Forced Migration, Female Labor Force Participation, and Intra-household Bargaining: Does Conflict Empower Women?

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Abstract

Civilian displacement is a common phenomenon in developing countries confronted with internal conflict. Persons who are forcefully displaced, besides being exposed to direct aggressions, face substantial income losses, and, as they migrate to cities, they usually end up joining the informal labor force. This paper examines the consequences of forced displacement on female labor participation, and its subsequent impact on bargaining power and domestic violence. Our results show that women from forcefully displaced households are more likely to be employed, work longer hours, earn higher wages, and contribute in larger proportions to household earnings relative to rural women who remain in rural areas. However, as measured by several indicators, their greater contribution to households' earnings does not strengthen their bargaining power. Most notably, domestic violence does not appear to change as a response to larger contributions to household expenses. Because the children of displaced families have been the direct victims of conflict and domestic violence, the intra-generational transmission of violence is highly likely.

Keywords: Forced migration, female labor participation, intra-household bargaining, domestic violence

JEL Classification: D13, D74, J12, J61

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Desplazamiento forzoso, participación laboral femenina y poder de negociación en el hogar: ¿Empodera el conflicto a las mujeres?

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Resumen

El desplazamiento de población es un fenómeno frecuente en los países inmersos en conflictos internos. Para la población desplazada, las pérdidas de ingresos son sustanciales y, al migrar a las ciudades, se vinculan a la fuerza laboral dedicada a ocupaciones informales. Este artículo examina las consecuencias de la migración forzada sobre la participación laboral femenina y su consecuente impacto sobre el poder de negociación en el interior del hogar. Los resultados muestran que las mujeres desplazadas por el conflicto tienen más probabilidad de estar empleadas, trabajan más horas, devengan salarios mayores y contribuyen en mayores proporciones al ingreso del hogar frente a las mujeres rurales. Sin embargo, su mayor contribución a los ingresos del hogar no se traduce en un mayor poder de negociación en el hogar. Más aún, la violencia doméstica no parece responder a las mayores contribuciones de la mujer al ingreso del hogar. Dado que los niños de las familias desplazadas han sido víctimas directas del conflicto y de la violencia doméstica, la transmisión inter-generacional de la violencia puede perpetuar ciclos de violencia.

Because the children of displaced families have been the direct victims of conflict and domestic violence, the intra-generational transmission of violence is highly likely.

Palabras claves: Migración forzada, participación laboral femenina, poder de negociación, violencia doméstica

Clasificación JEL: D13, D74, J12, J61

1. Introduction

Internal conflicts abruptly modify the context within which economic agents operate, generating benefits and costs to different groups from among the civilian population. In addition to the economic impact of the massive deaths brought about by combat, warfare alters households' compositions, reduces investment in human capital, depletes productive assets, causes a deterioration in the health of children, and creates poverty traps (André and Platteau 1998; Justino and Verwimp 2006; Shemyakina 2006; Camacho 2008; Blattman and Miguel 2009). On the other hand, internal conflicts can also generate positive outcomes. Empirical evidence shows that certain groups within the population—such as those connected with armed groups—may see their economic conditions improve with the end of conflict; among other things, strong institutions may emerge, and collective action may be strengthened (Tilly 1992; Verwimp 2005; Bellows and Miguel 2009).

Despite recent empirical evidence concerning the consequences of internal conflict, research regarding other potential channels through which warfare affects households, and regarding the heterogeneous impact conflict has on different groups of the population (women in particular), is scarce. Conflict affects women in a number of different ways. Women face sexual assault, are frequently obliged to participate in labor markets (e.g., following the death of the main breadwinner or due to sudden drops in income), and are

often forced to become combatants (USAID 2007). In addition, changes brought about by conflict may spur more subtle variations in women's behavior. For example, Shemyakina (2009) finds that Tajik women marry and have children at an earlier age due to the shortage of adult men due to war casualties. Meertens and Stoller (2001) find that conflict may increase the bargaining power of women within the household because, when forcefully displaced, women actively participate in labor markets—in many cases, becoming the main breadwinners.

Understanding the consequences of conflict for women and identifying the channels that transmit them are crucial for designing purposive policies aimed at mitigating costs and enhancing unexpected benefits. Moreover, inasmuch as the impact of conflict on women easily transfers to children, reducing these costs contributes to eliminating the long-term effects of warfare, such as malnutrition, a lower investment in human capital, and the inter-generational transmission of violence.

The purpose of this paper is to examine the consequences of forced displacement on female labor participation, and its subsequent impact on bargaining power and domestic violence. The rationale of the paper is as follows. Forced displacement causes a sharp drop in labor income and large asset losses (Ibáñez and Moya 2010; Ibáñez and Moya 2010). In order to compensate for income losses, women's participation in labor markets increases significantly. Since forced migration occurs frequently from rural to

urban areas, the labor experience of women is more relevant to urban occupations, while men's experience is mostly in agricultural activities little valued in urban labor markets. As a result, the contribution of women to household earnings increases, which may potentially increase their bargaining power within the household. Increasing female labor participation may cause an unexpected benefit as a consequence of armed conflict—stronger bargaining power, improvements in women's welfare, and greater investment in children, particularly girls.

Our analysis uses data for Colombia, a country that has experienced a long-standing conflict for fifty years and has the second largest number of forced displacement in the world, after Sudan. During the 1990, monetary resources from illicit drug trade funded illegal armed groups, and the conflict expanded geographically and intensified, imposing a heavy toll on the civilian population. Today, Colombia has near 3.9 million persons that have been forcefully displaced, a figure equivalent to 8.4 percent of Colombia's population. The bulk of displacement movement occurred from 2000 onward: 84 percent occurred in the first decade of the twenty-first century. The period ranging from 2000 until 2005 was particularly intense, resulting in 50 percent of total displacement.[1]

Identifying the impact of forced displacement on labor outcomes, bargaining power within the household, and domestic violence is difficult.

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[1] www.accionsocial.gov.co, retrieved on the April 12, 2012.

First, only some households in conflict-ridden regions migrate. Engel and Ibáñez (2007) find that in Colombia, armed groups more frequently target landowners, community leaders, and better-educated households. Thus, common unobserved characteristics may influence both the purposive targeting of armed groups and the household's decision to migrate. Second, even though the decision to migrate is driven by conflict and is not explicitly meant to improve economic conditions, the location decision is not random. Presence of friends and family, and economic opportunities offered by the destination site, may influence the location decision of households and also labor market outcomes.

We estimate the impact of forced displacement using non-displaced households from Colombia's rural areas as the control group for the displaced population, as forcefully displaced persons mainly migrated from rural areas. Correspondingly, we expect household and individual characteristics (e.g., household structure, education, and labor conditions before displacement) as well as unobservable variables (e.g., gender discrimination and cultural norms) to be similar for both displaced households and the control group. In particular, we expect gender discrimination and cultural norms of both groups to be similar given that households in our data migrated less than five years before the survey was administered.

However, households from rural regions that decided to stay despite prevalence of violence are systematically different from forced migrants. As

the instrument for forced displacement, we use rainfall levels in the destination state. We exploit the exogenous variation in rainfall levels in the out-migration state to identify the impact of forced displacement on labor outcomes and women's bargaining power. The practically nonexistent presence of irrigation in many regions of Colombia implies that agricultural production and rural GDP growth in Colombia is highly dependent on rainfall. Dube and Vargas (2010) and (Miguel, Satyanath et al. 2004) find that decreases in rural income spur conflict and concomitantly forced displacement. Since contemporaneous rainfall at the municipal level affects current economic conditions, we use lag rainfall at the state level to avoid double causality.

Our paper finds that the labor income of women increase, whereas women's welfare has at best been constant or has decreased. Despite contributing more to household earnings than the control group, the bargaining power of displaced women within households is not statistically different from that in the control group. At the same time, domestic violence is greater for displaced women, who in turn violently punish their children. However, the impact on domestic violence disappears in the IV estimations. Since the IV estimation exploits the exogenous variation, a higher frequency of domestic violence among forcefully displaced households may result from post-traumatic stress caused by the violent events leading to migration, and not to changes in labor conditions.

The results of our paper seem to suggest that, although women are more actively involved in labor markets, their condition within households has not improved. Since increments in earnings are driven mostly by longer working hours and not increased wages, the bargaining power of women from forcefully displaced households is similar to that of their rural counterparts. Greater contributions to households' earnings are accompanied by a rise in domestic violence against women and children; thus, the unexpected benefits of conflict are not straightforward.

The structure of this paper is as follows. The next section briefly discusses the economic impact of conflict, while examining the link among female labor participation, intra-household bargaining, and domestic violence. The third section presents the empirical strategy, data, and econometric results of our study. Section four concludes and discusses policy recommendations.

2. Civil Conflict: Its Impact on Female Labor Participation and Household Bargaining

Internal conflicts disproportionately affect the civilian population. Combatants purposively attack the civilian population as an effective strategy for weakening civilian support for their opponents, expanding territorial strongholds, and increasing war loot (Azam and Hoeffler 2002). The victimization of the civilian population forces many to flee in order to safeguard against aggressions or after being attacked. Pervasive internal conflicts and rising attacks against the civilian population in 2010 saw the

greatest number of forcefully displaced persons since this measure has been recorded—27.5 million persons worldwide.[2]

During the mid-1990s, illicit drug trade intensified the Colombian conflict, and aggressions against the civilian population heightened. Death threats, massacres, sexual assaults, selective homicides, conscription, and the temporary takeover of towns forced the population to flee in a search for safe havens. Today, 3.9 million Colombians—equivalent to 8.4 percent of Colombia's population—were forced to migrate. Forced displacement is not confined to isolated regions of Colombia. More than 90 percent of Colombia's municipalities[3] have expelled or received displaced persons.[4]

The evidence for Colombia shows that forced displacement imposes on its victim huge economic costs. First, losses of productive assets due to destruction and illegal seizure weaken the main income sources of displaced households. Second, returns to human capital drop. Most displacement occurs from rural to urban areas. Because the labor experience of displaced persons is usually mostly in agricultural activities, finding a job at destinations sites proves difficult and labor income drops significantly. Third, access to financial capital and risk coverage is limited, which increases the vulnerability of displaced households to future shocks. The occurrence of all these losses may

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[2] www.internal-displacement.org, retrieved April 16, 2012.
[3] Municipalities are the smallest administrative units in Colombia. The country is divided into 1,100 municipalities.
[4] www.accionsocial.gov.co, retrieved May 26, 2010.

push displaced households into poverty traps that are difficult to overcome (Ibáñez and Moya 2010).

Participation in urban labor markets is often difficult for displaced persons. Low education levels and a labor experience predominantly in agricultural activities becomes an obstacle to finding a job in the new urban setting. However, access to labor markets is heterogeneous for male and female. While women's skills are more akin to the demands of urban labor markets, the agricultural experience of men is hardly valued. The need to compensate for large income losses and the higher probability of finding a job pushes women to work.

Some studies argue that migration, by improving women's labor conditions and increasing their contribution to household earnings, may strengthen their bargaining power within households (Chen, Conconi et al. 2007). This impact may be further enhanced when women migrate from rural to urban societies, where gender-based discrimination is less intense. In the case of forcefully displaced women in Colombia, the larger demand for the skills of forced female migrants, in contrast to male ones, may amplify this effect (Meertens and Stoller 2001).

Distribution of power within a household is determined by the threat point, which is represented as the utility of opting out of a marriage or existing in a non-cooperative one. Economic conditions, the institutional environment, and the cultural context, among others, determine the threat point of each

spouse. Improvements in women's economic conditions or/and an exogenous change in the institutional or cultural environment favoring women alter the distribution of power within a household.

The empirical evidence shows that rising female contributions to earnings do not always translate into increased bargaining power. Increments in women's actual or potential wages improve their economic options following divorce or even if the marriage remains intact, thus leading to a redistribution of power within households. Conversely, when women's earnings rise because the number of working hours increase hours and not because wages rise, their bargaining power remains constant (Chiappori, Fortin et al. 2002; Pollack 2005; Anderson and Eswaran 2009; Aizer 2010).

Establishing the causality between wages and bargaining power is difficult. Spouses may overinvest in education prior to marriage in order to gain a bargaining advantage during marriage or may increase their labor participation in anticipation of divorce (Pollack 2005; Stevenson 2008; Anderson and Eswaran 2009).

Several studies rely on an exogenous shift in economic conditions or the institutional environment in order to identify a causal link between changes in bargaining power and women's welfare. Findings show that shifting power to spouses in households allows women to appropriate a greater share of the gains derived from marriage interaction and increases leisure time and

investments in children (Gray 1998; Chiappori, Fortin et al. 2002; Duflo 2003; Rangel 2006)

Domestic violence also has implications for power relations within families. On the one hand, domestic violence serves as a form of control over spouses or a way of influencing their behavior (Tauchen, Witte et al. 1991; Bloch and Rao 2002; Bowlus and Seitz 2006). Stress (in particular economic stress), poor self-esteem, traditional ideas about gender roles, and having witnessed abuse as a child are other factors correlated with domestic violence (Gelles 1976; Tauchen, Witte et al. 1991; Bowlus and Seitz 2006). On the other hand, changes in economic conditions favoring women help reduce domestic violence (Tauchen, Witte et al. 1991; Bobonis, Castro et al. 2009; Aizer 2010).

Nevertheless, the link between female labor participation and domestic violence is highly dependent on decisions made prior to marriage as well as male labor conditions. Deterioration in male labor conditions sometimes causes an escalation in domestic violence, which serves as an instrument for releasing frustration and venting stress (Tauchen, Witte et al. 1991; Macmillan and Gartner 1999; Bloch and Rao 2002). When male unemployment is accompanied by an improvement in female labor conditions, the risk of violence may increase further. Husbands are more likely to resort to violence and coercion when losing their traditional role as the sole breadwinner and having a disadvantage in power vis-à-vis their spouses (Macmillan and

Gartner 1999). In the case of forcefully displaced women in Colombia, the need to vent stress—due to frustration caused by unemployment and the violence endured prior to migration—as well as the challenge to traditional gender roles seem to induce an escalation in domestic violence (Meertens and Segura-Escobar 1996).

3. Empirical Framework

The purpose of this paper is to examine the impact of forced displacement on female labor participation, female bargaining power, and domestic violence. We assume a non-unitary model in which decisions within the household are based on each spouse's utility function. The bargaining power of each spouse determines the distribution of goods within the household, represented by consumption and leisure time. Women's consumption includes their investment in children.

The threat point—the utility a spouse potentially achieves following a divorce or in a non-cooperative marriage—determines the spouse's bargaining power and ability to appropriate a larger share of goods. As spouses are better able to earn higher wages and achieve higher consumption levels on their own, the threat point—and thus their bargaining power—is stronger. Any change in economic conditions that increases women's returns in the labor market will also improve their bargaining power within the household, thus implying greater consumption, more leisure time, and a greater investment in children. Spouses anticipate the bargaining process that will take place within the

marriage and invest in education in order to tilt the distribution of power to their advantage. Similar to other papers, we assume that domestic violence produces utility for males (Tauchen, Witte et al. 1991; Bowlus and Seitz 2006; Aizer 2010). Violence becomes a source of gratification, by which they might release frustration or vent stress, as well as an instrument for controlling victims.

The empirical framework described above has several implications. First, increments in females' wages, by strengthening the threat point, contribute to an increase in their bargaining power. Second, women's higher bargaining power implies a larger appropriation of goods within the household, represented by higher consumption levels and a greater investment in children, as well as more leisure time. Third, given that women anticipate the bargaining process within the marriage and may decide to increase their investments in education, employment and bargaining power—likewise, employment and domestic violence—have a reverse causality. Fourth, a wife's increasing contribution to household's earnings does not necessarily translate into higher bargaining power. If the increased contribution comes through more hours dedicated to work and thus fewer to leisure time, a woman's bargaining power will remain constant, at best, or may even decrease. Lastly, when females' economic contributions to the households are rising while men's contributions are simultaneously decreasing, the need to exercise control upon the spouse and to vent stress causes an increment in violence.

The empirical framework described above is used to examine the impact of forced displacement on labor conditions and bargaining power. Conflict forces households to migrate to urban areas, after being victimized or in order to prevent future aggressions. Migration is thus not a voluntary decision to improve the economic conditions of a household's members. Displaced women participate actively in labor markets, whereas prior to migration, their work was confined to domestic activities (Meertens and Stoller 2001). Although women's contributions to household earnings are much greater after displacement, increased working hours in larger proportions to increments in wages are the main force driving this increment. Additionally, the re-allocation of the gender-based division of labor within the household, whereby women may become the main breadwinners and men may face long spells of unemployment, increases tensions within the household and may cause domestic violence to escalate (Meertens and Segura-Escobar 1996). Forced displacement may create a vicious cycle, wherein women spend longer hours working and have less leisure time, and domestic violence escalates. Thus, the suggested "women's empowerment" brought about by conflict may hardly be a reality.

One important feature of forced displacement facilitates our empirical analysis. Prior to displacement, the education decisions of displaced women are based on a context completely different from the post-displacement one: it is a rural context, where traditional gender roles predominate and returns to

education are extremely low. This implies that, for displaced women, past education decisions are exogenous to present labor market participation. Although the conflict has been ongoing for near fifty years, attacks against the civil population intensified during the 1990s, when illicit drug-trade resources fueled conflict and allowed armed groups to expand territorial control. The peak of forced displacement was between 2000 and 2005. The households we examine in this paper were not able to anticipate the heightened aggressions against the civil population or to change their education decisions concurrently.

3.1. The Data

Two different sources of data are used in this paper. The first is the Demographic and Health Survey for 2000, 2005, and 2010 (DHS-2000/10). This survey is representative of the Colombian female population, ranging from twelve to fifty years of age, and covers 232 municipalities in thirty-three departments. The survey collects, among other things, information on fertility behavior, child conditions, decision making within the household, and domestic violence. The DHS surveys for 2000, 2005, and 2010 oversample displaced households so as to ensure a representative sample of forcefully displaced women. Although the questionnaire collects information on the causes and process of migration, the 2005 and 2010 surveys do not ask about the municipality of origin. Since we are interested in households that were

married before forced migration took place, we eliminate all households that have a forcefully displaced person but were created after migration.

The second is the National Household Survey 2001–2005 (using its acronym in Spanish, ECH 2001–2005), which is a repeated cross-section of household survey data collected quarterly by the National Statistics Department (DANE) for the thirteen largest metropolitan areas and for rural areas. The questionnaire for the first quarter includes migration questions that identify displaced persons as those who migrated due to violence and conflict. The module elicits detailed information on the migration process: the year of migration, the municipality of origin, and the cause of migration. The sample included in the paper covers the period from January 2001 to March 2005 because the migration module was included only for these years. However, this is the ideal period in which examine forced migration. First, half of total displacement occurred between 2000 and 2005. Second, since changes in social norms, patriarchal structures, and gender discrimination are slow, we do not expect forcefully displaced households to diverge in these respects from their rural counterparts. The National Household Survey also collects information on household characteristics, education variables, and the labor force.

Both surveys include questions at the individual level to identify forcefully displaced persons. Since the purpose is to examine changes in bargaining power due to displacement, we restrict the sample to married or

cohabiting couples formed prior to forced migration. We identify forcefully displaced households when the households and the spouse migrated due to violence. It is important to note that 90.6 percent of forcefully displaced persons migrate with all households members (Ibáñez 2008).

Armed groups attack municipalities with particular characteristics in order to achieve war strategies. In order to eliminate possible selection biases, we construct two samples: (i) a sample of rural households, and (ii) a sample of rural households from municipalities featuring an out-migration of forcefully displaced persons. However, the difference between these samples is minimal: only a few municipalities do not report out-migration of a forcefully displaced population (1.4% and 0.9% for the DHS2000/10 and ECH 2001–2005, respectively). Since the results are robust for both samples, we use the first sample to improve the efficiency of our estimates, yet we also provide the results for the second sample as a robustness check.

Two additional sources of data complement the household surveys. Rainfall data is collected by IDEAM, the state climatic institute, in 1,800 climatic stations located along the Colombian territory. The period covered is from 1970 till 2010. Municipal characteristics are from the CEDE municipal database, which contains municipal information for the period ranging from 1980 until 2010.

3.2. Our Estimation Strategy

The purpose of the estimation strategy is to examine the impact of forced displacement on labor conditions, bargaining power, and domestic violence. We examine impacts on the labor conditions of members living in households with married or cohabiting partners (henceforth, married) using the ECH 2001–2005. We expect forcefully displaced married women to work longer hours and earn wages that are higher than or similar to those of their rural counterpart. On the other hand, we expect forcefully displaced married males to work similar hours as their counterparts and to have similar or lower wages. In order to identify the effect that being a displaced person has on labor conditions, we use the following reduced form of labor outcomes:

$$y_{ijkt} = \beta_0 + \beta_t + \beta_k + Z_{jkt}\zeta + X_{ijkt}\delta + \alpha D_{ijkt} + \varepsilon_{ijkt}$$

where y_{ijkt} denotes hourly wages or the number of working hours per week for individual i in municipality j in state k at time t, Z_{jkt} are municipality characteristics such as taxes collected per capita and homicides rates, and X_{ijkt} are individual characteristics that influence labor outcomes such as potential experience, the years of education completed, and the number of household members. Besides municipal characteristics, we include year dummies (β_t) and state-fixed effects (β_c) to control for potential demand shocks, conflict dynamics, and unobservables. The variable D_{ijkt} is a dummy variable equaling

one if the individual was forcefully displaced and with α as the parameter of interest.

Hourly wages are for those members of the working-age population (twelve–sixty-five years of age) who have a complete report on all earnings. Weekly working hours also correspond to the working-age population and include both main and secondary occupations. We estimate the regression for the whole sample—married or cohabiting men, and married or cohabiting women. By comparing the whole sample to the married or cohabiting sample, we are able to identify whether the results are for the entire displaced population or are limited to married or cohabiting couples. We also estimate these regressions separately for different age groups: (i) twelve[5] to sixty-five years of age, and (ii) eighteen to sixty-five years of age.

The regressions are estimated using the Heckman selection model. As exclusion variables for the selection probability of labor force participation, we use the number of children in the household under five years of age. Since forced displacement affects the selection probability and the subsequent labor outcomes, we estimate first the IV regression for the selection equation stage and calculate the Mills ratio predicted value of displacement, which in turn is included for the second stage. We correct the standard errors using boot-strapped standard errors.

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[5] The Colombian Statistical Office measures the labor force starting at twelve years of age. In order to have consistent labor information, we use this definition.

We use two sources of data to estimate the impact of forced displacement on bargaining power. The first source of data is the ECH 2001–2005. A measure of bargaining strength is constructed based on wages. Let w_f denote female wages, and w_m male wages. Bargaining strength is measured as $w_f/(w_f + w_m)$, such that, as women's wages increase, their contribution to households' earnings will rise if working hours remain constant. The estimation strategy for bargaining strength measured with wages is thus identical to that for labor outcomes.

Even though forced displacement is a response to violence and not a strategy to improve labor conditions, we face two challenges to establish causality. First, armed groups deliberately attack certain groups from among the population such as wealthy individuals or community leaders, among others. Second, the decision to relocate in a particular city may depend on labor conditions. We control for the education of the household head and spouse, and for household size, both of which are proxies for economic status prior to displacement.

Unobservable characteristics that determine purposive targeting, the decision to relocate, and labor outcomes may bias our coefficient estimates. To instrument forced displacement for labor outcomes, we use yearly rainfall during the year before forced migration of the household in the out-migration

state.[6] Weather shocks provide an exogenous variation for economic shocks, which are related to an intensification in violence arising from conflict, to attacks against the civil population (Miguel, Satyanath et al. 2004; Dube and Vargas 2010) and subsequently to forced displacement. Since contemporaneous weather shocks may also alter labor conditions for the rural population, we use rainfall the year previous to migration at the state level and not at the municipal level. This variation is exogenous to the households' characteristics, and we use it to identify the effect of forced displacement.

There is one potential threat with our identification strategy. The instrument is valid if lagged weather shocks are not related to current economic and labor conditions. In order to rule out this possibility, we estimate municipal tax collection (a proxy for municipal GDP), and municipal agricultural credits from two state banks on the instrument. We also control for municipal investments from local authorities, homicides, and total displacement rates, as well as year and municipal fixed effects. Results on Table 1 show that the coefficient estimate on lagged total rainfall is not statistically significant. This holds before and after including controls for violent events in the municipality. Thus, our instrument does not appear to affect economic and labor conditions directly.

[Table 1 goes about here]

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[6] Total rainfall in each state was computed as the average of the total rainfall records from all weather stations located within the state. IDEAM measures rainfall in millimeters (mm). For estimating purposes, we used a linear transformation of 1×10^{-3} mm.

The second source of data measuring bargaining power is the DHS 2000/10 data, which collects information on several variables that proxy bargaining strength within households as well as on domestic violence. To estimate the impact of displacement on bargaining power and domestic violence, we use the following reduced form:

$$y_{ijkt} = \beta_0 + \beta_t + \beta_c + Z_{jkt}\zeta + X_{ijkt}\delta + \alpha D_{ict} + \varepsilon_{ict},$$

where y_{ijkt} represents bargaining power or domestic violence. As measures of bargaining power, we use whether the wife has a final say on health issues, large purchases, daily needs, and food expenditures. Final say for the wife is defined as when she alone makes the final decision. However, the results were robust for different definitions. We also define two more strict measures for bargaining strength: (i) whether the wife has the final say on all issues, and (ii) a principal component index constructed using four individual measures for final say. Domestic violence is defined as whether the wife had experienced any mild or severe violence at the hand of her partner. Because domestic violence against women may spur violence by the mother against her children, we also estimate the impact of forced displacement on violent punishment by the mother and the father separately against children.

We control for municipal homicide rates and municipal tax collection (Z_{jkt}). As additional controls (X_{ijkt}), we include the age of the wife and partner, the years of education of the wife and partner, a wealth index

estimated using principal components, the number of household members, a dummy variable indicating whether the household contains children under five years of age, and a group of dummy variables for length of marriage. As an additional control for domestic violence, we include a dummy variable equaling one when the father mistreats the mother of the forcefully displaced women. This variable captures the propensity for violence, as individuals who were more exposed to violence as a child are more likely to inflict violence on their partners (Gelles 1976; Bowlus and Seitz 2006).

We control for two additional variables that might be correlated with forced displacement. First, we control for the labor conditions of the partner, using a dummy variable equaling one when the partner is employed in an unskilled occupation. Domestic violence may arise from frustration with labor conditions and not necessarily due to changes in intra-household bargaining. Since forced displacement changes both sources of domestic violence, the coefficient estimate may also be capturing male frustration due to deteriorating labor conditions. Second, we also control for other sources that may strengthen women's bargaining power and that are also caused by forced displacement—for instance, whether the brother and/or sister of the spouse migrated with the family.

The dummy variable D_{ijkt} is equal to one if the individual was forcefully displaced, while α is the parameter of interest. Unfortunately, the DHS 2000/2010 does not collect detailed information on the migration

process. Thus, we are not able to identify the out-migration municipality for forcefully displaced persons. We instrument forced displacement with total rainfall in the year previous to forced displacement in the state of origin. If migration occurs between states, our instrument could have a weak correlation with the dummy variable for being forcefully displaced. However, nearly 60 percent of displaced households migrate within their state, and most (95 percent) migrate directly to the city in which they settle (Ibáñez 2008).

We eliminate economic migrants from the sample. Economic migrants move to other cities in order to seek better opportunities. The empirical evidence shows that the bargaining power of migrant women improves. If we include migrants in the sample, the coefficients for displacement might be overestimated. However, we estimate the same regression for migrants as a robustness check. The purpose of comparing forcefully displaced persons with economic migrants is to establish whether the impacts are caused by the change in context brought about by any particular type of migration, or whether forced displacement produces particular transformations in behavior within a household. In order to instrument for migration, we use the share of economic migrants, a frequent instrument utilized in the migration literature (Altonji and Card 1989; Card 1990; Lalonde and Topel 1991). Since we obtain this figure from the Population Census of 2005, the instrumented estimations only use the ECH and DHS data from 2005.

3.4. The Results

Table 2 presents descriptive statistics comparing the displaced population and the control group. Overall, displaced households and rural households are similar. The statistical difference between the groups is not significant. However, displaced households are more educated than their rural counterparts, presumably signaling that better-off households are more likely to be attacked by armed groups.

Forced displacement seems to change female labor conditions significantly. Although the employment levels are similar, displaced women work six hours more per week than do their rural counterpart, and their wage rates are 2.1 times higher. Conversely, displaced men fare worse than rural male workers. Employment rates are 18 percentage points lower, yet those who are employed work more hours per week and earn higher wages. A first approximation of bargaining strength, measured as the ratio between female wage rates divided by the sum of female and male wage rates, shows that women's contribution to household earnings are 33 percent higher for displaced women than their rural counterpart.

[Table 2 goes about here]

More detailed information on bargaining strength and domestic violence is collected in the DHS2000/10. We include information on whether the spouse has a final say over a wide arrange of dimensions—health issues,

large purchases, daily needs, and expenses on food for consumption (see Table 3). Displaced women report a stronger influence over all dimensions apart from having a say regarding food expenses. When using a more strict measure of influence on household decisions, 8.2 percent of displaced women report having a final say over all dimensions, in contrast to 7.8 percent of rural women. Again, the difference is not statistically significant. Thus, the contribution of displaced women to household expenses is substantially larger than that of rural women in the control group, yet this does not seem to be improving women's power within households.

Moreover, domestic violence is more prevalent among displaced households. In contrast to rural women, displaced women more frequently report being the victim of mild violence (36.0% vs. 30.8%) and severe violence (14.7% vs. 9.1%). The differences are statistically significant for mild and severe violence. The propensity for domestic violence, measured with a dummy variable equal to one if the father of the women exercised domestic violence against the mother, does not seem to be driving a higher frequency of domestic violence within displaced households. Whereas 26 percent of rural households report that the father's parents mistreated him, this figure is 35 percent for displaced households. Domestic violence against women appears to induce harsh punishment against children at the hands of their mothers, as displaced children are ten percent points more likely to be violently punished. Conversely, the difference in violent punishment at the hands of fathers is not

statistically significant between fathers from forcefully displaced families and their rural counterpart.

[Table 3 goes about here]

The figures in Table 4 confirm the differences shown in Table 2. Displaced persons and the control group are similar: the ages of household heads and spouses, household sizes and the number of children less than five years of age in households are similar. As with the ECH2001–2005 data, displaced persons are better off and have higher levels of education, which presumably signals targeting against better-off families.

[Table 4 goes about here]

Table 5 reports the estimation results on the first stage of all labor outcomes. The coefficient estimates for total rainfall are statistically significant at the one percent level. The F test for relevance of the instrumental variable is large, showing that the instrument is strongly correlated with forced displacement.

Table 6 presents the estimation results for the probability of employment for the sample between twelve and sixty-five years of age (selection probability). Because coefficient estimates are robust to gradually including other controls, we only report the results with all the controls for the following tables. OLS results for the selection probability show that whereas women's labor conditions are better for displaced women vis-à-vis rural

women, men from forcefully displaced households are less likely to be employed. When the sample is restricted to married and cohabiting couples, this disadvantage widens. On the other hand, female employment among the forcefully displaced is higher. After instrumenting forced displacement, results for women are not statistically significant, yet forcefully displaced men are less likely to be employed, and the effect for married men is larger.

[Table 6 goes about here]

Table 7 reports the estimation results for the number of hours worked per week by gender, log hourly wages and different measures of bargaining strength for the sample between twelve and sixty-five years of age. The number of hours worked per week is higher for all groups of the displaced population for the OLS results. The IV coefficients show that forcefully displaced men and women work more hours, yet the coefficient is lower (higher) for married men (women). Since the forcefully displaced arrive to urban areas, wages are higher for forcefully displaced than for their rural counterpart. The coefficient estimate for displaced men and women is statistically significant and positive, implying larger wage rates for forcefully displaced persons. After instrumenting, the coefficient estimate for married women is significant at the 1 percent level and is larger than the coefficient for married men.

The sharp decline in income caused by forced migration, and the difficulties partners face finding a job once at destination cities, may push

displaced women to expand their working hours. Prior to displacement, the contribution of displaced women to household earnings was presumably low, as they mostly dedicated their time to household chores. Income earned by forcefully displaced women is larger in contrast to rural ones due to longer working hours and higher wages.

Women's contributions to household earnings are likely to be larger for the forcefully displaced. However, larger contributions do not necessarily strengthen bargaining power. If longer working hours mainly drive larger contributions, bargaining power may not be different. We use a ratio of female wages compared to total household wages as a first approximation of bargaining strength. The results are reported in Table 7. The coefficient estimate for displaced women is statistically different from zero. Thus, women from forcefully displaced households are contributing more to household income than their rural counterpart. Results for the sample between eighteen and sixty-five years of age are very similar; thus, we do not include the tables.

[Table 7 goes about here]

Table 8 reports estimations when we restrict the control sample to out-migration municipalities. Not surprisingly, as only 0.9 percent of municipalities in the sample do not report out-migration, coefficient estimates do not change.

[Table 8 goes about here]

As a robustness check, we estimate the same regression for economic migrants originating from rural areas and living in urban areas. We only report the coefficients for the IV estimation. Our findings in Table 9 show that coefficient estimates are not statistically significant for migrant women after instrumenting, showing that differences in labor conditions of forcefully displaced women are not caused by mere relocation, but by other processes occurring within their households.

[Table 9 goes about here]

Our estimation results based on the ECH2001–2005 indicate a significant difference in the labor conditions of displaced women in contrast to their rural counterpart. In contrast to rural women, displaced women participate to a greater extent in labor markets, work a greater number of hours per week, and earn higher wages: 15.6 more hours per week, which is equivalent to a difference of 46 percent with respect to the control group. Parallel to higher working hours, displaced men fare worse as they face a lower probability of employment. Employment for married men is 12.6 percentage points lower for men from displaced households than for rural men. These differences in labor conditions for displaced women result in a larger contribution to household income.

Displaced women's larger contribution to household expenditures does not appear to translate into a stronger bargaining power within the household. Table 10 reports results for the first stage IV estimation, and Table 11 shows

the results for whether women have the final say on a number of decisions within the household—health issues, large purchases, expenditures on daily needs, and food purchases. In addition, we report the results for stringent measures of bargaining power: whether women have a final say on all issues and a principal component's index built upon the four questions. We estimate standard errors clustered at the state level. The *F*-test for the relevance of the instrumental variable is large, and the coefficient estimate for the instrument is statistically significant at the 1 percent confidence level (Table 10). Because coefficient estimates are robust for the different specifications, we only report the results for the estimations using all controls. The OLS and IV coefficient estimates for the displacement dummy are not statistically significant for all measures of bargaining power. In fact, the OLS coefficient estimate for having a final say on health issues is negative and statistically significant. Thus, while displaced women earn a large proportion of household income, their share of power within the household is not statistically different from that of rural women.

[Table 10 goes about here]

[Table 11 goes about here]

Results for domestic violence are not conclusive. Table 12 reports the estimation results for whether women experienced any form of mild violence or severe violence at the hand of their partners, respectively. The coefficient estimates for traditional controls are similar to other studies. Domestic

violence is more likely in households where husbands and spouses are less educated, are younger, and were raised in violent households. OLS results show that women from forcefully displaced households are victims of severe domestic violent with a larger probability: a displaced woman is 3.9 percent more likely to experience severe violence at the hands of their partner, which is equivalent to 43 percentage points larger vis-à-vis the control group. The result holds after controlling for the partner's occupation. Interestingly, the migration of brothers and/or sisters, a proxy of a woman's social network, acts as a protection mechanism and reduces domestic violence significantly. In fact, the presence of family members seems to outweigh the effect of forced displacement. However, the coefficient is only significant at the 10 percent level. The OLS coefficient estimate for less severe forms of domestic violence is not statistically significant. Once we instrument, the coefficient for severe domestic violence is no longer significant.

As discussed in previous sections, two causes might be producing the sudden emergence of domestic violence in forcefully displaced families. On the one hand, the violence endured just prior to migrating may cause post-traumatic stress syndrome, which may escalate aggressive behavior against other household members. On the other, male frustration caused by unemployment, the improved labor conditions of women, and the challenges these pose to traditional gender roles may spur domestic violence, as men seek to vent stress and increase their control. The IV estimation exploits the

exogenous variation, eliminating any unobservable variables that are related to the purposive targeting from armed groups and labor outcomes. A higher frequency of domestic violence among forcefully displaced households may result from post-traumatic stress caused by the violent events leading to migration, and not to changes in labor conditions. The trauma from violence, and not the need to vent stress, seems to be what is escalating domestic violence following forced displacement. A word of caution is in order. As we lack information on the out-migration state of the forcefully displaced, our instrument is not strong, and this may reduce the precision of our coefficient estimate.

[Table 12 goes about here]

The higher incidence of domestic violence among forcefully displaced households could be present before displacement and could simply have persisted following migration. However, we do not have information about the incidence of domestic violence among displaced families prior to forced migration. To explore this possibility, we estimate whether the probability that the husband was violently punished by his parents is systematically higher for forcefully displaced households. This question was only included for 2005. If the effect is positive and significant, it might be that our results are driven by the persistence of domestic violence and did not necessarily emerge as a result of forced displacement. Results in Table 13 show that this is not the case. The coefficient for forced displacement is negative and not significant.

[Table 13 goes about here]

The escalation of domestic violence against women could induce mothers to violently punish their children. Table 14 reports the results for whether children were violently punished by their parents. We estimate separate regressions for punishment inflicted by the mother and the father. While forcefully displaced fathers are not more likely to violently punish their children, mothers are 5.4 percent more likely to do so. However, when we instrument, the coefficient for violent punishment by the father and the mother becomes negative and statistically significant. This reinforces our interpretation that a higher use of violent punishment on children may be the result of forced displacement and the traumatic events faced by families as a consequence.

[Table 14 goes about here]

The higher incidence of domestic violence within displaced households may capture their willingness to report this phenomenon more. In urban areas, gender roles are less traditional, and public campaigns against domestic violence may motivate women to report the incidence of domestic violence more. To explore this issue, we estimate the probability that a woman victim of domestic violence seek formal or informal support after the event.[7] Table 16 shows that the estimated OLS coefficients of the displacement dummy are not

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[7] Informal help includes family members, relatives, and neighbors. Formal help includes police, family commissariats, ICBF (state institution in charge of family issues), district attorneys, and health institutions.

statistically significant for formal institutions and negative and statistically significant for informal institutions. In fact, after instrumenting, the coefficient estimate for formal institutions becomes negative and statistically significant, which confirms that women from forcefully displaced households are indeed more likely to face domestic violence. In fact, the negative coefficient for formal institutions may signal that forcefully displaced women are less willing to report incidents of domestic violence. Thus, our coefficient estimates might be underestimating the impact of forced displacement on the incidence of domestic violence.

[Table 16 goes about here]

We conduct two additional robustness checks. First, we estimate the same regressions for economic migrants from rural areas. The results in Table 17 reveal a different picture. Women's bargaining strength over each dimension is not higher relative to the control group, yet having a final say on large and food purchases and all issues shows a negative and significant effect for economic migrants. The coefficient estimate for domestic violence is not statistically significant. The IV estimation shows that the negative impact is no longer statistically significant for food purchases, while violent punishment against from the father is positive and significant.

[Table 17 goes about here]

Second, we estimate all of the regressions for the sample of rural households from municipalities featuring the out-migration of forcefully displaced persons (Table 18). The results are similar to those for the complete sample. Although we drop many observations for the DHS2000/10 sample, the main results hold.

[Table 18 goes about here]

Using labor and bargaining-power data, we get a comprehensive picture of the impact of forced displacement on labor-market participation, changes in bargaining power within households, and domestic violence. The optimistic picture of conflict empowering women is less straightforward than has been presented until now. For women forcefully displaced, employment and labor income are higher than for their rural counterparts, while men face tight labor markets. However, the contribution of forcefully displaced women to household earnings is higher and is driven mostly by an increment in working hours. As predicted by some economic models, wages—and not earnings—improve the threat point, and thus women's ability, to appropriate a larger share of a household's surplus. As a result, women's bargaining power in displaced households is similar to that of their rural counterpart, domestic violence against women escalates, and children are more likely to be punished violently by their mothers. The traumatic events prior to displacement may be the cause of this escalating violence. Since we do not observe displaced women who separated from their partners due to domestic violence, we might

be underestimating the impact of displacement on women's bargaining strength and overestimating the coefficient for domestic violence.

4. Conclusion

Internal conflict forces large numbers of persons to flee as they seek refuge from the aggressions of armed groups. Forced migration is often accompanied by asset losses, sharp drops in income, and a deterioration in labor conditions (Ibáñez and Moya 2010; Ibáñez and Moya 2010). Changes in labor conditions are heterogeneous for forcefully displaced men and women. The labor experience of men is mainly in agricultural activities, something rarely in demand in urban labor markets, whereas women's skills are more akin to urban occupations. The purpose of this paper is to examine the impact of forced displacement on female labor participation, distributions of power within households, and domestic violence.

We find that forcefully displaced women's contributions to household incomes are larger than those of their rural counterparts. In contrast to the control group—rural female workers—women from forcefully displaced households are employed with a higher probability, work more hours, and earn higher wages. On the other hand, males from forcefully displaced households participate less, but work more hours and have higher wages. Despite their greater contribution to household earnings, women's bargaining power is not statistically significant from the control group, and domestic violence is higher, presumably due to victimization men experienced just prior to

displacement. However, when we estimate the IV coefficients, the effect is not statistically significant. The domestic violence of mother against children is larger, but only for the OLS estimation.

These results may reflect that post-traumatic stress, and not underperformance of men in urban labor markets, may cause the higher incidence of domestic violence. Forced displacement is preceded by traumatic events—massacres, selective homicides, sexual assaults, and direct threats, among other things. Being the victim of such things may cause anger, frustration, and post-traumatic stress syndrome, which may create the conditions under which domestic violence will likely escalate.

Two complementary causes may explain these results. First, the larger contributions of displaced women to household earnings seems to be driven mostly by longer working hours following displacement, something that implies a drop in leisure time. Second, the low-income levels of forcefully displaced households and the difficulty of relying on social networks in a new and unknown city may restrict the possibility of marriage dissolution. Thus, improvements in labor conditions induce longer working hours, while women's bargaining power remains constant, and domestic violence increases.

The rising labor participation of women, accompanied by an escalation in domestic violence, may amplify the costs of conflict. The participation of women in the labor force appears not to be strengthening their bargaining power. In addition, the prevalence of domestic violence may imply that

children from these families are more likely to be victims or perpetrators of domestic violence in their adult lives, increasing the generational transmission of violence. Policies directed at increasing women's bargaining power, such as providing subsidies directly to women and designing special education programs, as well as offering psychological support to displaced families, may help victims of conflict to interrupt the cycle of violence in which they are immersed.

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Table 1. Robustness Checks: Municipal Tax Collection and Value of Rural Credits Provided

Variables	Municipal tax collection		Value credit Banco Agrario		Value credit Finagro	
Rainfall total lag (state)	-1.214	-1.446	-0.004	0.002	-0.232	-0.309
	[1.514]	[1.517]	[0.164]	[0.166]	[0.247]	[0.245]
Total investment pc	-0.001	-0.001+	-0.000*	-0.000*	-0.001	-0.001
	[0.001]	[0.001]	[0.000]	[0.000]	[0.001]	[0.001]
Total investment pc lag	-0.001	-0.001	-0.000	-0.000	-0.000	-0.000
	[0.001]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
Total displacement		0.803		-0.045		-0.342**
		[0.892]		[0.044]		[0.104]
Total displacement lagged (t-1)		1.157		0.084*		0.135*
		[0.789]		[0.041]		[0.068]
Number of homicides		-140.800+		-1.249		-14.891**
		[82.131]		[1.698]		[2.945]
Number of homicides lagged (t-1)		-8.328		-3.049		22.696**
		[29.341]		[2.075]		[4.792]
Constant	7,038.663	9,504.457+	578.192+	459.480	1,908.511**	1,420.754**
	[4,313.683]	[5,410.181]	[304.723]	[330.416]	[483.327]	[443.723]
Municipality fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,324	9,324	9,334	9,334	9,334	9,334
R-squared	0.004	0.141	0.100	0.113	0.063	0.090

Robust standard errors in brackets. ** p<0.01, * p<0.05, + p<0.1
Source: authors' calculations based on CEDE municipal panel and IDEAM

Table 2. Descriptive Statistics: Household Characteristics and Labor Outcomes

	Obs.	All			Married Women			Married Men		
		Men	Women		Non-displaced	Displaced		Non-displaced	Displaced	
Years of age	40,433	32.75	33.13		40.04	36.16	***	42.84	40.44	***
		(15.04)	(15.24)		(12.22)	(11.04)		(11.49)	(10.80)	
Years of education completed	39,192	4.67	4.99	***	4.12	6.48	***	3.82	6.32	***
		(3.34)	(3.47)		(3.18)	(4.20)		(3.17)	(4.20)	
Number household members	40,433	5.42	5.49		4.95	5.18	*	4.94	4.97	
		(2.58)	(2.52)		(2.10)	(2.05)		(2.07)	(2.02)	
Number children under 5 years	40,433	0.62	0.69	***	0.69	0.79	*	0.73	0.78	
		(0.92)	(0.95)		(0.91)	(0.86)		(0.91)	(0.88)	
=1 if displaced person	40,433	1%	2%		0%	100%		0%	100%	
= 1 if employed	40,433	75%	31%	***	30%	31%		93%	75%	***
Real hourly wage USD	21,479	0.39	0.41		0.42	0.88	***	0.43	0.78	***
		(0.50)	(0.66)		(0.60)	(1.21)		(0.53)	(1.06)	
Hours worked per week	21,494	47.63	36.30	***	33.72	39.35	**	50.59	56.19	***
		(16.58)	(20.62)		(20.74)	(21.80)		(16.02)	(19.48)	
Bargaining strength	12,724	0.88	0.66	***	0.52	0.69	***	0.87	0.90	**
		(0.24)	(0.34)		(0.30)	(0.29)		(0.25)	(0.22)	

Test for mean differences *** p<0.01, ** p<0.05, * p<0.1.
Source: authors' calculations based on ECH2001–2005

Table 3. Descriptive Statistics: Bargaining Strength

	Obs.	Non-displaced	Displaced	
Women: final say on health issues	13,016	62.36%	63.09%	
Women: final say on large purchases	12,979	18.38%	19.15%	
Women: final say on daily needs	13,009	34.71%	36.92%	
Women: final say on food to eat	13,014	78.70%	72.97%	**
Women: final say on all issues	13,021	7.83%	8.24%	
Index say in all issues—principal components	13,021	-0.783	-0.792	
		(1.01)	(1.03)	
Experienced mild violence	12,796	30.75%	35.97%	*
Experienced severe violence	12,796	9.10%	14.73%	**
Children experienced domestic violence—father	12,153	45.43%	49.11%	
Children experienced domestic violence –mother	12,153	70.62%	80.87%	***
Father ever beat mother	13,021	31.89%	30.10%	
Partner mistreated by parents[μ]	4,450	25.99%	34.86%	*
Seek formal help after mistreatment	4,091	8.58%	5.94%	
Seek informal help after mistreatment	4,089	33.05%	26.12%	

Test for mean differences ** *p<0.01, ** p<0.05, *** p<0.1
  Only DHS2005

Source: authors' calculations based on DHS2000/2005/2010

Table 4. Descriptive Statistics: Household Characteristics

	Obs.	Non-displaced vs. Displaced households		
		Non-displaced	Displaced	
Years of age	13,021	34.07	32.76	***
		(8.80)	(7.93)	
Years of age - partner	13,013	39.05	37.96	*
		(10.45)	(9.53)	
Years of education	13,021	5.36	5.39	
		(3.63)	(3.69)	
Years of education - partner	12,804	5.49	5.76	
		(4.58)	(4.91)	
Household size	13,021	5.23	5.58	***
		(2.15)	(2.41)	
Number of children between 0 and 1 years	13,021	0.27	0.29	
		(0.49)	(0.53)	
Number of children between 2 and 5 years	13,021	0.55	0.65	**
		(0.72)	(0.70)	
= 1 if unskilled worker	12,749	0.48	0.56	***
= 1 if partner unskilled worker	13,005	0.73	0.68	*
Wealth index	13,020	-1.52	-0.32	***
		(1.67)	(1.59)	
= 1 if respondent migrated with brothers/sisters	13,021		0.08	***

Test for mean differences *** p<0.01, ** p<0.05, * p<0.1.
Source: authors' calculations based on DHS2000/2005/2010

Table 5. First-Stage Labor Outcomes

Variables	= if displaced person			
	Men	Married men	Women	Married women
Total yearly rainfall lagged: out-migration state	0.206***	0.206***	0.215***	0.203***
	[0.010]	[0.014]	[0.009]	[0.015]
Years of age	0.001***	-0.000	0.000**	-0.001***
	[0.000]	[0.000]	[0.000]	[0.000]
Years of education	0.009***	0.013***	0.006***	0.010***
	[0.001]	[0.001]	[0.001]	[0.001]
Number of household members	0.005***	0.007***	0.005***	0.008***
	[0.001]	[0.001]	[0.001]	[0.001]
Homicides per 100,000 inhabitants	-0.000***	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]	[0.000]
Tax collection	1.701***	1.627***	1.888***	1.441***
	[0.167]	[0.260]	[0.177]	[0.230]
Observations	19882	8444	19026	8786
R-squared	0.273	0.274	0.293	0.260
F- Weak identification test	210.3	385.9	526.9	207.7
State fixed effects	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Bootstrap standard in brackets.
*** p<0.01, ** p<0.05, * p<0.1.
Total rainfall in 10^-3 mms.
Source: authors' calculations based on ECH2001–2005, IDEAM, and CEDE.

Table 6. Probability of Employment (Heckman Selection Equation)

Variables	Men		Married men		Women		Married women	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
= 1 if displaced person	-0.427***	-0.672***	-0.749***	-1.126***	0.240***	0.051	0.180***	-0.174
	[0.040]	[0.154]	[0.071]	[0.274]	[0.038]	[0.139]	[0.065]	[0.249]
Observations	19894	19882	8452	8444	19035	19026	8788	8786
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Included controls: Years of age, years of education, number of household members, homicides per 100,000 inhabitants, tax collection.
Bootstrap standard errors in brackets.
*** p<0.01, ** p<0.05, * p<0.1.
Source: authors' calculations based on ECH2001–2005, IDEAM, and CEDE.

Table 7. Labor Outcomes—Heckman Selection Correction

	Men		Married men		Women		Married women	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
I. Hours worked per week								
= 1 if displaced person	11.434***	18.350***	4.345**	10.977***	9.326***	13.118***	4.796**	15.615**
	[0.700]	[2.936]	[1.819]	[3.814]	[1.614]	[3.283]	[1.867]	[6.568]
Observations	19894	19882	8452	8444	19035	19026	8788	8786
R-squared	0.126	0.018	0.097	0.008	0.061	0.009	0.078	-0.002
II. Log hourly wages								
= 1 if displaced person	0.203***	0.392***	0.117**	0.223*	0.336***	0.157	0.217***	0.466*
	[0.033]	[0.106]	[0.057]	[0.117]	[0.076]	[0.120]	[0.082]	[0.252]
Observations	19894	19882	8452	8444	19035	19026	8788	8786
R-squared	0.123	0.089	0.168	0.137	0.219	0.188	0.249	0.200
III. Bargaining strength								
= 1 if displaced person							0.119***	0.392***
							[0.025]	[0.106]
Observations							8788	8786
R-squared							0.084	0.089
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Included controls: Years of age, years of education, number of household members, homicides per 100,000 inhabitants, and tax collection.
Bootstrap standard errors in brackets.
*** p<0.01, ** p<0.05, * p<0.1.
Source: authors' calculations based on ECH2001–2005, IDEAM, and CEDE.

Table 8. Labor Outcomes for Sample Restricted to Out-Migration Municipalities

	Men	Married men	Women	Married women
I. Probability of employment (selection equation—Probit estimation)				
= 1 if displaced person	-0.681***	-1.125***	0.038	-0.19
	[0.153]	[0.276]	[0.145]	[0.255]
Observations	19680	8359	18828	8695
II. Hours worked per week (IV estimation—Heckman selection correction)				
= 1 if displaced person	18.388***	11.134***	13.019***	15.948**
	[2.861]	[3.763]	[3.152]	[6.290]
Observations	19680	8359	18828	8695
R-squared	0.018	0.008	0.009	-0.003
III. Log hourly wages (IV estimation—Heckman selection correction)				
= 1 if displaced person	0.389***	0.226*	0.154	0.465*
	[0.101]	[0.115]	[0.116]	[0.242]
Observations	14816	7740	5598	2588
R-squared	0.089	0.137	0.188	0.201
	19680	8359	18828	8695
IV. Bargaining strength (IV estimation—Heckman selection correction)				
= 1 if displaced person				0.169*
				[0.090]
Observations				8695
R-squared				0.029
State fixed effects	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Included controls: Years of age, years of education, number of household members, homicides per 100,000 inhabitants, tax collection.
Instrumental variable: share of migrants in receiving municipality.
Bootstrap standard errors in brackets.
*** p<0.01, ** p<0.05, * p<0.1.
Source: authors' calculations based on ECH2001–2005, IDEAM, and CEDE.

Table 9. Economic Migrants: Labor Outcomes

	Men		Married men		Women		Married women	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV
I. Probability of employment (selection equation—Probit estimation)								
= 1 if economic migrant	-0.284***	-0.517	-0.789***	0.155	0.574***	0.614**	0.237**	0.302
	[0.081]	[0.415]	[0.152]	[0.829]	[0.064]	[0.268]	[0.109]	[0.514]
Observations	5340	5340	2177	2177	5254	5254	2436	2436
II. Hours worked per week (IV estimation—Heckman selection correction)								
= 1 if economic migrant	10.573***	12.746	7.484***	0.889	13.974	-22.641	7.651**	15.663
	[1.144]	[40.060]	[2.778]	[21.277]	[9.586]	[1,262.049]	[3.737]	[244.876]
Observations	5340	5340	2177	2177	5254	5254	2436	2436
R-squared	0.147	0.037	0.151	0.026	0.129	-0.217	0.139	0.026
III. Log hourly wages (IV estimation—Heckman selection correction)								
= 1 if economic migrant	0.267***	0.305	0.043	0.252	0.370	-2.397	0.135	-0.260
	[0.054]	[1.957]	[0.152]	[1.907]	[0.458]	[12.784]	[0.101]	[44.462]
Observations	5340	5340	2177	2177	5254	5254	2436	2436
R-squared	0.201	0.153	0.208	0.164	0.212	-0.837	0.403	0.335
IV. Bargaining strength (IV estimation—Heckman selection correction)								
= 1 if economic migrant							0.283***	-0.298
							[0.045]	[6.831]
Observations							2436	2436
R-squared							0.178	-0.199
State fixed effects		Yes		Yes		Yes		Yes
Year dummies		Yes		Yes		Yes		Yes

Included controls: Years of age, years of education, number of household members, homicides per 100,000 inhabitants, and tax collection.

Instrumental variable: share of migrants in receiving municipality.

Bootstrap standard errors in brackets.

*** p<0.01, ** p<0.05, * p<0.1.

Source: authors' calculations based on ECH2001–2005, IDEAM, and CEDE.

Table 10. First-Stage Estimation for Bargaining Strength and Domestic Violence

	= 1 if displaced person
Rainfall total lag (receiving state)	0.119**
	[0.028]
Observations	12329
R-squared	0.204
F- Weak identification test	18.20
State fixed effects	Yes
Year dummies	Yes

Total rainfall in 10^-3 mms.
Included controls: Education level, partner's education, years of age, partner's age, wealth index, number of household members, number of children between 0 and 1 years of age, number of children between 2 and 5 years of age, =1 if partner is unskilled worker, =1 if respondent migrated with brothers/sisters, =1 if father ever hurt mother, = 1 if formal marriage, homicides per 100,000 inhabitants, and tax collection.
Standard errors clustered by state in brackets. ** $p<0.01$, * $p<0.05$, + $p<0.1$.
Source: authors' calculations based on DHS2000/2005/2010, IDEAM, and CEDE

Table 11. Bargaining Strength (=1 if Women Have Final Say in)—Linear Probability Model

| Dependent variable | Women has final say in | | | | | |
| | Health issues | | Large purchases | | Daily needs | |
	OLS	IV	OLS	IV	OLS	IV
=1 if displaced person	-0.047+	-0.202	0.023	0.226	0.013	0.020
	[0.026]	[0.376]	[0.029]	[0.265]	[0.033]	[0.470]
Observations	12324	12324	12289	12289	12318	12318
R-squared	0.058	0.032	0.046	0.015	0.061	0.037

| Dependent variable | Women has final say in | | | | | |
| | Food purchases | | All issues | | PC—all issues | |
	OLS	IV	OLS	IV	OLS	IV
=1 if displaced person	-0.021	-0.058	0.010	0.082	0.031	-0.085
	[0.031]	[0.281]	[0.019]	[0.154]	[0.068]	[0.662]
Observations	12322	12322	12329	12329	12329	12329
R-squared	0.085	0.070	0.029	0.017	0.133	0.103
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes

Included controls: Education level, partner's education, years of age, partner's age, wealth index, number of household members, number of children between 0 and 1 years of age, number of children between 2 and 5 years of age, =1 if partner unskilled worker, =1 if respondent migrated with brothers/sisters, =1 if father ever hurt mother, = 1 if formal marriage, homicides per 100,000 inhabitants, and tax collection.
Standard errors clustered by state in brackets.
** $p<0.01$, * $p<0.05$, + $p<0.1$.
Source: authors' calculations based on DHS2000/2005/2010, IDEAM, and CEDE

Table 12. Domestic Violence (=1 if Women Experienced Severe or Less Severe Violence at Hands of Partner)

| | All married women | | | |
| | Severe forms | | Less severe forms | |
Dependent variable	OLS	IV	OLS	IV
=1 if displaced person	0.039*	0.114	0.049	0.341
	[0.015]	[0.153]	[0.031]	[0.304]
Observations	12114	12114	12114	12114
R-squared	0.044	0.028	0.075	0.038
State fixed effects	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Included controls: year of completed education of woman and partner, years of age of woman and partner, household wealth index, number of household members, marriage-length controls and dummy variable for children under 5 years present, partner unskilled worker, if respondent migrated with brothers or sisters, if her father ever hurt her mother, homicides per 100,000 inhabitants, and tax collection.
Standard errors clustered by state in brackets
** $p < 0.01$, * $p < 0.05$, + $p < 0.1$.
Source: authors' calculations based on DHS2000/2005/2010, IDEAM, and CEDE

Table 13. Domestic Violence before Displacement (=1 if Partner Mistreated by Parents)—Linear Probability Model

| | = 1 if partner mistreated by parents | |
	OLS	IV
=1 if displaced person	0.071	-0.224
	[0.051]	[0.182]
Observations	4362	4362
R-squared	0.087	0.045
State fixed effects	Yes	Yes
Year dummies	Yes	Yes

Included controls: year of completed education of woman and partner, years of age of woman and partner, household wealth index, number of household members, marriage-length controls and dummy variable for children under 5 years present, partner unskilled worker, if respondent migrated with brothers or sister, if her father ever hurt her mother, and homicides per 100,000 inhabitants, and tax collection.
Standard errors clustered by state in brackets.
** $p < 0.01$, * $p < 0.05$, + $p < 0.1$.
Source: authors' calculations based on DHS2005, IDEAM, and CEDE

Table 14. Violent Punishment (=1 if Children Experienced Violent Punishment by the Father and/or Mother)—Linear Probability Model

	Father		Mother	
	OLS	IV	OLS	IV
=1 if displaced person	-0.002	-0.884*	0.054+	-0.826*
	[0.027]	[0.389]	[0.027]	[0.382]
Observations	11516	11516	11516	11516
R-squared	0.071	-0.053	0.113	-0.051
State fixed effects	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Included controls: year of completed education of woman and partner, years of age of woman and partner, household wealth index, number of household members, marriage-length controls and dummy variable for children under 5 years present, partner unskilled worker, if respondent migrated with brothers or sisters, if her father ever hurt her mother, homicides per 100,000 inhabitants, and tax collection.
Standard errors clustered by state in brackets.
** p<0.01, * p<0.05, + p<0.1.
Source: authors' calculations based on DHS2005, IDEAM, and CEDE

Table 16. Formal or Informal Support (=1 if Women Seek Help after Mistreatment)—Linear Probability Model

	Formal institutions		Informal institutions	
	OLS	IV	OLS	IV
=1 if displaced person	-0.005	-0.461+	-0.097*	-0.903
	[0.014]	[0.263]	[0.045]	[0.579]
Observations	3874	3874	3872	3872
R-squared	0.109	-0.084	0.044	-0.078
State fixed effects	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Informal help: family members, relatives, and neighbors.
Formal help: police, family commissariat, ICBF, district attorney, health institute.
Included controls: year of completed education of woman and partner, years of age of woman and partner, household wealth index, number of household members, marriage-length controls and dummy variable for children under 5 years present, partner unskilled worker, if respondent migrated with brothers or sisters and if her father ever hurt her mother homicides per 100,000 inhabitants, and tax collection.
Standard errors clustered by state in brackets.
** p<0.01, * p<0.05, + p<0.1.
Source: authors' calculations based on DHS2000/2005/2010, IDEAM, and CEDE

Table 17. Economic Migrants: Bargaining Strength and Domestic Violence

	Women has final say in									
	Health issues		Large purchases		Daily needs		Food purchases		All issues	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
= 1 economic migrant	-0.037	0.001	-0.040*	-0.036	-0.009	0.282	-0.032*	-1.098+	-0.018+	0.084
	[0.040]	[0.523]	[0.017]	[0.387]	[0.025]	[0.575]	[0.014]	[0.622]	[0.009]	[0.303]
Observations	5371	5371	5333	5333	5365	5365	5364	5364	5375	5375
R-squared	0.051	0.040	0.060	0.028	0.075	0.016	0.109	-0.434	0.038	0.015
	PC—all issues		Severe violence		Less severe violence		Violent punishment children–father		Violent punishment children—mother	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
= 1 economic migrant	0.174**	0.573	0.022	0.761	-0.030	-0.253	0.047	1.558+	0.025	1.110
	[0.052]	[0.763]	[0.021]	[0.467]	[0.031]	[0.418]	[0.029]	[0.802]	[0.016]	[0.730]
Observations	5375	5375	5232	5232	5232	5232	4953	4953	4953	4953
R-squared	0.163	0.114	0.035	-0.512	0.082	0.035	0.078	-0.658	0.141	-0.368
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Included controls: Education level, partner's education, years of age, partner's age, wealth index, number of household members, number of children between 0 and 1 years of age, number of children between 2 and 5 years of age, =1 if partner unskilled worker, =1 if respondent migrated with brothers/sisters, =1 if father ever hurt mother, = 1 if formal marriage, homicides per 100,000 inhabitants, and tax collection.

Instrumental variable: share of migrants in receiving municipality.

Standard errors clustered by state in brackets. p<0.01, * p<0.05, + p<0.1.

Source: authors' calculations based on DHS2000/2005/2010, IDEAM, and CEDE

Table 18. Only Out-Migration Municipalities: Bargaining Strength and Domestic Violence

	Women has final say in									
	Health issues		Large purchases		Daily needs		Food purchases		All issues	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
=1 if displaced	-0.047+	-0.194	0.023	0.231	0.013	0.032	-0.020	-0.055	0.010	0.087
	[0.026]	[0.372]	[0.029]	[0.263]	[0.033]	[0.466]	[0.031]	[0.280]	[0.019]	[0.154]
Observations	12309	12309	12274	12274	12303	12303	12307	12307	12314	12314
R-squared	0.058	0.033	0.046	0.015	0.061	0.037	0.085	0.070	0.029	0.017

	PC—all issues		Severe violence		Less severe violence		Violent punishment children—father		Violent punishment children—mother	
	OLS	IV	OLS	IV	OLS	IV	OLS	IV	OLS	IV
=1 if displaced	0.029	-0.107	0.040*	0.109	0.050	0.328	-0.001	-0.883*	0.054+	-0.827*
	[0.068]	[0.654]	[0.015]	[0.152]	[0.031]	[0.302]	[0.026]	[0.386]	[0.027]	[0.379]
Observations	12314	12314	12099	12099	12099	12099	11502	11502	11502	11502
R-squared	0.134	0.103	0.044	0.029	0.075	0.039	0.071	-0.053	0.113	-0.051
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Included controls: Education level, partner's education, years of age, partner's age, wealth index, number of household members, number of children between 0 and 1 years of age, number of children between 2 and 5 years of age, =1 if partner unskilled worker, =1 if respondent migrated with brothers/sisters, =1 if father ever hurt mother, = 1 if formal marriage, homicides per 100,000 inhabitants, and tax collection. Standard errors clustered by state in brackets. $p<0.01$, * $p<0.05$, + $p<0$.
Source: authors' calculations based on DHS2000/2005/2010, IDEAM, and CEDE