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Do Conflicts Create Poverty Traps? Asset Losses and Recovery for Displaced Households in Colombia

Ana María Ibáñez and Andrés Moya

4.1 Introduction

Internal conflicts may entail large asset losses for certain segments of the civilian population. During internal conflicts, the main victims of war are civilians targeted by armed groups seeking to consolidate territorial strongholds, expand territorial control, and/or seize valuable resources (Azam and Hoefler 2002). Physical assets are destroyed, abandoned, or seized illegally by armed groups (Matowu and Stewart 2001; Brück 2004); financial markets may be disrupted by war activities, and access for particular households may become difficult; also, informal risk-sharing mechanisms are generally undermined. The losses of physical, financial, social, and human capital are therefore substantial.

As a result, internal conflicts may leave a legacy of structural poverty that is difficult to overcome. The recovering of assets after a shock is seldom likely for households located at the lower end of the income distribution, and the negative conditions generated by conflict only serve to aggravate this situation. In addition to the loss of physical assets, victims of conflicts face the possible death of household members, restrictions with respect to financial

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markets, the destruction of social networks, and often insurmountable obstacles to entry into urban labor markets.

The costs of civil conflict often prevail even after peace is achieved. Conflicts congest the law enforcement system, lower the probability of punishment, diffuse criminal knowledge and technology, and erode morals, thus promoting the emergence of criminal and illegal activities (Gaviria 2000). When the conflict ends, criminal violence sometimes soars as the respective destructive technology is now utilized for criminal activities. Guatemala and El Salvador, for example, experienced soaring crime rates after peace agreements were reached (Moser and Winton 2002).

The purpose of this chapter is to analyze how asset losses occur during internal conflicts and the process of asset accumulation following conflict-induced shocks. In order to achieve this objective, we concentrate on a particularly vulnerable group of victims of war—the displaced population in Colombia. Three questions are examined. First, we seek to understand the process and magnitude of asset losses caused by internal conflict. Second, we explore the extent to which the dynamics of the conflict and the purposive targeting by armed units of certain groups within the population determine the magnitude of asset losses caused by forced displacement. Third, we investigate the process of asset recovery by identifying which households are better able to accumulate new assets. In addressing these questions, we rely on the household surveys of 2,322 displaced Colombian households, as well as qualitative studies conducted for the World Bank's "Moving Out of Poverty" Study.

The structure of this chapter is as follows. In the second section, we examine the economic literature for the purposes of understanding how asset holdings shape economic welfare, explaining how households adopt strategies to accumulate and protect assets, and describing how a lack of assets creates poverty traps. The third and fourth sections present the qualitative and quantitative data, and the model and results, respectively. Section five concludes.

4.2 Asset Accumulation Dynamics and Poverty Traps

Standard microeconomic models predict that in the presence of decreasing returns on assets, poor households eventually catch up with wealthier ones in their respective welfare trajectories. Nevertheless, locally increasing returns or exclusionary mechanisms—such as imperfect credit markets—may hinder convergence, and multiple equilibria may arise, restricting some groups to low income trajectories. Where investments are lower due to credit market imperfections, investment indivisibilities, or behavioral components,[1] some economic agents will prove unable to accumulate sufficient

1. Mookherjee and Ray (2002) argue that households may not step-up savings due to habit persistence, myopia, or a limited rationality.

asset holdings so as to surpass critical thresholds and thus reach a higher economic trajectory (Galor and Zeira 1993; Durlauf 1992; Mookherjee and Ray 2002; Carter and Barret 2006).

Structural poverty is strongly correlated with initial conditions, such as an insufficient asset base. When returns on small asset holdings are insufficient, income will barely cover subsistence needs, thus leaving a negligible surplus for saving. Although credit is an alternative mechanism for accumulating assets and thus crossing the critical threshold for moving out of poverty, access to credits is often restricted for low income households; this is even more so in developing countries. Sacrificing short-term consumption in order to build up an asset base is also difficult when a household is close to subsistence consumption levels. These constraints may push households into poverty traps, as initial asset inequalities tend to reproduce and deepen themselves over time (Carter and Barret 2006; Zimmermann and Carter 2003; Reardon and Vosti 1995; Rosenzweig and Binswanger 1993).

Aside from determining the ability of households to generate income, assets are an important insurance mechanism for coping with shocks (Little et al. 2006). As a precautionary measure, households often accumulate nonproductive assets, which may easily be liquidated when shocks arise (Fafchamps, Udry, and Czukas 1998; Rosenzweig and Wolpin 1993; Corbett 1988). When shocks occur, households rely on nonproductive assets while simultaneously protecting productive assets. The latter are only sold if conditions become extremely harsh, and it becomes absolutely necessary in order to avoid compromising long-term consumption and welfare (Corbett 1988).

Consequently, households usually adopt several strategies to prevent disposing of productive assets during times of crisis. Credit markets often ration out low income households, and insurance mechanisms are generally not sufficient to completely reduce income risks (Townsend 1994; Ligon, Thomas, and Worrall 2001; Foster and Rosenzweig 2001; Fafchamps and Gubert 2007). As a result, households are often compelled to adopt other strategies for protecting assets. A common strategy is to sacrifice short-term consumption in order to avoid the distress sale of assets (Carter and Barret 2006; Hoddinott 2006; Barrett et al. 2004; Zimmermann and Carter 2003). In fact, households tend first to adopt reversible strategies; only as options for mitigating risk become exhausted, strategies that may compromise future consumption—such as forced migration and the sale of land sales—are adopted (Corbett 1988).

Poor households, however, have limited alternatives for protecting assets, which leaves them ill-equipped to cope with shocks, and thus highly prone to falling into poverty traps. In the first place, poor households are near subsistence consumption levels to begin with; reducing consumption in order to build up an asset base hardly constitutes an alternative (Barrett et al. 2004). Additionally, immediate reductions in consumption may imply long-term costs such as school interruption, drops in nutritional status, and reductions

in human capital investment, all of which would most likely compromise future consumption (Carter and Barret 2006; Jensen 2000; Jacoby and Skoufias 1997; Foster 1995; Behrman 1988; Corbett 1988). By reducing human capital, depleting physical capital, and/or destroying social capital, shocks may push households into poverty traps. If shocks lead to irreversible asset losses or persist from one period to the next, the negative consequences may become permanent, and income may fall below the critical wealth threshold for several periods (Hoddinott 2006; Dercon 1998).

Longitudinal studies and qualitative evidence show that structural poverty is frequently related to asset deprivation; conversely, the existence of a solid asset base is a strong determinant of upward mobility (Krishna et al. 2006; Adato, Carter, and May 2006; Barrett et al. 2004; Little et al. 2006; Hulme and Shepherd 2003; Barrientos and Shepherd 2003; Sen 2003; Carter and May 1999).

Sociodemographic characteristics, human and social capital, labor markets, and shocks also constitute factors related to structural poverty. By providing support for finding a job, capital for productive activities, and assistance to mitigate crises, social capital facilitates movement out of poverty (Adato, Carter, and May 2006; Barrett et al. 2004; Little et al. 2006). Human capital, paired with access to labor markets, is also an important mechanism for moving ahead, particularly where asset holdings are low. Moreover, investment in human capital allows people to move from low productivity (and low paying) jobs to high productivity ones, thus creating a virtuous cycle (Adato, Carter, and May 2006; Krishna et al. 2006; Barret and McPeak 2006; Barrett et al. 2004; Sen 2003). Lastly, the empirical evidence identifies large shocks as determinants of downward mobility and structural poverty. The death of wage earners, serious illnesses, famines, and civil conflict may push households into structural poverty if the victims are not provided proper aid (Adato, Carter, and May 2006; Hulme and Shepherd 2003; Corbett 1988).

During periods of internal conflict or civil strife, the illegal appropriation, destruction, erosion, and depletion of assets become widespread, generally laying down a legacy of structural poverty for a considerable segment of the population. This in turn may sow the seeds of future conflicts. First, armed groups seize assets from the civilian population for the purposes of financing the war and weakening support among the population for their opponents (Hirshleifer 2001). Added to this, although conflicts may have initially erupted as a consequence of specific grievances, the duration and sustainability of the conflict is greatly determined by the capacity of armed groups to extract rents and appropriate valuable assets from the civilian population. Consequently, the loss of physical capital, especially land, during conflicts can sometimes be substantial (Engel and Ibáñez 2007; Matowu and Stewart 2001; André and Platteau 1998). Second, inasmuch as the civilian population is targeted by armed groups, household disintegration—caused by the death and forced recruitment of household members—becomes wide-

spread; this translates into large losses in human capital. In addition, since some households are forced to migrate from urban to rural areas, returns on their human capital—that is, knowledge related to agricultural production—deteriorates significantly. Third, conflicts severely disrupt formal and informal risk-sharing mechanisms; access to financial markets decreases, informal lending plummets, and links to social networks are weakened. Consequently, the victims of internal conflict are more likely to fall into chronic poverty (Justino and Verwimp 2006).

4.3 Civil Conflict, Crime, and Forced Displacement in Colombia

This section presents a brief history of civil conflict in Colombia, its relation to crime, and a description of the data. Civil conflict in Colombia was triggered toward the end of the early 1960s by the emergence of several left-wing guerrilla groups—the Revolutionary Armed Forces of Colombia (FARC), National Liberation Army (ELN), and People's Revolutionary Army (ERP). Guerrilla-related violence intensified during the late 1970s and early 1980s with the appearance of illegal marijuana and coca drug crops. Illicit drug trade provided rebel groups with massive resources, and has fueled the conflict ever since. These resources also funded the creation of right-wing paramilitary groups with ties to drug barons and land owners, and that in most regions, have contested the power of guerrilla movements. The emergence of paramilitary groups, coupled with the increased resources generated by the illegal drug trade, intensified and prolonged the conflict throughout the country (Gaviria 2000; Thoumi 2002).

Additionally, the conflict generated favorable conditions for the emergence of crime. Gaviria (2000) shows that the conflict, by congesting the law enforcement system, lowering the probability of punishment, diffusing criminal know-how and technology, and generally eroding morals, has promoted the emergence of crime and drug trafficking in Colombia. The appearance of drug trafficking only served to reinforce this trend by further eroding the ability of the Colombian Judicial System to properly function, while bringing about the spreading of crime (Montenegro and Posada 2001).

Intensification of the conflict has caused an escalating trend of attacks against the civilian population and has been the main cause behind forced displacement. Aggression directed at civilians has constituted an explicit and rational strategy for armed groups, as a means of funding their activities and consolidating and expanding their territorial strongholds. Forced displacement, in particular, has become a prevalent strategy for weakening the support of opponents among the population, clearing regions for the growing and trafficking of illegal crops, and expropriating land and resources (Engel and Ibáñez 2007). At the present time, forced displacement affects more than 3.5 million people, a number corresponding to about 7 percent of Colombia's population.

In order to assess how asset loss actually transpires during internal con-

flicts, as well as the process by which assets are accumulated following the initial shock, we rely on two sources of data. The first one is a household survey of displaced Colombian households conducted in 2004 and 2005. The second one contains qualitative data from the community reports generated by the World Bank's "Moving Out of Poverty" Colombian case study. Both data sources are described in the following paragraphs.

Regarding the first source, the sample of household-level data comprises 2,322 displaced households located in forty-eight municipalities[2] across twenty-one departments. The survey elicits information regarding the forced migration process, socioeconomic conditions before and after displacement, land tenure status, agricultural production, and access to government aid. The migration process is characterized at length through the information collected regarding the armed actors who cause displacement, the triggers behind displacement, and the reasons for choosing a particular reception municipality. Data concerning the socioeconomic conditions before and after displacement were gathered with respect to household composition, health status, access to health services, school enrollment, access to labor markets, labor income, asset ownership, access to formal and informal credits, and the level of participation in formal organizations. Two sections with detailed questions about access to land, the characteristics of plots, land losses, the likelihood of recovering land upon return, and agricultural production were also included.

To achieve these objectives, we constructed a treatment group sample comprised of 769 displaced household beneficiaries of income-generating programs, and a control group comprised of 1,553 displaced household nonbeneficiaries of such programs. The control group is representative of the displaced population at large, while the treatment group is representative of those displaced households that are the beneficiaries of income-generating programs.

Given the large mobility of the displaced population and their unwillingness or fear to have their place of residency divulged, constructing a representative sample of it is difficult. In constructing the sample, we could have relied on two data sets of displaced persons. The first data set, Race and Urban Politics Data Set (RUPD), is the official registry of displaced persons and contains all displaced households who are beneficiaries of government assistance. To register in RUPD, displaced households must actively seek out government institutions and legally declare their status, which must then be verified by government authorities. Consequently, the registry suffers from significant underregistration (due to misinformation), arbitrary decision making by public officials, and biases inherent in the registration process (Ibáñez and Velasquez 2009). Moreover, the RUPD data provides little detail

2. Municipalities are the smallest administrative units in Colombia. Departments are similar to states in the United States.

concerning the displacement process and household structures. The second data set is the Random Utility Theory (RUT) System, which covers (a) displaced households requesting assistance from any of the 3,764 Catholic parishes scattered throughout the country; and (b) those households included in censuses conducted in certain municipalities by the Catholic Church. The resulting data contained information concerning 32,093 households and nearly 150,000 people.[3] Although the RUT system is not representative of the displaced population as a whole, the detailed questionnaire provides ample information useful for constructing a stratified sample. Consequently, the design for the control sample was based on the RUT sample.

The control sample was divided into two subsamples to correct for RUT bias: (a) 794 RUT households; and (b) 759 non-RUT households. A stratified sample was selected from the RUT sample; enumerators then proceeded to locate the RUT households and administer the survey. Even though the RUT sample covers all of the municipalities that have received displaced persons, only certain households are included in this database, thus allowing for a sample bias. To correct for this bias, for each RUT household surveyed, we tracked and surveyed a non-RUT displaced household in the same neighborhood. Given that the RUT provides rich information for constructing a stratified sample and covers a wide geographical area, we found that this strategy is appropriate for reducing the RUT bias. In fact, a recent survey representative of the displaced population shows that the observable socioeconomic characteristics are indeed similar to those highlighted in our sample (Garay 2008).

The beneficiaries of income-generating programs were surveyed in the same municipalities selected from the RUT and non-RUT samples. Households were randomly selected from a beneficiary list provided by three organizations responsible for implementing these programs. Such programs seek to boost the productive activities of displaced households by offering labor training, courses for small enterprises' management, and seed capital for initiating productive activities. Information about the programs is disseminated through massive information campaigns. The potential beneficiaries, identified during an initial stage, must prove that they are displaced persons and have been recipients of Emergency Humanitarian Aid (EHA).[4] Households with high dependency ratios, female-headed households, and

3. The survey elicits information aimed at identifying the causes of and actors responsible for displacement, household characteristics, land tenure status, access to labor markets, and the level of education before and after displacement, as well as the different needs of displaced persons/households. The questionnaire also seeks to gain information regarding participation in organizations and the willingness of displaced households to return to respective points of origin.

4. Emergency Humanitarian Aid is provided to those displaced households that are registered in the State Official Registry System. This assistance is provided during the first three months of displacement, and covers food aid, cash to cover transportation needs, and housing costs for up to three months.

households with younger heads have priority over other households. Once the potential beneficiaries are selected, program operators visit their homes to verify the declared conditions, as well as to design a preliminary support plan.

After the visits, the pool is further narrowed, and a relatively small group of potential beneficiaries is selected. This group must attend training programs where they learn how to design labor or small enterprise plans; these are then submitted to a committee, which in turn selects the actual group of beneficiaries. Benefits include labor training, small enterprise courses, or a combination of both, as well as psychological support. By the end of the program, labor and enterprise plans should be fully designed. Those beneficiaries who have submitted the former are hired by private firms for short-term practice. During this period, their wages are funded by the implementing organizations; the practice concludes three months later, after which the private firms can decide whether they wish to hire the beneficiaries. Detailed small enterprise plans should include a feasibility analysis, an investment schedule, and a business plan. The beneficiaries of small enterprise training receive a maximum sum of US$500 as seed capital with which to initiate the economic activity designed during the program.

In addition, we used qualitative data from the community reports of the World Bank's "Moving Out of Poverty" study. The purpose of the study was to understand the factors that help or hinder movements out of poverty. Eight case studies were undertaken at return and destination sites for displaced households in Colombia. The community reports allow us to understand the impact of forced displacement, how forced migration imposes asset losses upon displaced households, and the process by which some households are able to recover assets and steadily improve their living conditions at destination sites. By mixing qualitative and quantitative evidence, we are able to identify which households are better able to recover from displacement shock, as well as the dynamics behind this recovery.

4.4 Empirical Analysis

The purpose of this section is to understand how a severe shock, namely internal conflict and forced displacement, causes asset loss, and how households are able to recover from this shock. We adopt both quantitative and qualitative approaches in order to achieve our objective, inclusive of: (a) a detailed description of the losses stemming from forced displacement; (b) qualitative evidence that enables us to understand the complex process by which a displaced population recovers it assets; and (c) ordinary least squares (OLS), instrumental variable (IV), and quartile regressions so as to identify the determinants of asset losses as a consequence of displacement, as well as asset accumulation after displacement.

4.4.1 Qualitative Analysis

This section describes the impact of forced displacement on its victims based on qualitative data from the eight case studies of the World Bank's "Moving Out of Poverty" Colombian case study. We assess the impact of forced displacement on household welfare, examine the process of asset loss, and identify the three different groups of displaced households that emerge after the process of migration and asset loss.

Welfare Impacts of Forced Displacement and the Process of Asset Losses

Civil conflicts impose economic costs even before displacement takes place. In the Colombian case, civil conflict and the presence of armed groups has halted economic production, undervalued assets, and hampered government support. Guerrillas and paramilitaries have increasingly exerted control over the civilian population, its social relations, and productive activities. As a result, towns in conflict zones face fewer economic opportunities, a sudden stop in agricultural production, a drop in daily agricultural wages, and pervasive unemployment. The presence of illegal armed groups also undermines governmental support and erodes social capital in some communities. Access to labor training, technical assistance programs, credits, and support for productive projects has thus basically disappeared. The prospect of renewed violence and the fact that communities become stigmatized as belonging to "conflict zones" increases uncertainty, decreases land value, and leads households to cut back on investment.

Forced displacement, on the other hand, produces substantial losses of physical assets, which translates into vulnerability to poverty. Displaced households lose or abandon their life's work, crops, animals, lands, land improvements, investments, and houses. As a result, such households experience a harsh and sudden decline in living conditions and productive capacity. Moreover, losing land and other physical assets not only hinders a household's capacity to earn income, it also eliminates the possibility of production for self-consumption. A lack of land access entails fewer economic opportunities, impedes the ability of households to cope properly with the shock of displacement, and is generally identified by households as the predominant factor underlying their descent into poverty.

Some households—mainly those that migrated as a preventive measure—were able to sell their assets prior to migrating. Such sales allowed them to mitigate the displacement shock during the first months of settlement, and to enjoy better economic conditions at destination sites. Frequently, however, such sales took place at prices well below market levels. Such distress sales barely covered consumption needs for a few months, and conditions generally worsened significantly once savings were exhausted; thus, while they postponed the erosion of asset bases, they did not prevent it.

Participation in urban labor markets was slow due to the depreciation of human capital, discrimination against displaced persons, and the fragile psychological conditions resulting from being victims of violence. Given that displaced households mostly arrived from rural areas and that their working experience was limited to agricultural activities, the returns from "agricultural human capital" generally decreased in urban areas. Conflict and forced migration may also have caused psychological disorders, which often produce a sense of helplessness, defeat, and irrational fear. People facing such disorders were usually scared to venture out of their homes and search for jobs. Lastly, conflict and forced displacement may have produced household fragmentation as well as resulted in the death or abandonment of household members, individuals often of a productive age. Women often became the heads of households by default, something that further increased households' vulnerability. All these elements constituted obstacles to finding jobs and generating income.

A lack of physical assets, suitable employment opportunities, and risk-sharing mechanisms implied substantial welfare losses for households, which consequently became unable to cope with future shocks. The loss of relatives, connections, and social networks presumably led to fewer opportunities to work, study, and participate in community savings programs. Although some households participated in social networks at destination sites, informal risk-sharing mechanisms nonetheless did not fully insure against risk, as participants' income levels were fairly low and homogenous. The disruption of social networks also generated obstacles for acquiring formal and informal credit. Generally speaking, displaced households were rationed out of formal financial markets, and were thus obliged to apply for usurious credits, credits for which guarantees and references were not required; as a consequence, profits were sucked up by the large cost of the credit. Accumulating assets became virtually impossible because income was barely sufficient to cover subsistence needs and pay off credits.

Three Groups of Displaced Households

The qualitative evidence allows us to distinguish between three groups of displaced households based on the different paths they followed toward asset recovery—households that are chronically poor both before and after displacement; households that could possibly become chronically poor; and households capable of initiating a recovery process, but for which the magnitude of recovery is unclear.

The first group—households that were chronically poor both before and after displacement—were asset-deprived households at the site of origin, and remained poor after displacement due to the difficulty of coping with the conflict-induced shock. These households exhibited low levels of human capital, were unable to find appropriate jobs that matched their agricultural

working experience, were fairly isolated from social connections, and had household structures that denoted a high degree of vulnerability to poverty.

The second group is comprised of households falling into poverty following displacement. Prior to displacement, these households were better off and had relatively large asset holdings. Because of conflict and displacement, they suffered considerable asset losses, and the deterioration in the economic welfare of these households was particularly large. Asset losses—inclusive of the loss of physical, social, financial, human, and institutional assets—placed them on low-income trajectories, where the possibility of moving onto high-performance trajectories seemed remote. Since the returns from different kinds of assets complement one another, and households in this group lacked most of them, providing or gaining access to one asset generally did not improve their situation.

The last group is comprised of households capable of achieving successful asset recovery dynamics. These households shared some common characteristics—a combination of higher levels of education and training, contact with and access to social networks at reception sites, savings and micro-credits, and one or more sources of income.

Better educated households and those whose members had suitable working experience were able to engage in economic activities and extract higher rents, in contrast to households made up of members with no formal education or who were previously dedicated to agricultural activities. Labor training programs were critical for households recovering their productive capacity and undertaking new activities; this was particularly the case for women, who felt empowered after participating in training programs.

Human capital alone, although necessary, was not sufficient for recovering from the shock of displacement. Having an additional source of income—whether in the form of savings, credits, or agricultural production—was crucial to the recovery process. Labor training without seed capital or micro-credits proved useless. While labor training did boost confidence and provided knowledge relevant to an unknown occupation, to be effective, it must be complemented with seed capital. Those households that successfully overcame the consequences of displacement were able to allocate savings, resources from asset sales, and seed capital to the recovery of productive capacity—in the form of access to land plots at destination sites, land improvements, and/or the purchasing of livestock—as opposed to the supplying of basic needs. Income-generating programs thus might constitute a factor promoting recovery, inasmuch as they provide resources for recovering productive capabilities. Nonetheless, most beneficiaries of such programs considered that the amount of seed capital provided was insufficient for starting a profitable business. Projects promoting cooperatives or associative income-generating schemes appeared to have a higher impact and a greater likelihood of succeeding than individual projects, inasmuch as they

can be potentially larger, and the risk is shared among members. Savings, seed capital, and liquid capital, however, were not sufficient to guarantee successful asset recovery. Households with insufficient assets, low levels of human capital, no social networks, and no labor training faced difficulties in starting small businesses, and ended up depleting these resources without recovering.

The importance of social networks and social capital in facilitating the move out of poverty is manifold. First, social networks provide resources and assistance during the migration process in fulfilling basic needs. Second, social networks at destination municipalities may provide households with employment opportunities as well as much-needed working and business permits; likewise, access to government or nongovernmental organization (NGO) programs. Although social capital is perceived as an instrument for recovery, participation in social networks does not in and of itself guarantee a transition to high-yield activities. Even households that actively participated in formal organizations often remained trapped in low-yield trajectories because access to investment capital was restricted and property rights were not well defined. The qualitative evidence from the "Moving Out of Poverty" study in Colombia provides insights into the virtuous and vicious cycles that characterize the process of asset recovery. These cycles are assessed in greater detail in the following section.

Asset Loss and Asset Accumulation: A Simple Reduced-Form Model for Identifying Determinants

The purpose of this section is to provide evidence concerning the impact of internal conflict upon asset trajectories, and the ability of households to recover from conflict-related shocks. We first examine the process of asset loss stemming from forced displacement and how the dynamics of conflict determine asset losses. Second, we identify the determinants of asset accumulation once those forcefully displaced resettle at their destination points.

The asset dynamics of displaced households are described by two different factors: the value of assets at the municipality of origin that were abandoned following displacement (A_L); and the value of the asset base at the receiving municipality (A_R). Each of these is in turn influenced by other factors. Thus, asset losses are driven by the internal conflict's dynamics in the region of origin, the victimization process households endure prior to displacement, and the strategies households adopt in order to minimize asset loss. Asset accumulation at the point of destination, on the other hand, is determined by the income generation capacity of households, their vulnerability conditions, the level of their participation in programs aimed at supporting displaced households, and the respective settlement process.

We discuss first the determinants of asset losses (A_L). The conflict dynamics that trigger forced migration are strongly linked to asset loss. For ex-

ample, since armed groups need to fund their operations, the presence of illegal armed groups (P_I) at sites of origin frequently results in asset seizure and abandonment. Conversely, the presence of government forces (P_G) will likely serve to protect households from illegal groups' attacks, and thus reduce the likelihood of their being forced to move and abandon assets.

The victimization profile of a household may determine the extent of asset loss it experiences. When household members are forced to flee hastily in order to save their lives, or after being the victims of violent events (reactive displacement [Re]), the possibility of protecting assets becomes greatly minimalized. On the other hand, when households migrate preventively out of fear that the conflict will escalate in the region, it is easier to plan the migration. In the latter case, then, protecting, selling, or transferring assets to family or friends is more likely; likewise, controlling assets at origin municipalities. Direct attacks sometimes imply the death or disappearance of family members, usually the main breadwinners, who in the case of rural households are frequently male (*PP*). Since land titles are generally registered to male household heads and informal marital unions are widespread in Colombian rural areas, households that lose the main breadwinner often find it difficult to recover land. Such households may face substantial asset losses.

Attacks on the civil population are not random. Certain groups are deliberately targeted as part of a war strategy. Thus, for instance, community leaders or households with strong social networks (CS_O) are more likely to be targeted by armed groups. Notwithstanding, social networks can be effective mechanisms for some households to control assets and exploit land plots following displacement. Consequently, the impact of social capital on asset loss is uncertain. Landowners and tenants (*L*) are also attractive targets for armed groups as, once having fled, their abandoned lands can be seized by armed groups. The incentive to attack landowners increases the larger the land plot; on the other hand, large landowners are better able to adopt strategies for protecting their assets. The age structure of a household (*S*) may also prompt attacks by armed groups—young men constitute potential combatants, and thus are desirable as recruits. Direct attacks undermine a household's ability to protect its assets; thus, households with high levels of social capital, access to land, or with young males, may face large asset losses. An interesting factor concerns the ethnic make-up of the household. Belonging to an ethnic minority (*Me*), such as an indigenous or Afro-Colombian group, may also determine the extent of asset loss. The effect, however, is difficult to establish a priori. Ethnic minorities suffer direct attacks from armed groups with greater frequency; hence, these households face greater obstacles when trying to control assets at origin sites following displacement. On the other hand, ethnic minorities often possess collective land titles, which may help protect them against illegal land seizures by armed groups.

Households are not necessarily passive victims of armed conflict, and some households adopt strategies aimed at minimizing the extent of asset loss. Relocating within the municipality is sometimes employed, for example, as a means of protecting and/or recovering assets. Households may decide to migrate within the municipality (M) in order to maintain control over their productive assets, continue with productive activities on their land plots, and/or extract rents. Other factors may also play a role; households facing tight budget constraints, for instance, may not be able to migrate outside of the municipality. Since households may decide to migrate within the municipality in order to protect assets, intramunicipal displacement must be considered an endogenous variable. We use instrumental variable estimations to correct for endogeneity. Besides protecting assets, households may decide to migrate within the municipality if friends and families residing at the destination site are able or willing to provide support. Notwithstanding, contacts at destination sites—such as family and friends—do not determine the extent of asset losses. Contacts at destination sites are therefore used as the exclusion variables. In order to protect land plots following displacement, households may decide to register their title in official records (F). Having legal title over land plots may hinder illegal seizure, thus discouraging attacks by armed groups, or helping households protect land once forced displacement has occurred. Notwithstanding, having legal title may prove ineffective in regions where the rule of law and the protection of property rights is lacking, which is usually the case in regions experiencing conflict. In addition, formal land titles may boost the value of land, implying higher asset losses. Human capital, (H), constitutes an element allowing households to devise strategies for protecting assets prior to migration. Better educated individuals may design effective strategies for protecting assets at origin sites, selling them prior to migration, and/or controlling them at destination sites. On the other hand, better educated individuals may constitute effective community leaders, and thus be seen as posing a threat to armed groups seeking to dissolve any civil resistance. Additionally, the uncertainty of losing assets such as land may push certain households to invest more in transferable capital, like education, instead of location-specific assets; for these households then, the loss of physical assets might be lower. Thus, the impact of human capital on asset loss is uncertain.

The determinants of asset loss are defined then by the following reduced form:

$$A_L = A_L(P_I, P_G, R_e, PP, CS_o, L, S, M, F).$$

Asset accumulation at destination sites is driven by factors other than those that determine asset loss. First, the length of settlement in destination sites, (T), may exert a positive or negative influence on asset accumulation. As households become settled for longer periods of time at destination sites,

knowledge about the labor market increases and economic opportunities broaden, thus increasing the likelihood of accumulating new assets. As the duration of settlement at the new location increases, however, respective governmental aid programs eventually come to an end, and the short-term benefits of income-generating programs vanish. If the first effect exceeds the second effect—that is, if a household's ability to recover productive capacity offsets the discontinuation of resources from aid programs—the period of settlement will have exerted a positive effect on asset dynamics. Conversely, if the second effect is stronger than the first one, then the period of settlement will have affected asset dynamics negatively.

Human capital, (H), may make adaptation to the conditions at the destination site easier, thus improving asset accumulation following displacement. Higher levels of human capital may be fundamental to competing in urban labor markets and finding alternative sources of income, and thus accumulating new assets. However, human capital is not necessarily a transferable asset. Agricultural experience (Ag) is not useful in urban labor markets, for example, inasmuch as there, the predominant occupations for low-skilled workers are in construction, services, and/or petty trade. In such cases, the resultant depreciation of human capital restricts earning possibilities and, consequently, asset accumulation.

The ability to generate income is crucial for promoting asset accumulation. Income earned in labor markets or through small enterprises, (Y_R), besides covering subsistence needs, may be invested in new productive assets. Some displaced households are still able to control assets in their hometowns and extract rents from production on their land plots. Using rents obtained by exploiting these plots, they are able to accumulate new assets at receiving municipalities. Social networks and social capital at destination municipalities, (CS_R), among other things, help households mitigate shocks, acquire information about aid programs or job opportunities, and gain access to special assistance programs and credits.

A household's structure and its socioeconomic characteristics are also determinants of displaced asset dynamics. Among other factors, income generation and the accumulation of assets depend on a household's structure and the age of the household head. High dependency ratios, (D), imply fewer members who are generating income and members who have greater needs, thus restricting the household's capacity for recovering assets. Female household heads, (J), may face more obstacles than men to accumulating new assets, due to their vulnerability following displacement. Age, (E), may exhibit an inverted u-shape relationship with respect to asset dynamics. Because young displaced persons have less work experience, their incomes tend to be low; this further makes asset recovery difficult. On the other hand, older persons may have difficulties learning new occupations and adapting to changing circumstances. Asset accumulation, consequently, increases with age, but only with diminishing marginal returns. Lastly, belonging to an

ethnic minority may have a negative impact on asset accumulation, as these groups face particular vulnerabilities, given their cultural heritage, language barriers, and so forth.

Access to programs targeting displaced households, such as income generation programs G_i, may provide an initial stimulus for recovering productive capacity. Establishing the causal link between access to income-generating programs and asset accumulation, however, is difficult. First, as explained before, access to these programs is conditional on having first received humanitarian aid, such as providing basic needs during the first three months following displacement. Although humanitarian aid does not contribute to asset accumulation, beneficiary households may receive other kinds of support, such that it may promote asset accumulation. Whether this is the case or not is impossible to identify from our data. Thus, the coefficient for income-generating programs may be capturing the impact of other programs as well. Second, since in addition to other factors income-generating programs are not randomly assigned—with households being selected according to the magnitude of their vulnerability and economic conditions—being the beneficiary of such programs constitutes an endogenous variable. To correct for this endogeneity, we employ an instrumental variables approach, based on whether a household was a beneficiary of humanitarian aid. As described before, only those households that had previously received humanitarian aid were potential beneficiaries of income-generating programs; thus, we anticipate that this variable will be a strong predictor of program participation. However, asset accumulation is not determined by a short-term program, which is designed primarily to cover basic needs. The accumulation for asset holdings for household i, then, is defined as:

$$A_R = A_R(T, H, Ag, Y_R, CS_R, D, J, PP, E, Me, G).$$

The reduced-form equations for asset loss stemming from displacement and asset accumulation at destination sites are estimated using the National Survey of Displaced Households (ENHD) described in the previous sections.

4.4.2 Quantitative Analysis: The Determinants of Asset Loss and Asset Accumulation

In order to identify the determinants of asset loss and asset accumulation for displaced households using the models specified in section 4.3.4., we first estimate a group of regressions. Before discussing the determinants of asset dynamics, we discuss here some descriptive statistics, and analyze the magnitude of asset loss stemming from forced displacement. The figures for asset loss are only estimated for the control group.

The displacement process together with household characteristics are

Table 4.1 The displacement process and household characteristics

	Mean (Standard deviation)
Reactive displacement	86.2%
Perception of the presence of illegal armed groups at origin site	89.6%
Perception of the presence of government forces at origin site	50.3%
Intramunicipal displacement	15.2%
Intradepartmental displacement	57.6%
Migration directly to destination	88.9%
Time of settlement at destination site—days	1.345
	(1.040)
Ethnic minority	24.2%
Male head of household	62.7%
Household size	5.16
	(2.14)
Number of persons between 12 and 17 years of age	0.84
	(0.99)
Number of persons between 18 and 65 years of age	2.48
	(1.36)
Dependency ratio	0.34
	(0.34)
Years of age of household head	42.6
	(13.3)
Number of persons between 12 and 17 years of age	0.84
	(0.99)
Number of persons between 18 and 65 years of age	2.48
	(1.36)

Source: Authors' calculations based on ENHD (2004).

presented in table 4.1. First, the level of violence in the regions of origin is extremely large. More than 86 percent of households displaced reactively;[5] that is, after being victimized in an attack by illegal armed groups. Moreover, while displaced households readily perceive the presence of illegal armed groups (89.6 percent of the time), it is less often the case that they perceive the presence of government forces (50.3 percent of the time), such as provide protection. Second, while some households do prefer to migrate within the general vicinity of their hometown (15.2 percent), most actually end up migrating out of their municipality, directly to their final destination municipality. Third, displaced households are a particularly vulnerable group relative to other groups within the Colombian population. Compared to urban poor households, for instance, displaced households are larger, have a higher

5. A household displaces reactively when it is the victim of a direct treat, following the homicide, forced recruitment or abduction of a household member, or the massacre of some or one household member.

frequency of female heads, have greater dependency ratios, and more often are made up of ethnic minorities.

The length of settlement at destination sites merits a separate discussion. The distribution for length of settlement is spread, with the average length of settlement being 1.345 days, and with a standard deviation of 1,040 days. Such a large time horizon may cause an attrition bias as the sample may only identify those displaced households that remain trapped in poverty, whereas successful households may have moved to other neighborhoods and lost their connection with the church. However, the length of settlement for most households is less than five years: the median is 1,200 days (3.28 years) and the seventy-fifth quartile is 1.759 (4.8 years).[6]

The loss and recovery of housing, physical capital, and land are presented in table 4.2. Nearly half of the sample reports losing their home as a consequence of displacement, with only a few households able to acquire new housing at destination sites. However, close to 18 percent of households' homes were not legally owned prior to displacement, whereas following displacement, there was a greater tendency to own houses—that is, at destination sites. The average monetary housing loss per household is $3,333.[7]

Productive assets, other than those related to land and plot improvement, comprise the greater bulk of asset loss and are difficult to recover following displacement. In fact, productive asset depletion worsens over time following settlement at destination sites. On the other hand, households are able to recover expensive articles with much greater ease, such as electronic appliances and mobile goods (e.g., vehicles).

Land seizure or abandonment is also considerable. Given the predominant proportion of the displaced population that has a rural origin, it is not surprising that nearly 55 percent of displaced households had formal or informal access to land; the average size of land plots is 13.2 hectares, which is not negligible. Given the weak property rights that prevail in Colombian rural areas, recovering land once the conflict ends is a complex process—over 30 percent of displaced households legally owned land, while the remainder had only informal access to it. Moreover, only 12.8 percent still controlled their land plots following displacement, either directly or with the support of family and friends. Consequently, only 25 percent of households are deemed likely to recover land upon their return. If recovering land is difficult, recovering the capital invested to improve land plots or increase agricultural productivity is even more so. Close to one-fifth of land plots had irrigation, the average number of livestock was twenty-nine, and the net present value of foregone agricultural revenue over a lifetime is $15,787 per household.[8]

6. We thank Ernesto Schargrodsky for raising this point.

7. We used the exchange rate for 09/02/2007, which stood at US$ 1 = COP$ 2,160.

8. To calculate the net present value of foregone agricultural revenues, we assume that agricultural production ends when the household head dies; we thus use a discount rate of 9.5

Table 4.2 Asset loss and asset recovery: Housing, physical capital, and land

Variable	Mean	Standard error
Housing		
Percentage of households that lost housing at the origin site	46.50%	—
Percentage of households that lost housing at the origin site and recovered it at the reception site	6.40%	—
Percentage of households that did not own housing at the origin site and own housing at the destination site	17.90%	—
Average loss in housing	US $3,333	US $278
Physical assets		
Productive assets (excluding land) at the origin site	US $370	US $42
Other assets at the origin site	US $93	US $5
Percentage of productive assets at the origin site	55.20%	0.02%
Productive assets (excluding land) at the destination site	US $19	US $5
Other assets at the destination site	US $93	US $5
Percentage of productive assets at the destination site	12.80%	0.03%
Land		
Land tenure	55.40%	—
Total hectares of land owned	13.2	2.1
Value of total hectares owned	US $3,981	US $417
Percentage of hectares with formal property titles	31.20%	—
Average number of hectares lost	4	0.8
Value of hectares lost	US $972	US $185
Percentage of hectares than can be recovered after return	25.80%	—
Percentage of hectares under family control	12.80%	—
Percentage of land with irrigation	19.00%	—
Number of animals	29.9	2.6
Net present value of agricultural profit loss	US $15,787	US $2,500
Total assets and asset recovery		
Value of assets at origin site (excluding land)	US $7,037	US $278
Value of assets at destination site (excluding land)	US $3,194	US $231
Net loss of assets	US $–3,796	US $32

Source: Authors' calculations based on ENHD (2004).

When physical assets and land are accounted for, the average loss per household is nearly $7,037. The capacity of displaced households to recover from this kind of asset loss is limited. If we measure the recovery of assets as the value of assets at the destination site minus the value of assets at the site of origin, on average, households report a net loss of approximately $3,796 per household.

Displacement shock, aside from significantly decreasing victims' asset holdings, condenses the asset distribution around a lower mean and median. Figure 4.1 depicts the distribution of asset values before and after displacement. Prior to displacement, the mean and median of asset values are larger

percent. According to the World Health Organization (WHO), the life expectancy of women and men in Colombian rural areas is 76.3 and 67.5 years, respectively.

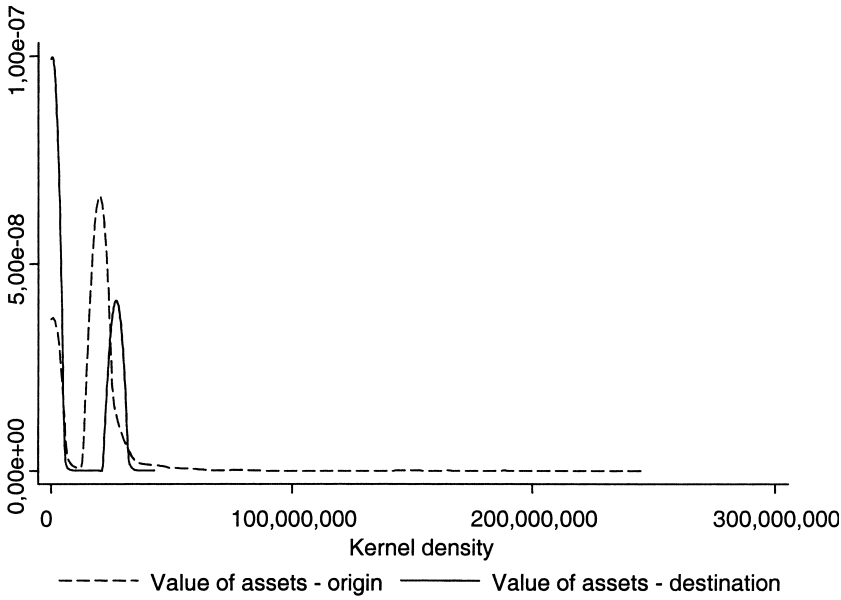

Fig. 4.1 Values of assets at origin and destination sites—kernel density
Source: Authors' calculations based on ENHD (2004).

and the distribution more spread out; asset values at the upper tail of the distribution are more frequent. Following displacement, the distribution condenses significantly, with most households concentrated near zero, and with just a few households having a larger value of assets.

Asset recovery is difficult for most displaced households. Figure 4.2 depicts a quadratic fit between the net change in asset value and the length of settlement for the three groups identified in the qualitative analysis. Group 1 corresponds to the first quartile of the net change in asset value, group 2 to the second and third quartile, and group 3 to the fourth quartile. The majority of displaced households, close to 75 percent of them, reported a negative net change in asset value, while only 25 percent of displaced households were able to recover assets following displacement. Consequently, the median of asset recovery is zero, which indicates a worrisome trend. As identified by the qualitative evidence, group 1 faced large asset losses, which only deepened as time passed; the recuperation of assets was slow for group 2, such that after five years of displacement, asset loss was still higher than asset accumulation; and while group 3 was able to recover from the displacement shock, the stock of assets at destination sites remained constant.

Although in theory households might resort to labor income, credits, and risk-sharing mechanisms in order to recover assets, access to these mechanisms is not widespread among the displaced population. The figures for

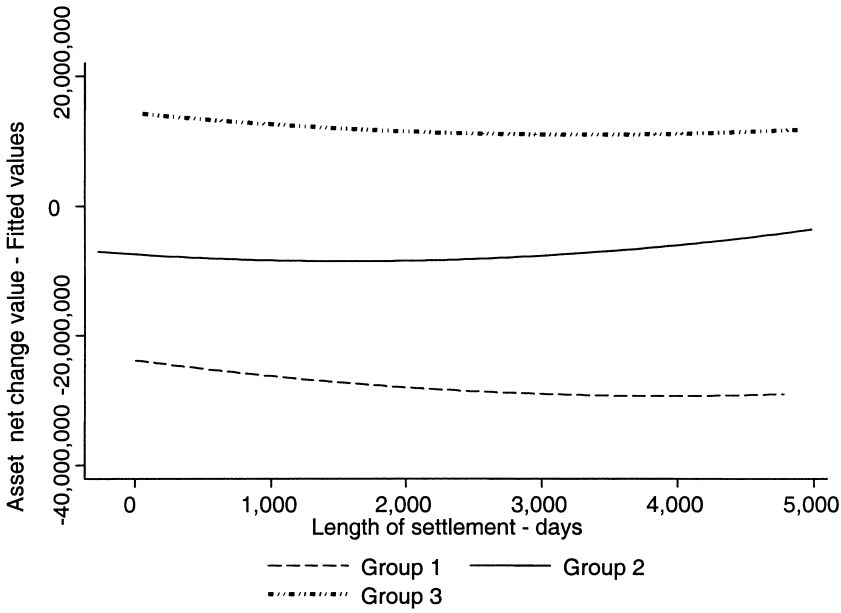

Fig. 4.2 Net change in asset value for the three groups—quadratic fitted value
Source: Authors' calculations based on ENHD (2004).
Note: Asset recovery is measured as the value of assets at destination sites minus asset losses caused by displacement.

financial capital, access to labor markets, and human and social capital before and after displacement are presented in table 4.3. First, the potential access to informal credits drops sharply following displacement (from 17.9 percent to 9.3 percent). Access to formal credit markets at destination sites does increase fivefold relative to access at origin sites, though this is largely because with respect to the latter, access is negligible; thus, at destination sites, only 6.6 percent of households are the beneficiaries of formal credits. Furthermore, credit conditions gradually worsen over time at destination sites—the amounts approved are half those approved at origin sites, and the number of monthly installments eventually declines.

Drops in asset holding returns are not fully compensated by labor income. Unemployment rates for all household members soar following displacement, and the pace at which labor conditions improve is extremely slow—initially, the unemployment rate for household heads during the first three months of settlement at destination sites is 53 percent; after a year, it is 16 percent. Because displaced households face poor labor conditions and are mostly absorbed by informal labor markets, the labor income per equivalent adult corresponds to less than half of labor income prior to displacement.

The depreciation of human capital and low education levels are important

Table 4.3 Financial capital, labor markets, human capital, and social capital

Variable	Mean	Standard deviation
Financial capital—informal credits		
Potential access to informal credits at the origin site	17.90%	—
Access to informal credits at the origin site	8.30%	—
Potential access to informal credits at the destination site	9.30%	—
Access to informal credits at the destination site	6.40%	—
Financial capital—formal credits		
Access to formal credits at the origin site	1.40%	—
Credit amount at the origin site	US $1,481	US $1,019
Number of monthly installments at the origin site	14.5	1
Access to formal credits at the destination site	6.60%	—
Amount of credit at the destination site	US $741	US $185
Number of monthly installments at the destination site	10.4	1.4
Labor markets		
Unemployment level for household heads at the origin site	1.70%	—
Labor income per equivalent adult at the origin site	US $893	US $151
Unemployment level for household heads at the destination site	16.10%	—
Labor income per equivalent adult at the destination site	US $289	US $17
Human capital		
Years of education of household head	5.7	0.1
Dedicated to agricultural activities at the origin site	57.30%	—
Social capital		
Main breadwinner died or abandoned household	8.50%	—
Participation in organizations at the origin site	32.60%	—
Number of organizations per household at the origin site	0.33	0.03
Leadership position at the origin site	7.50%	—
Participation in organizations at the destination site	29.00%	—
Number of organizations per household at the destination site	0.25	0.02
Leadership position at the destination site	4.20%	—

Source: Authors' calculations based on ENHD (2004).

obstacles that displaced households need to overcome when competing in urban markets. Tight labor markets at destination sites may partially hinder the rapid absorption of displaced households. Hence, even after a year of settlement, the unemployment rate for displaced household heads is still greater than that for the urban extreme poor. Low formal human capital (5.7 years) and inadequate previous labor experience with respect to urban jobs (57.3 percent of displaced persons were dedicated to agriculture prior to displacement) may be the main causes driving high unemployment rates.

Informal risk-sharing mechanisms are also severely disrupted. Informal credits, as discussed before, drop significantly. Some families disintegrate on account of the main breadwinner dying or abandoning the household (8.5

percent). While households that participated in organizations prior to displacement often rapidly become engaged at destination sites, the new organizations are usually dramatically different from those to which they previously belonged. Prior to displacement, displaced households were generally members of organizations dedicated to fostering productive activities (e.g., peasant organizations and cooperatives) through the provision of credits, technical assistance, and mediation with formal institutions. At destination sites, households are mostly members of organizations dedicated to charity work—that is, organizations aimed at providing subsistence support rather than promoting productive activities.

Asset Losses

We estimate regressions in order to first identify the determinants of asset loss. Several regressions were estimated to check for the robustness of the results. Table 4.4 presents the results for the OLS, IV, and quartile regressions. Given that certain characteristics of the department of origin may also determine the nature and extent of asset loss, we estimate regressions with and without department[9] controls. Inasmuch as armed groups may adopt different displacement tactics depending upon the war strategies they adopt, we estimate each regression separately for massive and individual displacement. We expect that where the war objective of illegal armed groups is to depopulate territory in order to strengthen territorial control, expelling the population en masse (massive displacement) is more effective. On the other hand, when asset seizure is the objective, the deliberate targeting of particular households (individual displacement) will more likely be adopted. The latter case may adjust better to the model we defined. Lastly, we expect that the beneficiaries of income-generating programs should have unobservable characteristics closely related to their entrepreneurial abilities, characteristics, which if known, might help them design strategies for protecting assets. Consequently, we estimate the regressions separately for the beneficiaries and nonbeneficiaries of income-generating programs. Since the results are robust for the different specifications, we only present the estimations for the complete sample using department controls. However, we discuss the different specifications whenever they account for a significant change in the results.

We estimate OLS regressions and IV regressions in order to instrument for migrating within the municipality. The results for the first stage of the instrumental variable regression are presented in table 4A.1 of the appendix, and correspond nicely with an F-statistic equal to 11.39. Since the process of asset loss appears highly nonlinear, we estimate quartile regressions.

The results reveal conflict dynamics that exert a heavy toll on assets. The fact of reactive displacement and the losing of a male household head are

9. Departments roughly correspond to states in the United States.

Table 4.4 The determinants of asset loss[a]

Variables	GLS			IV			Quantile regressions		
	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic) (0.25)	Coefficient (*t*-statistic) (0.50)	Coefficient (*t*-statistic) (0.75)
Reactive displacement	4,868.60 (3.66)***			3,694.08 (3.06)***	3,433.21 (2.88)***	3,412.77 (2.66)***	233.58 (1.39)	1,238.52 (1.92)*	912.36 (2.11)**
Household head dead or no longer present	6,988.40 (2.03)**			5,930.97 (1.91)*	6,716.26 (2.17)**	6,776.35 (1.90)*	111.54 (80.55)	2,663.29 (3.43)***	261.37 (0.51)
Perception of the presence of illegal armed groups	–4,186.06 (–1.35)			–4,593.06 (–1.54)	–4,592.17 (–1.55)	–4,577.37 (–1.54)	–380.63 (–2.00)**	–1,311.16 (–1.80)*	–321.68 (–0.66)
Perception of the presence of government forces	–2,592.93 (–2.41)**			–3,272.00 (–2.95)***	–3,048.56 (–2.74)***	–2,972.55 (–1.47)	–130.49 (–0.89)	–1,442.21 (–2.57)***	–221.78 (0.60)
Intramunicipal displacement		–2,460.72 (–1.94)**		–2,809.80 (–2.20)**	–2,805.65 (–2.18)**	–2,041.00 (–0.13)	–280.62 (–1.60)	–503.69 (–0.75)	–180.59 (–0.40)
Household head—average number of organizations at origin site		1,198.87 (1.57)	2,958.11 (3.00)***	1,135.03 (1.50)	1,293.71 (1.75)*	1,272.29 (1.49)	117.61 (1.36)	753.28 (2.36)**	435.36 (2.19)**
Formal land title		12,116.33 (5.18)***		10,380.97 (4.22)***	9,856.80 (4.02)***	9,821.87 (3.86)***	8,013.95 (46.01)***	13,329.46 (19.54)***	5,145.45 (11.12)***
Formal land title*presence of government forces		–310.03 (–0.13)		3,223.03 (1.23)	3,324.42 (1.28)	3,364.14 (1.27)	–3,564.67 (–14.47)***	1,041.35 (1.09)	–239.08 (–0.37)
Total hectares of land		164.99 (3.80)***		163.30 (3.77)***	161.94 (3.75)***	162.12 (3.72)***	36.94 (32.04)***	112.56 (27.89)***	256.36 (100.77)***
Years of schooling for household head			988.99 (2.08)**		836.39 (1.90)*	839.10 (1.88)*	28.55 (1.05)	262.20 (2.50)***	126.89 (1.73)*
Number of persons between 12 and 17 years of age			1,441.24 (2.39)**		930.81 (1.83)*	924.81 (1.81)*	32.28 (0.55)	160.54 (0.72)	157.52 (1.09)
Number of persons between 17 and 65 years of age			1,738.44 (4.21)***		1,249.23 (3.23)***	1,246.08 (3.30)***	104.34 (2.53)***	915.72 (5.46)***	382.85 (3.41)***
Ethnic minority			–313.02 (–0.27)		–935.66 (–0.79)	–968.83 (–0.69)	–109.61 (–0.69)	884.38 (1.44)	103.08 (0.25)
Constant	629.96 (0.21)	–476.68 (–0.77)	–11,106.13 (–3.28)***	474.99 (0.15)	–7,467.33 (–2.05)**	–7,451.34 (–2.05)***	759.00 (2.45)***	–3,250.07 (–2.71)	–2,739.15 (–3.37)***
Observations	2,320	2,318	2,318	2,318	2,318	2,318	2,318	2,318	2,318
R^2	0.0448	0.2067	0.0514	0.217	0.2251	0.2205	0.0403	0.1383	0.1067

Source: Authors' calculations based on ENHD (2004).

Note: Department Controls are included. GLS = general least squares.

[a]Asset losses divided by 1,000.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

both statistically significant; the magnitudes of the coefficients are large, and the results are robust for different specifications. Moreover, while it is not significant in the first quartile, the coefficient for reactive displacement becomes larger and statistically significant in the upper quartiles. The coefficient estimates for reactive displacement decrease when additional controls are included, yet this should be expected, inasmuch as violence targets particular groups within the population. The direct and traumatic victimization represented by reactive displacement and by the loss of the main breadwinner imposes asset losses of (Colombian pesos) COP$3.4 million (US$1.574) and $COP6.7 million (US$3,101), respectively.

The strategies adopted by households or by government forces to help mitigate asset loss are not sufficient to offset the impact of the conflict. Although migrating within the municipality and the presence of government forces does reduce asset loss, the combined effect of both variables is only COP$5.8 million (US$2,685), which does not even counteract the loss of the main household breadwinner. In addition, the positive impact of migrating within the municipality is not robust for different specification. When department controls are included, the size of the coefficient halves; this variable then may be capturing some regional effects and not necessarily the effectiveness of intramunicipal displacement. Once the variable is instrumentalized, the statistical significance disappears. The quartile regressions also show no statistical significance for intramunicipal displacement. On the other hand, the effectiveness of government forces is robust for different specifications, even if the impact does not offset either reactive displacement or the loss of the main breadwinner.

Formal titles for land plots, rather than reducing asset loss, seems to actually increase its extent. The coefficient for formality is not only positive and significant, it also shows the largest magnitude (COP$9.8 million [US$4,537]). One possible explanation is that land plots with formal titles are the largest and thus the most attractive ones. However, after controlling for the size of land plots, the size and significance of the coefficients are similar. Another interpretation is that when lawlessness is pervasive, formal titles are not sufficient for protecting assets. To test for this hypothesis, we interact the formality of land titles with the presence of government forces. Again, the size and significance of the coefficients are similar. In addition, quartile regressions show that the impact of formality with respect to land titles is particularly strong for the median quartile, while decreasing for the last one. Land plots with formal titles may be more valuable due to the formality of the land titles. The positive effect of land plot size on asset loss seems to corroborate this hypothesis.

The targeting of particular groups within the population in order to achieve war objectives also imposes large asset losses, though some variables are not statistically significant. First, better educated households face greater asset loss; as indicated by the quartile regressions, the effect increases

for the highest quartiles. However, the coefficient for years of schooling is not robust for different specifications of the model. Second, young household members may be forcefully recruited or may act as combatants for opponents groups, and are thus targeted often. These attacks appear to increase the extent of asset loss. This effect is particularly strong for persons between eighteen and sixty-five years of age—having an additional member in this age range increases asset loss by COP$1.2 million (US$555). Third, although the coefficient for participation in formal organizations is positive, it is not statistically significant. However, when the quartile regressions are estimated, participation in organizations implies positive asset loss for the median and third quartile, and the impact is not negligible. For example, for the median quartile, participation in an additional organization increases asset loss by COP$0.75 million (US$347), while the increment in asset loss generated by reactive displacement for the same quartile is COP$1.2 million (US$555). Lastly, apparently, ethnic minorities do not face greater levels of asset loss. When department controls are not included, the extent of asset loss for ethnic minorities is greater, but the effect vanishes after including department controls. Regions where ethnic minorities are located coincide with regions strategically important to illegal armed groups. Thus, ethnic minorities may be attacked simply by virtue of living in strategically valuable regions, and not necessarily because they are ethnic minorities.

The results presented in table 4.4 clearly indicate that conflict-induced shocks impose greater asset losses. The impact of the conflict upon asset loss is hardly offset by strategies adopted to prevent loss or by the protection provided by government forces.

Asset Accumulation

In order to understand the process of asset accumulation, we estimate regressions to identify the determinants of asset accumulation. Several alternative specifications were estimated in order to verify the robustness of the results. First, asset accumulation, besides being determined by households' characteristics, may also depend on regional characteristics as well as the municipality size. Among other things, some regions are more prosperous, their labor markets are more dynamic, and/or they are more willing to receive displaced population. These factors contribute to the displaced population's asset accumulation process. In addition, the size of the urban center may determine how easy or difficult it is to acquire new asset holdings. Although large cities may provide more economic opportunities, adapting to a large and anonymous city may prove hard for rural households, such as are often found among the displaced population. To control for city size, we include controls for Bogotá (the capital city of Colombia), large cities with populations between 700,000 and 3,000,000 people, and medium-sized cities with populations between 100,000 and 699,000 people. We do not control for small cities with less than 100,000 inhabitants. To control for regional heterogeneity, we include department controls. Second, we estimate

the determinants of asset accumulation separately for length of settlement, income-generating capacities, and household vulnerability. Finally, we drop outliers from the time of settlement in order to identify whether potential attrition causes an overestimation of poverty traps. Dropping outliers does not, however, change the estimation results.

Instrumental variable regressions and quartile regressions are also estimated. The first stage of the instrumental variable regression is presented in table 4A.2 of the appendix. The first stage fits well, with an *F*-statistic ranging from 8.37 and 10.06. Much as with asset loss, asset accumulation exhibits several nonlinearities, as shown in the figures discussed in section 4.3.4. To deal with these nonlinearities, we estimate quartile regressions.

The results for all the regressions are presented in tables 4.5 and 4.6. The results for the regressions without the controls for city size are not presented; the coefficient estimates are robust for the inclusion of these controls, and the prediction power of the model barely increases. As settlement at destination sites progresses, asset accumulation expands. The coefficient and its significance are similar for the different specifications estimated. We also include interactions for length of settlement and certain household characteristics, such as the fact of having previously been dedicated to agricultural activities or having lost the main breadwinner; the coefficients, however, are not statistically significant and are thus not reported. However, the contribution of length of settlement is not large and even decreases after a while, thus exhibiting the inverted u-shaped relation noted earlier. After controlling for all other variables, a displaced household needs more than eleven years in order to recover the average asset loss stemming from displacement. Furthermore, the effect of length of settlement is weak for households in the first two quartiles of the regression, and only picks up for households located at the upper end of the asset distribution. These results hold even when the outliers for length of settlement are eliminated.

Insertion into labor markets and the capacity to generate income positively contribute to asset accumulation at destination sites. In particular, insertion in labor markets appears as an effective strategy for accumulating assets more effectively; having an unemployed head reduces asset accumulation by COP$1.4 million (US$648). Although the coefficient for unemployment somehow decreases when additional controls are included, the size of the coefficient is still large, and is significant for the different specifications. The negative impact of unemployment is particularly large for households in the upper quartile of the asset distribution.

Human capital variables play an important role with respect to asset accumulation, yet the sign representative of having been previously dedicated to agricultural activities is the opposite of the expected one. Better educated households are able to accumulate more assets, yet the effect is not large given the overall low education levels of the displaced population. One additional year of education for an average displaced household whose head has 5.7 years of schooling increases asset accumulation by COP$0.12 million

Table 4.5 The determinants of asset accumulation

Variables	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)
Length of settlement—days	5.9849	5.0295					5.4392	4.3369
	(13.52)***	(11.15)***					(11.98)***	(9.29)***
Length of settlement squared	–0.0005	–0.0004					–0.0005	–0.0004
	(–7.28)***	(–5.98)***					(–6.53)***	(–4.99)***
Years of schooling—household head			724.5709	629.3155			605.5615	535.1510
			(2.22)**	(1.99)**			(1.93)**	(1.73)*
Years of schooling squared			–50.1199	–41.8751			–44.6176	–38.6286
			(–2.63)***	(–2.26)**			(–2.44)**	(–2.14)**
Dedicated to agricultural activities—origin site			2,184.0950	1,510.2020			1,768.3990	1,208.7300
			(4.26)***	(3.04)***			(3.30)***	(2.29)**
Age—household head			350.1363	401.6913			207.5940	265.0617
			(3.36)***	(4.02)***			(1.96)**	(2.57)***
Age squared			–2.8989	–3.4527			–1.6865	–2.2781
			(–2.66)***	(–3.30)***			(–1.54)	(–2.13)**
Unemployment at destination—household head			–2,524.0160	–1,996.9930			–1,010.3210	–1,046.7110
			(–3.78)***	(–3.09)***			(–1.56)	(–1.65)*
Potential rents—assets at origin site			0.0000	0.0000			0.0000	–0.0001
			(0.14)	(–0.26)			(–0.08)	(–0.33)
Contact at destination (family, friend)			–684.2316	–485.1001			127.2599	37.4021
			(–1.25)	(–0.91)			(0.24)	(0.07)
HH average number of organizations—destination			–193.7157	83.3880			–409.2494	–160.8150
			(–0.50)	(0.22)			(–1.10)	(–0.44)
Beneficiaries of income-generating programs			3,227.1260	3,391.9620			1,840.8230	2,159.8890
			(5.49)***	(5.87)***			(3.20)***	(3.74)***
Male household head					2,084.8420	1,529.4110	978.1162	817.0753
					(3.64)***	(2.76)***	(1.69)*	(1.43)
Head abandoned or left household					–283.5218	–394.9613	–470.1106	–651.4437
					(–0.30)	(–0.43)	(–0.52)	(–0.73)
Ethnic minority					–2,464.0960	–1,890.5620	–2,448.7600	–1,828.4010
					(–4.00)***	(–2.79)***	(–4.16)***	(–2.80)***
Dependency ratio					–969.9969	–1,893.3370	808.6833	136.8013
					(–0.90)	(–1.81)*	(0.74)	(0.13)
Constant	2,191.3410	–9,588.1870	–2,931.0320	–14,954.7900	9,027.2670	–1,491.9110	–5,859.4880	–19,492.5800
	(3.03)***	–0.86	(–1.02)	(–1.27)	(11.17)***	(–0.13)	(–1.95)***	(–1.69)*
Department controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	2,332	2,331	2,319	2,318	2,321	2,320	2,319	2,318
R^2	0.1052	0.1851	0.0536	0.1612	0.0256	0.1337	0.1343	0.2067

Source: Authors' calculations based on ENHD (2004).
Note: Controls for municipality size are included (country capital, large city, and medium size city).
***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

Table 4.6 **The determinants of asset accumulation**

Variables	IV		Quantile regression		
	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic) *q*(0.25)	Coefficient (*t*-statistic) *q*(0.50)	Coefficient (*t*-statistic) *q*(0.75)
Length of settlement—days	4.9934	3.0998	0.1476	0.4145	1.0936
	(4.86)***	(2.05)**	(10.47)***	(11.98)***	(13.19)***
Length of settlement squared	–0.0004	–0.0002	0.0000	0.0000	–0.0001
	(–3.53)***	(–1.27)	(–5.98)***	(–7.05)***	(–8.17)***
Years of schooling of household head	517.8523	408.1864	24.8761	29.9790	2.1582
	(1.59)	(1.16)	(2.61)***	(1.20)	(0.03)
Years of schooling squared	–41.8577	–34.5049	–1.3010	–1.6385	–0.5409
	(–2.46)***	(–1.79)*	(–2.43)**	(–1.12)	(–0.14)
Dedicated to agricultural activities at origin site	1942.9430	1499.2370	–27.1154	3.9144	192.4528
	(3.30)***	(2.30)**	(–1.58)	(0.09)	(1.86)*
Age of the household head	172.7377	206.5441	9.6973	20.7839	49.5402
	(1.41)	(1.61)	(2.87)***	(2.49)***	(2.44)**
Age squared	–1.1452	–1.4695	–0.0973	–0.1942	–0.4407
	(–0.80)	(–0.99)	(–2.83)***	(–2.25)**	(–2.09)**
Unemployment at destination site—household head	–248.5263	235.8879	–67.8770	–98.3382	–243.5680
	(–0.19)	(0.16)	(–3.26)***	(–1.91)*	(–1.93)*
Potential rents—assets at origin site	0.0000	–0.0001	0.0000	0.0000	0.0000
	(–0.15)	(–0.81)	(2.53)***	(–0.63)	(0.35)
Contact at destination site (family, friend)	314.5051	188.0833	26.4329	9.6449	–15.5832
	(0.57)	(0.33)	(1.58)	(0.23)	(–0.15)
Household head—average number organization at destination site	–132.8377	217.8818	0.0837	8.1493	2.5950
	(–0.27)	(0.40)	(0.01)	(0.28)	(0.04)

(*continued*)

Table 4.6 (continued)

Variables	IV		Quantile regression		
	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)	Coefficient (*t*-statistic) *q*(0.25)	Coefficient (*t*-statistic) *q*(0.50)	Coefficient (*t*-statistic) *q*(0.75)
Beneficiaries of income-generating programs	6744.4650	10734.5900	146.6346	284.0821	248.5947
	(0.81)	(1.12)	(7.88)***	(6.08)***	(2.22)***
Male household head	650.9820	165.4665	52.5938	102.0972	162.0971
	(0.82)	(0.18)	(2.83)***	(2.21)**	(1.47)
Head abandoned or left household	–1086.7560	–1727.6980	–48.5975	–58.9054	–127.6213
	(–0.84)	(–1.14)	(–1.70)*	(–0.82)	(–0.72)
Ethnic minority	–2791.1260	–1882.1500	–41.0669	–90.5849	–427.3063
	(–4.42)***	(–2.68)***	(–1.96)**	(–1.72)*	(–3.36)***
Dependency ratio	1341.9860	1333.7860	–14.0638	–150.7804	11.0863
	(0.94)	(0.81)	(0.39)	(–1.74)*	(0.05)
Constant	–7272.8910	–16487.2800	–642.4860	–1576.8250	–3809.1740
	(–2.51)***	(–3.37)***	(–6.39)***	(–6.15)***	(–5.98)***
Department controls	No	Yes	Yes	Yes	Yes
Observations	2,319	2,318	2,318	2,318	2,318
R^2	0.094	0.1058	0.007	0.0824	0.2429

Source: Authors' calculations based on ENHD (2004).

Note: Controls for municipality size are included (country capital, large city, and medium-sized city).

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

(US$55). The effect of education vanishes, however, for quartile regressions, and is only significant for households in the lowest quartile. On the other hand, the fact of having been previously dedicated to agriculture contributes positively to asset accumulation. This result is opposite our a priori hypothesis, and is robust for all of the different specifications. Presumably, after controlling for other characteristics, this variable may be capturing some unobservable characteristics, such as the entrepreneurial ability of persons who had small agricultural enterprises prior to displacement. Lastly, asset accumulation is higher for households with middle-aged heads. The impact of age is higher as we move up the quartiles.

Assets at origin sites that are still under a household's control—likewise, social capital—do not contribute in any way to asset accumulation. Assets at origin sites are not statistically significant and the coefficient is negligible. Despite being able to control a proportion of their assets at the point of origin, these assets may not be producing rents, or the rents may not be sufficient to expand asset holdings. Social capital—the number of organizations with which household members are affiliated at destination sites, likewise, the number of contacts they have—is not statistically significant for any of the estimated specifications. Therefore, only human capital seems to contribute to asset accumulation at destination sites.

After controlling for other characteristics, the contribution of income-generating programs to asset accumulation is large and significant. Asset holdings for beneficiaries of income-generating programs are COP$2.2 million (US$1018) larger. The coefficient for beneficiaries of income-generating programs, however, is not robust. When additional controls are included, the coefficient decreases significantly. This result is expected, as being the beneficiary of income-generating programs is related to household characteristics. Despite these positive results, the coefficient for participation in income-generating programs loses significance after instrumentalizing for it.

Vulnerable households are less able to recover from asset loss. Male-headed households fare better during the recovery process, and as we move up the quartiles, the significance of a household being male-headed with respect to asset recovery increases. The estimations that include only vulnerability variables show a large and significant positive effect for having a male household head. However, once other controls are incorporated into the estimation, the size of the coefficient reduces. Presumably, female-headed households exhibit particular vulnerable characteristics that reduce asset accumulation. After controlling for these characteristics, the impact of being a male-headed household decreases (COP$1 million [US$462]). On the other hand, asset accumulation does indeed seem difficult for ethnic minorities. Ethnic minorities face poor conditions at destination sites because their connections with their cultural heritage and social networks have been broken; some groups have difficulties speaking in Spanish, and thus have less access

to government programs. Thus, the asset holdings of ethnic minorities are COP$2.0 million (US$925) lower. This result is robust for different specification and persists even after controlling for other characteristics.

The displacement shock is certainly large. Conflict and forced migration brings about a depletion of physical, financial, human, and social capital. The erosion of a household's asset base, coupled with restricted access to labor markets, pushes a displaced household into an extremely vulnerable situation and hinders asset accumulation, thus imposing high long-term costs that are not easily overcome. Notably, these consequences persist through time. Indeed, only a small group of households appear to have initiated a moderate accumulation of assets under such conditions. The extent of asset accumulation for displaced households is strongly related to the conditions required for successful productive activities—a longer period of settlement at destination sites, access to credits, to employment, and a less vulnerable household structure. However, since the asset loss due to displacement is substantial, households will not be able to engage in virtuous cycles of asset accumulation. For example, asset loss for a household that reactively displaced and suffered the death of its main breadwinner is COP$10.2 million (US$4,722) higher than for other households. On the other hand, none of the variables determining asset accumulation at destination sites is able to offset this effect.

4.5 Conclusions

A conflict-induced shock imposes heavy asset losses upon a group of victims, in this case, a displaced population. The nature of conflict-related events leading to forced displacement and the resulting consequences strongly determines the magnitude of asset loss. Better-off households with larger asset holdings or that are strongly embedded in social networks pose attractive targets for illegal armed groups. Because their asset holdings prior to displacement are large and the consequences of the attacks are correspondingly extremely costly, such households suffer substantial asset loss. On the other hand, households with a less traumatic victimization profile or that migrate preventively in anticipation that the conflict will escalate tend to face less severe asset loss, and are thus better able to cope with displacement shock.

Regardless of the extent of asset loss caused by forced migration, all displaced households are left with an asset base seemingly insufficient for escaping poverty. Displaced persons cannot be assimilated in the same way that traditional migrants are. Our results show that displaced households do not catch up even after consolidating settlement at destination sites. Displaced households become locked into a low-level economic trajectory; once that happens, leaping forward into a high-return asset level becomes highly unlikely. In this respect, forced displacement has generated a poverty

trap for certain segments of the Colombian population. Targeted assistance, such as asset transfers and protections against shocks, is needed to stimulate growth.

Appendix

First-stage regressions for instrumental variable regressions

Table 4A.1 First stage: Intramunicipal displacement

Variables	Coefficient (*t*-statistic)
Reactive displacement	0.0231
	(1.15)
Household head dead or not present	–0.0731
	(–2.96)***
Perception of the presence of illegal armed groups	–0.0229
	(–1.00)
Perception of the presence of government forces	–0.0955
	(–5.51)***
Household—average number of organizations	0.0289
	(2.88)***
Formal land title	0.0442
	(2.09)**
Formal land title*presence of government forces	–0.0506
	(–1.71)*
Total hectares of land	–0.0003
	(–2.05)*
Years of schooling of the household head	–0.0026
	(–0.78)
Number of persons between 12 and 17 years of age	0.0085
	(1.21)
Number of persons between 17 and 65 years of age	0.0042
	(0.80)
Ethnic minority	0.0405
	(2.12)**
Contacts at destination site	0.0636
	(4.18)***
Dedicated to agricultural activities at origin site	0.0201
	(1.38)
Constant	–0.1040
	(–0.32)
Observations	2,318
F-statistic	11.39

***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

Table 4A.2 First stage: Beneficiaries of income-generating programs

Variables	Coefficient (*t*-statistic)	Coefficient (*t*-statistic)
Length of settlement—days	0.0001	0.0002
	(6.56)***	(8.54)***
Length of settlement squared	0.0000	0.0000
	(–4.44)***	(–5.90)***
Years of schooling of the household head	0.0145	0.0116
	(1.17)	(0.95)
Years of schooling squared	–0.0005	–0.0004
	(–0.75)	(–0.58)
Dedicated to agricultural activities at origin site	–0.0337	–0.0380
	(–1.58)	(–1.83)*
Age—household head	0.0076	0.0072
	(1.81)*	(1.78)*
Age squared	–0.0001	–0.0001
	(–2.48)***	(–2.32)**
Unemployment at destination site of household head	–0.1341	–0.1278
	(–5.24)***	(–5.14)***
Potential rents—assets at origin site	0.0000	0.0000
	(0.33)	(0.38)
Contact at destination site (family, friend)	–0.0196	–0.0121
	(–0.94)	(–0.59)
Household head—average number organization at destination site	–0.0427	–0.0441
	(–2.91)***	(–3.08)***
Male household head	0.0688	0.0757
	(2.99)***	(3.38)***
Head abandoned or left household	0.1103	0.1226
	(3.04)***	(3.48)***
Ethnic minority	0.0371	–0.0113
	(1.66)*	(–0.44)
Dependency ratio	–0.1161	–0.1298
	(–2.68)***	(–3.09)***
Beneficiary of humanitarian aid	0.0748	0.0685
	(3.00)***	(2.82)***
Constant	0.0259	–0.4391
	0.22	(–0.97)
Department controls	No	Yes
Observations	2,319	2,318
F-statistic	10.06	8.37

Source: Authors' calculations based on ENHD (2004).

Notes: Controls for urbanization structure are included. These include country capital, large city, medium-sized city, and small city.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

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