differences play a role in the behavioral response to violence and displacement.

For these reasons, a sample of both IDP and non-IDP in the departments of Cordoba, Sucre and Tolima was drawn in the following way: from the administrative data provided by the Colombian government, 10 massively displaced communities from 8 different municipalities in these three departments were selected as the subsample of massive displaced population. From the ELCA sample, 15 non-displaced rural communities residing in 9 different municipalities in the same three departments were selected as the subsample of rural non-displaced population. Figure 5 shows the geographical location of each municipality, Table 3 contains the data on forced displacement for the chosen municipalities, and Tables 4a and 4b contain information on geographic, socio-economic, institutional and violent characteristics of each municipality selected for the period 2000 - 2010.

Notice from the latter tables that municipalities 'treated' with massive displacements happened are remarkably similar to those not affected by such displacement episodes, and the sample of municipalities is balanced across most municipal characteristics. Concerns on the appropriateness of the control could arise by the difference in coca leaf crops between the treated and non-treated municipalities in the Atlantic Region sample. Note that while the non-treated municipalities do not have presence of coca-lead crops, the treated municipalities of Montelibano, Tierralta, and Puerto Libertador all have an average of 300 ha of coca leaf crops in the period 2000 – 2010. If the presence of coca leaf crops in these municipalities suggests ex-ante differences in the distribution of risk preferences, for example because the displaced were previously engaged in coca production while the non-displaced were not, there could be reasons to consider that the control group is not appropriate. This, however, does not seem to be the case. First, the area grown with coca leaf crops is less than one percent of the total area in each municipality indicating that only a small proportion of the population in the three municipalities was cultivating coca-leaf crops. Second, given that coca-leaf production is an illegal activity with a high risk of being aerially sprayed by the Colombian Police forces, it would be reasonable to expect that those engaged in the cultivation of this crop were more risk loving than those who were not. If this is the case, the ex-ante distribution of risk aversion of the displaced population would have been stochastically dominated by that of the non-displaced, implying that if ex-post the opposite is true (this is, the displaced population turn to be more risk averse after their displacement) the estimate of the effect of displacement on risk aversion would be biased downwards.

After the sample and instruments were in place, the fieldwork for this project was scheduled to start in October 2010. Unfortunately, escalation of violence in the regions chosen, not only delayed the data collection process, but also forced modifications in the sample selection. In fact, from information received by government officials in Bogotá, it seemed that the research team would not be able to reach any of the selected municipalities with massively displaced communities. Nonetheless, in January 2011 with the assistance of local parishes from the Catholic Church, the fieldwork was launched in the Tierralta and then continued in Montelibano in the Atlantic Region. Given the critical security conditions, it was out of the question to bring an outside team of enumerators. Therefore in each municipality the author trained a team of local social workers affiliated to the Catholic Church to conduct the surveys and assist during the economic experiments. After this training was completed, Catholic Priests in each site served as mediators between the author and the displaced communities. Given the intense stress, fear and critical conditions of the displaced households, outsiders are usually seen with mistrust. The assistance of the Catholic Priests was then essential to initiate communication with the displaced communities, build trust, and to carry out the data collection process under a tense environment.[16] Unfortunately, however, the author was unable to reach the massively displaced communities re-

[16] The author cannot over-state the critical role that different priests played in the development of the data collection process. Without them, this project would have been unfeasible.

siding in the municipalities of Valencia, Puerto Libertador, and San Pelayo, after local priests considered that it was too dangerous to conduct the fieldwork in these towns. These three municipalities, and the displaced communities residing there, were thus dropped from the sample, and a total of 146 massively displaced households were surveyed and participated in the economic experiments in Tierralta and Montelibano. As a replacement for the dropped communities, a sample of 77 individual and massively displaced households was located in Sincelejo, the departmental capital of Sucre, which has received an important inflow of displaced population in recent years. Both massively individually displaced individuals in Sincelejo were first screened to ensure that they were forced to migrate from municipalities in the region. Nonetheless, concerns of endogenous selection remain with the segment of individually displaced population this sub-sample.

In the central region the conditions for the fieldwork turned out to be worse. Escalation of violence from the FARC and military operations from Colombian military aimed towards the capture of alias Alfonso Cano, the FARC commander who was taking shelter in the vicinity of the municipalities of Chaparral, Dolores, San Antonio, and Rio Blanco, prevented the author from reaching the massively displaced communities selected in the region. As a result, a replacement sample of 130 victims of individual displacements residing in Ibague, the departmental capital of Tolima, was chosen. As in the case of Sincelejo, displaced individuals in Ibague were first screened to ensure that they were forced to migrate from municipalities in the region, but there are still concerns for endogenous selection arising from individual displacement.

In the municipalities were the displaced population was located, the Catholic Church set up meetings with local leaders and with a member of each household in the community to inform them that a survey would be carried out with the purpose of collecting socio-economic information that would allow a better understanding of the consequences of forced displacement. No mention about the economic experiments with monetary gains was made to prevent inducing expectations or biases among the possible participants. At the end of the meeting a census of all members was recorded with the help of the community leader and participants were randomly chosen from this census; all participants were either the household head or spouse. Selected participants individually responded the survey during the week. After all surveys in a community were complete, participants were invited to participate in the economic experiments, which took place in the local church during the following weekend. Several experimental sessions were conducted during one day for each community to avoid information flows from attendants to potential participants. The author of this paper conducted a total of 35 experimental sessions with the displaced population following the exact same protocols, in groups of 8 to 12 participants.

For the sample of non-displaced rural individuals, a stratified random sample of rural households was obtained in each of the chosen ELCA municipalities using the data from the first wave of the survey. Selected participants were contacted by cell phone and invited to participate in the experiments, which took place in the local Catholic Church in the county head of each municipality. Again, no mention was made regarding the nature of the activity or the monetary gains, and participants were only informed that a follow up of the survey was going to be conducted. Since some ELCA households live in villages far out from the county head, the experiments were scheduled during the market day in each municipality (when farmers travel to the county head to sell their products), to ensure that all of the chosen participants would be able to participate. Experiments were carried out only during one market day in each municipality to limit information flows from attendants to potential participants. In each municipality fifty households were sampled with the purpose of having 35 participants. In practice, however, a maximum of forty households had to be contacted as most were eager to be included in the study. In fact, in seven out of the nine municipalities chosen, the author had to reject other households included in the overall ELCA sample that wanted to participate. A total of 37 experimental sessions were carried out with the non-displaced population, all of them conducted by the author, following the exact same protocols in groups of 8 to 12 participants.

The fieldwork was the carried between January and June 2011, and an overall sample 671 participants, composed of 353 displaced and 318 and non-displaced individuals (See bottom module of Table 5). Considering the difficulties inherent to data collection in conflict zones, the sample for this paper is notable. Although the sample of individual displacements located in Ibague and Sincelejo brings about concerns due to endogenous selection into violence and into displacement, the sample of 146 massively displaced individuals provides adequate data to estimate the causal impact of violence and forced displacement on risk preferences in a scenario where endogeneity concerns are attenuated.

Risk Aversion Experiments and Data Collection Instruments

The data collection instruments employed to identify the causal impact of violence and forced displacement include an economic experiment designed to measure risk aversion, a questionnaire on family and neighborhood exposure to violence, and the SCL-90 questionnaire on Chronic Stress and other emotional disorders. These instruments were applied during an experimental session with groups of 8 to 12 participants. In addition, a household survey was administered to the IDP sample in the week previous to the experimental sessions.

To measure risk aversion, Binswanger's (1982) classical 'Choose Lottery' experimental design was followed. In each of three different tasks, participants were presented a set of six lotteries that involved two outcomes per lottery. The 'safest' lottery provided low expected payoffs with certainty while for the others expected payoffs gradually increased

with the cost of a higher variance and thus higher risk. Each participant's choice therefore indicates its willingness to bear risks; more risk averse individuals will pick safer lotteries, that is those with lower expected payoffs and less risk, while more risk loving individuals will choose lotteries with higher expected payoffs and higher risk. There are other experimental designs to measure risk aversion, such as the Holt and Laury (2002) or the Tanaka et al. (2010) procedures, which vary probabilities instead of payoffs, that have been used more frequently in recent research. Their appeal lies in the possibility of estimating Prospect Theory parameters (Kahneman and Tversky, 1976), and in a greater variety of lottery choices (see Carpenter and Cardenas, 2009 for a review of these methods). The 'Choose Lottery' design of Binswanger, however, is more straightforward and easier to understand, particularly in a sample of rural individuals with low levels of educational attainment, and was chosen for this reason. Still, three variations were introduced in the experimental design to identify general risk preferences in a gains, losses, and ambiguity domains.

In each experimental session participants were handed a booklet that contained six rounds, two for each domain or task. To facilitate understanding, each task was depicted in a graphical way, consisting of six circles that stood for the six different lotteries to choose from. Participants were asked to pick one lottery (one circle) from each domain, and instructed that at the end of the activity one of the domains would be randomly picked, and payoffs would be realized. Payoffs ranged from US$ 6.5 to US$ 17, approximately around 2-3 days of off-farm wages in rural areas. Each task included a practice round in which choices and outcomes were explained, each participant was asked to pick one lottery, and the experiment was played so that participants would privately know what would have been their payoff if the lottery had been a real one. Participants were then asked to pick a lottery in the real round that followed each practice round, and were told that choices made during the real rounds would determine their payoffs at the end of the experimental session.

In the gains task (Figure 6a) each circle (lottery) was divided into a red and a blue semicircle of equal area, which had a label and pictures of the local currency indicating the two possible payoffs. Participants were instructed to pick one full circle (one lottery), bearing in mind that if that task were to be chosen, five red balls and five blue balls would be introduced into a black bag at the end of the activity, and one ball would be randomly picked. Accordingly, if a red ball were chosen, participants would receive the payoff indicated in the red semicircle of the lottery chosen, or the payoff indicated in the blue semicircle if the ball chosen were blue. Hence, payoffs in each choice in the gains task had equal probability of occurrence.

The loss task (Figure 6b) was introduced to address the extent of loss aversion (Kahneman and Tversy, 1976).[17] Before making the choice in the losses domain, participants were told that they would earn an upfront payment of $20,000 if this was the task selected at the end of the activity, and that such payment would be theirs. They were also told that this task allowed the possibility of them loosing money, and that if they incurred in losses they were expected to use the upfront payment to cover their losses. As before, payoffs in each choice in had equal probability of occurrence. Note that after taking into account the upfront payment, the expected payoffs in this domain are exactly the same as those in the gains domain. However, by framing the choices in terms of losses instead of gains, it is expected that risk behavior changes, and participants depict a more risk loving behavior in this domain consistent with an aversion to losses.

The last task addressed the extent of ambiguity aversion (Figure 6c). This domain resembles the gains domain, with the exception that if this task were chosen neither the participants nor the experimenter would know the exact number of red and blue balls in the bag. In particular, a total of 10 balls would be introduced into the black bag, consisting of 3 red and 3 blue balls, as well as 4 other balls that would be randomly and blindly chosen, and thus could be all red, all blue, or a combination of blue and red balls. This meant that the probability distribution of the payoffs was unknown to both the participants and the experimenters at the time of the decision. By introducing this source of ambiguity, it is expected that participants depict a more risk averse behavior in this task, consistent with aversion to ambiguous situations (Kahneman and Tversy, 1976).

In addition to the economic experiment, questionnaires on exposure to violence and the incidence of chronic stress symptoms were administered. To identify the degree of exposure to violence, each participant was asked if different violent events had affected its household in the previous year and in the previous five years, and if so, how many times had each type of event occurred. Notice that this module collects data on the degree of victimization of the household, and not on the degree of victimization of each participant. Participants were also asked if friends, neighbors or other members of their communities had been exposed to the same violent events, in the previous year and previous five years, and how many times did each event occurred. This data was collected to assess if violence was in fact indiscriminate and affected many members in each community and not only a particular selected household. The Symptom Checklist 90 (SCL-90-R) was applied to measure the incidence of emotional distress among the displaced and non-displaced population. The SCL-90-R consists of 90 questions on a broad range of daily symptoms to assess the incidence of chronic (global) stress along with the following nine different dimensions of emotional distress: anxiety, phobic anxiety, depression, hostility, sensitivity, somatization, obsessive-compulsive, paranoid ideation, and psychoticism.

[17] Note that in this experimental design the actual loss aversion parameter is not identified separately of the risk aversion parameter. However, by introducing losses in this task, it is possible to obtain a general risk aversion behavior when losses are possible.

The SCL-90-R was chosen over the more common PTSD Civilian Checklist Questionnaire for several reasons: First, it allows addressing the extent of emotional disorders not only on the sub-sample of displaced population that suffered a violent shock, but also on the non-displaced rural population that was not exposed to violence but that could have been exposed to other unobserved sourced of stress, which could then influence behavior during the economic experiments. Second, the comparison of the incidence of chronic stress from both the treated and control groups provides further evidence that forced displacement was in fact driven by an overwhelming exposure to a traumatic event, and not by an endogenous self-selection process. None of this would have been possible using a PTSD questionnaire, since by construction it is only applied to those who have been identified to suffer a traumatic event in the past. What more, in addition to the different dimensions of distress, a PTSD score can be constructed with the SCL-90-R (Weathers, et al., 1996). Finally, the data pertaining the incidence of anxiety, phobic anxiety and hostility, proves useful to identify the psychological channels through which violence and displacement affect risk-taking behavior, and compare them against the findings from the Appraisal Theory (Lerner and Keltner, 2001).

Previous to the economic experiments a household level survey was administered to the displaced population. The survey was based on the ELCA questionnaire, with detailed modules on household composition, health, education, occupations, social capital, housing, assets, land holdings, shocks at the individual and community level, and consumption. Several of these modules contained information on both conditions at expulsion and destination sites, in order to identify the socio-economic and demographic characteristics of the displaced households before and after the displacement process. An additional module was introduced to characterize the displacement process, including the expulsion and reception sites, the triggers of displacement, the reception of aid in destination sites, and the time elapsed since the displacement of the household. Since the non-displaced control group had answered the ELCA questionnaire a few months before the economic experiments, the survey was not applied on this group of households. Nevertheless, a small questionnaire was administered on all non-displaced households regarding important changes at the household level or shocks that occurred since the application of the ELCA questionnaire, in order to account for important changes that could have induced stress and shifts in behavior.

6.-Forced Displacement, Violence, Chronic Stress and Risk Aversion

Characteristics of the Displacement Episodes and Exogeneity

The methodological design to address selection issues and the absence of longitudinal data, relies on episodes of massive displacement, where violence is argued to be indiscriminate and displacement exogenous to individual preferences, and that a suitable control group can be constructed from non-displaced rural households residing in the same region. Since the difficulties that arose during the fieldwork did not allow constructing the sample exclusively with massively displaced communities, and there could be ex-ante differences between the displaced and non-displaced samples, this section characterizes the process of displacement, presents data on ex-ante characteristics for the treatment and control groups, and assesses the extent of selection into displacement and into violence.

The top three panels of Table 5 illustrate the nature of the process of forced displacement, and suggest that displacement was in fact a response to widespread violence. Nine out of ten displaced individuals included in the sample of IDP had been displaced only once in their lifetime, while a few individuals had been displaced twice, and only a handful three times. The average time elapsed since the last displacement and the moment when the economic experiments were administered – what this paper calls the length of displacement – is 2.42 years, nearly half of the sample was displaced in the year previous to the economic experiments, and 30 individuals had been displaced just two weeks before. This crucial since individuals with most recent episodes of displacement should have more intense reactions and a more pronounced risk averse behavior.[18]

The data on the triggers of displacement suggests that both individual and massive displacements occurred after the escalation of violence and as a reaction to exposure to several types of violent events. On average, the displacement process was preceded by the occurrence of three different types of violent events, and most displacements were induced by a combination of threats, combats between armed groups in the vicinity of the community, general or indiscriminate violence, orders to migrate, assassinations, recruitments, and attacks. Therefore, there is initial evidence that the displacement process was not driven by a preventive response of fearful individuals who migrated due to fears of future violent outbreaks, but in fact from exposure to traumatic events which limit the possible survival strategies and overwhelm the ability to cope in agreement with the assessments made by Doctors Without Borders (2010).[19] Moreover, displaced individuals

[18] Note that all of the papers that address the consequences of violence and behavior do it after several years after the episodes of violence. Voors et al., (forth) for instance do not explicitly mention the time since the victimization episodes occurred, but they conduct the economic experiments in 2009, six years after the peace agreement in Burundi brought an end to civil violence, and many more years after the civil conflict was in its most intense period.

[20] The module on the displacement process included in the survey administered to the IDP sample did not ask the number of times each household was affected by each type of event, but only the types of events that lead to the displacement of the household. As it will be shown later on with the data from the victimization module, displaced households were

report that neighbors, relatives, and friends were also exposed to violence and migrated along them, suggesting that violence was indiscriminate in the communities affected and not the result of selective targeting. On average, the displaced population surveyed migrated along with neighbors who on average were also exposed to three different types of violent events, with threats, combats, general violence and orders to migrate as the main triggers.

To overcome the absence of longitudinal data on risk preferences, the identification of the causal effect is based on the comparison of risk attitudes between the displaced and non-displaced samples, which serves as a counterfactual for what preferences in the displaced group would have looked like in the absence of violence. The first step to ensure that the control group is in fact appropriate is to show that pre-displacement both groups looked similar over a set of observable household and individual characteristics. Table 6 presents data on these characteristics, tests for differences in means across both samples, and illustrates that both groups are remarkably similar. Several differences arise between both groups however. Notice first that household heads in the displaced sample are older and slightly more educated than those in the non-displaced group. The former group also had bigger lands[20] and hired seasonal workers in their lands, but had a higher propensity of informal access to lands than the latter, and participated in more social groups, but had less leadership positions in them. Based on evidence from studies in developing contexts, the bias that these differences give rise to can be signed. For example, higher levels of education and higher wealth are correlated with lower levels of risk aversion (see Harrison and Rudstrom, 2008 for a review of experimental findings). The differences in land size and land tenure presumably arise from the geographical locations where the sample of displaced population was drawn from, as the municipalities where this group was displaced from have a higher score in the index of land informality presented in tables 4a and 4b, especially in the Caribbean region. There is no a priory information to address the direction of the bias that would be imposed by this difference. Finally, it is not clear how the differences in social capital mentioned above would bias the comparisons of risk aversion between both groups. Nonetheless, in the econometric analysis of the following section, all of these variables are included as regressors to account for the possible effects they have on risk preferences.

Two different econometric estimations were carried out to statistically address the degree of selection into violence or selection into displacement that could bias estimated of the impact of violence and displacement on risk aversion. First, selection into violence is analyzed by regressing violence on pre-displacement characteristics of the displaced popula-

threatened repeatedly, and some suffered the assassination of several members of the household or several attacks, thus suggesting that the process of displacement was in fact reactive.

[20] The difference in the median size of land holdings is smaller (2 ha vs 0.5) than the difference in mean size, but still significant.

tion and current characteristics of the non-displaced population.[21] Violence is measured in different ways using the data from the victimization module applied to both displaced and non-displaced individuals, including a binary variable that indicates weather the household is a victim of violence or not, the total number of violent events that the household has suffered, the number of different types of violent events – referred to as the incidence of violent events – and a victimization score that was constructed using principal component analysis with the data on the total number of violent events by type of event. Table 7 presents the results of these regressions on household observable characteristics including a set of municipal fixed effects. In all but one of the specifications estimated, land size is positively correlated with victimization, while perhaps surprisingly social capital, as measured by an indicator variable of weather a member of the household participated in decision processes in the community, is negatively correlated. Again, regarding land size, the correlation is presumably driven by violence being targeted towards medium landholders with the purpose of looting lands, especially in regions with weak land property rights. Under assumptions of a constant relative risk aversion (decreasing absolute risk aversion), the expected correlation between land size (wealth) and risk aversion would then be negative. As a result, although land size seems to drive victimization, the expected sign of the bias on risk preferences works against the hypothesis of this paper. This is, conditional on differences in the size of land holdings between victimized and non-victimized individuals, the former are supposed to have been less risk averse ex-ante than the latter, and thus an econometric estimate that finds an increase in risk aversion after victimization provides a lower estimate of the true effect.

Second, to test if there is evidence of selection into displacement, probit regressions of displacement – whether the household was displaced or not – were estimated on the same set of observable characteristic as before (Table 8). Again, land size is positively correlated with displacement. As expected, different specifications that control for exposure to violence, measured in different ways, also suggest that violence, is positively and significantly correlated with displacement. This, however, is a result of the geographic dynamics of violence and displacement, and of the way the sample was constructed, with violence and displacement occurring intensively in some places – where the displaced population resided pre-displacement – but not in others – where the non-displaced population resides.

The results from this section do not completely rule out that violence and displacement were not driven by endogenous selection. However, the evidence suggests that displacement was the result of exposure to traumatic episodes of violence, that both the displaced and non-displaced samples looked very much alike before the displacement episodes happened, and that even when certain observable characteristics could have made victimization more likely, the expected resulting bias would work against the hypothesis that violence and displacement induce more risk averse behavior.

[21] The assumption here is that in the absence of major shocks, non-displaced households have not suffered major changes since the moment the displaced were victimized.

The impact of Forced Displacement, Violence and Anxiety on Risk Aversion

This section first discusses the descriptive statistics on the choices made during the economic experiments, the degree of victimization, and the incidence of emotional distress across the displaced and non-displaced samples. It then presents maximum likelihood (MLE) and ordered probit estimations on the incidence of forced displacement, violence, and emotional disorders on risk aversion, in each of the three domains included in the economic experiments. Results indicate that forced displacement and violence cause a considerable shift in behavior towards more risk averse attitudes, especially in the gains and ambiguity domains, with stronger effects for those displaced or victimized most recently. Moreover, the incidence of phobic anxiety and paranoid symptoms are found to partly drive the above results, as it was hypothesized from the Appraisal Theory of Lerner and Keltner (2001). These results are robust to different specifications, and to the use of the variation in the degree of victimization and the incidence of emotional distress when the sample of displaced population is considered separately, suggesting that the findings are not due to a misspecification of the control group or to endogenous selection into displacement.

Descriptive Statistics

Figure 7 illustrates the choices made by the displaced and non-displaced samples in each task during the economic experiments, where lottery 1 corresponds to the safest lottery, and lottery 6 to the riskiest. The whisker-box plots, which depict the median choice (line within the box), the 75^{th} and 25^{th} percentiles (upper and lower bounds of the box), as well as the upper and lower choices, reveal that the economic experiments work as expected with risk aversion in the gains domain, risk loving behavior in the loss domain, and risk aversion in the ambiguity domain for both groups. This descriptive analysis provides initial evidence that risk behavior is different across both groups. In particular, median choice in the gains and ambiguity task is greater in the non-displaced group, and the distribution of risk preferences in the displaced group appears to be stretched down towards the safer lottery choices in all of the domains.

Figure 8 depicts the distributions of two different indicators of the degree of victimization for both displaced and non-displaced households. The top two graphs correspond the distribution of the total number of violent events suffered by each household in the last year and in the last five years, respectively, whereas the bottom two graphs illustrate the distribution of the number of events by type that have affected both groups in the same periods. As expected, the majority of displaced households have been affected by violence both in the previous year and in the previous five years, and only 24 out of 353 displaced households (6%) report no direct victimization in the previous five years, whe-

reas 268 out of 318 non-displaced households do not report any direct exposure to violence. Other measures of violence used before in this paper follow a similar story, and Kolmogorov-Smirnov non-parametric tests for the equality of distributions reject the null hypothesis that the distribution of victimization among both groups are the same.

Similarly, the distributions of emotional distress are different across both groups. Figure 9 depicts the distributions of z-scores for the Global Stress Index, and for other dimensions of emotional disorders, including anxiety, phobic anxiety and hostility. While the distributions of the incidence of stress for the non-displaced group resemble those of the general population – that is, population not affected by major traumatic events – the distributions for the displaced population are shifted to the right indicating severe emotional distress, most likely as a result of violence and forced displacement. Kolmogorov-Smirnov tests indicate that the distributions for all dimensions of distress, as well as for the Global Stress Index, are different across the displaced and non-displaced samples, except for the hostility dimension. The higher incidence of anxiety, phobic anxiety, and depression among the displaced population provides initial evidence that the differences in risk behavior observed in Figure 7 are driven by a high level of emotional distress, in line with the findings of Lerner and Keltner (2001), and not by endogenous selection behind the process of victimization or forced displacement.

Forced Displacement and Risk Aversion

The effect of forced displacement on risk aversion in the gains domains is estimated through maximum likelihood and ordered probit estimations (Table 9a). The MLE (first three columns) assumes a standard CRRA utility function to construct a latent index that captures the difference in the expected utility from each lottery, and then links it to observed choices in the gains domain through a multinomial logistic distribution.[22] This appeal of this framework lies in the fact that it allows the risk aversion parameter to be determined by the incidence of forced displacement, or any other treatment, and other individual characteristics. Accordingly, the average CRRA for the overall sample (obtained from an MLE estimation on a constant) is of 0.68. After controlling for pre-displacement characteristics, the length of displacement, the incidence of other shocks in the previous year, and the hypothetical earnings in the previous practice round, being a victim of forced displacement is associated with a sizeable 20 percent increase in the CRRA coefficient (from 0.68 to 0.819). Notice from the coefficients on the length of displacement, that the effect of displacement on risk aversion seems to be temporal, although more than four years are required for the risk aversion coefficient to return to its pre-displacement levels. The distribution of predicted CRRA for the displaced and non-displaced samples is portrayed in Figure 8, which further illustrates that forced displacement shifts the distribution of risk preferences towards higher levels of risk aversion.

[22] See Harrison and Rudstrom (2008) for a review on different methods to estimate risk aversion based on economic experiments.

The following three columns in Table 9a present the coefficients from ordered probit estimations that does not assume a specific form for the utility function but instead orders lottery choices from the safest (choosing lottery 1) to the riskiest (choosing lottery 6). In this estimation framework, a positive (negative) coefficient for a particular variable indicates that an increase in that variable has a negative (positive) effect on the probability of choosing the safest lottery (Cameron and Trivedi, 2010). A positive coefficient is therefore associated with a shift towards risk loving choices, and a negative coefficient with a shift towards risk averse choices. Results from the ordered probit estimations thus indicate that being a victim of forced displacement increases the probability of picking the safest lottery; this is, forced displacement is associated with a more risk averse behavior. As in the MLE, while the effect seems to be temporal, the recovery process is a slow one. Finally, Figure 11a shows the average marginal effect of forced displacement on the probability of choosing each lottery, indicating that the probability of choosing the safest lottery is eleven percent higher for victims of forced displacement.

Table 9b presents a similar picture for the loss domain. Although the effect of displacement is not significant in either the MLE nor in the ordered probit, displacement could have an important effect on risk behavior in the loss task, especially after noting that in the ordered probit estimations the coefficient increases in magnitude from -0.018 when no controls are included to -0.135 when the same set of controls as in the previous regressions are included. Although the distributions of the predicted risk aversion coefficient in the loss domain depicted in Figure 8 are not remarkably different, a Kolmogorov-Smirnov test rejects the null hypothesis that the distributions are the same, and it can be noted that displacement is associated with a slight rightwards shift in the distribution towards a more risk averse behavior. This is corroborated when the marginal effects at each choice are considered (Figure 11b), since forced displacement is associated with a lower and statistically significant probability of picking the riskiest option.

Finally, consider the effect of forced displacement on risk behavior in the ambiguity domain (Table 9c). As it was the case in the gains domain, forced displacement is found to have a sizeable and significant effect on both the estimated CRRA coefficient from the MLE (17% increase in risk aversion with ambiguous probability distributions), and on the probability of choosing the safest option in the ordered probit regression. Similarly, the coefficients on the time of displacement suggest that effect is temporary, but that several years are required for the effect of displacement to vanish. Notice in the left panel of Figure 10 that the shape of the distribution of the predicted risk aversion coefficient for the non-displaced sample looks remarkably similar to that one for the displaced sample, but that for the latter the distribution has a visible shift to the right, indicating a higher risk aversion in the ambiguity task.

In the analysis above it is not possible to know which are the factors that make displaced individuals more risk averse. As discussed in section 4, the process of forced dis-

placement entails different traumatic situations that include the being victimized, abandoning most material possessions (assets, lands, animals), migrating to and settling in an unfamiliar urban environment, poverty, and discrimination from the local population and authorities. For instance, the loss of assets and lands could make the displaced more prone to hopelessness since they could learn that loosing everything is possible, and therefore there is no sense in trying to build an asset base time or to bear any risk. Or it could be that by not being able to psychologically detach themselves from their way of life and possessions in rural areas, the displaced are more likely to suffer from stress and anxiety, just as hopelessness, relative poverty and deprivations are other possible sources of emotional distress. Finally, it could also be that the differences in the current well-being and poverty levels between the displaced and non-displaced samples bring about a reference effect that drives behavior in the economic experiments. This is, payoffs could mean different things for both groups due to differences in their levels of income and wealth, and therefore the observed choices would be the result of displacement since it drives individuals into poverty, but in line with the canonical cognitive-driven model in economic of risk behavior under uncertainty, and not driven by a psychological or emotional process.

The following two sections provide evidence that this is not the case, and that victimization and the chronic stress induced by victimization are behind the shifts in risk attitudes for the displaced population.

Victimization and Risk Aversion

The following analysis uses the variation in the degree of victimization experienced by each household, measured in different ways, to explore the impact of violence on risk preferences. To control for differences in wealth or consumption levels, that are correlated to the incidence of forced displacement, the analysis further focuses on the displaced sample only, and reveals that individuals with most intense and most recent episodes of victimization display higher risk aversion behavior during the economic experiments. While this does not completely rule out that other factors could play an important role, it provides evidence that victimization explains to a large extent the shifts in behavior observed in the displaced population, and that the results are not stemming from an inappropriate control group or from selection into violence and displacement.

Table 10a shows the effect of violence on risk behavior in the three different tasks considered. Each cell in the table reports the coefficient of the variable that is used to denote the degree of victimization (indicated in the header of the column) from an ordered probit regression of risk choices on the particular violence variable and the pre-displacement household and individual controls used in the previous sub-section. In particular, violence is measured by a dummy variable that indicates if the participant's household has been a victim of violence, the total number of violent events endured by the household, the number of events by type, and the victimization score that was constructed through

principal factor analysis. Separate regressions are carried out for the degree of victimization in the previous five years, and for the previous year.

The first row of Table 10a indicates that exposure to violence results in a higher probability of choosing the safest lotteries, and thus in a shift towards more risk averse behavior, independent of the way in which victimization is measured. The average marginal effects (not shown in the table) indicate that the probability of choosing the safest lottery is 4% and 6% higher for those who have been victims of violence in the previous five years and in the previous year, respectively. This effect is approximately half the size than the one found for victims of displacement, and thus suggests that violence plays an important role in explaining shifts in behavior among the displaced population. As mentioned before, most recent episodes of victimization induce greater shifts in the probability of choosing the safest option as measured by the size of the coefficients of victimization in the previous year. Stronger effects are found for the role that violence has on choices made during the ambiguity task, with the most recent episodes of victimization generating stronger shifts towards risk averse choices. On the other hand, violence has no effect in the loss task, as all coefficients are quite small and insignificant.

The preceding analysis has two limitations that should be addressed. First, the analysis relies on the assumption that ex-ante the displaced population was similar to the non-displaced. Although the descriptive data provided at the beginning of this section suggests that the sample is balanced, ex-ante observable and unobservable differences could confound the effects of the impact of violence on risk aversion. Moreover, the concern that both samples are quite different ex-post still remains, and that since the non-displaced have been rarely victimized, measures of violence could only be proxies for the incidence of forced displacement, and therefore they would be capturing other circumstances that characterize the displacement process.

To address these concerns, the analysis that follows uses the variation in the degree of victimization but only for the displaced sample. Recall that forced displacement imposes considerable asset losses to more than 70 % of the displaced population, condenses the asset distribution towards the lower mean, and results in drops in consumption and income the majority of the displaced population (Ibañez and Moya 2010, 2010a). Therefore, by restricting the analysis to the sample of displaced individuals, concerns for ex-ante differences and ex-post circumstances are attenuated. Table 10b presents the results of separate ordered probit regressions of choices on a set of different variables that capture the degree of victimization, as in the preceding table. Results indicate, once more, that victimization is associated with higher levels of risk aversion in the gains and in the ambiguity domains, and with even stronger effects for episodes of recent victimization. Note that the size of the coefficients is remarkably close to those when the full sample is considered, suggesting that violence in fact brings about a shift in risk attitudes, and that the results are not driven by an inadequate control group or by selection

into violence and into displacement. In fact, if displacement was driven by endogenous selection, this is by fearful individuals and risk averse who migrate due to slight exposure to violence, a greater violence should then be either spuriously associated with lower levels of risk aversion (in the case that there are no true effects of violence on risk aversion), or not associated with risk aversion (in the case that violence induces higher risk aversion, but the comparison between the victimized and non-victimized works in opposite direction cancelling themselves). This is to say that if there is in fact an endogenous selection into displacement, the results presented in Tables 10a and 10b are lower estimates of the true effects.

Additional analysis is still required to completely rule out that the differences in observed behavior do not arise from the size of the asset shock or from differences in wealth and consumption levels at destination sites. For this reason, the data on the size and value of the asset shock, as well as on the levels of consumption will be included in the empirical analysis to account for the effects that they bring about on risk attitudes, but perhaps more importantly, to identify if the asset shock and poverty also shift risk preferences.

Emotional Distress and Risk Aversion

This section employs the data on emotional distress obtained from the SCL-90-R Chronic Stress questionnaire to test if the above results are driven by the incidence of particular psychopathologies. Recall that the 'Risk as Feelings' Theory (Lowenstein, et al., 2001) proposes an alternative interpretation of decision-making under risk to the canonical model in economics, which assumes that behavior is driven by a cognitive evaluation of probabilities and outcomes. Drawing on a wide body of evidence, this framework suggests that emotions play an important role and often drive the decision making process. This body of literature therefore provides a framework that explains why it is plausible to find that victims of violence and forced displacement become more risk averse, and that predicts that the incidence of anxiety and fear is presumably driving such behavioral changes.

To test these predictions, the choice in each domain was regressed on the nine different dimensions of emotional distress that can be constructed from the SCL-90-R data. For each domain the analysis was implemented with and without controlling for the same set of individual and household characteristics included in the previous analysis, and again by estimating the effects on the full sample as well as on the displaced sample. The results for the gains domain in Table 11a indicate that phobic anxiety is partly explaining the increase in risk aversion among the victims of forced displacement and violence, as a higher level of phobic anxiety is associated with a higher probability of choosing the safest lottery. Moreover, the average marginal effects indicate that a one-unit increase in the phobic anxiety z-score is associated with a1 percentage point increase in the probability of choosing the safest lottery. In the loss domain, general anxiety induces an increase in risk aversion only when the displaced sample is considered separately, while hostility is associated with lower levels of risk aversion (Table 11b). Finally, in the ambi-

guity task paranoid symptoms are associated with greater levels of risk aversion while hostility is again shown to increase risk-loving preferences. None of these results are surprising as they are precisely what Lerner and Keltner (2001) finds, in particular that although symptoms of anxiety and anger have the same negative valence, they result in different behavior al patterns with the former being more risk averse and the latter more risk loving.

In summary, the results from this section indicate that victims of forced displacement and violence become more risk averse as a direct consequence of the process of displacement, of direct exposure to traumatic episodes of violence, and of a high incidence of anxiety. While other factors that are a product of forced displacement, such as asset losses and poverty, can also explain differences in the observed behavior, the analysis of the last two sub-sections suggests that violence and the traumatic effects of violence partly explain the magnitude and direction of such behavioral changes. A more thorough analysis is still required to address the effect of asset losses and poverty on risk behavior, and to test if the variation in the level of exposure to violence in fact explains the variation in the level of emotional distress observed in the displaced population.

7.-Conclusions

"No one endures war-related traumatic events unchanged".[23] The incidence of emotional distress can become an additional obstacle for the economic recovery of victims. Social and clinical psychologists have shown that the prevalence of emotional distress and trauma often has many negative consequences that go beyond the direct effects on mental health. PTSD, fear, depression, and anxiety, for instance, impair social functioning, hinder the ability to perform tasks, and could also bring about negative shifts in behavior. In particular, the prevalence of emotional distress and psychopathologies can make victims more risk averse, and by doing so it can distort economic behavior and choices in a worrisome way and can therefore have negative consequences for welfare dynamics.

This paper analyzes how risk preferences change after a shock of violence in the context of the Internally Displaced Population in Colombia using data from an economic experiment designed to measure risk attitudes, a psychological questionnaire, and a survey-module on exposure to violence from a sample of 665 displaced and non-displaced rural individuals. The paper finds a troublesome trend of risk aversion among those individuals who were forced to migrate by violence, were more directly exposed to violence, and report a high incidence of emotional distress. The research design and the econometric analysis that was implemented attenuate concerns that the results are the result of endogenous selection into violence and into displacement of intrinsically risk averse individuals. Furthermore, the detailed data on victimization and on the incidence of anxiety and other psychopathologies suggests that even when other circumstances that result from the dynamics of forced displacement could also play a role in shifting risk attitudes, violence and the resulting emotional distress play a considerable role in making victims more risk averse.

An important finding of this paper is that the shifts in risk preferences are not permanent, and that victims' preferences seemingly return to their pre-displacement levels. Notwithstanding, several years are required for victims to recover, and at least from a theoretical perspective there are concerns that the temporal shock to preferences can have long-lasting consequences on welfare trajectories. These behavioral changes can then reinforce the already disturbing welfare consequences if forced displacement and become obstacles for the economic recovery of the displaced population.

The results from this paper are at odds with recent research from experimental economics that has found positive behavioral trends among victims of violence and civil conflicts. In particular, the paper by Voors et al. (forthcoming), finds that victims of the ethnic genocide in Burundi display become less risk averse, which could then indicate that the episodes of victimization were followed by episodes of post-traumatic growth. Many fac-

[23] Ursano and Shaw, 2007, pg1.

tors could explain the differences in the results between these two papers, some related to the nature of violence and the events that happened afterwards in each country, but others related to the research design in each paper, that therefore merit to be discussed. First, violence in Colombia was followed by forced displacement, which in turn brought about many changes and new circumstances for the victims. This paper makes an explicit attempt to control for some of the diverse and worrisome consequences of displacement, and to isolate the effect of violence. In the paper of Voors and colleagues there is a reference that the genocide in Burundi left 1.2 million people displaced, but there is no mention to whether a segment of the victims surveyed had been displaced or not, or on the possible different effects for those that were displaced.

Perhaps more important, major differences in the analysis could arise from the fact that the economic experiments in Burundi were administered several years after the episodes of victimization, whereas those in Colombia were applied with a population that had just been victimized. For instance, the conflict in Burundi ended with a peace agreement in 2005 and aid and assistance programs for the victims could have been instituted. If this were the case, aid would then be endogenous to victimization and would confound the real effect of violence on risk preferences. Moreover, violence in Burundi was much more intense during the initial years of the ethnic conflict which started in 1993. Since the economic experiments were administered in 2009, and the main measure of violence is the total number of dead between 1993 and 2003, some of the victims surveyed could have experienced violence 16 years before.

Many things can happen during that long period of time. The psychology literature discussed before, for instance, indicates that victims seemingly recover several years after the victimization episodes, and therefore that it is important to take into account the effect of time. One of the contributions of this paper lies precisely in that a proportion of the displaced population included in the sample is composed by recent victims – almost half of the displaced sample was displaced in the previous year, and ten percent had been displaced less than two weeks before the economic experiments were administered – who were suffering from intense emotional distress as measured by the incidence of chronic stress and anxiety. The variation in the length of displacement allows to control for the effect of time, and the result not only suggest that over four years are required for preferences to return to their pre-displacement levels, but also that most recent episodes of victimization have stronger effects on risk preferences. In fact, in the econometric analysis discussed in the previous section, when the length of displacement is not accounted for, the effect of forced displacement is approximately half the size of what it is when the time that has lapsed since the episodes of violence is included (see the first and fourth columns of Tables 9a, 9b, 9c). This indicates that victims seemingly recover with time, and that after 16 years, victims' preferences could have already returned to their pre-violence levels, without implying that violence brings about positive trends in behavior. Finally, while Voors and colleagues mention that the risk loving behavior

among victims is due to the incidence of anger, as predicted by Lerner and Keltner (2001) there is no data to substantiate this claim. This paper further contributes to the literature on the behavioral consequences of violence and civil conflict by linking observed behavior in the economic experiments with data for the incidence of emotional distress. The data collected in the SCL-90-R questionnaire allows to address if the observed changes in risk behavior are in fact driven by emotions, and to provide evidence that these changes are not driven by misspecifications in the sample or by endogenous selection into violence and into displacement. As it was shown in the previous section, several dimensions of emotional disorders in fact provide evidence that the emotional reactions to traumatic events are the underlying factors driving the dissimilar risk behavior between the displaced and the non-displaced samples. The above discussion should not be interpreted as a rejection of the result from Voors and colleagues. Quite the contrary, it is an acknowledgment that research in conflict scenarios is a challenging task that for obvious reasons cannot benefit from other more appealing methods, such as randomization, but that despite these challenges it is a promising and important area of research, that it deals with critical and unknown phenomena that have important policy connotations.

The findings from this paper, in fact, highlight the need to provide psychological assistance to victims of violence and civil conflict to restore mental health but also to encourage appropriate economic decisions that could foster movements out of poverty. This, at least in the context of Colombia, is critical and is disregarded in the set of policies designed to assist the displaced population. Colombia for instance, among all countries in South America, is the nation that devotes the least amount of resources, as a percentage of the national health budget, to the diagnostic and treatment of mental disorders in spite of the fact that it is the country that the incidence of violence has taken a toll on the mental health of a wide segment of the population (Doctors Without Borders, 2010). For instance, in the departmental capitals that were visited for this paper's fieldwork, only one psychologist is assigned to assist the hundreds of displaced individuals that each week arrive fleeing from violence, while in the smaller municipalities where the massively displaced communities were located, only sporadic psychological assistance is offered through mobile laboratories from the Colombian Institute for Household Welfare (Instituto Colombiano de Bienestar Familiar). The negative mental health and welfare connotations of the incidence of violent-related emotional distress found in this paper should then serve to promote better policy interventions for the displaced population and for the victims of the civil conflict.

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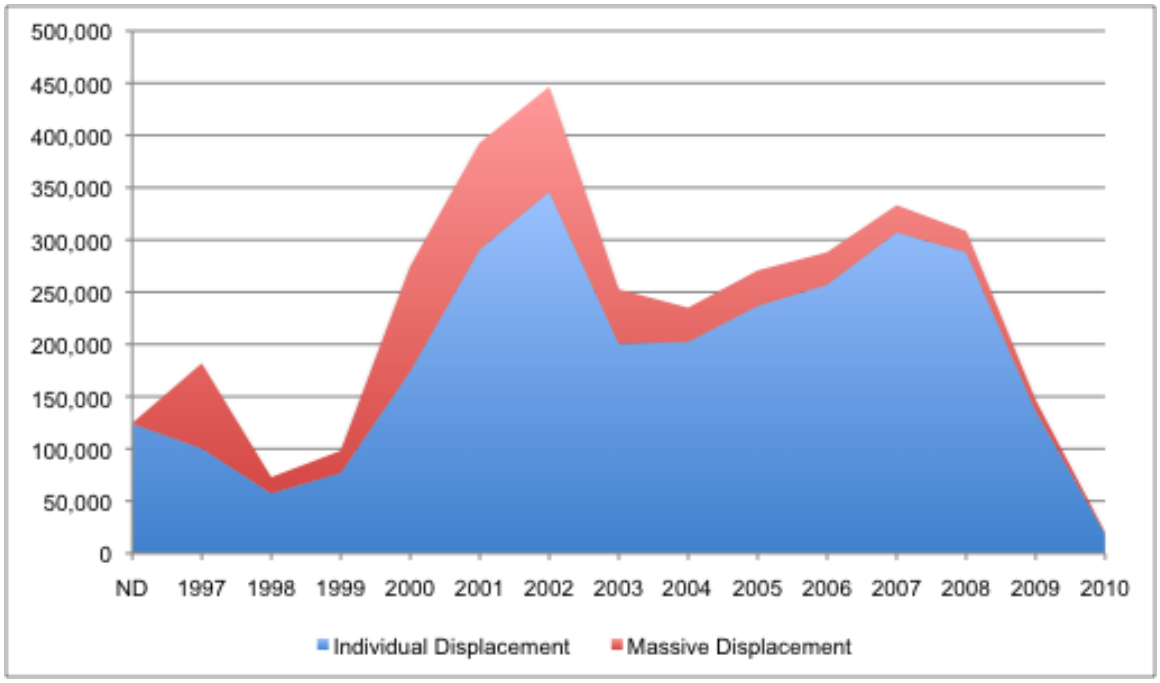
ANEXO 1. Tables and Figures

Figure 1. Evolution of Forced Displacement in Colombia 1997 - 2010

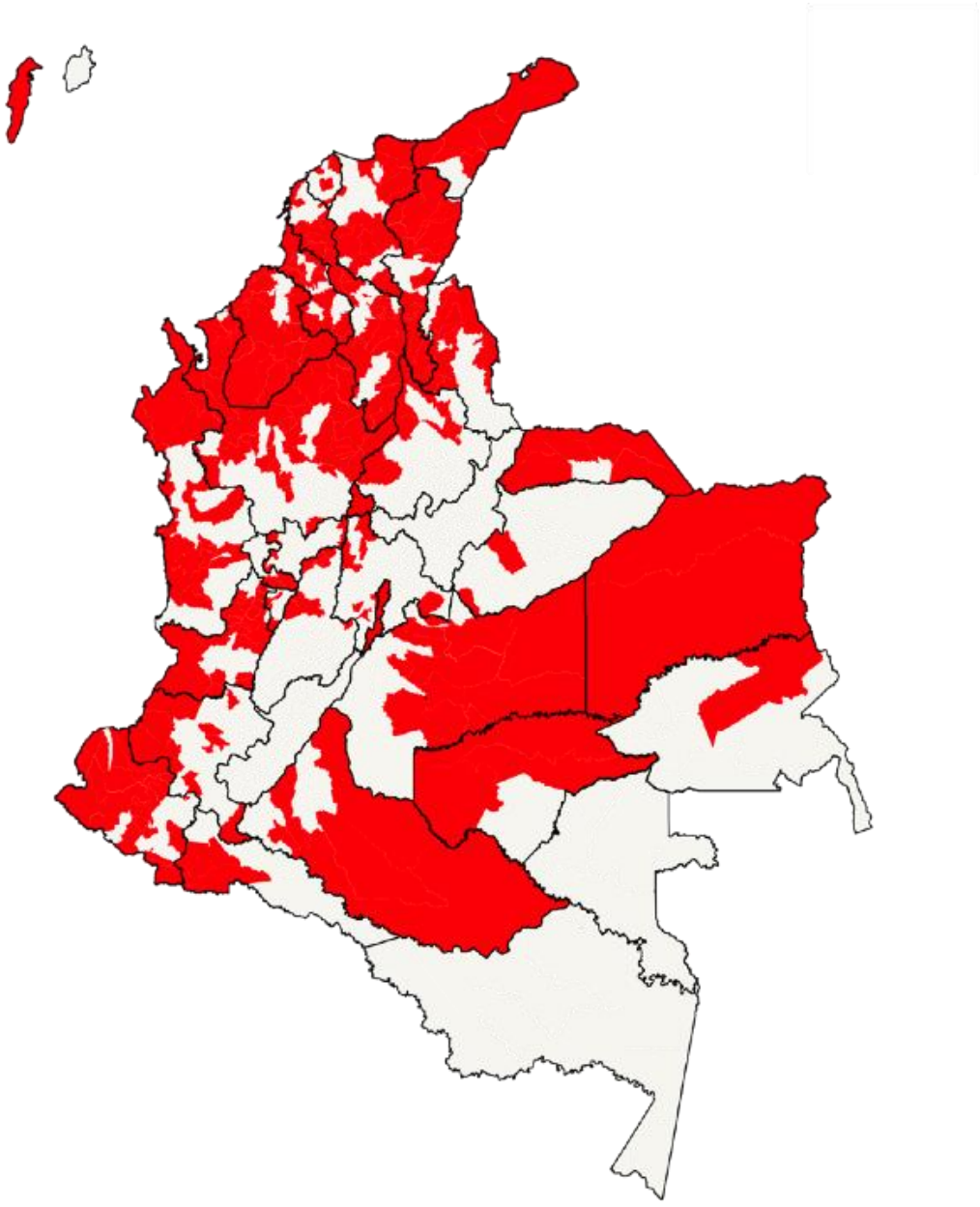


Source: Observatorio Nacional de Desplazamiento Forzado, Registro Único de Población Desplazada. May 2010

Figure 2. Intensity of Displacement by Municipality 1997 – 2010 (To be included)

Figure 3. Intensity of Displacement by Municipality 2006 – 2010 (To be included)

Figure 4. Presence of "Criminal Bands" - 2011



Source: Indepaz (2011) "Sexto informe sobre presencia de grupos narcoparamilitares. Primer semestre 2011"

Figure 5. Geographical Location of Treated and Non-Treated Municipalities

(To be included)

Figure 6a. Risk Aversion Experiment – Gains Domain

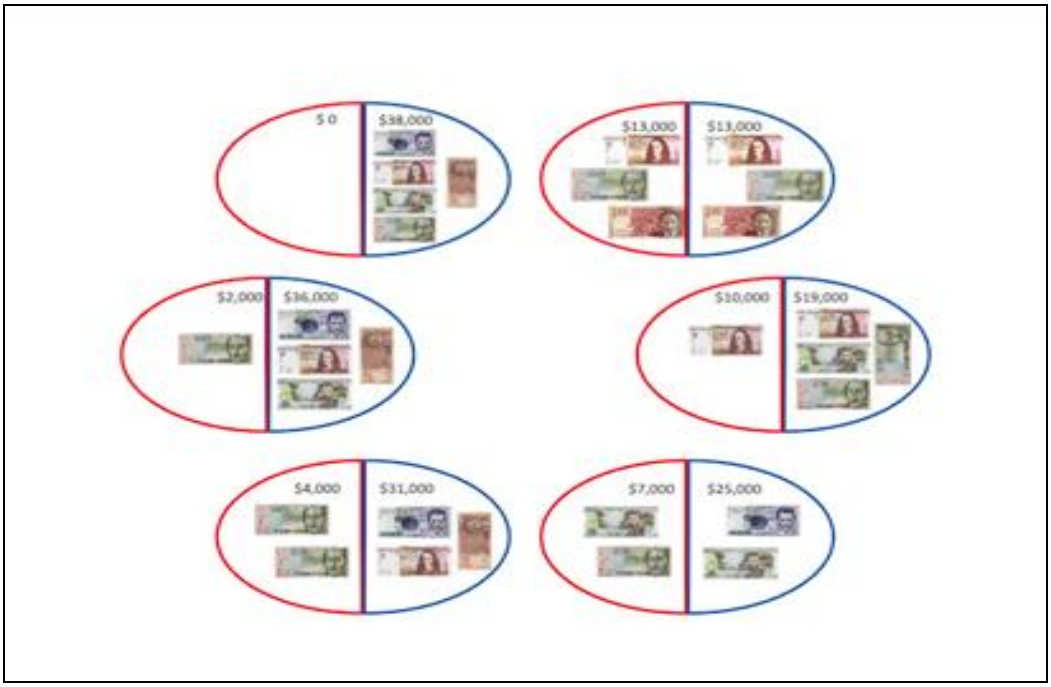


Figure 6b. Risk Aversion Experiment – Loss Domain

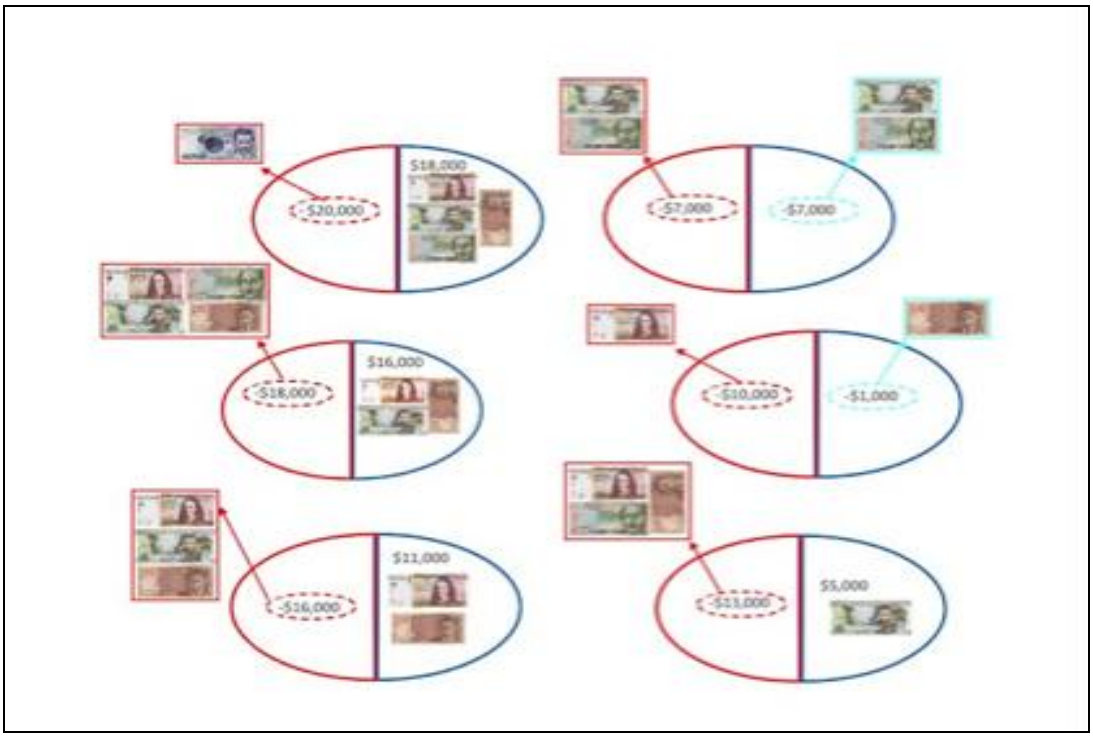


Figure 6c. Risk Aversion Experiment – Ambiguity Domain

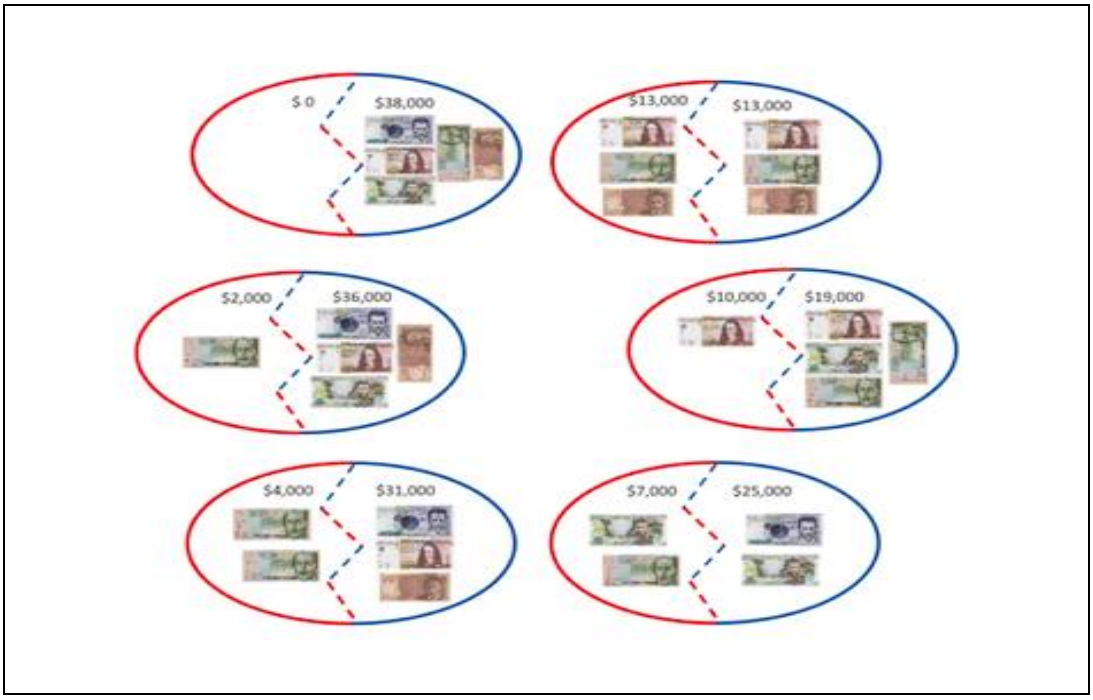


Figure 7. Lottery Choices by Group

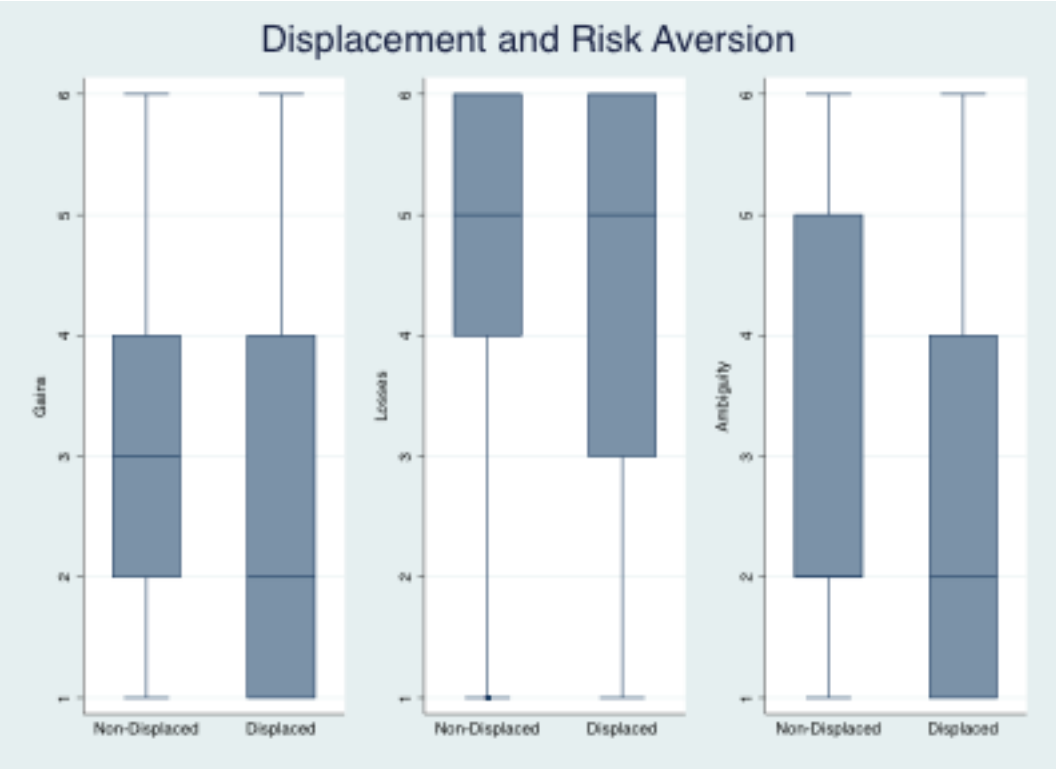


Figure 8. Exposure to Violence by Group

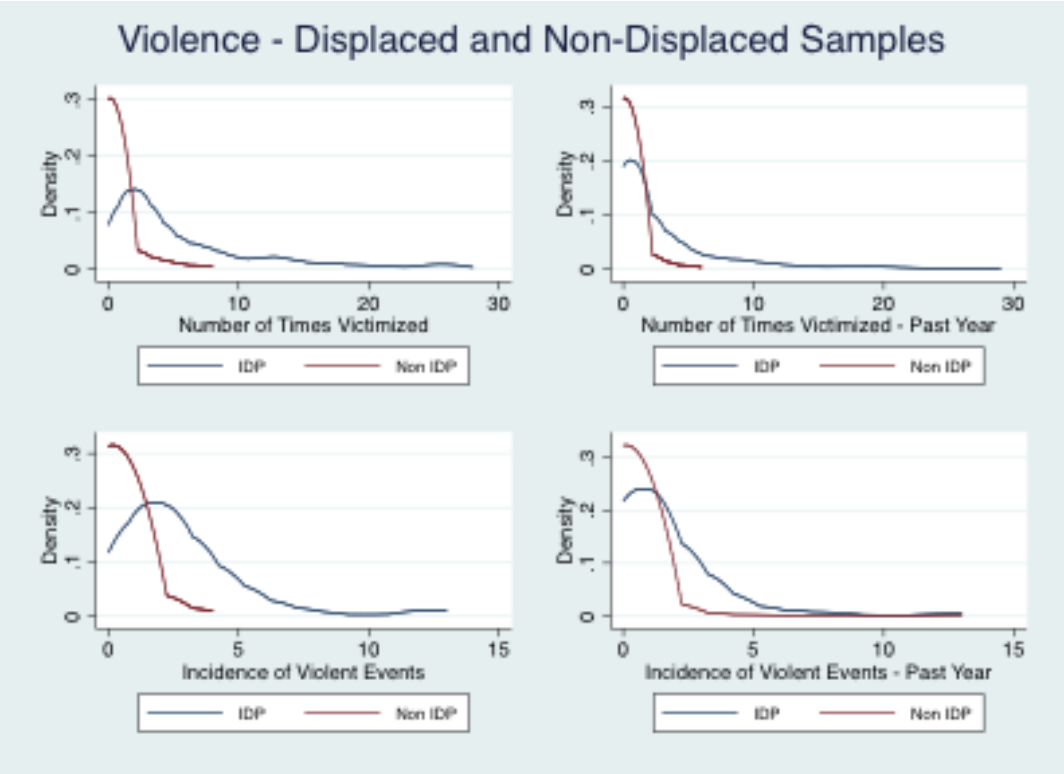


Figure 9. Emotional Distress by Group

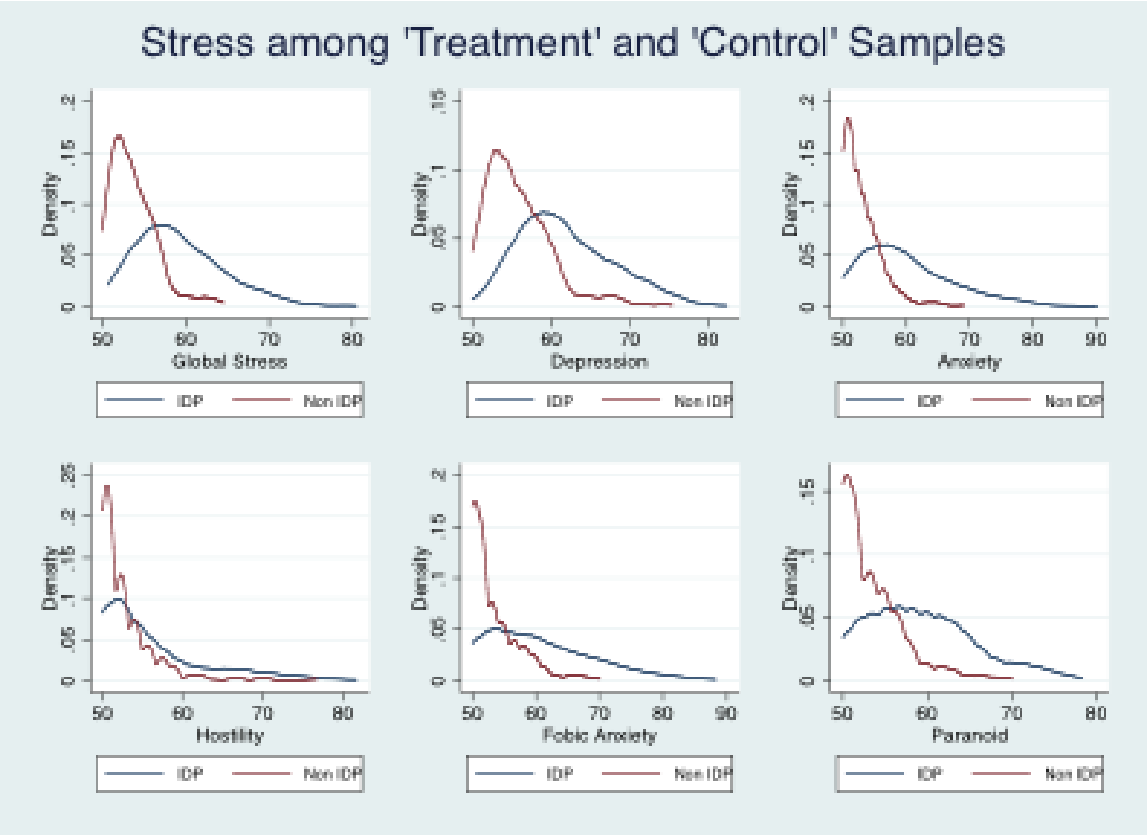


Figure 10. Predicted MLE Risk Aversion Distributions

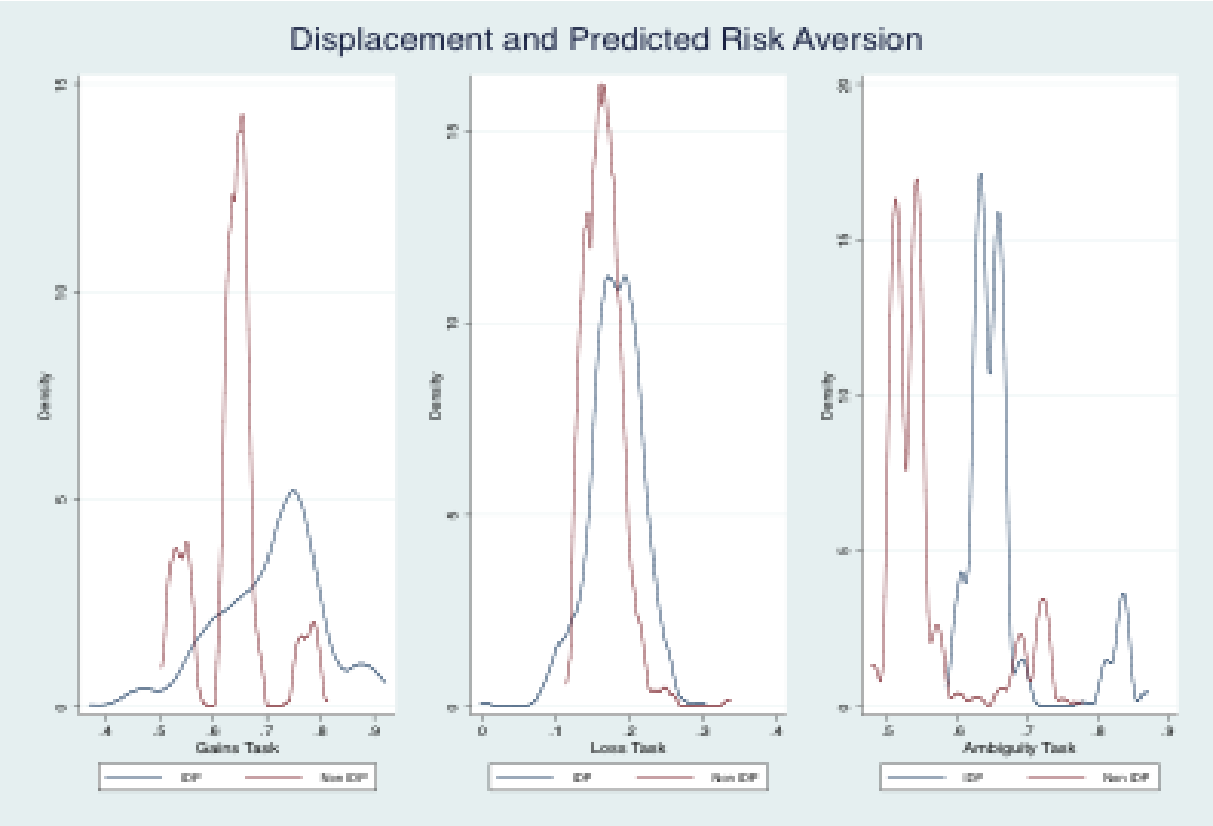


Figure 11a. Ordered Probit Marginal Effects: Forced Displacement and Risk Aversion – Gains Task

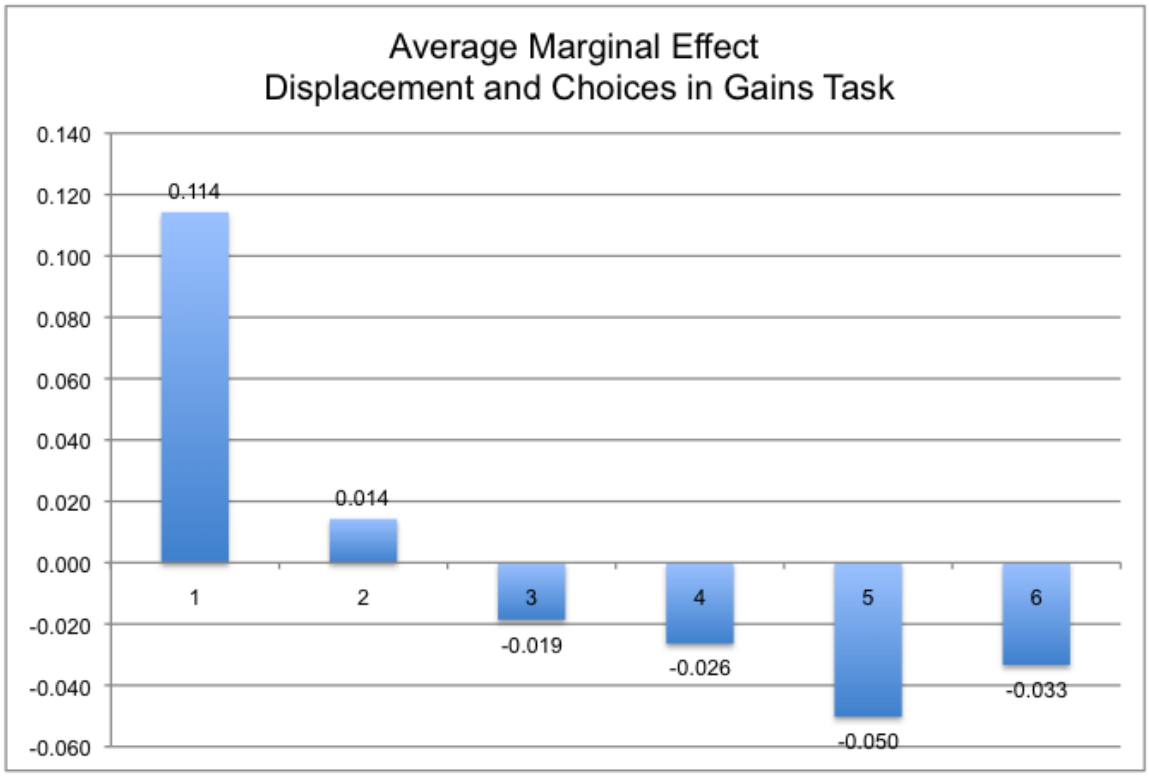


Figure 11b. Ordered Probit Marginal Effects: Forced Displacement and Risk Aversion – Loss Task

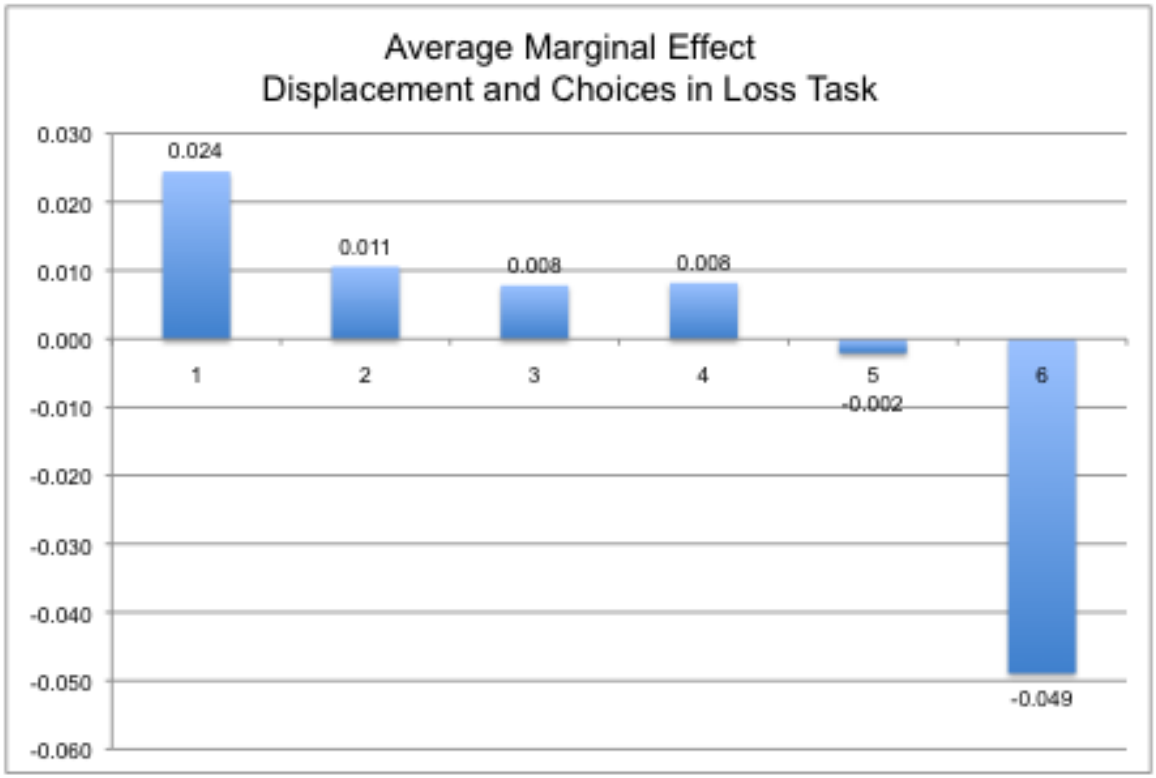


Fig-ure

Figure 11c. Ordered Probit Marginal Effects: Forced Displacement and Risk Aversion – Ambiguity Task

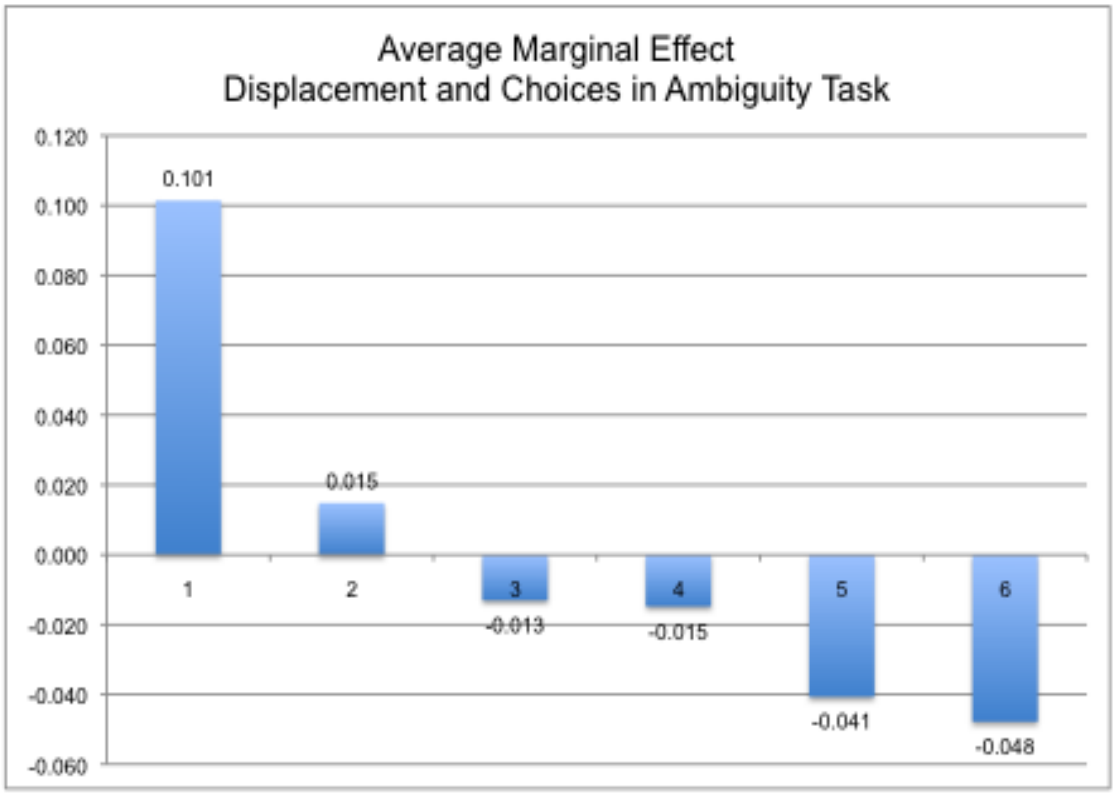


Table 1. Triggers of Displacement – ENDH 2004

Event	Proportion of the Sample
Type of events triggering displacement	
Threats	0.65
Indiscriminate Violence	0.56
Combats	0.47
Assasinations	0.45
Order to migrate	0.41
Not cooperating with a group	0.37
Massacres	0.30
Attacks	0.27
Recruitment	0.22
Dissapearances	0.19
Kidnapping	0.12
Spraying of Crops	0.08
Occurrence of events triggering displacement	3.12 [2.45]

Source: Universidad de los Andes, ENHD - 2004

Table 2. Massive Displacement by Department 1997 – 2010

Department	NR	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	1997 - 2010 Total	1997 - 2010 Proportion of Massive Displacements	2005 - 2010 Total	2005 - 2010 Proportion of Massive Displacements
Nariño						1,621	1,391	1,270	823	5,192	5,356	15,991	6,712	4,221	1,116	43,693	6.9%	38,588	31.3%
Antioquia	86	40,773	12,242	4,303	41,360	29,932	10,577	7,146	5,765	7,304	4,215	1,937	1,389	799	85	167,913	26.7%	15,729	12.8%
Chocó	65	35,701	1,920	1,646	6,769	11,248	19,947	4,824	5,747	4,987	1,962	3,713	1,997	1,973	210	102,709	16.3%	14,842	12.1%
Cauca					3,453	7,696	5,613	1,383	337	4,450	1,999	63	2,879	912		28,785	4.6%	10,303	8.4%
Valle del Cauca		116		126	4,468	8,790	1,381	11,713	103	296	6,484	1,187	793	630	12	36,099	5.7%	9,402	7.6%
Caldas						2,486	11,840	3,791	3,071	5,351	1,134	258				27,931	4.4%	6,743	5.5%
Arauca					64		1,390	715	216	232	1,413	1,264	2,502	180		7,976	1.3%	5,591	4.5%
Meta				8		157	1,744	2,487	838	1,147	3,051	221	465	65		10,183	1.6%	4,949	4.0%
Bolivar	32	12	366	895	19,846	11,782	2,878	2,060	513	748	2,132	122	119	149		41,654	6.6%	3,270	2.7%
Córdoba		3,669	423	4,549	2,962	7,697	2,254	877		499	21		1,640	772		25,363	4.0%	2,932	2.4%
Putumayo					5,064	1,474	488	1,779	8	509	1,075	148				10,545	1.7%	1,732	1.4%
La Guajira		426		129	92	246	2,097	2,373	5,279	1,072	337	4		189		12,244	1.9%	1,602	1.3%
Norte de Santander				4,061	1,125	556	10,426	2,161	249	693	382	110	147			19,910	3.2%	1,332	1.1%
Cesar	7	268		53	3,476	1,637	907	664	1,006	439	136	240	283	80		9,196	1.5%	1,178	1.0%
Guaviare						545	404	1,825	238	71	388	154	492			4,117	0.7%	1,105	0.9%
Magdalena		33	475	5,347	7,009	10,428	18,267		849	81	14	435	426			43,364	6.9%	956	0.8%
Tolima					197	2,469	2,043	513	399	281	555	47	8			6,512	1.0%	891	0.7%
Total	524	81,393	15,426	21,132	100,424	102,055	100,460	51,987	32,638	33,881	30,978	26,068	20,190	10,468	1,509	629,133		123,094	

Source: Observatorio Nacional de Desplazamiento Forzado, Registro Único de Población Desplazada. Sept 2010

Table 3. Treated and Control Municipalities – Massive and Individual Displacement

Selected Municipalities	Department	Massive Displacement			Individual Displacement
		1997 -2007	2008 - 2010	Total	Total
		Displaced Sample			
Caribbean					
Montelibano	Cordoba	458	0	458	14,645
Puerto Libertador	Cordoba	298	1,669	1,967	17,966
San Pelayo	Cordoba	0	101	101	497
Tierralta	Cordoba	14,278	642	14,920	41,469
Valencia	Cordoba	7,546	0	7,546	
Central					
Colombia	Huila	1027	749	1,776	3,909
Chaparral	Tolima	1027	749	1,776	12,601
Dolores	Tolima	476	0	476	3,514
San Antonio	Tolima	446	0	446	6,677
Rioblanco	Tolima	74	0	74	18,402
		Non Displaced Sample			
Caribbean					
Cereté	Córdoba	0	0	0	561
Ciénaga de Oro	Córdoba	0	0	0	438
Sahagún	Córdoba	0	0	0	734
Chinú	Córdoba	0	0	0	416
Sampués	Sucre	0	0	0	459
Central					
Natagaima	Tolima	1,129	0	1,129	5,724
Ortega	Tolima	0	0	0	6,792
Purificación	Tolima	75	0	75	1,520
Colombia		596,966	32,167	629,133	2,816,621

Source: Observatorio Nacional de Desplazamiento Forzado, Registro Único de Población Desplazada. Sept 2010

Table 4a. Municipal Characteristics – Treated and Non-Treated Municipalities Central Region

2000 - 2010 Averages	Displaced Sample					Non Displaced Sample		
	Colombia	Chaparral	Dolores	San Antonio	RioBlanco	Natagaima	Ortega	Purificación
Geographic								
Department	Huila	Tolima	Tolima	Tolima	Tolima	Tolima	Tolima	Tolima
Area (km)	1538	2229	672	407	1136	862	960	433
Altitude	850	854	1445	1448	900	326	402	329
Land quality index	1.97	2.42	2.1	4	4.46	2.73	2.69	2.55
Distance to departamental capital (km)	100	151	155	407	194	112	102	433
Distance to main economic centers	253	242	241	232	259	238	223	220
Socio-economic								
Population	10,623	43,906	9,543	16,745	31,541	24,775	33,978	25,224
	[545.331]	[2,798.483]	[743.892]	[1,235.249]	[4,245.396]	[1,352.494]	[1,072.096]	[2,018.269]
Rurality index	3.86	0.87	1.25	2.13	5.57	0.95	3.99	1.01
	[0.652]	[0.091]	[0.208]	[0.284]	[0.975]	[0.387]	[0.561]	[0.177]
Poverty rate	0.44	0.65	0.55	0.65	0.65	0.65	0.65	0.55
	[0.026]	[0.023]	[0.016]	[0.023]	[0.023]	[0.023]	[0.023]	[0.016]
Gini coefficient	0.44	0.48	0.46	0.48	0.48	0.48	0.48	0.46
	[0.004]	[0.015]	[0.004]	[0.015]	[0.0159]	[0.0159]	[0.015]	[0.004]
Unmet Basic Needs (% of population)	58.33	51.53	41.52	54.07	66.13	53.01	68.89	37.36
	[6.183]	[3.872]	[3.411]	[3.463]	[2.371]	[5.762]	[3.811]	[3.969]
Unmet Basic Needs - Rural Area (% of population)	68.50	73.02	55.93	61.11	72.33	65.79	74.92	47.11
	[2.0075]	[0.949]	[5.642]	[3.714]	[0.337]	[10.348]	[6.101]	[5.312]
Index of Land Informality	0.40	0.23	0.55	0.15	0.39	0.26	0.28	0.18
	[0.053]	[0.027]	[0.031]	[0.006]	[0.006]	[0.006]	[0.017]	[0.027]
School attendance (% of population 5 - 24 years of age)	45.83	55.18	57.08	51.28	40.83	61.23	56.45	62.98
	[8.404]	[3.109]	[1.272]	[13.910]	[9.889]	[3.467]	[8.481]	[2.307]
Institutional								
Fiscal performance index	56.67	54.56	48.35	55.07	55.52	52.40	58.31	61.25
	[3.309]	[5.057]	[5.587]	[2.093]	[3.840]	[6.502]	[5.843]	[5.942]
Presence of Agrarian Bank	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Presence of Commercial Banks	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Presence of Health Center	Yes	No	No	No	No	No	Yes	No
Total Number of Instititutions	22	62	23	17	19	25	22	46
	-	-	-	-	-	-	-	-
Violence in 1948 - 1953	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Civil Conflict								
Homicide rate	73.73	75.14	76.71	98.67	65.98	48.22	46.58	21.34
	[78.286]	[26.303]	[62.152]	[60.552]	[52.533]	[28.146]	[18.607]	[20.492]
Coca Leaf Crops (Ha)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	[0]	[0]	[0]	[0]	[0]	[0]	[0]	[0]
ELN (presence of)	0.00	0.18	0.00	0.00	0.00	0.00	0.06	0.00
	[0]	[0.392]	[0]	[0]	[0]	[0]	[0.242]	[0]
FARC (presence of)	0.76	0.94	0.88	0.76	0.88	0.82	0.65	0.76
	[0.437]	[0.242]	[0.332]	[0.437]	[0.332]	[0.392]	[0.49]	[0.437]
Paramilitaries (presence of)	0.12	0.35	0.06	0.00	0.18	0.18	0.29	0.00
	[0.332]	[0.492]	[0.242]	[0]	[0.392]	[0.392]	[0.469]	[0]
Criminal Bands (presence in 2011)	No	No	No	No	No	No	No	No

Source: Own calculations using "Base de datos municipales 1993-2010" Facultad de Economia. Universidad de los Andes.

Table 4b. Municipal Characteristics – Treated and Non-Treated Municipalities Atlantic Region

2000 - 2010 Averages	Displaced Sample					Non Displaced Sample				
	Montelibano	Tierralta	Puerto Libertador	Valencia	San Pelayo	Cereté	Ciénaga de Oro	Chinú	Sahagún	Sampués
Geographic										
Department	Córdoba	Córdoba	Córdoba	Córdoba	Córdoba	Córdoba	Córdoba	Córdoba	Córdoba	Sucre
Area (km)	1,899	4,728	2,062	968	470	266	644	624	993	209
Altitude	55	135	55	130	25	19	25	123	82	160
Land quality index	2.58	2.36	1.8	3.02	4.84	5.2	5	4.3	4.94	3
Distance to departamental capital (km)	114	100	170	85	30	18	35	94	71	17
Distance to main economic centers	355	387	355	397	440	433	429	443	431	448
Socio-economic										
Population	58,698.81	69,595.13	26,559.11	29,276.97	36,634.52	81,916.66	45,081.47	40,335.06	110,338.80	39,325.45
	[12,045.240]	[8,839.295]	[7,496.864]	[4,494.685]	[2,532.335]	[5,087.913]	[6,841.085]	[2,772.756]	[1,6837.060]	[4,010.325]
Rurality index	0.68	1.46	1.74	1.83	5.32	0.71	1.42	1.12	1.08	1.2
	[0.121]	[0.072]	[0.182]	[0.030]	[0.690]	[0.041]	[0.075]	[0.068]	[0.240]	[0.187]
Poverty rate	0.66	0.71	0.66	0.71	0.65	0.65	0.65	0.67	0.67	0.65
	[0.092]	[0.098]	[0.092]	[0.098]	[0.112]	[0.112]	[0.112]	[0.118]	[0.118]	[0.158]
Gini coefficient	0.45	0.42	0.45	0.42	0.45	0.45	0.45	0.46	0.46	0.46
	[0.021]	[0.034]	[0.021]	[0.034]	[0.018]	[0.018]	[0.018]	[0.010]	[0.010]	[0.001]
Unmet Basic Needs (% of population)	55.45	74.18	67.73	75.25	68.82	52.03	57.71	56.4	61.55	75.74
	[6.206]	[4.165]	[8.749]	[4.903]	[4.346]	[2.929]	[8.091]	[5.708]	[5.591]	[3.628]
Unmet Basic Needs - Rural Area (% of population)	70.02	89.46	76.43	87.22	72.88	67.12	72.83	70.06	73.58	84.72
	[8.419]	[1.698]	[16.771]	[1.140]	[6.173]	[0.801]	[0.679]	[4.267]	[9.175]	[2.602]
Index of Land Informality	0.46	0.74	0.39	0.57	0.13	0.08	0.09	0.07	0.09	0.07
	[0.149]	[0.050]	[0.036]	[0.098]	[0.011]	[0.009]	[0.010]	[0.007]	[0.007]	[0.006]
School attendance (% of population 5 - 24 years of age)	60.92	52.89	52.67	53.99	64.85	67.71	62	63.77	64.27	60.141
	[4.441]	[3.603]	[5.441]	[4.772]	[8.738]	[4.328]	[5.872]	[6.995]	[3.509]	[9.609]
Institutional										
Fiscal performance index	61.51	58.39	51.54	56.04	56.11	55.12	50.21	57.05	60.45	56.62
	[5.779]	[6.017]	[11.502]	[6.831]	[4.448]	[13.396]	[8.630]	[3.871]	[3.722]	[4.227]
Presence of Agrarian Bank	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Presence of Commercial Banks	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Presence of Health Center	No	No	Yes	No	Yes	Yes	No	No	No	Yes
Total Number of Instititutions	50	43	21	23	28	71	36	34	65	10
Violence in 1948 - 1953	No	No	0	0	0	No	No	No	No	Yes
Civil Conflict										
Homicide rate	26.94	45.9	62	36.44	20.69	15.96	14.73	18.48	12.22	0
	[15.061]	[22.100]	[70.286]	[30.166]	[10.119]	[7.945]	[8.541]	[15.105]	[6.042]	[0.000]
Coca Leaf Crops (Ha)	323.16	412.4	405.18	13.9	0	0	0	0	0	0
	[316.889]	[333.185]	[360.332]	[30.802]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
ELN (presence of)	0	0.06	0	0	0	0	0	0	0	0.058
	[0.000]	[0.243]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
FARC (presence of)	0.59	0.94	0.88	0.41	0.12	0	0.06	0.06	0.06	0.06
	[0.507]	[0.243]	[0.332]	[0.507]	[0.332]	[0.000]	[0.243]	[0.243]	[0.243]	[0.243]
Paramilitaries (presence of)	0.24	0.47	0.29	0.35	0.06	0	0	0	0.12	0.18
	[0.437]	[0.514]	[0.470]	[0.493]	[0.243]	[0.000]	[0.000]	[0.000]	[0.332]	[0.393]
Criminal Bands (presence in 2011)	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Source: Own calculations using "Base de datos municipales 1993-2010" Facultad de Economia. Universidad de los Andes.

Table 5. Triggers of Displacement and Sample Characteristics

	Mean	Std. Dev	Min	Max
Displacement Process				
Number of times displaced	1.122	[0.361]	1	3
One displacement	89.1%			
Two displacements	9.80%			
Three displacements	1.10%			
Length of Displacement (Years)	2.462	[-3.283]	0.01	10
Less than one year	0.442			
Between a year and five years	0.394			
Between five and ten years	0.147			
Displacement Triggers				
Number of events (by type) leading to the displacement of household	2.988	[2.789]	0	13
Number of events (by type) leading to the displacement of neighbors	3.031	[3.426]	0	13
Type of Violent Events Triggering Displacement				
Threats	0.705			
Combats	0.439			
General Violence	0.292			
Order to migrate	0.286			
Assasinations	0.235			
Recruitment	0.215			
Attacks	0.204			
Massacres	0.144			
Dissapearances	0.125			
Extorsion	0.110			
Kidnaps	0.096			
Mines	0.076			
Sexual Violence	0.059			
Sample of Displaced Households				
Number of Displaced Households	353			
Massively Displaced - Tierralta & Montelibano	146			
Individual and Massively Displaced - Sincelejo	77			
Individually Displaced - Tolima	130			
Sample of Non-Displaced Households				
Number of Non-Displaced Households	318			
ELCA households - Atlantic Region	164			
ELCA households - Central Region	154			

Table 6. Sample Balance – Pre-Displacement Characteristics

	Non _Displaced	Displaced	Total	Sample Mean Difference (t-test)
Age of Household Head	47.67	41.23	44.31	6.432***
	[-12.92]	[-13.41]	[-13.56]	[6.29]
Male Household Head	0.434	0.389	0.411	0.0449
	[-0.496]	[-0.488]	[-0.492]	[1.18]
Married	0.679	0.608	0.642	0.0712
	[-0.468]	[-0.489]	[-0.48]	[1.91]
Household Size	4.896	4.816	4.854	0.0807
	[-2.231]	[-2.277]	[-2.254]	[0.46]
Literate Household Head	0.745	0.824	0.786	-0.0789*
	[-0.436]	[-0.381]	[-0.41]	[-2.49]
Years of Education of Household Head	5.589	5.723	5.661	-0.134
	[-3.731]	[-3.965]	[-3.856]	[-0.44]
Labored Outside of Household Farm	0.371	0.397	0.384	-0.0264
	[-0.484]	[-0.49]	[-0.487]	[-0.68]
Had Laborers in Household's Farms	0.0755	0.225	0.15	-0.150***
	[-0.265]	[-0.419]	[-0.357]	[-5.39]
Household Head was a Peasant	0.491	0.519	0.505	-0.0282
	[-0.501]	[-0.5]	[-0.5]	[-0.72]
Household Head - Hours Worked	43.69	48.76	47.46	-5.069
	[-21.32]	[-22.97]	[-22.63]	[-1.74]
Number of Organizations Participated In	0.346	0.588	0.471	-0.242***
	[-0.573]	[-0.816]	[-0.719]	[-4.38]
Number of Organizations Making Decisions In	0.327	0.348	0.338	-0.0209
	[-0.567]	[-0.675]	[-0.625]	[-0.43]
Number of organizations as a Leader	0.327	0.17	0.245	0.157***
	[-0.567]	[-0.525]	[-0.551]	[3.70]
Land Size - Before Displacement	1.934	12.8	7.601	-10.86***
	[-4.444]	[-24.37]	[-18.67]	[-7.83]
Had Lands (Property or Access to)	0.862	0.885	0.874	-0.0231
	[-0.346]	[-0.32]	[-0.332]	[-0.89]
Land Owner	0.667	0.594	0.629	0.073
	[-0.472]	[-0.492]	[-0.484]	[1.95]
Land User	0.044	0.182	0.116	-0.138***
	[-0.205]	[-0.386]	[-0.32]	[-5.66]
Land Rentee	0.0723	0.0807	0.0767	-0.00836
	[-0.259]	[-0.273]	[-0.266]	[-0.40]
Observations	318	347	665	665

Mean coefficients
t - statistics in brackets
* p<0.05, ** p<0.01, *** p<0.001

Table 7. Selection into Violence

	Victim	Victim Previous year	Number of Events	Number of Events Previous year	Number of Violent Events by Type	Number of Violent Events by Type Previous year	Victimization Score	Victimization Score Previous year
Male Household Head	0.059	0.078	0.355	-0.017	0.106	-0.004	-0.027	-0.016
	[0.148]	[0.106]	[1.480]	[0.578]	[0.351]	[0.278]	[0.135]	[0.058]
Highest Education Level	0	-0.017	-0.368	-0.091	-0.053	-0.011	-0.035	-0.009
	[0.015]	[0.012]	[0.274]	[0.065]	[0.039]	[0.031]	[0.025]	[0.007]
Participates in decision processes	-0.099	-0.202	-2.471	-1.103	0.017	-0.341	-0.24	-0.114
	[0.170]	[0.106]*	[1.207]**	[0.508]**	[0.306]	[0.263]	[0.116]**	[0.054]**
Agriculture	-0.102	-0.155	-0.989	-0.427	-0.276	-0.482	-0.089	-0.036
	[0.118]	[0.096]	[1.390]	[0.517]	[0.326]	[0.256]*	[0.132]	[0.053]
Land Size	0.009	0.006	0.052	0.018	0.01	0.009	0.003	0.001
	[0.007]	[0.003]**	[0.024]**	[0.005]***	[0.003]***	[0.002]***	[0.002]*	[0.000]**
Municipal Controls	YES	YES	YES	YES	YES	YES	YES	YES
Observations	125	188	271	271	271	271	271	270
R-squared			0.51	0.74	0.54	0.39	0.42	0.49

Robust standard errors in brackets
* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 8. Selection into Displacement

	1	3	4	6	7	8	9
Male Household Head	0.005	0.004	0.013	0.012	0.01	0.001	0.009
	[0.042]	[0.015]	[0.022]	[0.037]	[0.038]	[0.025]	[0.037]
Household Size	-0.018	-0.004	-0.007	-0.015	-0.016	-0.007	-0.011
	[0.009]**	[0.004]	[0.005]	[0.009]*	[0.009]*	[0.005]	[0.008]
Highest Education Level in HH	0.006	0.002	0.002	0.004	0.004	0.003	0.003
	[0.005]	[0.002]	[0.003]	[0.004]	[0.004]	[0.003]	[0.004]
Participates in decision processes	-0.016	-0.004	-0.005	-0.041	-0.042	-0.027	-0.056
	[0.040]	[0.014]	[0.020]	[0.041]	[0.042]	[0.029]	[0.043]
Agricultural Activity	-0.061	-0.016	-0.036	-0.056	-0.055	-0.031	-0.056
	[0.045]	[0.016]	[0.028]	[0.040]	[0.041]	[0.027]	[0.041]
Land Size	0.018	0.007	0.006	0.017	0.018	0.011	0.017
	[0.002]***	[0.003]**	[0.003]**	[0.002]***	[0.002]***	[0.003]***	[0.002]***
Monthly Income	0	0	0	0	0	0	0
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Land Owner	-0.003	-0.01	0.007	-0.012	-0.012	-0.009	-0.016
	[0.033]	[0.012]	[0.017]	[0.029]	[0.030]	[0.020]	[0.029]
Number of Violent Events - Previous year		0.034					
		[0.019]*					
Incidence of Violent Events			0.087				
			[0.037]**				
Violent Schock - Number				0.161			
				[0.070]**			
Violent Shock - Dummy					0.128		
					[0.046]***		
Violent Community Shcok - Number						0.015	
						[0.005]***	
Violent Community Shock - Dummy							0.158
							[0.050]***
Observations	343	340	340	343	343	343	343

Robust standard errors in brackets
* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 9a. Forced Displacement and Risk Aversion – Gains Task

	Gains Task					
	Maximum Likelihood			Ordered Probit		
Displacement Status	0.053	0.093	0.137	-0.25	-0.441	-0.336
	[0.047]	[0.052]*	[0.056]**	[0.08]***	[0.104]***	[0.115]***
Lenght of displacement - Years		-0.028	-0.035		0.122***	0.112
		[0.019]	[0.019]*		0.122	[0.043]***
Lenght of displacement squared- Years		0.001	0.002		[0.040]***	-0.008
		[0.001]	[0.001]*		-0.007	[0.003]**
Male			-0.027		[0.003]**	-0.034
			[0.049]			[0.087]
Literate			0.106			-0.202
			[0.059]*			[0.106]*
Access to Lands			-0.129			0.262
			[0.057]**			[0.120]**
Land Size			-0.001			0.002
			[0.000]*			[0.001]*
Participated in at least one social organization			-0.01			0.005
			[0.047]			[0.092]
Economic Shock - Past 12 months			0.002			-0.018
			[0.009]			[0.020]
Death of Family Member - Past 12 months			-0.005			0.024
			[0.038]			[0.079]
Earnings in previous (practice) round						0.02
						[0.005]***
Constant	0.649	0.649	0.682			
	[0.038]***	[0.038]***	[0.085]***			
Observations	665	665	660	665	665	660

Cluster robust standard errors in brackets

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 9b. Forced Displacement and Risk Aversion – Loss Task

	Loss Task					
	Maximum Likelihood			Ordered Probit		
Displacement Status	0.016	0.036	0.035	-0.018	-0.182	-0.135
	[0.023]	[0.025]	[0.027]	[0.083]	[0.103]*	[0.108]
Lenght of displacement - Years		-0.008	-0.007		0.111	0.092
		[0.004]**	[0.004]*		[0.038]***	[0.036]**
Lenght of displacement squared- Years					-0.006	-0.005
					[0.002]**	[0.002]**
Male			0.016			-0.065
			[0.024]			[0.088]
Literate			-0.028			0.047
			[0.030]			[0.106]
Access to Lands			-0.008			0.105
			[0.035]			[0.119]
Land Size			0			0
			[0.000]			[0.001]
Participated in at least one social organization			0.035			-0.077
			[0.026]			[0.092]
Economic Shock - Past 12 months			0.005			-0.017
			[0.006]			[0.019]
Death of Family Member - Past 12 months			-0.007			0.028
			[0.021]			[0.073]
Earnings in previous (practice) round			-0.007			0.016
			[0.021]			[0.003]***
Constant	0.163	0.163	0.169			
	[0.016]***	[0.016]***	[0.043]***			
Observations	665	665	660	665	665	660

Cluster robust standard errors in brackets

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 9c. Forced Displacement and Risk Aversion – Ambiguity Task

	Ambiguity Task					
	Maximum Likelihood			Ordered Probit		
Displacement Status	0.089	0.094	0.121	-0.164	-0.294	-0.31
	[0.043]**	[0.046]**	[0.051]**	[0.082]**	[0.104]***	[0.106]***
Lenght of displacement - Years		-0.002	-0.002		0.096	0.104
		[0.008]	[0.009]		[0.040]**	[0.038]***
Lenght of displacement squared- Years					-0.007	-0.006
					[0.003]**	[0.003]**
Male			0.004			-0.068
			[0.045]			[0.087]
Literate			0.033			-0.053
			[0.057]			[0.108]
Access to Lands			-0.18			0.067
			[0.067]***			[0.121]
Land Size			0			-0.002
			[0.000]			[0.002]
Participated in at least one social organization			-0.028			0.027
			[0.048]			[0.088]
Economic Shock - Past 12 months			0.002			-0.009
			[0.012]			[0.021]
Death of Family Member - Past 12 months			0.03			-0.03
			[0.036]			[0.070]
Earnings in previous (practice) round			0.03			0.029
			[0.036]			[0.005]***
Constant	0.561***	0.561***	0.685***			
	[0.031]	[0.031]	[0.081]			
Observations	665	665	660	665	665	660

Cluster robust standard errors in brackets

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 10a. Violence and Risk Aversion – Full Sample

Task	*Treatment Variable*							
	Victim	Victim Previous Year	Number of Violent Events	Number of Violent Events Previous Year	Number of Violent Events by Type	Number of Violent Events by Type Previous Year	Victimization Score	Victimization Score Previous Year
Gains Task	-0.18 [0.097]*	-0.17 [0.097]*	-0.009 [0.004]**	-0.026 [0.009]***	-0.041 [0.023]*	-0.087 [0.025]***	-0.071 [0.036]**	-0.199 [0.087]**
Loss Task	-0.043 [0.094]	0.027 [0.094]	0.001 [0.003]	0.001 [0.010]	0.01 [0.020]	-0.032 [0.021]	0.002 [0.029]	-0.024 [0.078]
Ambiguity Task	-0.102 [0.095]	-0.193 [0.091]**	-0.016 [0.004]***	-0.041 [0.012]***	-0.046 [0.022]**	-0.128 [0.036]***	-0.177 [0.053]***	-0.443 [0.136]***
Pre displacement controls	YES	YES	YES	YES	YES	YES	YES	YES
Observations	655	655	655	655	655	655	655	651

Cluster robust standard errors in brackets

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 10b. Violence and Risk Aversion – IDP Sample

Task	*Treatment Variable*					
	Number of Violent Events	Number of Violent Events Previous Year	Incidence of Violent Events	Incidence of Violent Events Previous Year	Victimization Score	Victimization Score Previous Year
Gains Task	-0.008 [0.003]**	-0.02 [0.008]**	-0.022 [0.024]	-0.064 [0.028]**	-0.061 [0.030]**	-0.151 [0.071]**
Loss Task	0.003 [0.004]	0.008 [0.010]	0.032 [0.023]	-0.02 [0.027]	0.019 [0.034]	0.019 0.019 [0.084]
Ambiguity Task	-0.012 [0.004]***	-0.034 [0.011]***	-0.031 [0.023]	-0.112 [0.041]***	-0.133 [0.053]**	-0.358 [0.136]***
Pre displacement controls	YES	YES	YES	YES	YES	YES
Observations	339	339	339	339	339	335

Cluster robust standard errors in brackets

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 11a. Emotional Distress and Risk Aversion – Gains Task

	1	2	3	4
Somatization	0.013	0.012	0.019	0.02
	[0.011]	[0.011]	[0.014]	[0.014]
Obsession	-0.002	-0.003	0.001	-0.004
	[0.011]	[0.011]	[0.013]	[0.014]
Sensitivity	-0.002	-0.002	-0.004	-0.004
	[0.015]	[0.015]	[0.018]	[0.018]
Depression	-0.003	-0.003	-0.008	-0.009
	[0.012]	[0.012]	[0.015]	[0.016]
Anxiety	0.007	0.001	0.004	-0.004
	[0.013]	[0.014]	[0.017]	[0.017]
Hostility	0	0	0.003	0.005
	[0.010]	[0.010]	[0.012]	[0.013]
Phobic Anxiety	-0.028	-0.026	-0.021	-0.015
	[0.010]***	[0.010]**	[0.013]*	[0.013]
Paranoid	-0.006	-0.005	-0.001	-0.004
	[0.011]	[0.011]	[0.014]	[0.014]
Psicotic	0.022	0.026	0.017	0.024
	[0.016]	[0.016]	[0.017]	[0.018]
Whole Sample	YES	YES	IDP Only	IDP Only
HH and Individual Characteristic Controls	NO	YES	NO	YES
Length of Displacement	NO	NO	NO	NO
Observations	659	654	344	339

Cluster robust standard errors in brackets

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Table 11b. Emotional Distress and Risk Aversion – Loss Task

	1	2	3	4
Somatization	0.015	0.016	0.019	0.022
	[0.011]	[0.011]	[0.014]	[0.015]
Obsession	0.001	0	0.006	0.009
	[0.012]	[0.012]	[0.013]	[0.014]
Sensitivity	-0.014	-0.015	-0.032	-0.035
	[0.015]	[0.015]	[0.018]*	[0.018]*
Depression	0.016	0.015	0.016	0.011
	[0.013]	[0.013]	[0.017]	[0.017]
Anxiety	-0.017	-0.017	-0.029	-0.025
	[0.013]	[0.014]	[0.017]*	[0.017]
Hostility	0.018	0.017	0.027	0.024
	[0.011]	[0.011]	[0.013]**	[0.013]*
Phobic Anxiety	-0.004	-0.003	-0.004	-0.008
	[0.010]	[0.010]	[0.012]	[0.013]
Paranoid	-0.018	-0.019	-0.007	-0.003
	[0.011]	[0.011]*	[0.015]	[0.015]
Psicotic	0.011	0.013	0.015	0.017
	[0.017]	[0.018]	[0.020]	[0.020]
Whole Sample	YES	YES	IDP Only	IDP Only
HH and Individual Characteristic Controls	NO	YES	NO	YES
Length of Displacement	NO	NO	NO	NO
Observations	659	654	344	339

Cluster robust standard errors in brackets

* $p<0.1$; ** $p<0.05$; *** $p<0.01$