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Uncertainty, Peace, and Investment: Evidence from Credit Microdata in Colombia

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Uncertainty, Peace, and Investment: Evidence from Credit Microdata in Colombia*

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Abstract

We study the causal effect of the formal cessation of conflict on investment. Our difference-in-difference strategy combines the 2016 peace agreement between the Colombian government and the FARC insurgency with pre-existing differences in FARC exposure across municipalities. Using administrative data from a large bank serving agricultural producers, we document a sizable increase in business credit in FARC municipalities after the peace deal is finalized. Higher loan applications for long-term investments drive this increase, without any change in supply-side factors. Investment only increases in municipalities located close to markets and does not increase during the peace negotiations, despite a meaningful decline in violence. This indicates that uncertainty is a major deterrent for investment and that peace is complementary to market access. There is no change in loan misuse or delinquency, which suggests that the new loans correspond to profitable projects. Higher night-time luminosity provides further evidence of an economic peace dividend.

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1 Introduction

Economists have long understood that capital accumulation is fundamental for economic prosperity (e.g., Book II of Smith, 1776; Solow, 1956). Empirically, differences in investment and capital explain a sizable share of the cross-country variation in income (Solow, 1956; Mankiw et al., 1992; Caselli, 2005).¹ Understanding the factors that affect investment can thus shed light on comparative patterns of development and inform the design of policies that foster long-run growth. An influential theoretical literature conceptualizes investment as a dynamic choice involving irreversibility and uncertainty (Bernanke, 1983; Pindyck, 1991; Dixit, 1992; Dixit and Pindyck, 1994). Related empirical work documents a negative correlation between aggregate investment and political uncertainty originating from factors such as regime instability, democratic gridlock, or geopolitical risk (Barro, 1991; Baker et al., 2016; Azzimonti, 2018; Caldara and Iacoviello, 2022).

In this paper, we study the effect of the formal cessation of conflict on the investment decisions of small producers operating in affected areas. Intuitively, peace can spur investment for several reasons, including a reduction in contemporaneous violence or lower uncertainty about future violence and institutions. At the same time, conflict-ridden areas tend to have difficult terrain, poor infrastructure and weak state presence (Fearon and Laitin, 2003). Whether conflict is the binding constraint on investment under such circumstances remains unclear (Rodrik, 2010). Moreover, armed groups often serve as a substitute for the state in the adjudication of disputes or public good provision (Berman and Matanock, 2015; Arjona, 2016). Some economic activities also seemingly thrive amid weak state oversight (Guidolin and La Ferrara, 2007). Ultimately, the sign and magnitude of the impact of peace on investment remain unresolved empirical questions.

The study of this topic has traditionally presented an insurmountable measurement challenge due to the limited availability of high-quality information on the investment decisions of producers in conflict areas. An additional difficulty arises in disentangling producers' willingness to invest from market imperfections that limit the supply of credit in the developing world (Banerjee, 2003; Conning and Udry, 2007). The non-random assignment of conflict presents a further challenge for identification. As mentioned above, armed groups predominantly operate in remote areas with limited access to markets, factors themselves that hinder economic activity (Donaldson, 2015).

The focus of our study is the 2016 peace agreement between the Colombian government and the FARC insurgency. FARC was the main guerrilla group in the civil conflict that ravaged the Colombian countryside for over 50 years, with an estimated death toll of more than 200,000 victims

¹Hsieh and Klenow (2010, p.213) describe “the positive correlation between the investment rate in physical capital and the level of output per worker” as “one of the strongest relationships established in the empirical growth literature.”

(GMH, 2013). Using an event-level dataset, we classify municipalities as having high historical exposure to FARC (henceforth referred to as FARC municipalities) if they rank in the top quartile of total FARC activity per 10,000 inhabitants between 1996 and 2008 (i.e., before the start of our sample period). These years correspond to the most violent period in the history of the Colombian conflict and allow for a meaningful measure of exposure across municipalities.

We overcome the measurement problem using administrative data from a large public bank called *Banco Agrario de Colombia* (BAC). This bank is the main source of credit for small agricultural producers, representing 97% of loans in this segment in 2013. Our dataset includes the universe of BAC's business loans between 2009 and 2022 (3.6 million). These correspond to 2.1 million individual applicants, equivalent to 76% of the country's agricultural producers. Besides its extensive coverage, our data also has the unique feature that we observe credits starting at the application stage, which helps us to disentangle changes in the demand for credit from changes in the supply. The data also includes detailed information on applicants and loans (e.g., credit scores, audit reports, delinquency rates), which allows us to adjudicate among competing mechanisms.

Our difference-in-difference design compares outcomes in municipalities with varying FARC exposure, before and after the peace deal. We estimate panel regressions with municipality and department-month fixed effects, which account for persistent differences across municipalities and for time-varying factors that may vary across departments. Our preferred specification further accounts for imbalance in covariates by including time dummies interacted with a battery of predetermined municipal characteristics: the rural share of the population and the share of land devoted to the cultivation of several different crops. Alternatively, we also use LASSO to select the optimal set of controls or propensity-score weights to increase comparability (Hirano and Imbens, 2001).

The identifying assumption is that the difference in outcomes between municipalities with varying FARC exposure should remain stable in the absence of the peace deal. We incorporate potential anticipatory effects by distinguishing between a pure pre-period, the *negotiations* period, and the period after the peace *agreement* was reached in June 2016. We set the start date for the negotiations period in June 2011, when Congress approved landmark legislation allowing victims of the conflict to receive reparations from the state (Guarin et al., 2023). This was the earliest indication of the national government's renewed peace effort, but our results are robust to alternative definitions, including the actual announcement of the start of peace negotiations in September 2012.

Our main results show that the peace agreement leads to higher investment in FARC municipalities. We estimate a relative increase in monthly loan disbursements of 30 million COP (\$22,800 at the PPP-adjusted exchange rate) per 10,000 inhabitants in these municipalities, equivalent to 21% of the sample mean. A larger volume of loan applications drives this increase, which suggests that the formal end of the conflict raises farmers' willingness to invest. The increase in investment is concentrated in FARC municipalities located close to wholesale markets, their department capital,

or Bogotá. This suggests that conflict is not the binding constraint on investment in remote areas with limited market access. These results are robust to a large battery of robustness checks that address imbalance in predetermined covariates, and consider alternative measures of FARC exposure or changes in the composition of the sample. We further show that the increase in investment is exclusive to FARC municipalities and does not extend to those with high exposure to paramilitary groups (which demobilized a decade earlier) or the ELN insurgency (which remained active).

Our analysis of mechanisms centers around four questions. First, we examine the role of violence and uncertainty as mediating factors in the link between peace and investment. We find no meaningful change in the demand for credit during the peace negotiations, despite a notorious decrease in violence. This includes fewer homicides, kidnappings, land mine explosions, and episodes of forced displacement or disappearance (Perilla et al., 2023). The null impact of the peace negotiations on investment amid this sharp drop in violence suggests that uncertainty around renewed violence and territorial control is a major deterrent until the final agreement is reached. A reduction in violence is likely necessary but not sufficient to reap the economic dividend of peace.

Second, we explore whether the higher volume of loan applications is mediated by changes in supply-side factors that may have been facilitated or prompted by the peace agreement. We show that the peace deal does not lead to an expansion of BAC branches in FARC municipalities. There is also no change in loan approval rates nor in interest rates. We further verify that the results are not driven by municipalities targeted by the central government for additional expenditure amid the implementation of the peace agreement. These results further suggest that a higher willingness to invest among producers is driving the changes in credit outcomes that we document.

Third, we characterize the additional projects that are pursued after peace. We find a significant increase in the share of loans with maturity beyond five years or corresponding to investment rather than working capital. These results suggest that conflict deters investment in long-term projects, which is consistent with the prominent role that theoretical models of investment award to irreversibility and uncertainty. We also document an increase in the share of loans with collateral provided by the producer and show that this cannot be explained by changes in the composition of the applicant pool (e.g., higher wealth) or by the government's land restitution program.

Fourth, we study whether the new loans correspond to profitable investments. We show that the peace agreement does not affect delinquency rates in FARC municipalities. This implies that producers are able to repay these loans at a comparable rate to pre-existing ones. Insofar as project risk affects the probability of loan repayment, this finding also suggests that those projects forgone due to conflict predominantly have low returns (payoff if successful), but do not have higher risk (probability of success). We provide additional evidence on the economic impact of these projects based on another noteworthy feature of our data, namely the in-person audits of investment sites that BAC conducts to verify the appropriate use of funds. The results from these audits indicate

that the new loans are not misused at higher rates, which further suggests a real increase in physical investment. Finally, we also show that the peace agreement leads to an increase in night-time lights, which we use as a proxy for local economic activity (Henderson et al., 2012). Higher night-time luminosity plausibly reflects a combination of the increase in investment that we document, as well as a broader boom to economic activity that may itself be increasing the returns to investment.

Our paper speaks to a growing literature on conflict and production (Camacho and Rodriguez, 2013; Amodio and Di Maio, 2018; Rozo, 2018; Bernal et al., 2023; Del Prete et al., 2023; Ksoll et al., 2023). These papers study outcomes such as entry, exit, input choice, or output among predominantly urban, formal, and non-agricultural firms. We focus instead on investment, which is a key contributor to economic growth. Moreover, our data provides a unique opportunity to study in great detail the behavior of small agricultural producers, who arguably rank among those most affected by conflict in the developing world.² In this regard, we complement previous work that documents changes in the productive activities and asset holdings of rural households exposed to conflict (Deininger, 2003; Bozzoli and Brück, 2009; Verpoorten, 2009; Singh, 2013; Arias et al., 2019). These papers are largely based on surveys and have struggled to establish causality.

Previous research also predominantly studies conflict onset or exploits variation along the intensive margin. In contrast, we focus on the cessation of conflict and, in particular, on a formal agreement as a credible commitment to peace.³ Our paper adds to a body of work using similar identification strategies to study the impact of Colombia's peace process with FARC on a range of outcomes, including education, fertility, violence, and deforestation (Prem et al., 2020, 2022, 2023; Guerra-Cújar et al., 2023; Perilla et al., 2023). In closely related work, Bernal et al. (2023) document a short-lived increase in the creation of new firms based on the registries of regional chambers of commerce. This source provides limited coverage of the small and mainly informal agricultural producers that are the focus of our study. Our monthly data extending to December 2022 allows us to study the effects of peace over a longer time horizon and provides for sharper identification of the treatment timing. The richness of our data also enables us to distinguish between producers' willingness to invest and potential changes in supply-side factors. We introduce as well a novel distinction between the negotiations and post-agreement periods that allows us to study the relative importance of violence and uncertainty. Our findings show that reduced violence

²A large literature studies the effect of conflict on foreign investment, mostly in the context of multinational corporations and natural resource extraction. The meta-analysis by Blair et al. (2022) finds that this work mostly consists of cross-country analyses and yields mixed findings. Other related research studies the aggregate economic impact of urban terrorism in developed countries or large-scale bombing in developing nations (Abadie and Gardeazabal, 2003; Miguel and Roland, 2011; Besley and Mueller, 2012; Riaño and Valencia Caicedo, 2020). Chen et al. (2008) use cross-country comparisons to document a positive economic impact of peace. Another large literature shows a negative impact of conflict on human capital (e.g., Camacho, 2008; Mansour and Rees, 2012; León, 2012).

³A related literature emphasizes the commitment value of changes in political institutions and its economic effects (e.g., North and Weingast, 1989; Acemoglu and Robinson, 2005).

is not sufficient and that a formal cessation of conflict is necessary for investment to increase.

Our paper also speaks to the large literature studying agricultural production in low-income countries. Previous research awards a prominent role to market imperfections that limit the supply of credit or insurance (Rosenzweig and Wolpin, 1993; Banerjee, 2003; Conning and Udry, 2007; Karlan et al., 2014; Cole and Xiong, 2017). These studies highlight the substantial uncertainty faced by farmers regarding factors such as the weather or prices. Other research focuses on weak property rights and the threat of extortion (Besley and Ghatak, 2010). We provide causal evidence on conflict as another important constraint shaping agricultural investment in the developing world. Importantly, our data enables us to isolate farmers' willingness to invest from the supply-side factors emphasized by the previous literature. Our findings further suggest that a formal peace agreement fosters investment by reducing uncertainty. In this regard, we link the development literature with previous work on the deterrent effect of political uncertainty on investment in developed economies (Baker et al., 2016; Azzimonti, 2018; Caldara and Iacoviello, 2022).

The rest of this paper is organized as follows. Section 2 provides background information on the Colombian conflict and BAC. Section 3 introduces our main data sources and empirical strategy. Section 4 presents our main results, heterogeneous effects, and robustness checks. Section 5 provides our results on mechanisms. Section 6 concludes.

2 Background

2.1 The Colombian Conflict

FARC was a Marxist insurgency created in 1964, but with origins in peasant self-defense groups from a previous wave of political violence that began in the late 1940s.⁴ In its first decades, FARC operated in remote rural areas, extorted local farmers for subsistence and waged a low-intensity war against the government. The group expanded rapidly in the 1990s thanks to its growing involvement with the drug trade and reached as many as 20,000 troops (Dube and Vargas, 2013). A string of FARC military victories prompted the Colombian government to engage in failed peace negotiations between 1998 and 2002. This was the most violent period in the conflict, involving left-wing guerrillas, government forces, and right-wing paramilitary groups.⁵

Incoming president Alvaro Uribe embarked on an intense military campaign against FARC after 2002. This counterinsurgent effort proved highly successful and led to the death or capture of many FARC commanders and to the rescue of its most high-profile hostages (Fergusson et al., 2014). Juan Manuel Santos, who was Uribe's Secretary of Defense, came to power in 2010 and

⁴FARC stands for Fuerzas Armadas Revolucionarias de Colombia (*Colombian Revolutionary Armed Forces*).

⁵In the UCDP/PRIO dataset, Colombia is classified as having a civil conflict (25-999 battle-related deaths per year) continuously between 1964-1984. Between 1985-2005, 45% of years are classified as civil war (1,000+ deaths).

announced a new peace process with FARC in September 2012. The Santos administration had already shown a renewed attitude toward the conflict in June 2011, when Congress approved a landmark *Victims bill* that awarded reparations and land restitution to victims (Guarin et al., 2023).

The outline for the peace talks focused on five items: rural development, political participation, end of hostilities, solutions to illegal drug trafficking, and truth and reparations for victims. The negotiations mostly took place amid continued fighting, except for a few short ceasefires on occasions such as the 2014 elections in which Santos was re-elected for a second term. Although the ongoing hostilities led to several suspensions of the talks (e.g., BBC News, 2014), an agreement was reached over two items in 2013, another in 2014, and one other in 2015. However, the negotiations took place under the premise that the government would only accept a full agreement, which added uncertainty until the very end (Santos, 2019). The fact that several previous attempts at peace had failed also invited to prudence.⁶ FARC declared an indefinite ceasefire in December 2014 and the government reciprocated in 2015. The negotiations were finally completed in June 2016, when an agreement was reached over the end of hostilities (The Guardian, 2016). The full text was then submitted for popular approval through a plebiscite held in October 2016. Narrowly rejected (“No” won with 50.2% of votes), the agreement was partially modified to incorporate some of the concerns of its critics. Congress approved the modified agreement in November 2016, putting an end to over 50 years of violence and more than 200,000 deaths (GMH, 2013).

As part of the agreement, FARC committed to lay down its weapons, withdraw from drug trafficking and contribute to peace through truth-telling, reparations, and demining. The government agreed to provide temporary economic support to former combatants and to reserve a handful of seats in Congress for FARC for two terms (starting in 2018 and 2022). A transitional justice mechanism was created to handle crimes committed by all parties during the conflict. The government also agreed to implement several policies aimed at rural development, including land redistribution, improved access to credit, and investments in infrastructure. A total of 170 municipalities in 16 different regions were included in Regional Development Programs (*Planes de Desarrollo con Enfoque Territorial, PDET*) to target these investments. After the peace agreement, the vast majority of FARC members demobilized and the organization transitioned into a new political party that has participated in all elections since 2018, with the exception of some small splinter groups.

⁶Previous peace talks took place during the governments of Belisario Betancur (1982-1986), César Gaviria (1990-1994), and Andrés Pastrana (1998-2002).

2.2 Agricultural Credit

The Colombian Agrarian Bank (*Banco Agrario de Colombia*, BAC) is Colombia's only first-tier public bank.⁷ BAC provides financial services to rural areas and its bylaws require it to allocate at least 70% of its credit portfolio to activities related to crop cultivation, livestock, fishing, or forestry. Henceforth, we refer to these activities collectively as agriculture. BAC has extensive geographic coverage and reached 792 branches in 765 municipalities (68%) by the end of our sample period in 2022 (8% growth since 2009). In contrast, large private banks have branches in fewer than 250 municipalities. BAC is the main and often the only source of formal financial services in rural areas, where it faces only limited competition from informal lenders.⁸

A second-tier public bank called FINAGRO provides rediscount resources for most agricultural loans issued by BAC. Colombia's Law 16 of 1990 mandates a yearly forced investment by all private banks in low-return bonds issued by FINAGRO. These financial institutions can, however, replace a portion of this forced investment with direct lending for the agricultural sector. As a result, private banks specialize in medium and large clients, who are arguably less risky and more profitable, while BAC mostly serves small producers using FINAGRO's subsidized funding.⁹ In 2013, 87% of FINAGRO's rediscount resources were allocated to BAC, who was responsible for 97% of loans to small rural producers nationwide (DNP, 2014). Among the loans in our sample, 73% use funds from FINAGRO. These loans can only be used for investments in agriculture and have two noteworthy features. First, FINAGRO sets a cap on the interest rate that banks can charge. Second, FINAGRO requires in-person visits to the investment site for a representative sample covering at least 10% of loans to ensure that funds have been used appropriately.

The loan application process at BAC involves two stages. First, a bank officer makes a query to a credit bureau. This query results in a report with information on the applicant's credit history and a credit score. It also indicates whether the application process can proceed.¹⁰ Clients with no credit history skip this stage. In the second stage, the application is reviewed by a loan officer at BAC headquarters in Bogotá. Loan officers use different sources of information to make the

⁷BAC was created in 1999 and is overseen by the Ministry of Agriculture. It replaced a previous financial institution called *Caja Agraria*, which dated back to the 1930s and had recently declared bankruptcy. All other first-tier public banks were privatized as part of a financial liberalization reform in the early 1990s.

⁸In 2016, 43% of respondents to a rural survey reported having formal or semiformal loans (e.g., micro-finance) while 15% had informal loans (Laajaj and Parra, 2017). Among respondents with informal land tenure (and any credit), the probability of having a formal loan was 11 pp (60%) higher than that of having an informal loan. Total BAC loans in 2012 were 2.3 times larger in value than credit provided by sellers of agricultural inputs (DNP, 2014).

⁹FINAGRO defines a small producer as having assets below 81 million COP (roughly 27,000 USD). Also, either 75% or more of the farmer's assets are dedicated to agriculture or at least two-thirds of the farmer's income comes from agriculture. In 2019, small producers represented 23% of the total agricultural loan volume (including BAC and other banks), but 93% of loan recipients.

¹⁰Denial occurs if the credit score is below a certain threshold or if the number of periods with overdues for previous loans exceeds a certain number. For the period after July 2012, 12% of applications are denied at this stage.

final approval decision. An important input at this stage is a score from BAC’s own credit-scoring models, which is different from the external score used in the first stage. The loan officer also takes into account other aspects of the application, such as the projected income flow of the project.

BAC loans to small producers must be fully collateralized. If the applicant lacks sufficient collateral, the loan officer can determine eligibility for one of several guarantee schemes. For agricultural loans, FINAGRO offers a guarantee of up to 80% of the value of the loan through a fund called *Fondo Agropecuario de Garantías* (FAG). For non-agricultural loans, the national government offers a similar guarantee through a separate fund called *Fondo Nacional de Garantías* (FNG). These guarantees have annual fees of 1-4% of the value of the loan, which provides an incentive for borrowers to use their own collateral when available. However, applicants often struggle to provide satisfactory documentation proving ownership of their property. Smaller complementary guarantees are available from subnational governments and from collective organizations (e.g., National Coffee Growers Association). In our sample, 76% of loans have a guarantee from the central government (72% have FAG) and 1.8% have a complementary guarantee.

Once a loan is disbursed, the borrower is reported to the credit bureaus if the loan is 30 days overdue, which negatively impacts the individual’s credit history and future access to credit (de Roux, 2021). If the loan has a FAG guarantee, the bank can reclaim the guarantee after more than 180 days overdue but must pursue legal restitution from the defaulting borrower in exchange, with the proceeds returning to FAG. A borrower that defaults also becomes ineligible for a FAG guarantee in the future. Hence, borrowers have a strong incentive to repay their loans even if they are not pledging most (or any) of the collateral. In our sample, 12% of outstanding loans per municipality-month are 30 days past due on average.

3 Empirical Strategy

3.1 Data

Our main source of information is the administrative records at BAC. A unique feature of our setting is that we observe loans starting at the application stage and can track them throughout the approval, disbursement, and repayment stages. This provides several advantages. First, we can more easily disentangle the contribution of demand and supply to any observed changes in the total amount of credit. Second, we can thoroughly characterize the pool of applicants and loans and detect changes in relevant characteristics. Third, we can study the quality of the loans based on delinquency rates and the reports from in-person visits to investment sites.

We collect data on all business loan applications by small producers between 2009 and 2022.¹¹

¹¹Basic information is available for all applications throughout this period. The more detailed information that

We focus on small producers because they represent the bulk of BAC clients and have limited access to alternative sources of credit. This increases the likelihood that we pick up changes in the overall demand for credit rather than substitution across lenders. Small producers also have weaker property rights and less mobile assets, which makes them more likely to be affected by conflict in their municipality. In contrast, larger producers can more easily reallocate their investments to other regions or spend more on security. Moreover, only for small farmers can we observe the destination municipality for all loan applications, which is crucial for our research design.

Our sample includes 4.8 million applications and 3.6 million disbursed loans. These applications correspond to 2.1 million different applicants, which is equivalent to 76% of the total number of agricultural producers in Colombia according to the most recent agricultural census in 2014. These loans amount to almost 35 trillion COP (roughly 11.5 billion USD).¹² For most of the analysis, we aggregate outcomes at the municipality-month level based on the destination municipality of each loan and we normalize by municipal population in 2008 (i.e., before the start of our sample period). Appendix Table A1 provides summary statistics for our main outcomes of interest. On average at the municipality-month level, BAC receives 18.2 applications and disburses 14.4 loans per 10,000 inhabitants, for an approval rate of 79%. The average loan amount is 10.4 million COP (3,452 USD) and the average interest rate is 10.1%.¹³ Roughly one third of loans have a maturity of 0-2 years, 39% have maturity of 3-5 years, and 29% have maturity beyond 5 years.

We measure exposure to FARC using an event-based conflict dataset provided by Universidad del Rosario. This dataset covers the period 1996-2014 and records attacks and clashes. For each event, the dataset reports the municipality and date of occurrence, as well as the specific actors involved. The data is based on news reports from over 20 major newspapers plus additional reports from NGOs and the Catholic church (Dube and Vargas, 2013). For our preferred measure of exposure, we add all events per municipality up to 2008 and normalize by population in that year. We then define as exposed to FARC those municipalities (281) that rank above the 75th percentile of this variable, similarly to Acemoglu et al. (2013). We refer to these as FARC municipalities.

Our measure captures historical exposure to FARC during the most violent period in the Colombian conflict. This period includes FARC's expansion in the 1990s and the Colombian military's aggressive counterinsurgent campaign from the early 2000s. The latter specifically targeted FARC strongholds. As a result, it is highly unlikely that a municipality with high historical exposure to

BAC uses for its credit analysis is only available since July 2012.

¹²Throughout the paper we express all monetary values in millions of constant 2022 Colombian pesos (COP). When converting to US dollars (USD), we use a nominal exchange rate of 3,000 COP/USD (roughly the average daily exchange rate in 2017) and a PPP exchange rate of 1,315 COP/USD based on OECD estimates.

¹³Interest rates are defined as percentage points above a reference rate called DTF. This corresponds to the average return on 90-day fixed-term deposits, which averaged 4.9% during our sample period. FINAGRO sets a cap on interest rates for loans using its resources of DTF + 7%. In our sample, the average interest rate for Finagro-backed loans is DTF + 5.3%, while for loans using BAC's own resources it is DTF + 27.9%.

FARC will have few conflict events during this period. We further validate our measure manually by comparing it to the locations where top FARC commanders died or where captured, which presumably correspond to FARC strongholds, and obtain a match rate of 89% (Appendix Table A2). We additionally verify below that our results are robust to (i) different exposure thresholds, (ii) different durations of the exposure period, (iii) use of the continuous measure of exposure, or (iv) use of conflict data from an alternative source.

Appendix Figure A1 shows the spatial variation in our measures of conflict exposure and demand for credit. The loan application rate is highest in municipalities located in the mountainous areas near the center of the country, while FARC municipalities are mostly located in jungle areas in the south and northwest, as well as in border regions near Ecuador and Venezuela (Martínez, 2017). Additional information on municipal characteristics is provided by CEDE at Universidad de los Andes.¹⁴ CEDE collects data from multiple sources, mostly government agencies. Appendix Table A3 provides summary statistics of predetermined characteristics (i.e., measured before the start of our sample period), disaggregated by FARC exposure. Not surprisingly, FARC municipalities have a smaller population, are more rural, and are also poorer according to various metrics. These municipalities also differ in the share of land devoted to the cultivation of several important agricultural products and have higher cultivation of coca, the main input in the production of cocaine. We discuss below how we incorporate these differences into our research design.

3.2 Research Design

We estimate the effect of the peace agreement on investment using a Difference-in-Difference (DiD) strategy that compares municipalities with varying historical FARC exposure, before and after the end of the negotiations in 2016. All our regressions include municipality and department-month fixed-effects. The former control for all persistent differences across municipalities that may affect investment (e.g., geographic characteristics). The latter account for time-varying factors that may be department-specific (e.g., macroeconomic conditions, weather shocks).¹⁵

Our identifying assumption is that in the absence of the peace agreement there should be no differential change in investment in FARC municipalities. Importantly, the final agreement was the culmination of a multi-year negotiation process and a gradual reduction in hostilities. Certain events before the final agreement, such as the Victims Bill from June 2011, the start of the peace talks in September 2012, or the partial agreement over specific items in the negotiation agenda may have led producers to update positively on the prospect of peace. We incorporate this possibility by dividing the sample into the following three periods. The first, extending from January 2009 to May 2011, is a pure *pre-period* that covers the end of the Uribe government and the start of the Santos

¹⁴Appendix B describes in detail the main data sets and variables that we use in the paper.

¹⁵Colombia has 32 departments and 1,122 municipalities. Our sample has universal geographic coverage.

government, which initially continued Uribe’s military campaign against FARC. The second period (henceforth referred to as *negotiations*) runs from June 2011, when the Santos administration first revealed its renewed attitude towards the conflict by signing the Victims Bill, to June 2016. The third period (which we call *agreement*) starts in July 2016, when the peace negotiations were successfully completed, and runs until the end of the sample in December 2022. As part of our robustness checks, we verify below that the results are robust to alternative partitions.

The following is our baseline econometric specification:

$$y_{i,j,t} = \alpha_i + \delta_{j,t} + \beta_1 \text{FARC}_i \times \text{Negotiation}_t + \beta_2 \text{FARC}_i \times \text{Agreement}_t + X_{i,t} + \epsilon_{i,j,t} \quad (1)$$

where $y_{i,j,t}$ is an outcome of interest in municipality i located in department j in month t . $\text{FARC}_i \times \text{Negotiation}_t$ and $\text{FARC}_i \times \text{Agreement}_t$ are the respective interactions of the time-invariant dummy for predetermined FARC exposure with the time dummies for the negotiation and agreement periods. The effect of the individual terms in these interactions is absorbed by the municipality and department-month fixed effects, α_i and $\delta_{j,t}$. Our coefficients of interest, β_1 and β_2 , capture the corresponding change in the outcome in FARC municipalities relative to the pre-period. $\epsilon_{i,j,t}$ is an error term that we cluster two-way by municipality and department-year (Cameron et al., 2011). This cluster structure allows for idiosyncratic correlation of the error term within a municipality over time and between municipalities located in the same department within the same year (i.e., at a higher temporal level than our monthly unit of observation). The latter flexibly captures spatial correlation within departments.

$X_{i,t}$ is a set of time-varying controls that account for potential confounders. As mentioned above, FARC municipalities exhibit significant cross-sectional differences in several predetermined covariates (see Appendix Table A3). These differences do not invalidate our DiD design per se, as it relies on the assumption that any effect of these differences is stable rather than nonexistent. However, these covariates may have time-varying effects that could bias our estimates. For instance, changes in the price of agricultural products could differentially affect investment in FARC municipalities. In our preferred specification, we address this concern by including as additional controls month fixed effects interacted with: (i) dummies for quartiles of the rural share of population in 2008; (ii) dummies for varying percentiles of the share of land devoted to the 10 main crops in the country; (iii) a dummy for municipalities with positive coca cultivation.¹⁶ Alternatively, we use a LASSO regression to select the optimal controls that best predict FARC exposure and replicate the analysis including month fixed effects interacted with each of them (Belloni et al., 2014).

¹⁶The 10 crops are coffee, rice, sugar cane, plantain, oil palm, yucca, potatoes, cocoa, beans, and corn. We calculate for each the average cultivated share of land per municipality between 2000-2008. Fewer than 25% of municipalities grow each of potatoes, rice, oil palm, and coca, so we use a dummy for any cultivation. At least 40% of municipalities cultivate each of the other crops. We split the positive values into two same-sized groups and leave the zeros apart. The only exception is corn, which is grown in 89% of municipalities and for which we use quartile-specific dummies.

As further robustness, we also consider propensity-score weights (Hirano and Imbens, 2001).¹⁷

We also estimate the analogous *event study* specification:

$$y_{i,j,t} = \alpha_i + \delta_{j,t} + \sum_{\tau \neq \text{Apr2010}} \gamma_{\tau} \text{FARC}_i \times \tau_t + X_{i,t} + \epsilon_{i,j,t} \quad (2)$$

where τ_t is a dummy equal to one for month τ . The coefficient γ_t captures the change in the outcome in FARC municipalities in month τ relative to an arbitrary omitted period. This specification includes the same set of fixed effects, baseline controls, and clustering structure as equation (1). While the parallel trends assumption underlying our DiD design is essentially untestable, we use the event study specification to check for *pre-trends* in our outcomes of interest. This specification also allows us to better understand the dynamics of the effects.

4 Main Results

In this section we present our main estimates on the effect of the peace agreement on investment in FARC municipalities. We then present our robustness tests and examine heterogeneous effects.

4.1 Loan Applications and Disbursed Credit

Table 1 presents our main results. Columns 1-5 show estimates of equation (1) using monthly loan applications per 10,000 inhabitants as the dependent variable. All columns include municipality and department-month fixed effects. Column 1 corresponds to a parsimonious specification with $\text{FARC}_i \times \text{Agreement}_t$ as the only regressor of interest and no additional controls. We find that FARC municipalities experience a 2.25 unit increase in the loan application rate after the peace agreement. This effect is precisely estimated and is equivalent to 12% of the sample mean. In column 2 we include as additional controls month fixed effects interacted with predetermined covariates: rural population, cultivation of different crops. The estimate of β_2 remains stable and precise, suggesting that the time-varying effect of differences in these covariates is not confounding our results.

Column 3 shows results from our preferred specification including $\text{FARC}_i \times \text{Negotiation}_t$ as an additional regressor (i.e., disaggregating the period before the agreement). Our estimate of β_1 indicates a statistically insignificant 0.45 unit increase in the loan application rate in FARC municipalities during the peace negotiations, while the estimate for β_2 increases slightly. The difference between β_1 and β_2 is statistically significant at the 0.1% level. Panel (a) in Figure 1 shows the corresponding estimates of equation (2), our event-study specification. To facilitate interpretation,

¹⁷This procedure restricts the sample to the common support of the propensity score for FARC exposure and weights observations for non-FARC municipalities by a non-parametric function of the propensity score. Hirano et al. (2003) show that this weighting scheme improves efficiency.

the solid line shows the three-month moving average of $\widehat{\gamma}_t$. Loan applications in FARC municipalities remain relatively constant throughout the pre-period and the negotiations (coefficients are small and mostly indistinguishable from zero) but increase sharply after the final peace agreement. Appendix Figure A2 provides an alternative visualization at the quarter level. These results show that the higher demand for credit only materializes after the final peace agreement.

Columns 4 and 5 provide additional evidence against the potentially confounding effect of imbalance in predetermined covariates. In column 4 we present results using the optimal set of controls chosen with LASSO, while in column 5 we replicate the analysis using propensity score weights. The results remain very similar to our preferred specification in column 3.¹⁸

In columns 6-7 we turn our attention to credit disbursements. The dependent variable in column 6 is the number of disbursed loans, while in column 7 it is the total value of disbursed loans (both expressed per 10,000 inhabitants). Column 6 shows a small and insignificant increase in disbursed loans during the peace negotiations and a 2.26 unit increase after the final agreement. This estimate is only slightly smaller than the observed increase in loan applications and is equivalent to a 16% increase over the sample mean. We consider potential changes to the loan approval rate and average loan size as part of our analysis of mechanisms below. Column 7 shows that *monthly* BAC disbursements in FARC municipalities increase by 30.3 million COP per 10,000 inhabitants after the peace agreement. This increase is equivalent to 21% of the sample mean. Based on the nominal exchange rate, this amounts to 194,000 USD in extra credit to small producers in the average FARC municipality every year, while the PPP-adjusted exchange rate suggests a yearly increase close to 442,000 USD. These results point to a sizable positive impact of peace on the local economy in FARC municipalities. Panels (b) and (c) in Figure 1 show the corresponding event study plots for these outcomes and indicate a sharp increase that coincides with the final agreement.

4.2 Robustness Checks

We verify that our documented increase in investment in FARC municipalities after the peace agreement is robust to a battery of sensitivity tests. We focus on our preferred specification corresponding to column 3 of Table 1 and reserve figures and tables for the online appendix.

First, we consider alternative measures of FARC exposure. Figure A4 replicates the analysis for different values of the threshold percentile of the distribution of total FARC events (1996-

¹⁸Appendix Table A3 shows the covariates selected by LASSO and the results from the first-stage Probit regression for FARC exposure. Appendix Figure A3 shows the distribution of propensity scores. The common support ranges from 0.05 to 0.75 and includes 757 municipalities. Appendix Table A4 shows that the propensity score weights improve balance in predetermined covariates, with only two significant differences (out of 23) at the 10% level. For the analysis in columns 4-5 of Table 1, we focus on predetermined characteristics with available information for all municipalities. Appendix Table A5 shows that the results are very similar if we use a larger set of covariates, even though this leads to a reduction in sample size due to missing values for some municipalities.

2008). Our baseline measure uses the 75th percentile. We consider threshold values between the 31st percentile, which corresponds to the extensive margin, and the 95th percentile. The estimate of β_2 remains positive and significant throughout, while $\hat{\beta}_1$ is always smaller and mostly insignificant. Reassuringly, $\hat{\beta}_2$ increases with the value of the threshold. This suggests that peace has a larger impact on producers' willingness to invest in municipalities with higher FARC exposure. Alternatively, Table A6 shows that the results are unaffected if we replace our binary measure with the continuous measure of FARC exposure or if we measure FARC activity using data from an alternative source (CEDE). Figure A5 shows that the results are also robust to using shorter time windows to measure FARC exposure by dropping either earlier or later years.

Second, we consider changes to the partition of the sample period or the composition of the sample. Table A6 shows that the results are unchanged if we set the start of the negotiations period to September 2012, when the new peace process was announced, rather than June 2011 when Congress approved the Victims Bill. Figure A6 further shows that the results are also unchanged if we modify the sample period. A later start date allows us to shut down the potentially confounding effect of events before the start of the negotiations (e.g., change in national government from Uribe to Santos), while a closer end date indicates that the results are not affected by other events after 2016 (e.g., Covid-19 pandemic). Figure A7 replicates the analysis after excluding one department at a time and verifies that the results are not driven by events in any specific region.

Third, we include additional controls. While our baseline analysis accounts for scale effects by normalizing all outcomes by population, Table A6 shows that the results are robust to expanding our set of controls to include month fixed effects interacted with dummies for quartiles of total population in 2008. The results are also robust to the inclusion of month fixed effects interacted with dummies for each of seven different municipal categories. These categories are formula-determined as a function of population and municipal revenue. They affect various aspects of local governance, including the institutional complexity of the municipal government and the remuneration of elected officials.

Fourth, we conduct a placebo exercise based on exposure to armed groups other than FARC. We focus on the two largest such groups, namely ELN and the paramilitaries. ELN is a left-wing insurgency that did not participate in the peace process and remains active until the present day. The paramilitaries were a network of right-wing counterinsurgent groups that demobilized under the Uribe government around 2005. Similarly to our baseline measure of FARC exposure, we construct binary measures that correspond to the top quartile of total events between 1996 and 2008 for each of these groups. Appendix Table A7 shows that the peace agreement has a null impact on investment in ELN and paramilitary municipalities (Appendix Figure A8 provides the corresponding event study plots). Appendix Table A7 also shows that our results for FARC are robust to controlling for the time-varying effect of exposure to these other groups. This further

suggests that the observed increase in investment is caused by peace with FARC.¹⁹

4.3 Heterogeneous Effects

We now consider potential sources of variation in the effect of peace on investment in FARC municipalities. We focus on heterogeneous effects based on proximity to markets, the poverty rate, and the demand for land restitution under the Victims Bill. For each variable, we divide the set of FARC municipalities into two equally-sized groups (i.e., above and below the median). We expand equation (1) to provide separate estimates of β_1 and β_2 for FARC municipalities in the upper and lower half of the distribution for each variable (β_k^{high} and β_k^{low} , $k \in \{1, 2\}$). If needed, we rescale these variables so that larger values (i.e., high) correspond to more desirable attributes. Table 2 shows the results. The dependent variable in all regressions is the loan application rate.

The first source of heterogeneity that we consider concerns the proximity of FARC municipalities to markets or large urban centers. Specifically, columns 1-3 look at proximity to wholesale markets, the departmental capital, or Bogotá. For all measures, we find that peace has a large and significant effect in FARC municipalities with high market access and a small and insignificant impact in those with low market access. The difference between β_2^{high} and β_2^{low} is statistically significant at the 1% level for all three measures. For instance, the results in column 1 show that the loan application rate increases by 4.57 units in FARC municipalities close to wholesale markets (equivalent to 25% of the sample mean) and experiences an insignificant decline of 0.3 units in FARC municipalities far from markets. These results strongly suggest that conflict is not the binding constraint on investment in remote and poorly connected areas, in line with a growing literature on the welfare gains from market integration (Donaldson, 2015).

Column 4 examines heterogeneous effects based on the share of the population classified as non-poor according to the index of unmet basic needs (UBN) from 2005. We find that peace has a larger impact on investment in these municipalities, but the difference between $\hat{\beta}_2^{\text{high}}$ and $\hat{\beta}_2^{\text{low}}$ is smaller than in the previous columns and not statistically significant ($p=0.27$). These results indicate that the heterogeneous effects based on market access are not simply picking up differences in income, but also suggest that the investment peace dividend is plausibly larger in municipalities that were already better off, which could aggravate regional inequality.²⁰

¹⁹Appendix Table A8 additionally shows that our main result does not vary based on exposure to other armed groups, measured either before the start of the sample period (1996-2008) or before the peace agreement (2009-2014). We also find very similar effects in municipalities with high vs low growth in the cultivation of coca (the main input in the production of cocaine) in the period 2014-2018. This aligns with previous evidence by Prem et al. (2021) showing that FARC municipalities do not drive the large aggregate increase in coca cultivation observed during this period.

²⁰Appendix Table A9 shows that the cross-sectional correlations between these sources of heterogeneity are mostly moderate in magnitude (i.e., smaller than 0.5 in absolute value). Appendix Figure A9 shows that the increase in investment is concentrated in the Andean and Eastern regions, with no impact in the Caribbean, Pacific, or Amazon.

Column 5 examines the potential complementarity between peace and access to land, based on the total number of applications for land restitution (per 10,000 inh.) submitted under the Victims Bill between 2011 and 2019. We find that FARC municipalities with more applications experience a larger increase in investment, but the difference between $\hat{\beta}_2^{\text{high}}$ and $\hat{\beta}_2^{\text{low}}$ is again not statistically significant ($p=0.43$). These results provide weak evidence of a complementarity between peace and land restitution, but should be interpreted with caution because the applications for land restitution are measured during the sample period and are plausibly affected by the peace agreement.

5 Mechanisms

In this section, we study the mechanisms through which the peace deal leads to higher investment. We focus our attention on four main questions. First, we examine whether the effect of the agreement can be attributed to a contemporaneous reduction in violence or whether the institutional commitment for future peace that it embodies is more important. Second, we consider whether the increase in investment can be explained by changes in supply-side policies that were facilitated or explicitly contemplated in the peace agreement (e.g., expansion of BAC branches, leniency in loan approval). Third, we characterize the new investment projects that are pursued after peace, focusing in particular on loan maturity, intended use, and choice of collateral. Fourth, we combine data on loan repayment, audit reports, and night lights to study whether the new loans correspond to profitable investments.

5.1 Violence vs Uncertainty

Conflict may deter investment because it exposes producers to violence and imperils their lives and property. In Colombia, approximately 3 million people experienced involuntary displacement in the early 2000s (Ibáñez and Vélez, 2008). Most of those affected lived in rural areas and often had to leave their homes with little prior warning due to armed combat in their vicinity. Producers under conflict are likewise exposed to extortion at the hands of armed groups, which lowers their profits. Prior work shows that FARC regularly taxed local producers in its areas of influence (Arjona, 2016; Gilbert, 2022). Alternatively, even in the absence of active violence (e.g., stalemate, ceasefire) conflict may still deter investment because of uncertainty about future violence and institutions.²¹ An important theoretical literature posits that irreversibility and uncertainty are fundamental features of investment (Bernanke, 1983; Pindyck, 1991; Dixit, 1992; Dixit and Pindyck, 1994). From this perspective, producers operating in conflict areas forgo otherwise profitable investments because

²¹Arias et al. (2019) draw a similar distinction based on historical exposure to armed groups versus recent conflict events. Blair et al. (2022) compare areas directly exposed to violence to non-exposed areas within the same country.

they fear a future resumption of violence or changes in relevant political or economic institutions.

To shed light on the role of violence as a plausible mechanism for our results, we study several conflict outcomes using our DiD research design. Since the conflict data that we use to construct our measure of exposure to FARC ends in 2014, we use an alternative dataset provided by the government agency charged with implementing the Victims Bill (*Unidad para la Atención y Reparación Integral a las Víctimas*, UARIV) for this part of the analysis. This dataset extends to 2021 and allows us to study conflict outcomes throughout our sample period. UARIV provides victim counts at the municipality-year level for 12 different outcomes, including homicide, forced displacement, and kidnapping. The latter is particularly important because FARC used kidnapping as an enforcement mechanism to extort producers (Gilbert, 2022). Hence, the outcomes we consider offer a comprehensive view of exposure to violence and extortion at the hands of armed groups. Unfortunately, the UARIV data does not specify the identity of the armed groups involved in these events. To avoid incorrect inference from multiple hypothesis testing, we construct an aggregate index following Kling et al. (2007).

Figure 2 shows estimates from a year-level version of equation (2) using the conflict index as the dependent variable. We find that the intensity of conflict declines in FARC municipalities after the start of peace negotiations in 2012, with the difference relative to 2009 becoming statistically significant after 2014. This reduction in violence then stabilizes at about 0.15 standard deviations below the mean after the peace agreement in 2016. Appendix Table A10 provides estimates of equation (1) for the conflict index and the 12 underlying conflict outcomes (Appendix Figure A10 provides disaggregate event study plots). The results show that FARC municipalities experience a significant and persistent reduction in violence during the negotiations and the agreement periods, which is mostly driven by fewer incidents of forced displacement, homicides, kidnappings, and accidents involving land mines. The latter aligns with previous evidence by Perilla et al. (2023).

Combined with our main results, we observe that investment remains unchanged in FARC municipalities during the peace negotiations despite a sizable reduction in the intensity of conflict. This pattern suggests that a reduction in violence may be necessary but is not sufficient to spur investment in areas affected by conflict. In contrast, the sharp increase in investment after the peace agreement is finalized indicates that the formal cessation of conflict is necessary for investment to increase. This finding suggests that uncertainty around renewed violence and presence of armed groups is a major deterrent for investment. In this regard, the peace agreement arguably provides a more credible signal of institutional change than the negotiations and serves as a commitment device (Acemoglu and Robinson, 2005). It remains true, however, that the agreement period coincides with a larger decline in violence. To ensure that the increase in investment after the peace deal is not capturing a non-linear response to the decline in violence, we show in Appendix Table A11 that our main results are robust to including the conflict index as an additional control.

5.2 Changes in supply-side factors

Our main results show an increase in loan applications in FARC municipalities after the peace agreement. This constitutes *prima facie* evidence of a change in the demand for credit. However, it is plausible that the increase in loan applications is itself being caused by changes in supply-side factors associated with the peace deal. These changes could be an unintended byproduct of the end of the conflict. For instance, peace may allow BAC to expand its branches in FARC municipalities or to charge lower interest rates due to improved monitoring of loans in these areas. Alternatively, changes in supply-side factors may be a purposeful consequence of the peace agreement. For example, the national government could influence BAC to increase the approval rate or lower the interest rate for loans in FARC municipalities as a means to fulfill its commitment under the peace agreement to promote economic development in rural areas.

Table 3 provides evidence against these potential supply-side channels based on estimates of equation (1) (Appendix Figure A11 shows the corresponding event study plots). The dependent variable in column 1 is a dummy equal to one if there is a BAC branch present in the municipality. We find a -1.6 percentage point (pp) decline in the probability of having a BAC branch, which is economically and statistically insignificant. Column 2 shows similar results for the distance to the nearest branch, which are likewise small and insignificant. Hence, we find no evidence of a relative expansion of BAC branches in FARC municipalities after the peace agreement.

In column 3 we study the loan approval rate. Given that the characteristics of the applicants and the investments may be changing due to the peace agreement, as we show below is the case, an aggregate analysis at the municipality level may be confounded by these compositional changes. To alleviate this concern, we exploit the richness of our data and conduct this part of the analysis at the loan application level, with close to 1.9 million observations. We focus in particular on the period after July 2012 when we observe detailed information from BAC's credit scoring models. As a result, we can only compare the agreement and negotiations period and are unable to estimate β_1 . Besides our baseline set of fixed effects and controls, the regression in column 3 additionally controls for the applicant's gender and age, the amount requested, intended loan use, and both the initial credit score from the credit bureau and the one from BAC's own models. We estimate a precise zero effect (-0.1pp) of the peace agreement on the probability of loan approval.

In column 4, the dependent variable is the average interest rate among disbursed loans, expressed as percentage points above a reference rate for fixed term deposits (DTF). The sample size decreases slightly because we drop observations without any approved loans. We find that the interest rate increases by 0.57 pp in FARC municipalities after peace. This change is also economically and statistically insignificant.

In columns 5-7 the dependent variable is once again the loan application rate. Column 5 considers an alternative data structure by collapsing at the branch-municipality-month level. This enables

us to flexibly control for unobservable changes in the operation of individual BAC branches over time (e.g., changes in personnel) by including branch-month fixed effects. We also include branch-municipality fixed effects to account for time-invariant differences in familiarity with different destination municipalities within the same branch. The results from this modified specification indicate that the branch-level loan application rate increases by 0.17 units in FARC municipalities after the peace agreement. This is equivalent to a 16% increase over the sample mean, which is slightly larger than the estimated effect size at the municipality level. The estimate of β_1 is much smaller and the difference between β_1 and β_2 is statistically significant at the 0.1% level.

Columns 6-7 look more closely at the potential impact of the implementation of the peace agreement by the central government. As mentioned above, the government's main tool to coordinate post-conflict development policy was the assignment of 16 different areas (comprising 170 municipalities) for inclusion in Regional Development Programs (*Planes de Desarrollo con Enfoque Territorial, PDET*). In column 6, we include month fixed effects interacted with separate dummies for each of these areas and fail to observe any meaningful change in our estimates of β_1 and β_2 . This suggests that neither the actual implementation of PDETs nor producers' expectations of greater public investment in these areas are driving our results.²² Alternatively, in column 7 we restrict the sample period to coincide with the second term of the Santos administration, shutting down potentially confounding effects from other policies that differentially target FARC municipalities by previous or later governments. This modified sample includes 27 months before the final peace agreement and 21 months after. In line with our previous robustness checks concerning changes to the sample period, the results are once again unchanged.

5.3 Which Investments are Forgone due to Conflict?

To further understand the changes in investment decisions prompted by the peace agreement, in this section we study the features of the new projects that are pursued in FARC municipalities. Table 4 provides estimates of equation (1) for several relevant characteristics of disbursed loans. Figure 3 shows the corresponding estimates of equation (2) for the main outcomes. Appendix Figure A12 contains the event study plots for additional outcomes.

The dependent variable in column 1 is the average size of disbursed loans. We find a small and statistically insignificant decrease after the peace agreement. This suggests that the new investments in FARC municipalities are comparable in size to those projects that were previously pursued. In columns 2-4, we turn our attention to the maturity of loans. We find that the share of loans with maturity of 3-5 years decreases by 4.8 pp in FARC municipalities after the peace

²²Appendix Table A8 shows that the increase in loan applications after peace is higher in FARC municipalities not included in PDETs, though the difference is not significant. The effect is also concentrated in FARC municipalities that did not host the camps in which FARC cadres initially grouped after demobilizing.

deal, while the share with maturity of 6 years or more increases by 3.8 pp. These are statistically significant and economically meaningful shifts, equivalent to 12-13% of the corresponding sample means. Moreover, the event study plots in panels (a) and (b) of Figure 3 show that these changes coincide with the peace deal in mid-2016. These results suggest that producers predominantly forgo long-term investments due to conflict, which is consistent with the prominent role of uncertainty documented above and with the highly irreversible nature of investment emphasized by the theoretical literature. They also align with previous empirical findings based on surveys (e.g., Arias et al., 2019).

Columns 5-6 next examine the intended use of the loan. BAC classifies loans as providing funding for investment or working capital. In line with the observed increase in loan maturity, column 5 shows a significant increase of 4.7 pp in the share of loans required for investment, which is equivalent to 7% of the sample mean. Panel (c) in Figure 3 shows that this increase also starts soon after the peace negotiations are successfully concluded. In terms of the sectoral allocation of investment, column 6 shows no change in the share of loans destined for agriculture (broadly defined), which remains very close to the sample average of 82%.²³ Appendix Table A12 provides more disaggregate results for the 10 main agricultural destinations. We find that the share of loans corresponding to fruit crops, cocoa, and pig farming increases in FARC municipalities after the peace agreement, while coffee cultivation decreases. Though some of these changes are large relative to the respective sample means, none of them exceeds 1.5 pp, suggesting that peace benefits a diverse set of rural producers.

Column 7 shows that the share of loans with collateral provided by the producer, rather than a government guarantee, increases by 3.3 pp in FARC municipalities after the peace agreement. This increase is also statistically significant and is equivalent to 17% of the sample mean. Panel (d) in Figure 3 shows the corresponding event study plot and provides visual evidence of the temporal coincidence between this shift and the end of the conflict. This suggests that producers are more willing to risk their own assets in pursuit of their new investments after peace.

One plausible alternative explanation is that producers are instead better able to use their own assets as collateral. For instance, the land restitution program implemented under the Victims Bill may have provided producers with improved legal rights over their property. While we cannot rule out that this is a contributing factor, two pieces of evidence suggest that land restitution is not the main driver of the change in collateral. First, as shown in Table 2 above, we do not find a significant difference in the impact of the peace agreement on loan applications between FARC municipalities with high vs low applications for land restitution. Second, a back-of-the-envelope calculation suggests that even if all of the approximately 4,400 land restitution sentences reported by the government between 2011 and 2020 translated into one additional loan, plus a spillover

²³Relatedly, Appendix Table A8 shows no heterogeneity in our main results based on measures of soil quality.

effect equally as large, this would only explain approximately 11% of the observed increase in disbursed loans in FARC municipalities after the agreement.²⁴

Another alternative explanation is that the change in the choice of collateral reflects differences in the composition of the pool of loan applicants. For instance, applicants with higher wealth may be more willing or able to provide their own collateral. We explore potential changes in applicant characteristics in Table 5 and Appendix Figure A13. We find that loan applicants in FARC municipalities exhibit no change in average age or in the average wealth or income that they report in their applications. We do observe a slight increase in the share of female applicants and in the share with secondary education, but these are small in magnitude (close to 2.5% of sample mean) and imprecise (only significant at 10% level). Figure A13 shows a temporary increase in the share of new applicants in the early post-agreement period, in line with evidence by Bernal et al. (2023) on the creation of new formal firms. This effect disappears after two years, suggesting that the long-term increase in applications is driven by previous BAC clients. The corresponding estimate of β_2 in Table 5 is small and insignificant. Overall, there is no evidence of meaningful changes in the composition of the applicant pool. To the extent that these observables can capture risk preferences (e.g., Charness and Gneezy, 2012; Dohmen et al., 2017), this also suggests that changes in risk aversion are not contributing to our findings.

5.4 Are the New Investments Profitable?

In this subsection we explore whether the higher demand for credit observed in FARC municipalities after the 2016 peace agreement translates into profitable investments. Alternatively, exuberant investors may have pursued unprofitable projects amid the excitement of the end of the conflict (Shiller, 2016). We tackle this question from three complementary angles. First, we study potential changes in delinquency rates, which provide information on producers' ability to repay their loans. Second, we examine potential misuse of loans based on the findings from in-person audits of investment sites. Third, we leverage data from an alternative source on night-time luminosity to explore the broader economic impact of the peace agreement.

We present the results on loan outcomes in Table 6 and Figure 4. We first study potential changes in the *ex ante* risk of the new loans in columns 1-2. As discussed above, all applications go through an initial check with a credit bureau, which provides a credit score. Applicants lacking a credit history are fast-tracked for review by a loan officer. This information is only available since July 2012, which explains the smaller sample size. The dependent variable in column 1 corresponds to the share of applications with a previous credit history. In line with our previous

²⁴Column 6 of Table 1 shows an average monthly increase of 2.3 disbursed loans (per 10,000 inh.). There are 281 FARC municipalities in our sample and their average population is 16,000. Given that the agreement period has 78 months until December 2022, the total increase in disbursed loans amounts to approximately 81,000.

finding of no change in the share of new applicants, we find a null impact on this outcome. Column 2 then looks at the average credit score awarded by the credit bureau. The estimate of β_2 suggests a decrease of 2.4 points in the average credit score. This is a very precise but negligible change, equivalent to less than 0.3% of the sample mean. Panel (b) in Figure 4 further shows that this change corresponds to an arbitrary drop in early 2018. We attribute this change to modifications in the implementation of BAC's credit scoring models, as confirmed to us by the bank.

We turn next to delinquency rates. Columns 3-5 provide results for the share of loans that go 30, 60, or 120 days past due. Without any adjustment, these measures can easily be confounded by compositional effects because loans disbursed in earlier sample months are observed over a longer time period and mechanically have a higher chance of failing. We address this problem by restricting both the sample period and the time horizon over which we observe each loan to ensure that we observe all loans under study for the same amount of time, which we set to two years. The estimates of equation 1 indicate that the peace agreement has a null impact on delinquency rates in FARC municipalities. Panel (c) in Figure 4 provides the corresponding visual evidence for the 60 day measure (Appendix Figure A14 provides similar null findings for the other measures).

A plausible alternative explanation for the null impact on delinquency rates is that it conflates offsetting *selection* and *treatment* effects. In particular, if conflict makes all investments riskier due to the threat of violence or extortion, we would expect a decrease in delinquency after the peace agreement. But if projects also differ in their *ex ante* probability of success, which may be imperfectly captured by the credit score, the increase in the demand for credit could be coming from riskier projects that become profitable enough after the peace deal, which would lead to a counteracting increase in delinquency. We consider this possibility in Appendix Table A13, where we use as dependent variable the share of outstanding (rather than new) loans that go 30, 60, or 120 days past due. By focusing on pre-existing loans, we shut down the selection effect and focus exclusively on the potential treatment effect of peace on delinquency. Still, the estimates remain statistically and economically insignificant. An alternative measure based on extended payments after the original loan term provides similar results.

The null impact of the peace agreement on delinquency rates indicates that borrowers are being able to repay the new loans, which suggests that these loans are funding profitable investments. This result is also informative with regard to the characteristics of the investment projects that are forgone due to conflict. Intuitively, producers deem these projects to not be sufficiently profitable. This can happen either because these projects are too risky (i.e., have a low probability of success) or because they have a low return (i.e., the payoff if successful is low).²⁵ To the extent that the

²⁵We illustrate this point using a simple model of investment in Appendix C. The evidence above shows that alternative explanations based on changes in other parameters of the model related to the cost of borrowing or differences in initial wealth or risk aversion find little support in the data.

probability of repaying the loan is positively correlated with the probability of project success, the absence of change in loan delinquency suggests that the projects forgone due to conflict have lower returns but do not differ in their level of risk.

We now consider two alternative measures of the economic impact of the new investment projects. First, we exploit a unique feature of our setting, namely that BAC conducts in-person audits of the investment sites for a subset of its loans. These visits provide first-hand information on the potential misuse of funds.²⁶ On average, 16% of audits reveal some irregularity, ranging from inconsistencies in values or quantities to the complete absence of the investment or an inability to produce receipts. Audit reports usually include scanned receipts and photographic records of the investment, which reduces the risk of collusion. Column 6 of Table 6 shows that the share of audits with evidence of irregularities remains unchanged in FARC municipalities after the peace deal. This confirms that the higher demand for credit in FARC municipalities corresponds to a real increase in physical investment after peace.

Our second measure is based on night-time luminosity. While data on municipal GDP is not available for Colombia, we can use night lights as a proxy for local economic conditions (Henderson et al., 2012). In particular, the Day/Night Band (DNB) from the Visible Infrared Imaging Radiometer Suite (VIIRS) provides granular information on night-time luminosity at a monthly frequency.²⁷ We aggregate the monthly VIIRS data from its original spatial resolution of 740 meters to the municipality level by calculating an area-weighted average across pixels located in the same municipality. Our preferred measure collapses the data from its original monthly periodicity to quarterly averages in order to minimize the impact of measurement error associated with cloud cover and other meteorological events, but we also provide results at the monthly level. We further minimize the volatility of the high-frequency data by winsorizing at the 10% level.

Table 7 provides estimates of equation (1) using log night lights as dependent variable. Since this variable is only available starting in April 2012, we can only compare the post-agreement and negotiations periods and are unable to estimate β_1 . Column 1 corresponds to our preferred specification with the municipality-quarter as unit of observation. We find that night-time luminosity increases by approximately 12% in FARC municipalities after the peace agreement. Figure 5 plots the corresponding estimates of equation (2). Despite some volatility of the estimates during the peace negotiations, we observe a clear and stable increase in lights in FARC municipalities following the final peace agreement. Column 2 verifies that the results are unaffected if we collapse the data to the municipality-month level, which is the unit of observation for our main analysis

²⁶Information from these audits is only available since July 2011. Appendix Table A13 shows that the share of audited loans in FARC municipalities does not change after the peace agreement.

²⁷The VIIRS sensor is mounted on the Suomi satellite launched in 2011. This sensor measures radiance over a large range and has onboard calibration, which ensures that data is comparable over time and across space. VIIRS represents a marked improvement over the widely used DMSP series that preceded it (Gibson et al., 2021).

using BAC data. Appendix Figure A15 provides the corresponding event study plot. Column 3 then shows that the results are robust to a less conservative level of winsorization at the 5% level instead of 10%. If anything, $\hat{\beta}_2$ becomes larger but remains similarly precise. Finally, columns 4 and 5 show that the results are likewise unaffected if we use LASSO to select the optimal bundle of controls or if we use propensity score weighting to address imbalance in predetermined covariates.

The evidence in Table 7 provides robust evidence of an increase in economic activity in FARC municipalities after the peace agreement. Similarly to what happens with the demand for credit, this effect materializes shortly after the successful culmination of the peace negotiations. This temporal coincidence suggests that the increase in night-time lights may reflect the increase in physical investment that we have documented earlier in the paper and suggests a positive economic impact of peace. At the same time, it is also plausible that the night lights are picking up a broader boom in economic activity involving actors other than the small producers who are the focus of our study and perhaps associated with the loosening of restrictions on business hours or mobility. This economic boom could be raising the demand for agricultural products and increasing the returns to investment, thereby contributing to the higher demand for credit that we document above.

6 Concluding Remarks

The main finding of our paper is that the formal peace agreement between the Colombian government and the FARC insurgency in 2016 led to a sizable increase in investment by small agricultural producers operating in municipalities with high FARC exposure. Using a unique dataset from a large bank serving these producers, we make at least four additional important findings. First, we are able to disentangle the demand from the supply of credit and show that the increase in investment is driven by a higher willingness to invest. Second, this increase is concentrated in municipalities with good market access, which suggests that conflict is not the binding constraint on investment in remote rural areas. Third, investment does not increase during the preceding period of peace negotiations despite a large decrease in violence and extortion. This finding suggests that uncertainty is a major deterrent for investment in conflict areas and connects our work to a growing literature on political uncertainty as a hindrance to investment in developed economies. Fourth, the new loans exhibit no meaningful change in rates of delinquency or misuse, which provides evidence against irrational exuberance on the part of borrowers after the end of conflict. Higher night-time luminosity provides further evidence of a positive economic impact of peace.

Our findings also provide several important policy lessons for conflict and post-conflict settings. The null response of investment amid the peace negotiations suggests that reductions in violence are probably necessary but not sufficient to spur investment in conflict areas. Insofar as investment is a fundamental engine of economic growth, this implies that the protracted conflicts

that affect many parts of the world have a substantial economic cost, even if they remain of low intensity. Our results also indicate that the formal cessation of conflict is likely necessary in order to provide a credible signal of commitment to peace, reduce uncertainty, and reap the economic dividend of peace.

The much larger increase in investment that we document in municipalities located close to markets also implies that post-conflict policies should prioritize ensuring adequate market access for areas affected by conflict. This is particularly important given the possibility of war traps that lead to repetitive cycles of poverty and violence (Rohner and Thoenig, 2021). In the absence of these complementary policies, the economic peace dividend may not benefit peripheral areas and could aggravate regional inequality.

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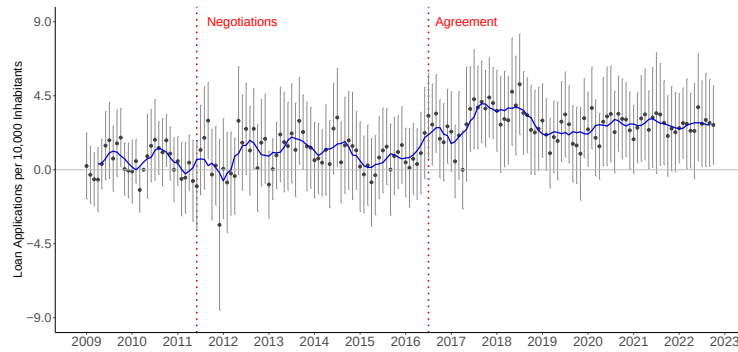
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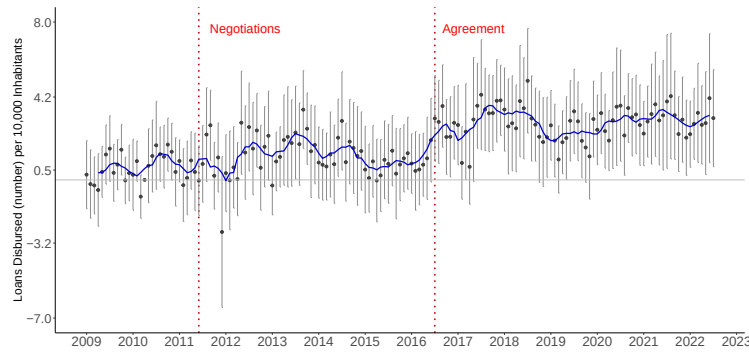
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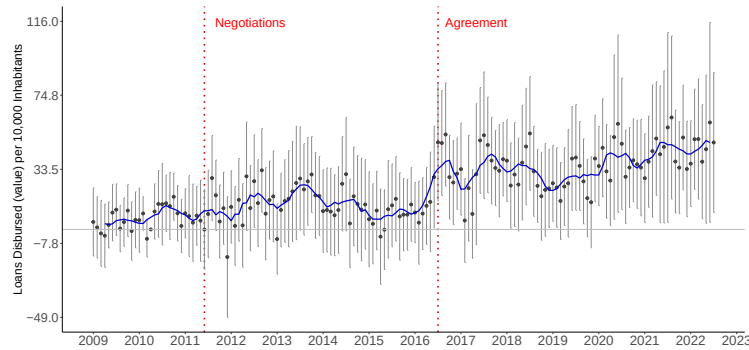
Figure 1: Loan Applications, Disbursements, and Total Credit Value: Event Studies



(a) Loan Applications



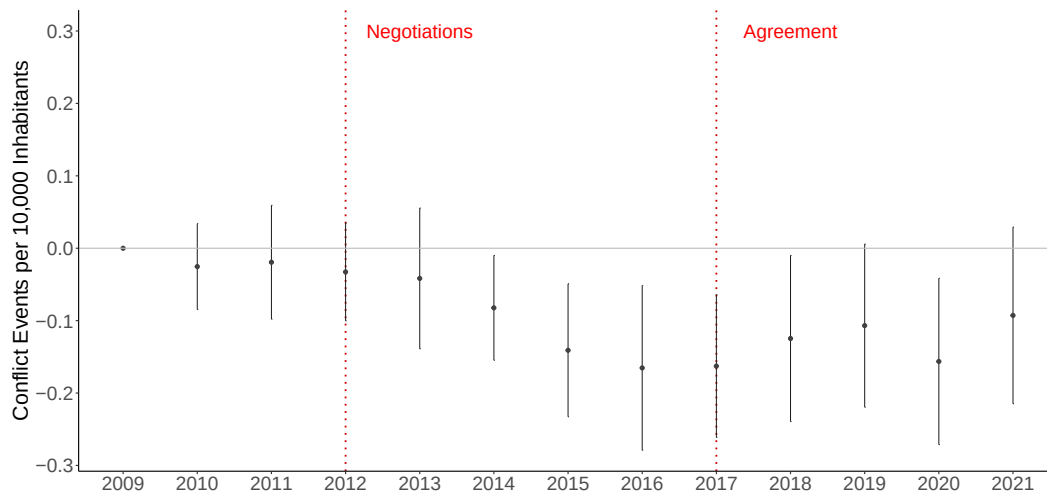
(b) Loans Disbursed



(c) Total Credit Value

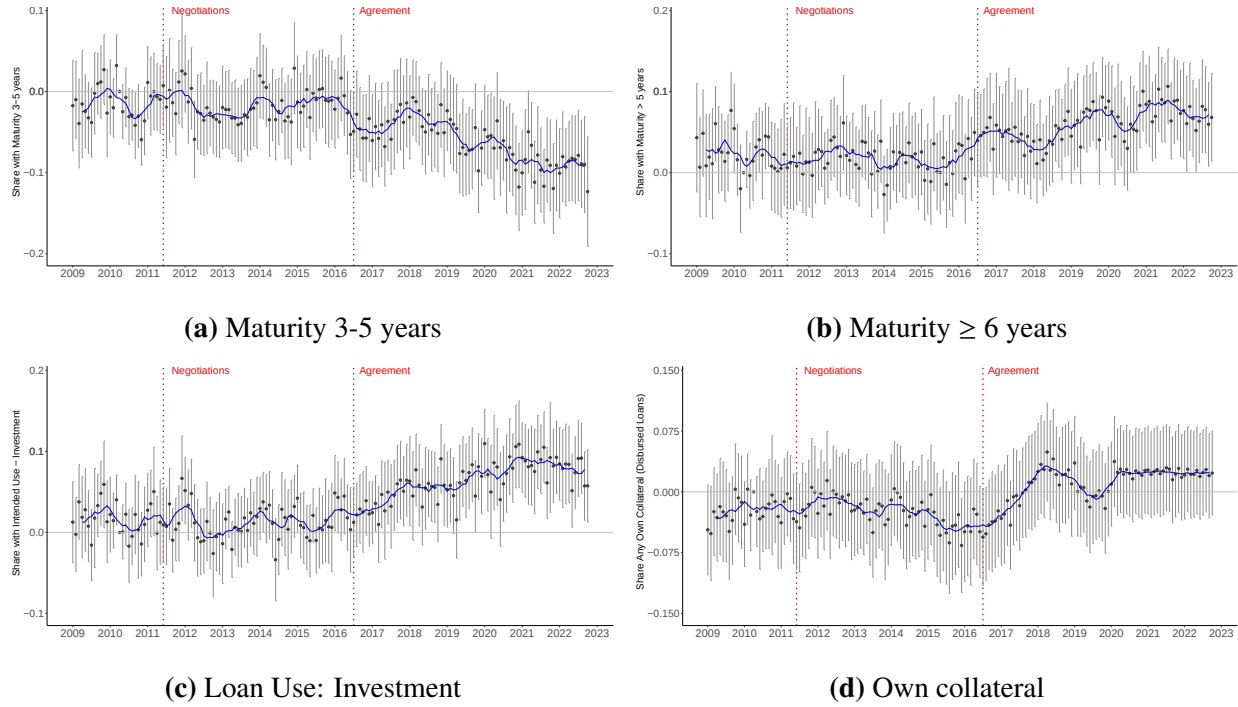
Notes: Panel (a) shows point estimates and 95% confidence intervals from a regression of the number of loan applications per 10,000 inhabitants on month dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996–2008). Panel (b) provides analogous results using as dependent variable the number of loans disbursed per 10,000 inhabitants, while in panel (c) the outcome is the total value of disbursed loans per 10,000 inhabitants (in millions of 2022 COP). Unit of observation: Municipality-month. Regressions include municipality and department-month fixed effects, as well as month dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure 2: Conflict Intensity: Event Study



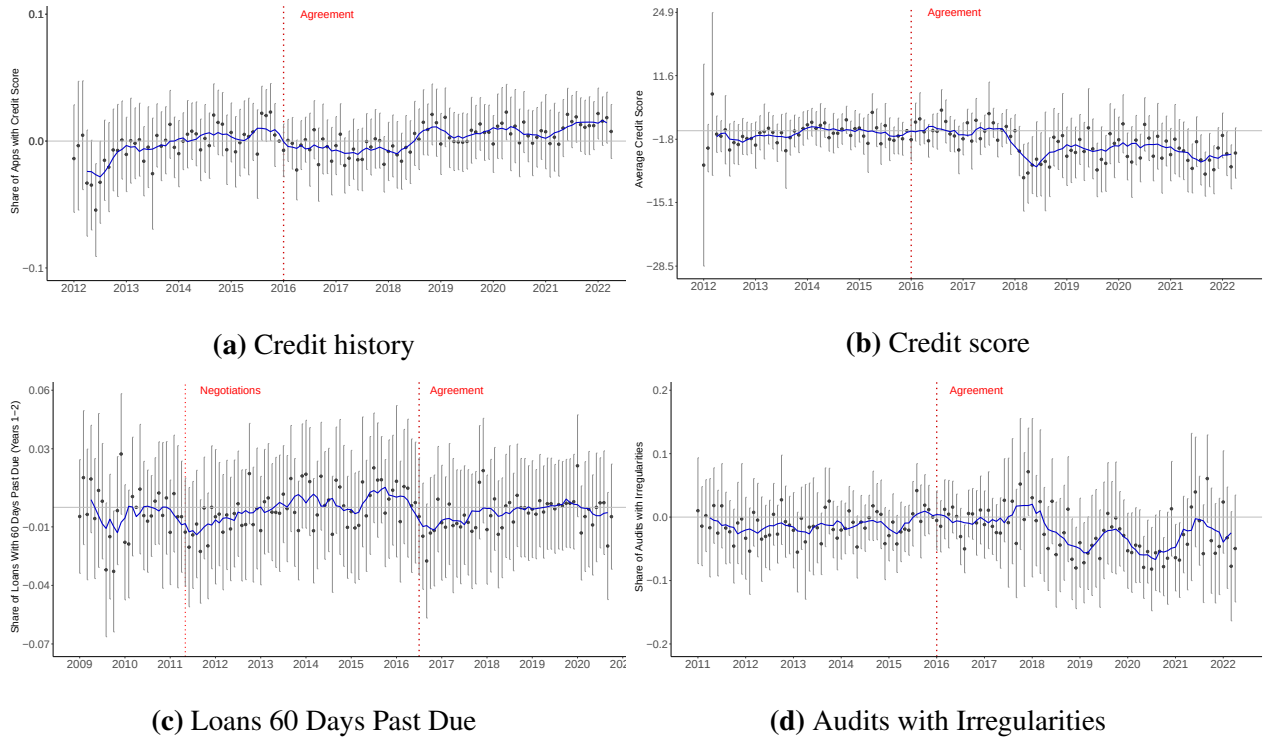
Notes: Figure shows point estimates and 95% confidence intervals from a regression of a conflict index (based on 12 sub-components) on year dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). Unit of observation: Municipality-year. Regression includes municipality and department-year fixed effects, as well as year dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year.

Figure 3: Loan Characteristics: Event Studies



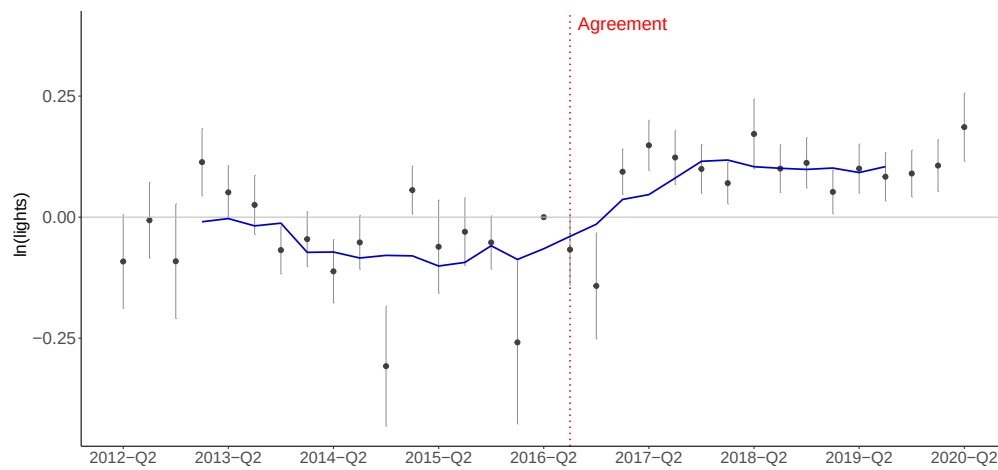
Notes: All panels show point estimates and 95% confidence intervals from a regression of the outcome in the caption on month dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). The dependent variable in panels (a) and (b) is the share of disbursed loans with maturity of 3-5 years or above 5 years. In panel (c), the share of loans destined for investment, as opposed to working capital, while in panel (d) the share of loans with collateral provided by the applicant. Unit of observation: Municipality-month. Sample period: January 2009 - December 2022. Regressions include municipality and department-month fixed effects, as well as month dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure 4: Loan Outcomes: Event Studies



Notes: Panel (a) shows point estimates and 95% confidence intervals from a regression of the share of loan applications with credit history (i.e., initial credit score from credit bureau) on month dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). Panels (b)-(d) provide analogous results using as dependent variable the average credit score from the credit bureau, the share of disbursed loans that reach 60 days past due during their first two years, and the share of inspection visits to investment sites with irregularities. Unit of observation: Municipality-month. The sample period starts in July 2012 in panels (a)-(b) and July 2011 in panel (d) because of data availability, and finishes in December 2020 in panel (c) to ensure we observe all loans for at least two years (i.e., until December 2022). Regressions include municipality and department-month fixed effects, as well as month dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure 5: Night Lights: Event Study



Notes: Figure shows point estimates and 95% confidence intervals from a regression of the log of night-time luminosity on quarter dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). Unit of observation: Municipality-quarter. The dependent variable corresponds to the average of the monthly area-weighted value per municipality, based on data from VIIRS, and is winsorized at the 10% level. Regression includes municipality and department-quarter fixed effects, as well as quarter dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-quarter moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Table 1: Loan Applications and Disbursements

	Application rate					Disbursement rate	
	(1)	(2)	(3)	(4)	(5)	Number	Value
						(6)	(7)
$FARC_i \times Negotiations_t$ [a]			0.450 (0.626)	0.785 (0.609)	0.949 (0.756)	0.591 (0.478)	7.321 (5.617)
$FARC_i \times Agreement_t$ [b]	2.252*** (0.587)	1.972*** (0.522)	2.277*** (0.740)	2.513*** (0.734)	2.622*** (0.837)	2.263*** (0.634)	30.294*** (8.528)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department $\times$ Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	No	Yes	Yes	No	Yes	Yes	Yes
LASSO controls	No	No	No	Yes	No	No	No
Propensity score weights	No	No	No	No	Yes	No	No
Observations	188,496	188,496	188,496	188,496	127,176	188,496	188,496
R-Squared	0.704	0.72	0.72	0.716	0.7	0.715	0.699
Mean DV	18.237	18.237	18.237	18.237	19.496	14.442	146.909
p-value $H_0: [a] = [b]$	-	-	0.000	0.002	0.003	0.000	0.000

Notes: The dependent variable in columns 1-5 is the number of loan applications per 10,000 inhabitants. The dependent variables in columns 6-7 are the number of loans disbursed and the total amount of credit disbursed (in millions of 2022 COP), both expressed per 10,000 inhabitants. Unit of observation: Municipality-month. $FARC_i$ is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. $Negotiations_t$ is a dummy for months between June 2011 and June 2016 (both inclusive). $Agreement_t$ is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. All regressions include municipality and department-month fixed effects. Baseline controls in columns 2, 3, 5-7 are month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Column 4 includes month fixed effects interacted with predetermined controls selected using a LASSO procedure. Column 5 restricts the sample to municipalities in the common support for predicted FARC presence and weights non-FARC observations by a function of their estimated propensity score. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2: Loan Applications: Heterogeneous Effects

	Dependent Variable: Loan Application Rate				
	Access to markets			Share Non-poor	Land Restitution
	Wholesale	Dpt. capital	Bogotá		
	(1)	(2)	(3)	(4)	(5)
$FARC_i \times Negotiations_t$ (Low) [a]	-1.509* (0.781)	-1.046 (0.800)	-0.372 (0.798)	0.370 (0.772)	0.158 (0.828)
$FARC_i \times Negotiations_t$ (High) [b]	2.194** (0.870)	1.928** (0.858)	1.200 (0.919)	0.529 (0.870)	0.814 (0.815)
$FARC_i \times Agreement_t$ (Low) [c]	-0.303 (0.834)	0.601 (0.863)	0.807 (0.831)	1.575** (0.796)	1.834* (1.023)
$FARC_i \times Agreement_t$ (High) [d]	4.573*** (1.106)	3.932*** (1.086)	3.618*** (1.124)	2.962*** (1.115)	2.829*** (0.906)
Municipality FE	Yes	Yes	Yes	Yes	Yes
Department $\times$ Month FE	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes
Observations	188,496	188,496	188,496	188,496	188,496
R- Squared	0.721	0.720	0.720	0.720	0.720
Mean DV	18.237	18.237	18.237	18.237	18.237
p-value $H_0: [c] = [d]$	0.000	0.01	0.037	0.273	0.434
p-value $H_0: [b] = [d]$	0.001	0.007	0.001	0.002	0.002

Notes: The unit of observation is the municipality-month. In all columns, we divide FARC municipalities into two equally-sized groups (i.e., above/below median) based on the variable in the header. We rescale these variables such that higher values correspond to more desirable attributes. In columns 1-3, we use the distance in kilometers to the nearest wholesale market, to the departmental capital or to Bogotá. In column 4, we use the share of the population classified as non-poor based on the index of Unmet Basic Needs (UBN) in the 2005 census. In column 5, we use the total number of applications for land restitution per municipality between 2011 and 2019 (per 10,000 inh. in 2008). $FARC_i$ is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. $Negotiations_t$ is a dummy for months between June 2011 and June 2016 (both inclusive). $Agreement_t$ is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Supply-Side Factors

	BAC branch		Loan Approved	Interest Rate	Application Rate		
	Presence	Distance					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$FARC_i \times Negotiations_t$ [a]	-0.002 (0.004)	0.004 (0.065)		0.083 (0.346)	0.048 (0.035)	0.348 (0.647)	
$FARC_i \times Agreement_t$ [b]	-0.016 (0.010)	0.239 (0.182)	-0.001 (0.003)	0.568 (0.393)	0.168*** (0.043)	2.222*** (0.788)	2.369*** (0.525)
Municipality FE	Yes	Yes	Yes	Yes	No	Yes	Yes
Department $\times$ Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Application-level controls	No	No	Yes	No	No	No	No
Municipality $\times$ Branch FE	No	No	No	No	Yes	No	No
Branch $\times$ Month FE	No	No	No	No	Yes	No	No
PDET $\times$ Month FE	No	No	No	No	No	Yes	No
Presidential terms	All	All	All	All	All	All	Santos II
Observations	188,496	188,496	1,882,921	171,025	3,299,341	188,496	53,856
R- Squared	0.964	0.996	0.111	0.651	0.790	0.725	0.790
Mean DV	0.654	8.574	0.829	10.126	1.042	18.237	18.818
p-value $H_0: [a] = [b]$	0.121	0.129	-	0.058	0.000	0.001	-

Notes: The unit of observation is municipality-month in all columns, except columns 3 (loan application) and 5 (municipality-branch-month). The dependent variable is listed in the column header. In columns 1-2, BAC Branch is a dummy equal to 1 if there is a BAC branch in the municipality or the distance in km to the nearest branch. In column 3, the approval rate is a dummy equal to 1 if the loan is approved (data available since July 2012). The dependent variable in column 4 is the average interest rate among disbursed loans (expressed as percentage points above reference rate DTF). The application rate in columns 5-7 is the number of loan applications per 10,000 inhabitants. The sample in column 5 includes all municipality-branch combinations with non-zero loan applications at some point between 2009 and 2022. In column 6, we interact month fixed effects with separate dummies for each of the 16 sets of municipalities with Regional Development Programs (PDET). $FARC_i$ is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. $Negotiations_t$ is a dummy for months between June 2011 and June 2016 (both inclusive). $Agreement_t$ is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022 in all columns except column 7, where we restrict the sample period to Juan Manuel Santos' second term as president (Aug 2014 - Jul 2018). All regressions include department-month fixed effects. All columns also include municipality fixed effects, except column 5, which includes municipality-branch and branch-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Column 3 includes the following application level controls: Applicant's gender, age, loan amount, intended loan use, credit line, regional headquarter where the loan originates, and both the initial credit score awarded by the credit bureau and the credit score from BAC's own scoring models. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Loan Characteristics

	Average Size	Share w/ Maturity (Years)			Share w/ Intended Use		Share w/ own collateral
		≤ 2	3-5	≥ 6	Investment	Agriculture	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
FARC _i x Negotiations _t [a]	-0.071 (0.146)	0.008 (0.011)	-0.002 (0.010)	-0.006 (0.012)	-0.004 (0.010)	0.005 (0.008)	-0.002 (0.012)
FARC _i x Agreement _t [b]	-0.188 (0.185)	0.011 (0.015)	-0.048*** (0.014)	0.038** (0.015)	0.047*** (0.013)	-0.001 (0.010)	0.033*** (0.012)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department x Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	171,025	171,025	171,025	171,025	171,025	174,731	171,025
R-Squared	0.455	0.554	0.456	0.541	0.522	0.593	0.614
Mean DV	10.167	0.331	0.385	0.285	0.629	0.820	0.200
p-value H ₀ : [a] = [b]	0.42	0.768	0.000	0.000	0.000	0.267	0.001

Notes: The unit of observation is the municipality-month. Observations lacking loan disbursements (applications in column 4) are excluded from the sample. The dependent variable is listed in the column header. The average amount disbursed in column 1 is measured in millions of 2022 COP. The complement to investment in column 5 is working capital. Agriculture in column 6 is broadly defined and includes cultivation of crops, livestock, fishing, and forestry. The dependent variable in column 7 is the share of loans with own collateral. FARC_i is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_t is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_t is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Applicant Characteristics

	All Applicants			Applicants in Scoring Models		
	Share New	Share Female	Average Age	Share w/ Secondary	Average Assets	Average Income
	(1)	(2)	(3)	(4)	(5)	(6)
FARC _{<i>i</i>} x Negotiations _{<i>t</i>} [a]	-0.007 (0.009)	0.006 (0.005)	0.220* (0.132)			
FARC _{<i>i</i>} x Agreement _{<i>t</i>} [b]	0.008 (0.010)	0.011* (0.006)	0.089 (0.159)	0.009* (0.005)	-0.586 (0.524)	-0.052 (0.063)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Department x Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	174,731	174,731	174,728	131,520	131,393	131,393
R-Squared	0.336	0.299	0.283	0.369	0.498	0.525
Mean DV	0.362	0.416	44.623	0.368	61.697	4.119
p-value H ₀ : [a] = [b]	0.041	0.258	0.228	-	-	-

Notes: The unit of observation is the municipality-month. Observations lacking loan applications are excluded from the sample. The sample period in columns 1-3 is January 2009 to December 2022. The sample period in columns 4-6 is July 2012 to December 2022 due to limited data availability from scoring models. The dependent variable is listed in the column header. In column 1, new applicants are defined as not having applied for a loan between January 2005 and the month the application is observed. Applicants' mean assets and annual income in columns 5 and 6 are measured in millions of 2022 COP. FARC_{*i*} is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_{*t*} is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_{*t*} is a dummy for months on or after July 2016. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: Loan Outcomes

	Credit History	Credit Score	Share of Delinquent Loans			Audits w/ Irregularities
	(1)	(2)	30 days	60 days	120 days	(6)
FARC _i × Negotiations _t [a]			0.006 (0.004)	0.003 (0.004)	0.001 (0.003)	
FARC _i × Agreement _t [b]	0.006 (0.005)	-2.403*** (0.805)	0.002 (0.005)	-0.004 (0.004)	-0.002 (0.003)	-0.009 (0.008)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Department × Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Sample start (MM/YY)	07/12	07/12	01/09	01/09	01/09	07/11
Sample end (MM/YY)	12/22	12/22	12/20	12/20	12/20	12/22
Observations	131,393	130,746	145,861	145,861	145,861	91,810
R-Squared	0.368	0.893	0.305	0.293	0.278	0.230
Mean DV	0.893	863.121	0.098	0.072	0.057	0.164
p-value H ₀ : [a] = [b]	-	-	0.130	0.227	0.127	-

Notes: The unit of observation is the municipality-month. The dependent variable is listed in the column header. Observations lacking loan applications in column 1, loan applications with credit score in column 2, disbursed loans in columns 3-5, or inspection visits in column 6 are excluded from the sample. Credit history in column 1 is the share of applications with an initial credit score from the credit bureau. Credit score in column 2 ranges from 0 to 1,000 and corresponds to the initial score awarded by the credit bureau. Columns 3-5 calculate the share of disbursed loans per municipality-month that go 30, 60 or 120 days past due within their first two years (or less if shorter maturity). In column 6, the outcome is the share of inspection visits in which the officer found any irregularity. FARC_i is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_t is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_t is a dummy for months on or after July 2016. Data from BAC's scoring models is only available since July 2012 (columns 1-2), while data on audits is only available since July 2011 (column 6). In columns 3-5, the sample period is adjusted to ensure we observe all loans for the same number of months. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Night Lights

	Dependent variable: Log Night-time Luminosity				
	(1)	(2)	(3)	(4)	(5)
$FARC_i \times Agreement_t$	0.119*** (0.019)	0.125*** (0.020)	0.169*** (0.026)	0.116*** (0.019)	0.090*** (0.021)
Municipality FE	Yes	Yes	Yes	Yes	Yes
Department $\times$ Time FE	Yes	Yes	Yes	Yes	Yes
Time unit	Quarter	Month	Quarter	Quarter	Quarter
Winsorizing (%)	10	10	5	10	10
Baseline controls	Yes	Yes	Yes	No	No
LASSO controls	No	No	No	Yes	No
Propensity score weights	No	No	No	No	Yes
Observations	48,236	144,708	48,236	48,236	32,541
R-Squared	0.959	0.915	0.942	0.959	0.932
Mean DV	-1.102	-1.265	-1.169	-1.102	-1.102

Notes: The dependent variable in all columns is the natural logarithm of night-time luminosity. Source: VIIRS. Sample period: April 2012- December 2022. The unit of observation is municipality-quarter in all columns except column 2 (municipality-month). We winsorize the dependent variable at the 10% level in all columns except column 3 (5%). $FARC_i$ is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. $Agreement_t$ is a dummy for months on or after July 2016. All regressions include municipality and department-time fixed effects. Baseline controls in columns 1-3 are month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Column 4 includes month fixed effects interacted with predetermined controls selected using a LASSO procedure. Column 5 restricts the sample to municipalities in the common support for predicted FARC presence and weights non-FARC observations by a function of their estimated propensity score. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix (for online publication)

UNCERTAINTY, PEACE, AND INVESTMENT: EVIDENCE FROM CREDIT MICRODATA IN COLOMBIA

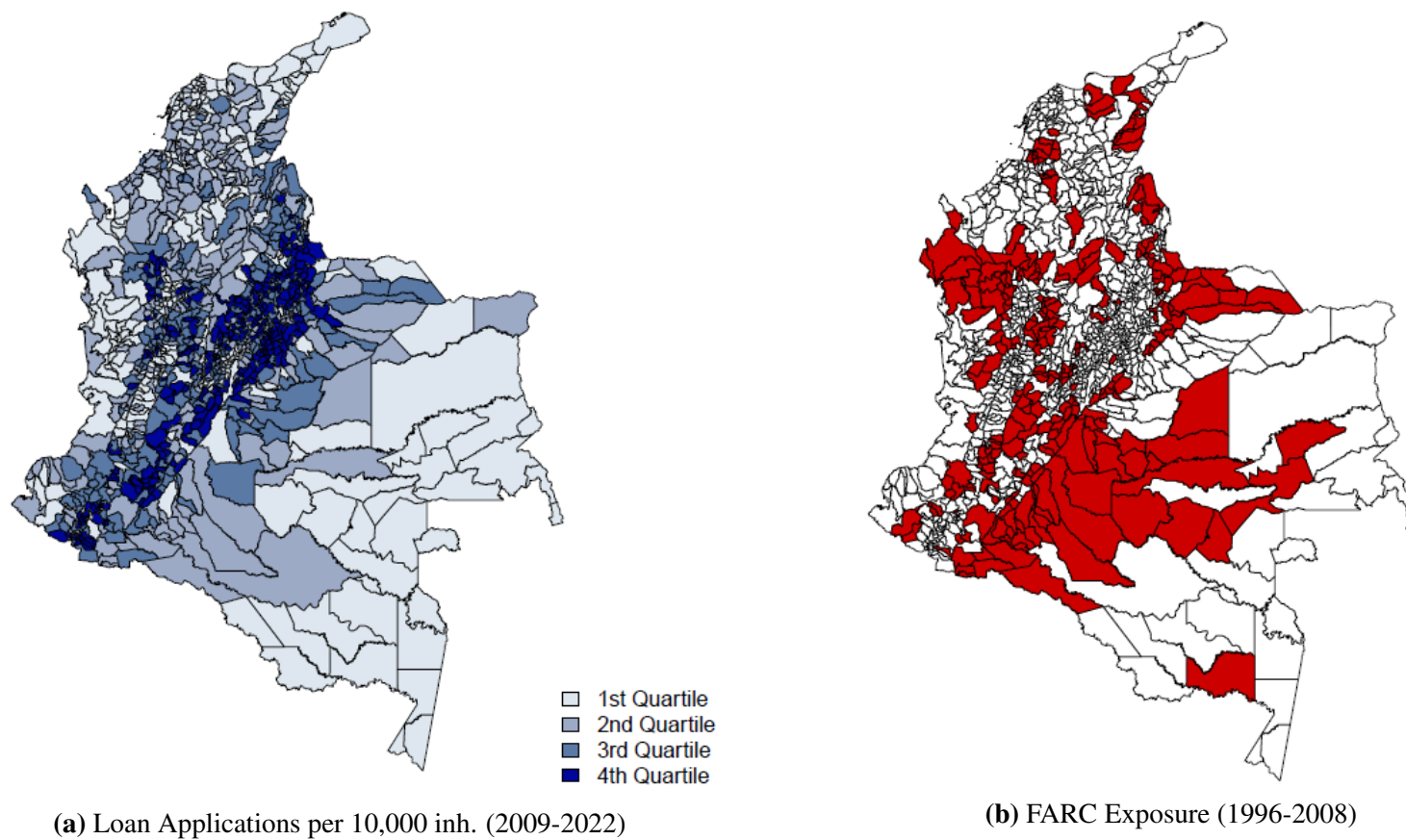
Authors: Nicolás de Roux and Luis R. Martínez

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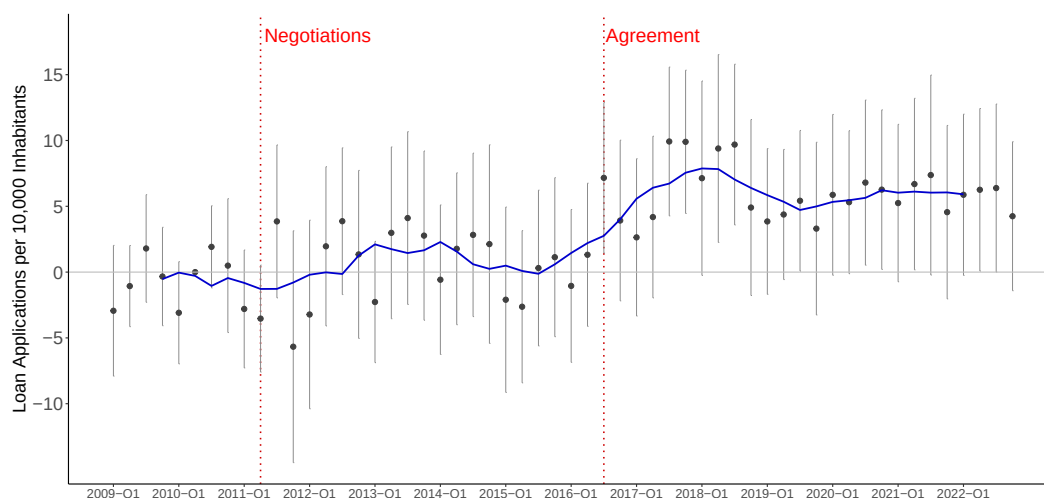
A Additional Figures and Tables

Figure A1: Aggregate Loan Applications and FARC Exposure



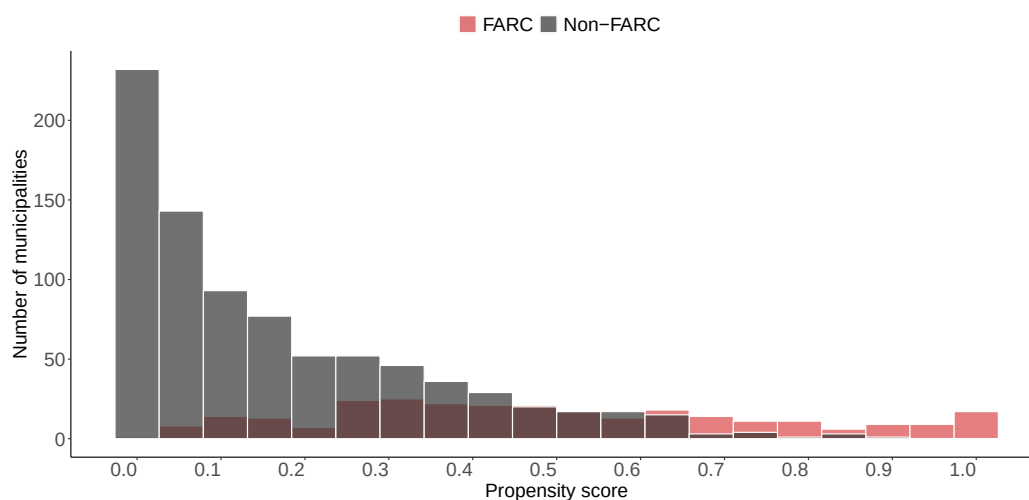
Notes: Panel (a) shows quartiles of the distribution of total loan applications to BAC per 10,000 inhabitants in the period 2009-2022. Panel (b) shows the municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008.

Figure A2: Loan Applications: Event Study (Municipality-Quarter Level)



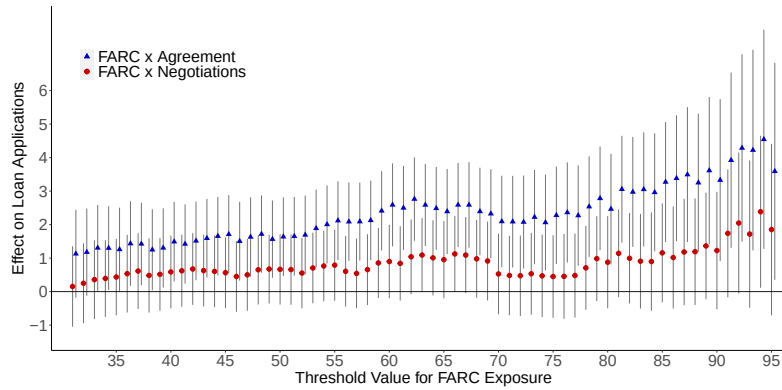
Notes: Figure shows point estimates and 95% confidence intervals from a regression of the number of loan applications per 10,000 inhabitants on quarter dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). Unit of observation: Municipality-quarter. Regression includes municipality and department-quarter fixed effects, as well as quarter dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-quarter moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure A3: Distribution of Propensity Scores for FARC Exposure



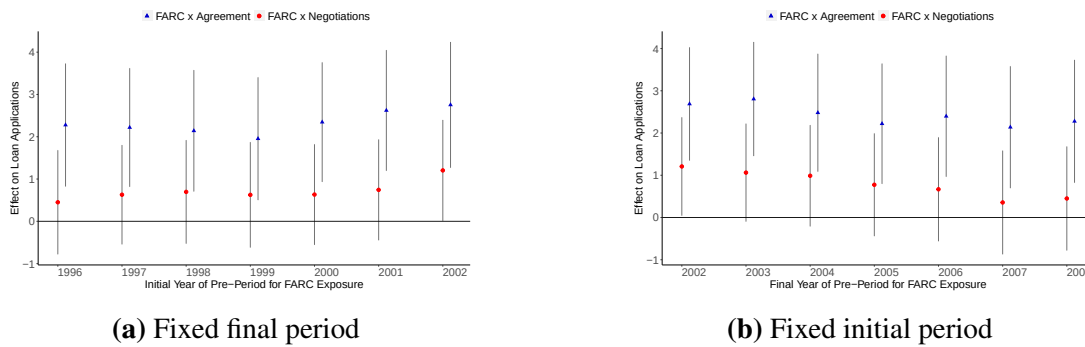
Notes: Figure shows the distribution of propensity scores for FARC exposure, disaggregated by actual exposure. FARC exposure takes a value of one for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. The propensity scores are fitted values from a Probit regression of FARC exposure on 23 pre-determined municipal characteristics and department fixed effects, shown in Table A3. The common support ranges from 0.05 to 0.75 and includes 757 municipalities.

Figure A4: Loan Applications: Different Threshold for FARC Exposure



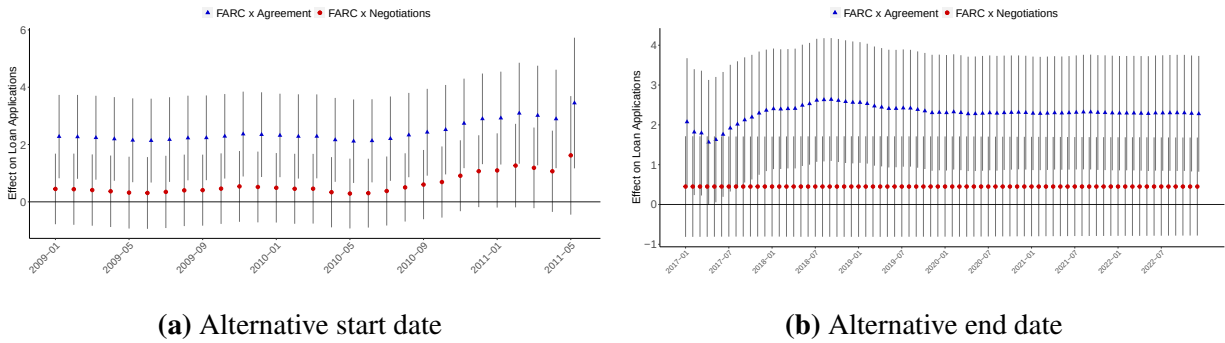
Notes: Figure shows point estimates and 95% confidence intervals from separate regressions of the monthly number of loan applications per 10,000 inhabitants on the interaction of a dummy for FARC exposure with separate dummies for the negotiations and agreement periods (i.e., our main specification). FARC exposure takes a value of one for municipalities above the percentile in the x-axis of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008 (baseline = 75th percentile). Negotiations_{*t*} is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_{*t*} is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. The unit of observation is the municipality-month. All regressions include municipality and department-month fixed effects, as well as additional sets of month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors are clustered two-way by municipality and department-year.

Figure A5: Loan Applications: Different Periods of FARC Exposure



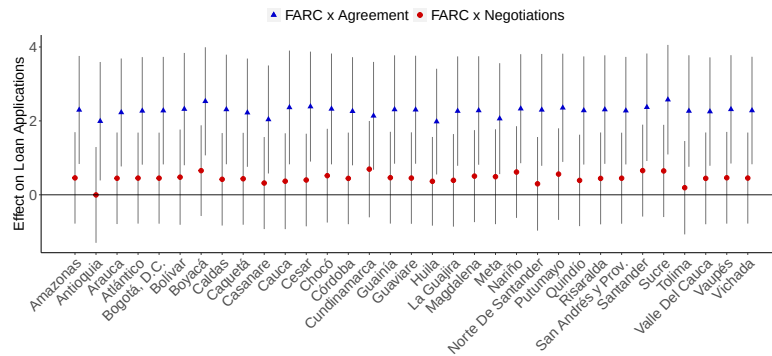
Notes: Figures show point estimates and 95% confidence intervals from separate regressions of the monthly number of loan applications per 10,000 inhabitants on the interaction of a dummy for FARC exposure with separate dummies for the negotiations and agreement periods (i.e., our main specification). In panel (a), FARC exposure takes a value of one for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between the year in the x-axis and 2008. In panel (b), this period starts in 1996 and ends on the year in the x-axis. Negotiations_{*t*} is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_{*t*} is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. The unit of observation is the municipality-month. All regressions include municipality and department-month fixed effects, as well as additional sets of month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors are clustered two-way by municipality and department-year.

Figure A6: Loan Applications: Alternative sample periods



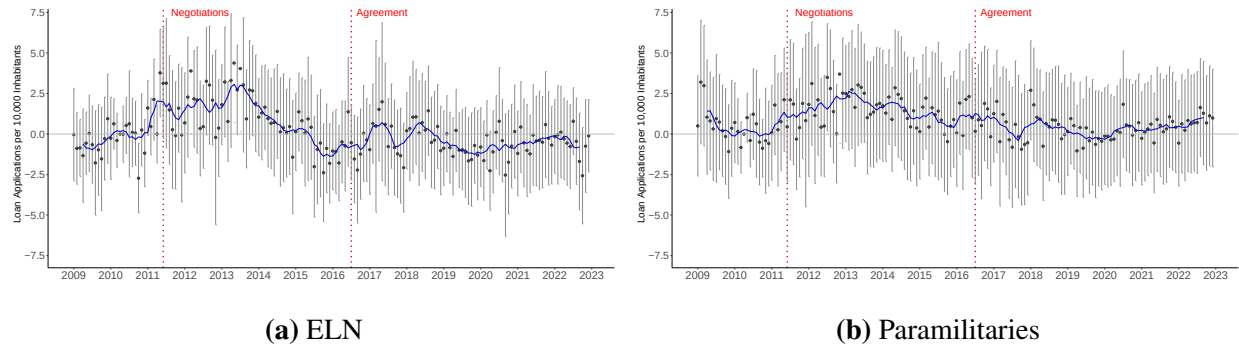
Notes: Panel (a) shows point estimates and 95% confidence intervals from separate regressions in which the initial month in the sample is indicated in the x-axis, while keeping December 2022 as the final month. Panel (b) provides analogous information for alternative end dates, keeping January 2009 as start date. The dependent variable is the monthly number of loan applications per 10,000 inhabitants. The regressors of interest are the interaction of a dummy for FARC exposure with separate dummies for the negotiations and agreement periods (i.e., our main specification). FARC exposure takes a value of one for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_{*t*} is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_{*t*} is a dummy for months on or after November 2016. The unit of observation is the municipality-month. All regressions include municipality and department-month fixed effects, as well as additional sets of month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors are clustered two-way by municipality and department-year.

Figure A7: Loan Applications: Removing One Department



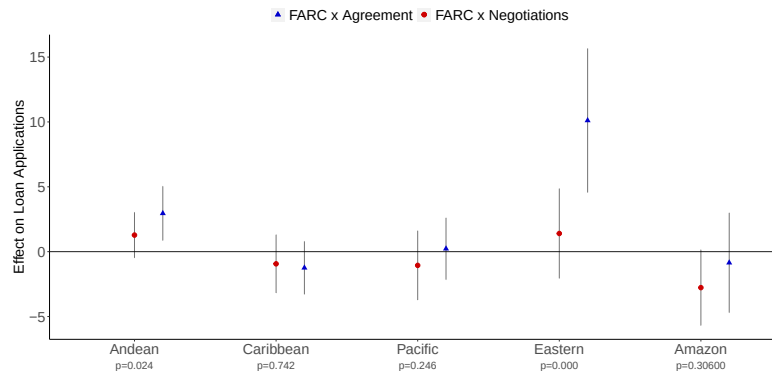
Notes: Figure shows point estimates and 95% confidence intervals from separate regressions excluding the department in the x-axis from the sample. The dependent variable is the monthly number of loan applications per 10,000 inhabitants. The regressors of interest are the interaction of a dummy for FARC exposure with separate dummies for the negotiations and agreement periods (i.e., our main specification). FARC exposure takes a value of one for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_{*t*} is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_{*t*} is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. The unit of observation is the municipality-month. All regressions include municipality and department-month fixed effects, as well as additional sets of month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors are clustered two-way by municipality and department-year.

Figure A8: Loan Applications: Other armed groups

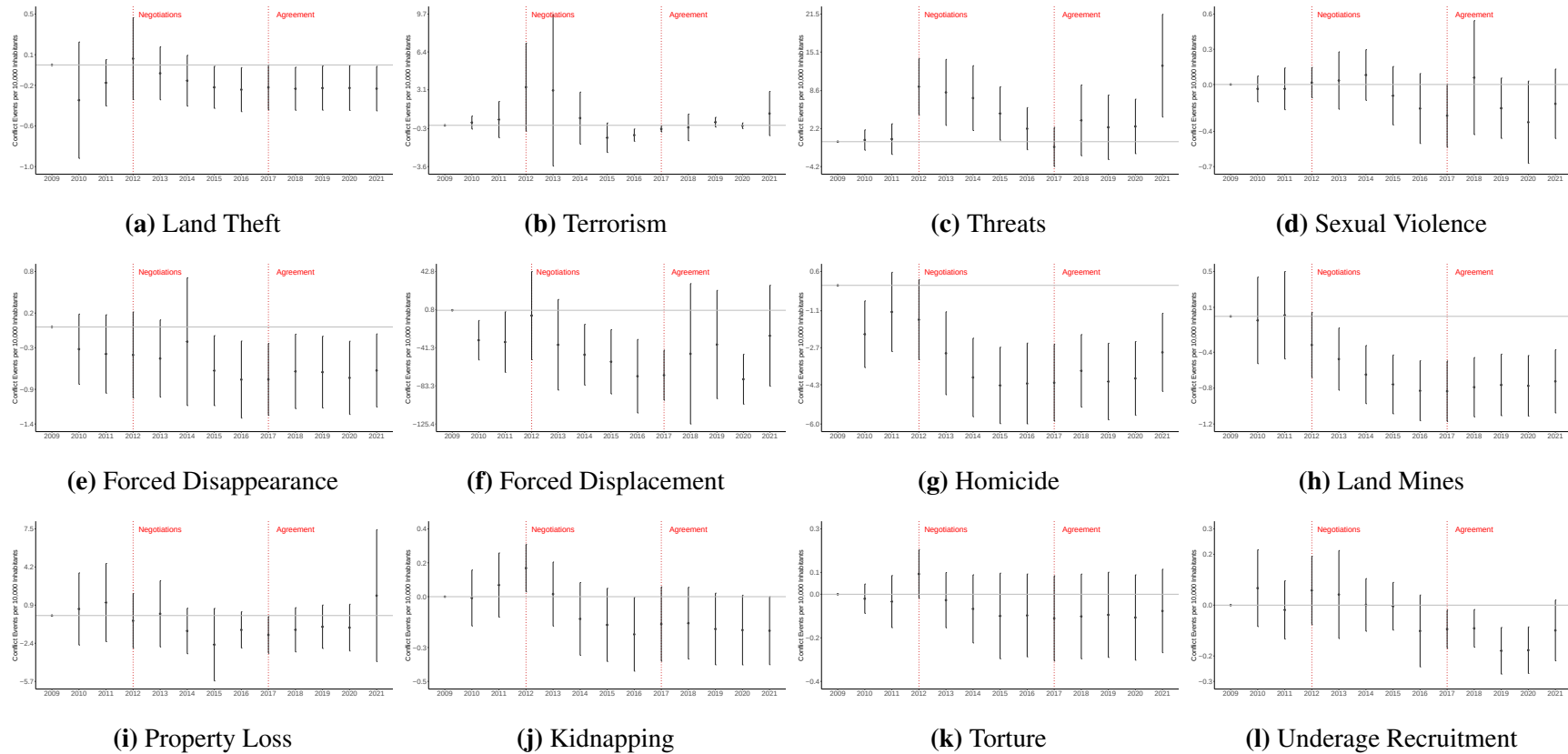


Notes: Panel (a) shows point estimates and 95% confidence intervals from a regression of the number of loan applications per 10,000 inhabitants on month dummies interacted with an indicator for ELN municipalities (i.e., upper quartile of the distribution of total ELN events per 10,000 inhabitants between 1996-2008). In panel (b) we use instead an analogous indicator for municipalities in the upper quartile of the distribution of total paramilitary events per 10,000 inhabitants between 1996-2008. We set both of these measures equal to zero when they coincide with our indicator for FARC municipalities. Unit of observation: Municipality-month. Sample period: January 2009 - December 2022. Regressions include municipality and department-month fixed effects, as well as month dummies interacted with pre-determined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure A9: Heterogeneous Effects: Geographical Regions

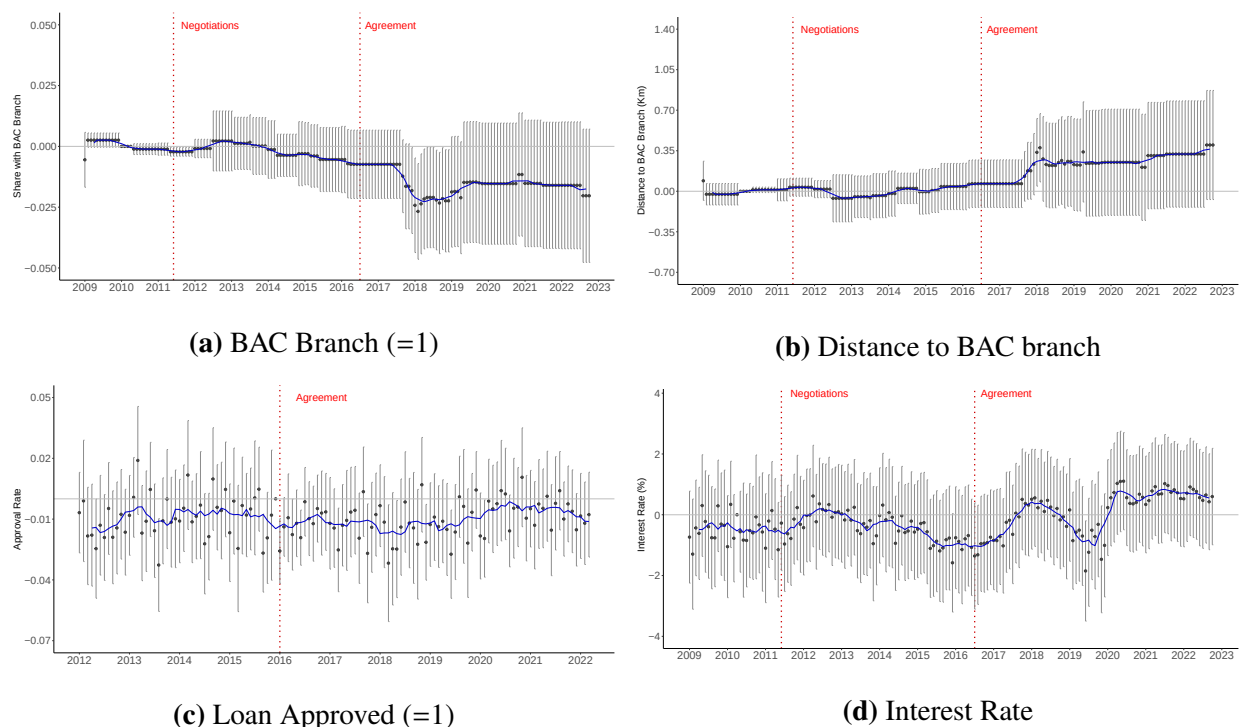


Notes: This figure shows point estimates and 95% confidence intervals from a regression with the loan application rate per 10,000 inhabitants as dependent variable. Municipalities are classified according to their geographical region. The regressors of interest are the interaction of a dummy for FARC exposure (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008) with separate dummies for the negotiations and agreement periods and separate dummies for each geographical region. The unit of observation is municipality-month. The regression includes municipality and department-month fixed effects, as well as additional sets of month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The p-value shown in the x-axis corresponds to the null hypothesis of equal effects during the negotiation and agreement periods for each region. Standard errors are clustered two-way by municipality and department-year.

Figure A10: Disaggregate Conflict Events: Event Studies

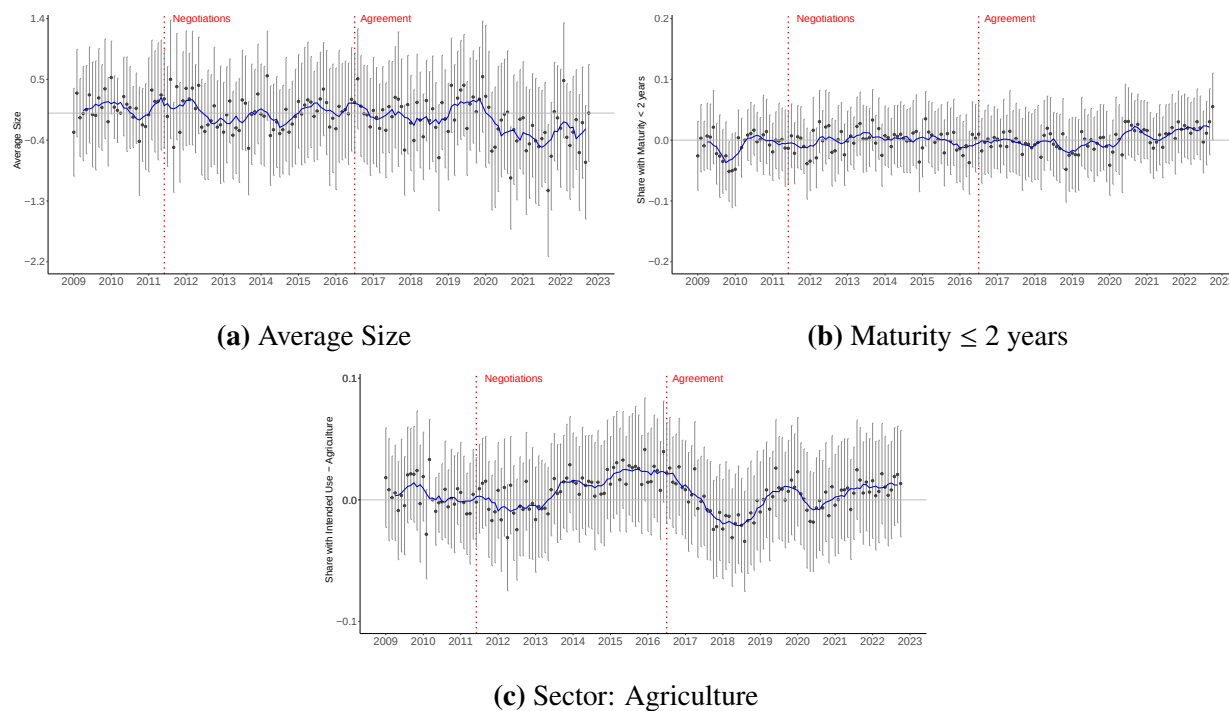
Notes: All panels show point estimates and 95% confidence intervals from a regression of the outcome in the caption on year dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). All outcomes are measured as the number of events per 10,000 inhabitants. Unit of observation: Municipality-year. Regressions include municipality and department-year fixed effects, as well as year dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year.

Figure A11: Supply-Side Factors: Event Study



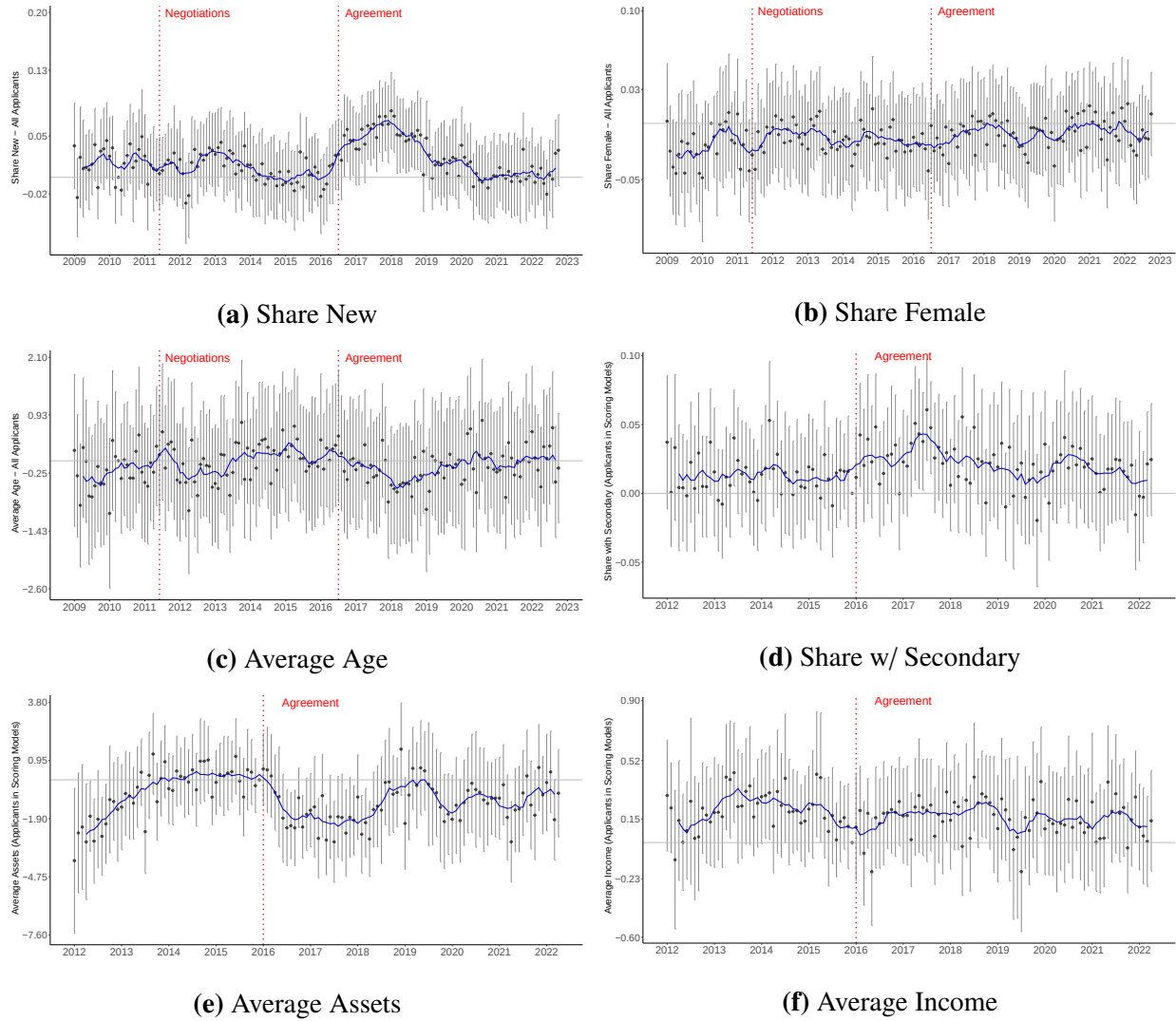
Notes: Panel (a) shows point estimates and 95% confidence intervals from a regression of a dummy for presence of a BAC branch on month dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). Panels (b)-(d) provide analogous results using as dependent variable the distance in km to the nearest BAC branch, a dummy if the loan was approved, and the average interest rate in the municipality (expressed as percentage points above reference rate DTF). In panels (a), (b), and (d) the unit of observation is municipality-month and the sample period is January 2009 - December 2022. In panel (c), the unit of observation is a loan application and the sample period is July 2012 - December 2022. Regressions include municipality and department-month fixed effects, as well as month dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Additional application-level controls in panel (c) include the applicant's gender, intended use of loan, credit line, regional headquarter where the loan originates, and both the initial credit score awarded by the credit bureau and the credit score from BAC's own scoring models. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure A12: Loan Characteristics: Additional Event Studies



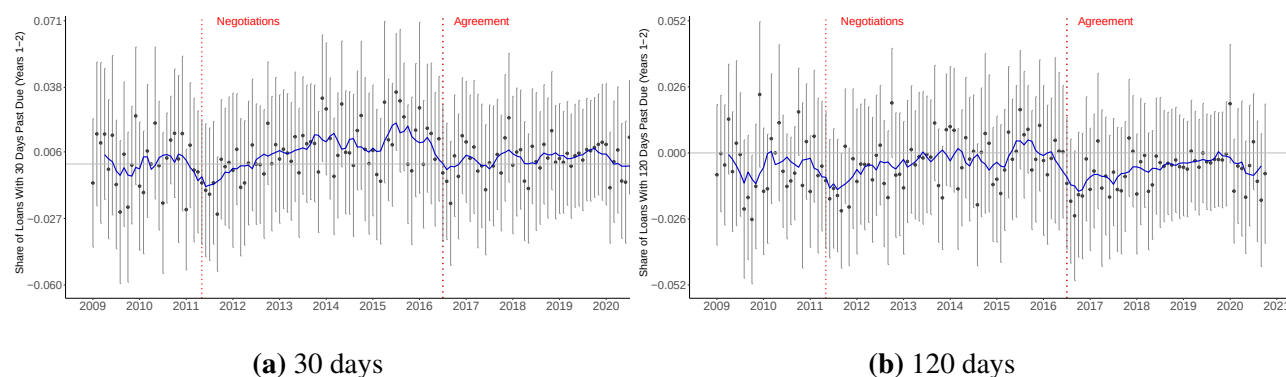
Notes: All panels show point estimates and 95% confidence intervals from a regression of the outcome in the caption on month dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). The dependent variable in panel (a) is the average amount of disbursed loans (in millions of 2022 COP). In panel (b), the share of disbursed loans with maturity below 2 years. In panel (c), the share of loans destined for agriculture (cultivation of crops, livestock, fishing, and forestry). Unit of observation: Municipality-month. Sample period: January 2009 - December 2022. Regressions include municipality and department-month fixed effects, as well as month dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure A13: Applicant Characteristics: Event Studies



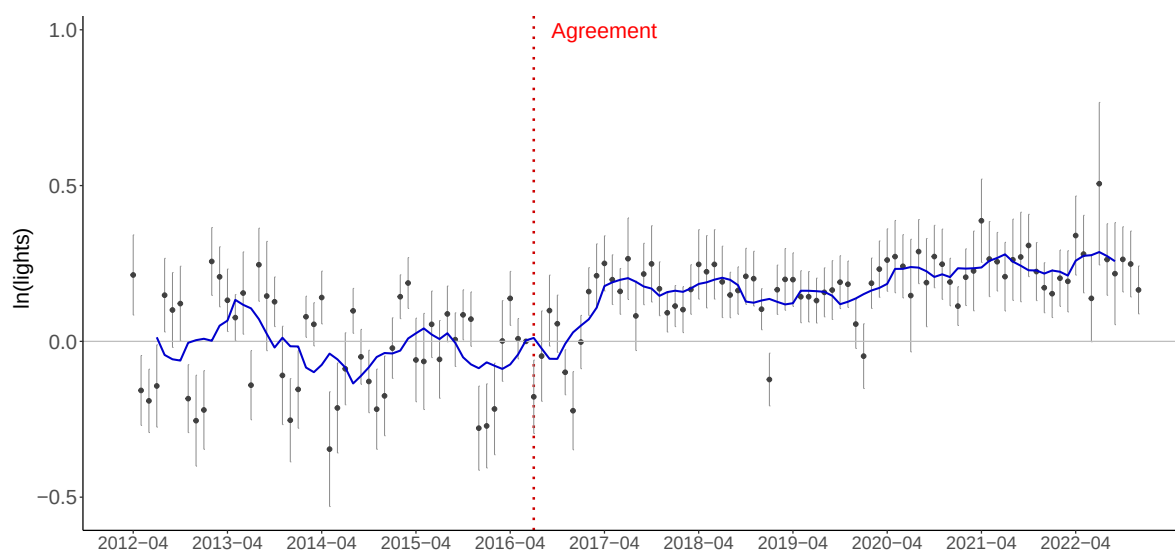
Notes: All panels show point estimates and 95% confidence intervals from a regression of the outcome in the caption on month dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). The dependent variable in panel (a) is the share of applicants that had not previously applied for a loan (since January 2005). In panels (b) and (d), the respective shares of applicants that are female or that have secondary education or higher. In panels (c), (e) and (f), the average age, assets, and income of applicants (assets and income in millions of 2022 COP). Unit of observation: Municipality-month. The sample period in panels (a)-(c) is January 2009 to December 2022, while in panels (d)-(f) it is July 2012 to December 2022 due to limited data availability from scoring models. Regressions include municipality and department-month fixed effects, as well as month dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure A14: Delinquent Loans: Event Study



Notes: Panels show point estimates and 95% confidence intervals from a regression of the share of disbursed loans that reach 30 or 120 days past due during their first two years, respectively, on month dummies interacted with an indicator for FARC municipalities (i.e., upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996-2008). Unit of observation: Municipality-month. The sample period finishes in December 2020 to ensure we observe all loans for at least two years (i.e., until December 2022). Regressions include municipality and department-month fixed effects, as well as month dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Figure A15: Night-Time Luminosity: Event Study (Municipality-Month Level)



Notes: This figure shows point estimates and 95% confidence intervals from a regression of the log of night-time luminosity at the municipality-month level. Markers correspond to point estimates for monthly dummies interacted with an indicator for municipalities with FARC exposure (i.e., in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008). The unit of observation is the municipality-month. The source of the night-time lights data is VIIRS. The regression includes municipality and department-month fixed effects, as well as additional sets of month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. The solid line depicts a centered six-month moving average of the point estimates. Standard errors are clustered two-way by municipality and department-year.

Table A1: Summary Statistics

	Mean	Median	St. Dev.	Obs
<i>Panel A. Loan Applications</i>				
Applications per 10,000 inhabitants	18.237	12.575	19.174	188,496
Share agricultural	0.820	0.917	0.229	174,731
Share investment	0.628	0.666	0.295	171,025
Average size	10.356	9.892	5.609	174,731
Share w/ credit history	0.893	0.933	0.143	131,393
Average credit score	863.121	902.375	86.876	130,746
<i>Panel B. Disbursed Loans</i>				
Loans disbursed per 10,000 inhabitants	14.442	9.280	16.191	188,496
Average amount disbursed	10.167	9.673	4.338	171,025
Total amount disbursed per 10,000 inhabitants	146.909	86.401	185.252	188,496
Average interest rate	10.126	6.636	8.066	171,025
Share government guarantee	0.801	0.962	0.284	171,025
Share maturity ≤ 2 years	0.331	0.282	0.296	171,025
Share maturity 3-5 years	0.385	0.333	0.287	171,025
Share maturity ≥ 5 years	0.285	0.200	0.290	171,025
<i>Panel C. Loan Outcomes</i>				
Share of audits with irregularities	0.164	0.000	0.269	91,810
Share 30 days overdue (new loans)	0.098	0.053	0.147	145,861
Share 60 days overdue (new loans)	0.072	0.015	0.127	145,861
Share 120 days overdue (new loans)	0.057	0.000	0.114	145,861
<i>Panel D. Applicants</i>				
Share new clients	0.362	0.333	0.227	174,731
Share female	0.416	0.419	0.206	174,731
Average age	44.623	44.286	5.350	174,728
Share with secondary education	0.368	0.350	0.221	131,520
Average assets	61.697	61.220	15.017	131,393
Average income	4.119	3.429	2.187	131,393

Notes: The unit of observation is the municipality-month. **Panel A:** Applications per 10,000 inhabitants refers to the number of loan applications with intended destination to the municipality, normalized by population in 2008. Agricultural loans include cultivation of crops, livestock, fishing, and forestry. Average loan size is measured in millions of 2022 COP. **Panel B:** Average amount disbursed and total amount disbursed are measured in millions of 2022 COP. The average interest rate is defined as percentage points above reference rate DTF. Government guarantees include FAG and FNG. **Panel C:** Outcomes include the share of disbursed loans that go 30, 60 or 120 days past due within the first two years after disbursement. Loans with audits had an in-person inspection visit from a BAC officer. Visits with any irregularity are those in which the officer found any discrepancy in the use of the funds. **Panel D:** New clients are defined as having never applied for a loan at BAC between 2005 and the month of the application. Share with secondary is defined as the percentage of clients whose highest degree of education is secondary or higher. Applicant's average assets and yearly income are measured in millions of 2022 COP.

Table A2: Location of death or capture of FARC commanders

Name or nom de guerre	Municipality	Department	FARC
(1)	(2)	(3)	(4)
Jacobo Arenas	La Uribe	Meta	1
Alfonso Cano	Sucre	Cauca	0
Mono Jojoy	La Macarena	Meta	1
Ivan Ríos	Sonsón	Antioquia	1
Nergo Acacio	Barrancominas	Guainía	1
Martín Caballero	Carmen de Bolívar	Bolívar	1
Karina	Argelia	Antioquia	1
Mariana Paez	San Juan	Cundinamarca	1
Mayerly	Planadas	Tolima	1
Alirio Rojas Bocanegra	Rio Blanco	Tolima	1
Simón Bernate	Natagaima	Tolima	1
Jerónimo Galeano	Palermo	Huila	0
Duver	Ovejas	Sucre	1
Hugo Sandoval Ruiz	Meseta	Meta	1
José Nerup Reyes Peña	Mesetas	Meta	1
Guillermo Roquemes Díaz	El Roble	Sucre	1
Jhon Martínez Ortega	Ataco	Tolima	1
Hernando Jimenez Ilivar	Fortul	Arauca	1

Notes: This table lists the municipality and department of death or capture for FARC commanders. The rightmost column shows the value of our binary measure of FARC exposure for each municipality. This measure corresponds to the top quartile of aggregate events per 10,000 inhabitants between 1996 and 2008.

Table A3: Municipal Characteristics and FARC Exposure

	Mean		P-value (1) = (2)	LASSO	Probit	N
	FARC=0	FARC=1				
	(1)	(2)	(3)	(4)	(5)	(6)
Population (× 1,000)	47.439	16.208	0.001	0	-0.010***	1122
Altitude (meters)	1148.369	1116.872	0.761	0	0.0002**	1122
Area (hectares × 1,000)	88.052	142.785	0.007	0	-0.0001	1122
1(Departmental capital)	0.037	0.007	0.000	0	-0.612	1122
Rural share of population	0.560	0.638	0.000	1	0.5	1122
1(BAC branch)	0.600	0.730	0.000	1	0.372**	1122
Distance to nearest BAC branch (Km)	9.227	8.046	0.458	0	0.001	1122
Distance to departmental capital (Km)	80.712	83.690	0.431	0	-0.001	1122
Distance to nearest wholesale market (Km)	131.839	124.394	0.262	0	-0.005***	1122
Distance to Bogotá (Km)	324.964	311.342	0.250	0	0.003***	1122
Literacy rate	84.570	81.726	0.000	0	-0.017*	1122
Infant mortality rate	22.999	25.948	0.000	0	0.006	1122
Coffee cultivation (share of area)	0.007	0.006	0.051	0	-5.98	1122
Corn cultivation (share of area)	0.004	0.002	0.000	1	-16.387	1122
Rice cultivation (share of area)	0.002	0.001	0.009	0	-27.090**	1122
Sugar cane cultivation (share of area)	0.005	0.002	0.001	1	-5.661	1122
Banana cultivation (share of area)	0.003	0.002	0.000	1	-56.000***	1122
Oil palm cultivation (share of area)	0.001	0.000	0.011	0	-37.175*	1122
Yucca cultivation (share of area)	0.001	0.001	0.011	0	-21.261	1122
Potato cultivation (share of area)	0.003	0.000	0.000	1	-106.154***	1122
Cacao cultivation (share of area)	0.000	0.001	0.379	0	9.781	1122
Beans cultivation (share of area)	0.001	0.001	0.160	0	-0.795	1122
Coca cultivation (share of area)	0.000	0.001	0.000	1	150.828***	1122
1(Andean Region)	0.566	0.544	0.531	-	-	1122
1(Caribbean Region)	0.200	0.103	0.000	-	-	1122
1(Pacific Region)	0.166	0.135	0.196	-	-	1122
1(Eastern Region)	0.036	0.103	0.001	-	-	1122
1(Amazon Region)	0.032	0.114	0.000	-	-	1122
Unmet basic needs index	42.805	51.276	0.000	N/A	N/A	1114
Multidimensional poverty index	67.712	74.647	0.000	N/A	N/A	1113
Land informality	0.181	0.280	0.000	N/A	N/A	948
GINI index	0.718	0.681	0.000	N/A	N/A	957
Imputed GDP per capita	7.190	6.467	0.028	N/A	N/A	1053
Municipal spending per capita	0.261	0.238	0.000	N/A	N/A	1043
Municipal revenue per capita	0.436	0.482	0.033	N/A	N/A	1100
Municipal transfers per capita	0.045	0.057	0.001	N/A	N/A	1100
Fiscal performance index	58.051	56.097	0.000	N/A	N/A	1100
Municipal development index	44.607	39.371	0.000	N/A	N/A	1097
Share of 5-24 year-olds in school	62.112	57.534	0.000	N/A	N/A	1030
Average years of education	7.259	6.614	0.000	N/A	N/A	1113
Aqueduct coverage	60.887	55.641	0.035	N/A	N/A	1020
Sanitation coverage	45.717	45.926	0.931	N/A	N/A	1020
Sewerage coverage	42.092	43.167	0.657	N/A	N/A	1020
Share underweight births	0.070	0.062	0.000	N/A	N/A	1121
Share with subsidized health	0.554	0.627	0.000	N/A	N/A	1098

Notes: The unit of observation is the municipality. Population and rural share of population are from year 2008. The measures of BAC presence are from 2008. The literacy rate is taken from the 2005 census. Infant mortality rate is averaged between 2000 and 2008. The share of municipal land dedicated to the cultivation of each crop is averaged between 2000 and 2008. The geographical distribution of municipalities corresponds to the five main regions of Colombia. Unmet basic needs and multidimensional poverty are taken from the 2005 census. Land informality and GINI index are averaged between 2000 and 2008. GDP per capita, municipal spending, municipal income, municipal transfers, fiscal performance index and municipal development index are also averaged between 2000 and 2008. The share of population attending educational institutions is calculated among people aged between 5 and 24 years. Average years of education are calculated for inhabitants older than 15 years. Both measures are taken from the 2005 census. Public services coverage (aqueduct, sanitation and sewerage) are measured in 2008. The share of underweight births and the share of the population with subsidized health are also measured in 2008. In columns 1-2, FARC municipalities are those in the upper quartile of the distribution of total FARC attacks per 10,000 inhabitants between 1996-2008. The p-value in column 3 corresponds to the null hypothesis of equal means in FARC and non-FARC municipalities. Column 4 shows the optimal controls selected by LASSO, while column 5 shows coefficients from the Probit regression used to calculate the propensity scores of each municipality. In columns 4-5, only variables without any missing values were included in the regression. Department fixed effects are included in the Probit and LASSO regressions. Column 6 shows the number of municipalities with available data for each variable. *** p<0.01, ** p<0.05, * p<0.1.

Table A4: Municipal Characteristics and FARC Exposure (PSW)

	Mean		P-value (1) = (2)	N
	FARC=0	FARC=1		
	(1)	(2)	(3)	(4)
Population (× 1,000)	16.51	14.585	0.074	757
Altitude (meters)	1064.244	1120.491	0.343	757
Area (squared kilometers)	86.551	99.078	0.336	757
1(Departmental capital)	0.008	0.009	0.823	757
Rural share of population	0.626	0.644	0.222	757
1(BAC branch)	0.767	0.714	0.097	757
Distance to nearest BAC branch (Km)	7.2	8.476	0.46	757
Distance to departmental capital (Km)	79.537	81.575	0.6	757
Distance to nearest wholesale market (Km)	110.028	115.273	0.415	757
Distance to Bogotá (Km)	316.589	308.777	0.525	757
Literacy rate	81.885	81.766	0.857	757
Infant mortality rate	25.15	25.477	0.659	757
Coffee cultivation (share of area)	0.007	0.007	0.828	757
Corn cultivation (share of area)	0.002	0.002	0.848	757
Rice cultivation (share of area)	0.001	0.001	0.823	757
Sugar cane cultivation (share of area)	0.002	0.003	0.368	757
Banana cultivation (share of area)	0.001	0.002	0.564	757
Oil palm cultivation (share of area)	0.000	0.000	0.19	757
Yucca cultivation (share of area)	0.001	0.001	0.984	757
Potato cultivation (share of area)	0.000	0.000	0.591	757
Cacao cultivation (share of area)	0.000	0.000	0.943	757
Beans cultivation (share of area)	0.001	0.001	0.387	757
Coca cultivation (share of area)	0.000	0.000	0.948	757

Notes: The unit of observation is the municipality. Population and rural share of population are from year 2008. The measures of BAC presence are from 2008. The literacy rate is taken from the 2005 census. Infant mortality rate is averaged between 2000 and 2008. The share of municipal land dedicated to the cultivation of each crop is averaged between 2000 and 2008. In columns 1-2, FARC municipalities are those in the upper quartile of the distribution of total FARC attacks per 10,000 inhabitants between 1996-2008. The sample is restricted to the common support of the propensity score for FARC exposure, based on the Probit regression in column 5 of Table A3. Control observations are also weighted by the inverse of a non-parametric function of the propensity score. The p-value in column 3 corresponds to the null hypothesis of equal means in FARC and non-FARC municipalities. Column 4 shows the number of municipalities with available data for each variable. *** p<0.01, ** p<0.05, * p<0.1.

Table A5: Loan Applications: Additional Variables in LASSO and PSW

	Dependent variable: Loan Application rate			
	LASSO		Propensity Score	
	Few missings	All	Few missings	All
	(1)	(2)	(3)	(4)
$\text{FARC}_i \times \text{Negotiations}_t$ [a]	0.070 (0.645)	0.097 (0.654)	0.432 (0.894)	0.671 (1.038)
$\text{FARC}_i \times \text{Agreement}_t$ [b]	1.821** (0.767)	2.117*** (0.792)	2.310** (0.955)	2.737** (1.131)
Municipality FE	Yes	Yes	Yes	Yes
Department $\times$ Month FE	Yes	Yes	Yes	Yes
LASSO controls	Yes	Yes	No	No
Propensity score weights	No	No	Yes	Yes
First-stage variables	37	45	37	45
Observations	184,296	184,296	114,576	72,744
R- Squared	0.711	0.709	0.693	0.697
Mean DV	18.633	18.633	20.262	23.561
p-value H_0 : [a] = [b]	0.002	0.00	0.001	0.008

Notes: The unit of observation is the municipality-month. The dependent variable is the monthly number of loan applications at BAC with intended destination to the municipality, normalized by population in 2008 (per 10,000 inhabitants). FARC_i is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_t is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_t is a dummy for months on or after July 2016. Sample period: January 2009-December 2022. All regressions include municipality and department-month fixed effects. Columns 1-2 include month fixed effects interacted with predetermined controls selected using a LASSO procedure. Columns 3-4 restrict the sample to municipalities in the common support for predicted FARC presence and weight non-FARC observations by a function of their estimated propensity score. In columns 1 and 3, we include 37 municipal characteristics with few missing values in the first stage for the LASSO or the propensity score estimation. In columns 2 and 4, all 45 available variables are included in the first stage estimation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A6: Loan Applications: Additional Robustness Checks

	Dependent variable: Loan Application rate					
	Δ Negotiation Start Date	Quarter-level Aggregation	Size Controls		FARC Exposure	
			Population	Category	Continuous	CEDE
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{FARC}_i \times \text{Negotiations}_t$ [a]	0.538 (0.559)	1.113 (1.869)	0.288 (0.669)	-0.101 (0.676)	0.069* (0.039)	1.231* (0.647)
$\text{FARC}_i \times \text{Agreement}_t$ [b]	2.247*** (0.652)	6.695*** (2.232)	2.112*** (0.759)	1.961** (0.834)	0.147*** (0.048)	3.239*** (0.734)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes
Department $\times$ Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Population quartile $\times$ Month FE	No	No	Yes	No	No	No
Municipal category $\times$ Month FE	No	No	No	Yes	No	No
Observations	188,496	62,832	188,496	159,096	188,496	184,632
R- Squared	0.720	0.804	0.722	0.717	0.720	0.717
Mean DV	18.237	54.712	18.237	19.563	18.237	18.582
p-value $H_0: [a] = [b]$	0.001	0.000	0.000	0.001	0.012	0.000

Notes: The unit of observation is the municipality-month except in column 2, where it is municipality-quarter. The dependent variable is the number of loan applications per 10,000 inhabitants. FARC_i is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008, except in column 5 where we use the continuous measure of FARC events per 10,000 inhabitants. The source of data on FARC activity is Universidad del Rosario, except in column 6 where we use data from CEDE at Universidad de los Andes. Negotiations_t is a dummy for months between June 2011 and June 2016 (both inclusive), except in column 1, where we set the start date for the negotiations phase to September 2012. Agreement_t is a dummy for months on or after July 2016. Sample period: January 2009-December 2022. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Column 3 additionally includes month fixed effects interacted with dummies for quartiles of the distribution of total population in 2008, while column 4 includes month fixed effects interacted with dummies for the municipal categories in 2008. Standard errors clustered two-way by municipality and department-year reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A7: Loan Applications: Other armed groups

	Dependent variable: Loan Application rate			
	ELN		Paramilitaries	
	(1)	(2)	(3)	(4)
Armed Group _{<i>i</i>} × Negotiations _{<i>t</i>} [a]	1.066 (0.878)	1.499* (0.901)	0.979 (0.775)	1.328* (0.798)
Armed Group _{<i>i</i>} × Agreement _{<i>t</i>} [b]	-0.393 (0.893)	0.639 (0.928)	-0.124 (0.786)	0.791 (0.810)
FARC _{<i>i</i>} × Negotiations _{<i>t</i>} [c]		1.085* (0.647)		0.987 (0.646)
FARC _{<i>i</i>} × Agreement _{<i>t</i>} [d]		2.585*** (0.747)		2.591*** (0.738)
Municipality FE	Yes	Yes	Yes	Yes
Department × Month FE	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	No	No
Observations	188,496	188,496	188,496	188,496
R-Squared	0.720	0.720	0.720	0.720
Mean DV	18.237	18.237	18.237	18.237
p-value H ₀ : [a] = [b]	0.036	0.238	0.053	0.366
p-value H ₀ : [c] = [d]	-	0.005	-	0.002

Notes: The unit of observation is the municipality-month. The dependent variable is the number of loan applications per 10,000 inhabitants. FARC_{*i*} is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. We construct similar measures for ELN (columns 1-2) and paramilitary groups (columns 3-4), setting this dummy equal to zero when it overlaps with the FARC indicator. Negotiations_{*t*} is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_{*t*} is a dummy for months on or after July 2016. Sample period: January 2009-December 2022. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A8: Other Heterogeneous Effects

	Heterogeneity based on:						
	Extensive margin		Above/below Median				
	PDET	FARC camps	Soil quality		Other Armed Groups		Coca Growth
			Accretion	Suitability	1996-2008	2009-2014	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
FARC _i × Negotiations _t (Low) [a]	0.621 (0.749)	0.504 (0.633)	0.200 (0.696)	0.411 (0.863)	0.219 (0.869)	0.482 (0.714)	0.705 (1.079)
FARC _i × Negotiations _t (High) [b]	0.073 (0.912)	-0.545 (1.796)	0.680 (0.933)	0.478 (0.766)	0.659 (0.784)	0.358 (0.831)	0.443 (0.691)
FARC _i × Agreement _t (Low) [c]	2.581*** (0.939)	2.384*** (0.764)	2.237** (0.938)	2.939*** (1.074)	2.586** (1.139)	2.185** (0.854)	2.566** (1.011)
FARC _i × Agreement _t (High) [d]	1.606* (0.874)	0.301 (1.169)	2.443** (1.067)	1.635* (0.886)	1.998** (0.897)	2.548** (0.990)	2.257*** (0.828)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department × Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	188,496	188,496	186,816	186,816	188,496	188,496	188,496
R-Squared	0.720	0.720	0.720	0.720	0.720	0.720	0.720
Mean DV	18.237	18.237	18.831	18.831	18.237	18.237	18.237
p-value H ₀ : [c] = [d]	0.410	0.094	0.877	0.315	0.676	0.750	0.786
p-value H ₀ : [b] = [d]	0.020	0.532	0.013	0.085	0.032	0.004	0.002

Notes: The unit of observation is the municipality-month. In column 1, FARC municipalities with a Post-conflict Development Program, *Programa de Desarrollo con Enfoque Territorial* (PDET) are classified in the high group. In column 2, FARC municipalities hosting a grouping camp for former FARC members after their demobilization are classified as high. In columns 3-7, we divide FARC municipalities into equally-sized groups (i.e., above/below median) based on the variable in the header. We adjust all of these variables, so that high corresponds to a desirable attribute. In columns 3-4 we use measures of soil quality. In columns 5-6, other armed groups include right-wing paramilitary militias, other left-wing insurgents (ELN, EPL, etc.) and other unknown armed groups. In column 7, we use the growth rate in the share of municipal area devoted to the cultivation of coca between 2014 and 2018. FARC_i is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_t is a dummy for months between June 2011 and June 2016 (both inclusive). Agreement_t is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A9: Cross-sectional Correlation of Covariates for Heterogeneous Effects

	Access to		Share	Land
	Dpt. capital	Bogotá	Non-Poor	Restitution
Access to Market	0.305***	0.572***	0.48***	-0.035
Access to Dpt. capital	-	0.145***	0.38***	-0.108***
Access to Bogotá	-	-	0.487***	-0.057*
Share Non-Poor	-	-	-	-0.206***

Notes: This table shows correlations between time-invariant municipal characteristics. Access to wholesale market, to the departmental capital and to Bogotá is measured based on the distance in kilometers. The share above the poverty rate is based on the index of Unmet Basic Needs (UBN) in the 2005 census. Land restitution corresponds to the total number of claims for land restitution between 2011 and 2020 (per 10,000 inh. in 2008), based on the administrative records held by the government agency for land restitution (URT). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A10: Conflict Intensity (2009-2021)

	Variables per 10,000 Inhabitants												
	Family of Outcomes	Land Theft	Terrorism	Threats	Sexual Violence	Forced Disappearance	Forced Displacement	Homicide	Land Mines	Property Loss	Kidnapping	Torture	Underage Recruitment
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
$FARC_i \times Negotiations_t$ [a]	-0.063* (0.032)	-0.006 (0.114)	0.669 (1.091)	11.780*** (3.475)	0.016 (0.066)	-0.320** (0.154)	-29.559** (10.816)	-2.891*** (0.587)	-0.644*** (0.146)	-0.841 (1.539)	-0.086** (0.042)	-0.005 (0.029)	-0.037 (0.045)
$FARC_i \times Agreement_t$ [b]	-0.148*** (0.043)	-0.105 (0.147)	-0.330* (0.190)	4.071** (1.972)	-0.155* (0.090)	-0.507*** (0.135)	-66.116*** (21.268)	-3.547*** (0.678)	-0.887*** (0.164)	-1.319 (2.215)	-0.212*** (0.042)	-0.062 (0.048)	-0.194*** (0.059)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department $\times$ Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571
R-Squared	0.657	0.136	0.273	0.579	0.451	0.264	0.482	0.512	0.333	0.294	0.326	0.339	0.462
Mean DV	0.000	0.096	1.824	11.252	0.314	0.310	79.028	2.476	0.192	1.962	0.135	0.040	0.099
p-value H_0 : [a] = [b]	0.063	0.067	0.388	0.069	0.037	0.016	0.055	0.010	0	0.73	0.002	0.029	0.001

Notes: The unit of observation is the municipality-year. The dependent variables are taken from the Colombian Registry of Victims managed by UARIV. In column 1, the family of outcomes is constructed as the average of the standardized variables in columns 2-13. The outcome in columns 2-13 refers to the number of victims (per 10,000 inhabitants) affected by each type of event. $FARC_i$ is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. $Negotiations_t$ is a dummy for years between 2012 and 2016 (both inclusive). $Agreement_t$ is a dummy for the years between 2017 and 2021 (both inclusive). Sample period: 2009-2021. All regressions include municipality and department-year fixed effects. Additional controls include year dummies interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A11: Loan Applications and Disbursements: Controlling for Violence

	Application rate					Disbursement rate	
	(1)	(2)	(3)	(4)	(5)	Number	Value
						(6)	(7)
$\text{FARC}_i \times \text{Negotiations}_t$ [a]			1.132 (1.884)	2.197 (1.825)	2.558 (2.286)	1.760 (1.425)	21.711 (16.780)
$\text{FARC}_i \times \text{Agreement}_t$ [b]	6.972*** (1.707)	6.003*** (1.522)	6.797*** (2.214)	7.690*** (2.188)	7.779*** (2.524)	6.896*** (1.888)	88.313*** (24.489)
Family of Conflict Outcomes $_{i,t}$	0.594 (0.520)	0.308 (0.489)	0.321 (0.490)	0.470 (0.482)	-0.058 (0.653)	0.309 (0.443)	6.608 (6.313)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Department $\times$ Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	No	Yes	Yes	No	Yes	Yes	Yes
LASSO controls	No	No	No	Yes	No	No	No
Propensity score weights	No	No	No	No	Yes	No	No
Observations	58,284	58,284	58,284	58,284	39,304	58,284	58,284
R-Squared	0.788	0.802	0.802	0.798	0.787	0.801	0.784
Mean DV	54.219	54.219	54.219	54.219	58.186	43.267	433.246
p-value H_0 : [a] = [b]	-	-	0.000	0.001	0.002	0.000	0.000

Notes: The dependent variable in columns 1-5 is the number of loan applications (per 10,000 inhabitants). The dependent variables in columns 6-7 are the equivalent measures for the number of loans disbursed and the total amount of credit disbursed (in millions of 2022 COP per 10,000 inhabitants). Unit of observation: Municipality-quarter. FARC_i is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. Negotiations_t is a dummy for quarters between 2011 Q2 and 2016 Q2 (both inclusive). Agreement_t is a dummy for quarters on or after 2016 Q3. Family of Conflict Outcomes is an index based on 12 different measures of conflict. We assign the yearly value of this index to all observations within the same year for each municipality. The sample period is 2009 Q1 to 2022 Q4. All regressions include municipality and department-quarter fixed effects. Baseline controls in columns 2, 3, 5-7 are quarter fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Column 4 includes quarter fixed effects interacted with predetermined controls selected using a LASSO procedure. Column 5 restricts the sample to municipalities in the common support for predicted FARC presence and weights non-FARC observations by a function of their estimated propensity score. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A12: Loan Applications: Agricultural Destinations

	Cattle	Coffee	Fruits	Plantain	Cocoa	Sugarcane	Pigs	Potato	Aquaculture	Small Species
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$FARC_i \times Negotiations_t$ [a]	0.007 (0.009)	-0.010 (0.007)	0.006 (0.005)	-0.001 (0.004)	0.007* (0.004)	-0.002 (0.003)	-0.001 (0.003)	-0.001 (0.001)	0.001 (0.002)	0.002 (0.002)
$FARC_i \times Agreement_t$ [b]	0.004 (0.011)	-0.015* (0.008)	0.012** (0.005)	0.0003 (0.004)	0.008** (0.004)	-0.002 (0.004)	0.010*** (0.004)	-0.003* (0.002)	0.001 (0.002)	0.004* (0.002)
Municipality FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Department $\times$ Month FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	174,731	174,731	174,731	174,731	174,731	174,731	174,731	174,731	174,731	174,731
R-Squared	0.621	0.743	0.553	0.573	0.533	0.667	0.350	0.687	0.689	0.354
Mean DV	0.246	0.127	0.058	0.043	0.025	0.026	0.022	0.015	0.014	0.009
p-value $H_0: [a] = [b]$	0.670	0.455	0.21	0.666	0.714	0.958	0.001	0.029	0.956	0.183

Notes: The unit of observation is the municipality-month. The dependent variable is the share of loan applications with the intended destination listed in the header. $FARC_i$ is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. $Negotiations_t$ is a dummy for months between June 2011 and June 2016 (both inclusive). $Agreement_t$ is a dummy for months on or after July 2016. The sample period is January 2009 to December 2022. All regressions include municipality and department-month fixed effects. Baseline controls are month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A13: Other Loan Outcomes

	Share of Disbursed Loans				
	With Audit	Outstanding: Past Due			Extended Payments
		30 Days	60 Days	120 Days	
	(1)	(2)	(3)	(4)	(5)
$FARC_i \times Negotiations_t$ [a]		0.004 (0.005)	0.004 (0.005)	0.003 (0.005)	-0.0001 (0.007)
$FARC_i \times Agreement_t$ [b]	-0.0002 (0.010)	0.003 (0.006)	0.002 (0.006)	0.001 (0.005)	0.004 (0.007)
Municipality FE	Yes	Yes	Yes	Yes	Yes
Department $\times$ Month FE	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes
Sample Start (MM/YY)	07/11	01/09	01/09	01/09	01/09
Sample end (MM/YY)	12/22	12/22	12/22	12/22	12/20
Maturity of Loans	-	Any	Any	Any	≤ 2 Years
Observations	143,055	183,204	183,204	183,204	115,701
R-Squared	0.412	0.768	0.765	0.755	0.282
Mean DV	0.191	0.095	0.087	0.082	0.112
p-value $H_0: [a] = [b]$	-	0.720	0.662	0.620	0.388

Notes: The unit of observation is the municipality-month. The dependent variable is listed in the column header. Observations lacking disbursed loans are excluded from the sample. The outcome in column 1 is the share of disbursed loans with an in-person visit to the investment site. Columns 2-4 calculate the share of outstanding loans per municipality-month that are 30, 60, or 120 days past due. The outcome in column 5 is the share of loans for which we observe repayment more than 1.5 months beyond the original loan term. $FARC_i$ is a dummy for municipalities in the upper quartile of the distribution of total FARC events per 10,000 inhabitants between 1996 and 2008. $Negotiations_t$ is a dummy for months between June 2011 and June 2016 (both inclusive). $Agreement_t$ is a dummy for months on or after July 2016. All regressions include municipality and department-month fixed effects. Baseline controls in all columns include month fixed effects interacted with predetermined measures of (i) rural share of population, (ii) cultivated agricultural crops, (iii) coca cultivation. Standard errors clustered two-way by municipality and department-year are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

B Data Appendix

This data appendix describes in detail the different data sets we use in the paper and the construction of the different samples. We also provide detailed explanations of the variables we use.

Construction of the Samples

This section describes the construction of the different samples used in the paper. The following datasets contain information from Banco Agrario de Colombia. They are defined at the municipality-month level: 1) Panel of loan applications. 2) Panel of loan applications in scoring models. 3) Panel of disbursed loans. 4) Panel of loan repayment. 5) Panel of inspection visits. At the municipality-branch-month level we use: 6) Panel of loan applications (branch level).

Additionally, we use the following datasets which contain information on Colombian municipalities: 7) Universidad del Rosario database on the Colombian civil conflict. 8) CEDE panel database on municipal characteristics. 9) Database on land restitution applications.

1. Panel of loan applications: We begin with a dataset of all applications made by small farmers in the period 2005-2022. This contains a total of 5,873,986 observations. For each application, we observe the date of creation, the loan size, the loan's purpose, the destination municipality, the office in which it was created, and the client's ID. Although we observe applications since 2005, we exclude observations before 2009 because they lack information on the loan's destination municipality. This leaves us with a potential sample of 5,148,733 individual loan applications between 2009 and 2022. However, we must further drop 377,835 applications that lack information on the destination municipality. We end up with 4,770,898 individual loan applications, which we then group at the municipality-month level. We use the loan's destination municipality and the month in which the application was created. We merge this data with a balanced monthly panel of all Colombian municipalities between 2009 and 2022. There are a total of 1,122 municipalities. The final panel of loan applications has 188,496 municipality-month observations.

2. Panel of loan applications in scoring models: Since mid-2012, BAC introduced scoring models to analyze the credit applications of small farmers. The applications are matched to each of the four available scoring models according to the intended purpose of the loan: for short-cycle crops, long-cycle crops, livestock, or other non-agricultural enterprises. Importantly, the datasets involved contain information not available in the Panel of Loan Applications described above. We use a dataset that contains application-level information of all the applications that go through the scoring models between July 2012 and December 2022. This contains a total of 3,242,033 observations. For each application, we observe the client's yearly income, value of assets, level of education, months of experience in the productive activity, farm size, and credit bureau score. However, we restrict the sample to observations with complete information on all non-agricultural variables. This leaves us with a total of 3,219,546 loans. We further drop 113,773 observations that lack information on the loan's destination municipality, which restricts the sample to 3,105,773 loans. We then group the loans in the scoring models at the municipality-month level. We merge this data with a balanced monthly panel of all Colombian municipalities between July 2012 and December 2022. Observations lacking loan applications in scoring models are dropped from the sample. We end up with a total of 131,393 municipality-month units.

3. Panel of disbursed loans: We begin with a sample of all the loans disbursed to small farmers in the period 2005-2022. This contains 4,344,299 individual disbursements. For each observation, we observe the date of the disbursement, the amount disbursed, the loan's maturity, the interest rate, and the type of collateral. We merge these disbursements with their corresponding loan application to obtain the month of the application. We restrict the sample to loans whose application was made during or after January 2009, which leaves us with 3,746,025 disbursements. However, we further drop observations that lack information on the loan's destination municipality, ending up with a final sample of 3,647,031 disbursements. Then we group the disbursements at the municipality-month level, using the destination municipality and the month of the loan application. We merge this data with a balanced monthly panel of all Colombian municipalities between 2009 and 2022. Observations without disbursed loans are excluded from the sample. We end up with a total of 171,025 municipality-month units.

4. Panel of loan repayment: We begin with a dataset at the loan-month level in which we observe the number of days past due for each loan in the sample of disbursed loans between January 2005 and December 2022. We observe every loan from the first month after disbursement until the last month in which the borrower paid the debt. Initially, we observe this information for a total of 4,326,927 disbursements. For each individual loan, we define dummy variables equal to one if during the first 12 or 24 months after disbursement the loan ever entered into a period of 60 or 120 days past due. We merge these dummies with their corresponding disbursements to obtain the investment municipality and the month of the application. We restrict the sample to loans whose application was made during or after January 2009, which leaves us with 3,745,265 loans. We further drop 98,977 disbursements that lack information on their destination municipality. Finally, we drop loans disbursed during or after January 2020 in order to restrict the sample to loans for which we observe their monthly repayment for at least 24 months after disbursement. We end up with a final sample of 2,986,382 loans. We aggregate the disbursements at the municipality-month level and calculate within each unit the share of loans that entered into different periods of overdues. We exclude units lacking loans disbursed. We end up with a panel of 148,104 municipality-month observations between January 2009 and December 2019.

5. Panel of inspection visits: In order to provide subsidized loans for agriculture, BAC uses funds from the Agricultural Financing Fund (*Fondo para el Financiamiento del Sector Agropecuario*, FINAGRO). This is a public second-tier bank that lends resources to first-tier banks. To ensure its funds are being adequately used, FINAGRO requires BAC to do in-person visits to the investment sites of 10% of the loans that use its resources. These are randomly selected every month from the pool of loans disbursed in the previous month. Clients have 180 days after the disbursement to invest the funds. After this period, randomly chosen clients are contacted by a BAC officer to schedule an inspection visit. During the visit, the officer verifies whether the client's investment was in accordance with the size and intended purpose of the loan. The client must demonstrate this with supporting documents such as purchase invoices, or by directly showing the purchased or produced goods (machinery, infrastructure, crops, animals, etc.). To minimize the risk of collusion between the officer and the client, the former must fill an audit report stating whether he found any irregularity and, if so, what type of irregularity was found. This must be supported with photographic records of the evidence provided by the farmer.

Initially, we begin with a loan-level dataset of all inspection visits conducted between 2010 and 2022. This contains a total of 696,259 visits. For each audited loan, we observe the date of the visit

and an indicator of whether the auditor found any irregularity during it. Irregularities are grouped into the following categories: Inconsistencies in the value of the investment, inconsistencies in the number of goods purchased or produced with the loan, unauthorized change of the loan's purpose, unauthorized change of the investment site, diversion of resources, incomplete investment project, inability to produce supporting documents, inability to locate the client, or complete absence of the investment. For each loan, we define a dummy variable that equals one if the audit identified any of the aforementioned irregularities. Using the loan id, we merge this dummy with the corresponding loan application to obtain the destination municipality and the month of the application. We are only able to merge 573,215 visits. From these, we further drop 21,549 visits that lack information on the loan's destination municipality. We then group the audited loans at the municipality-month level and merge them with the panel of disbursed loans. Before July 2011, only 2% of loans were audited. Between July 2011 and december 2022, however, between 8% and 36% of loans were audited. Therefore we restrict the panel to audits for loans created between July 2011 and December 2022. Units without disbursed loans that could be audited are also excluded from the sample. We end up with a total of 550,701 audited loans, grouped into 91,810 municipality-month units.

6. Panel of loan applications (branch level): We begin with a dataset of all applications made by small farmers in the period 2005-2022, which contains 5,873,986 loans. We exclude observations before 2009 because they lack information on the loan's destination municipality. Additionally, we drop loans created after this date that have incorrect municipality codes. This leaves us with a sample of 4,770,898 applications. Then, we group the loan applications at the branch-municipality-month level. We use the loan's destination municipality and the month in which the application was created. We merge this data with a monthly panel of municipality-branch combinations between 2009-2022. We use all combinations with non-zero loan applications at some point between 2009-2022 and end up with a sample of 3,299,341 branch-municipality-month units. We assume the branch is open from the first month in which we observe an application until the end of the sample period.

7. Universidad del Rosario database on the Colombian Civil Conflict: This is an event-level dataset that records conflict events between 1996 and 2014 involving different agents in the Colombian conflict. For each event, the dataset records the type (clash or attack), the agent involved (left-wing guerrillas, right-wing paramilitaries, government forces, others), the date, and the municipality of occurrence. For each municipality, we aggregate the total number of conflict events involving FARC between 1996 and 2008. For our main measure of exposure to FARC, we define a dummy that equals one for municipalities that rank above the 75% percentile of aggregate FARC events. We then merge this information with the panel of Colombian municipalities.

8. CEDE panel database on municipal characteristics: This data set contains panel data at the municipality-year level on various characteristics of Colombia municipalities between 1984 and 2021. This data is provided by the research center CEDE (*Centro de Estudios sobre Desarrollo Económico*) at Universidad de los Andes, which collects the information from multiple government agencies. For each municipality, the panel contains yearly information on agricultural, geographical, and demographic characteristics. In addition, it contains yearly data on civilian exposure to armed conflict, which is taken from the Colombian Registry of Victims.

9. Database on land restitution applications: This information comes from the Colombian

Land Restitution Unit. This government agency was created by the *Victim's Bill* signed by President Santos in 2011. Its main purpose is to guarantee the restitution of land to people who were forcibly displaced during the civil conflict. For each municipality, this database contains the aggregate number of restitution applications made between 2011 and 2019 for property located in each municipality.

Variable Definitions

1. Variables in the Panel of Loan Applications:

- Loan applications per 10,000 inhabitants: Defined as the number of monthly loan applications intended for each destination municipality, normalized by the municipality's population in 2008.
- Share female: Loans from women applicants as percentage of total loan applications at the municipality-month level.
- Average age: Average years of age of applicants at the municipality-month level.
- Share new: Clients are classified as new if between 2005 and the date of their current application they had no loan applications in the BAC data. The variable is defined as the share of monthly loan applications in each destination municipality created by new clients.
- Average loan size: Measured in millions of 2022 COP. Average amount borrowers apply for at the municipality-month level.
- Share agricultural: Loan applications intended for agricultural purposes as percentage of total loan applications at the municipality-month level.

2. Variables in the Panel of Loan Applications in Scoring Models:

- Applications per 10,000 inhabitants: Number of loan applications in scoring models at the municipality-month level, normalized by the municipality's population in 2008.
- Share of applications in scoring models: Loan applications in scoring models as percentage of total loan applications, both grouped at the municipality-month level.
- Secondary education: Loans from applicants whose highest qualification is secondary education or higher as percentage of total loan applications in scoring models at the municipality-month level.
- Average assets: Measured in millions of 2022 COP. Average worth of the assets owned by loan applicants grouped at the municipality-month level.
- Average yearly income: Measured in millions of 2022 COP. Average yearly income received by loan applicants grouped at the municipality-month level.
- Share of applications with credit score: Share of loan applications per municipality-month with a non-missing credit score from a credit bureau. Applicants without credit history lack this information.

- Average credit score: Defined only for loan applications whose applicant has a non-missing credit bureau score. Calculated as the average score across applications from the same municipality and month, on a scale from 0 to 1000.

3. Variables in the Panel of Disbursed Loans:

- Loans disbursed per 10,000 inhabitants: Monthly number of loans disbursed in each destination municipality, normalized by the municipality's population in 2008.
- Approval rate: Disbursed loans as percentage of total loan applications, both grouped at the municipality-month level.
- Average loan size: Measured in millions of 2022 COP. Average amount disbursed at the municipality-month level.
- Total disbursements per 10,000 inhabitants: Measured in millions of 2022 COP. Defined as the total amount of money disbursed at the municipality-month level, normalized by the municipality's population in 2008.
- Average interest rate: Refers to the number of points above the benchmark interest rate in Colombia, the DTF, which is the reference rate used by BAC. The variable we use is the average across applications from the same municipality and month. The DTF is the average of the interest rates on 90-day Certificates of Deposits offered by Colombian banks.
- Share of loans with government collateral: Percentage of disbursed loans at the municipality - month level whose collateral comes from state guarantee funds, such as the Agricultural Guarantee Fund (*Fondo Agropecuario de Garantías*) and the National Guarantee Fund (*Fondo Nacional de Garantías*).
- Share of loans with own assets as collateral: Percentage of disbursed loans at the municipality-month level whose collateral comes from the client's personal assets, such as mortgages, vehicles, machinery, etc.
- Share of loans with maturity ≤ 2 years, between 3-5 years or > 5 years: Loans with maturities between these ranges, as percentage of total disbursements at the municipality-month level. The maturity is the date on which the client's final payment of the loan is due. This is predetermined at the time of the disbursement.

4. Variables in the Panel of Loan Repayment:

- Share of disbursed loans with 60 days past due (Year 1): Loans that entered in a period of 60 days past due during their first year after disbursement, as percentage of total loans disbursed in each municipality-month unit.
- Share of disbursed loans with 60 days past due (Years 1-2): Loans that entered in a period of 60 days past due during their first two years after disbursement, as percentage of total loans disbursed in each municipality-month unit.

- Share of disbursed loans with 120 days past due (Year 1): Loans that entered in a period of 120 days past due during their first year after disbursement, as percentage of total loans disbursed in each municipality-month unit.
- Share of disbursed loans with 120 days past due (Years 1-2): Loans that entered in a period of 120 days past due during their first two years after disbursement, as percentage of total loans disbursed in each municipality-month unit.
- Extended payments: For loans with maturities up to two years, we define a dummy that equals one if the client takes more than 1.5 months after the maturity date to finish repaying the loan. We group these loans at the municipality-month level and calculate the share of loans in each unit that required extra months of repayment.

5. Variables in the Panel of Inspection Visits:

- Share of disbursed loans with inspection visits: Loans with inspection visits in each municipality-month unit as percentage of total disbursements per unit.
- Share of visits with irregularities: Visited loans in which the auditor found any irregularity in the use of the funds, as percentage of total visits per municipality-month.

6. Variables in the Panel of Loan Applications (branch level):

- Loan applications per 10,000 inhabitants: Defined as the number of loan applications grouped at the municipality-branch-month level, normalized by the municipality's population in 2008.

7. Variables in Universidad del Rosario Data on the Colombian Civil Conflict:

- Exposure to FARC (main treatment variable): Dummy that equals one for municipalities in the upper quartile of total conflict events involving FARC between 1996 and 2008, normalized by the municipality's population in 2008.
- Exposure to FARC (continuous measure): Total conflict events per municipality involving FARC between 1996 and 2008, normalized by the municipality's population in 2008.
- Exposure to other armed groups: For each municipality, we calculate the total number of conflict events involving armed actors different from FARC. These include right-wing paramilitary groups, other left-wing guerillas, or other unknown armed actors. We calculate the number of events per municipality in the following two periods: i) 1996-2008. ii) 2009-2014. Then we normalize the number of events by the municipality's population in 2008.
- Exposure to armed conflict: Total conflict events per municipality involving any armed actor or government forces between 1996 and 2008. Normalized by the municipality's population in 2008.

8. Variables in the CEDE Panel Database on Municipal Characteristics:

- Population: Total number of inhabitants per municipality in 2008.
- Share of rural population: Inhabitants living in rural areas of the municipality as percentage of total inhabitants, both measured in 2008.
- Share of land devoted to the 10 main crops in the country: For each municipality, we calculate the yearly share of land dedicated to the cultivation of coffee, rice, sugarcane, plantain, oil palm, yucca, potatoes, cocoa, beans, and corn between 2000 and 2008. Then, for each municipality, we calculate the average share of land dedicated to each crop across years. For each crop, we define the following variables according to the distribution of their share of land: For potatoes, rice and oil palm, less than 25% of municipalities grow each one, so we define dummies that indicate if the average share of land dedicated to each crop is positive. For the remaining crops, at least 40% of municipalities cultivate each. We split the positive values into two same-sized groups and leave the zeros apart. We define dummy variables denoting this partition for each crop. The only exception is corn, which is grown in 89% of municipalities. In this case, we define quartiles of the share of land devoted to its cultivation.
- Share of land dedicated to coca cultivation: For each municipality, we calculate the average share of land dedicated to the cultivation of coca crops between 2000 and 2008. We define a dummy that equals one if the average share is positive for each municipality. This accounts for roughly 25% of municipalities.
- Access to wholesale market: Linear distance between the municipality centroid and the closest wholesale market. Measured in kilometers. FARC municipalities are classified as having high access to wholesale markets if their distance to the closest one is less than the sample median within the treatment group.
- Access to the departmental capital: Linear distance between the municipality centroid and the department's capital. Measured in kilometers. FARC municipalities are classified as having high access to the departmental capital if their distance to it is less than the sample median within the treatment group.
- Access to Bogotá: Linear distance between the municipality centroid and Bogotá. Measured in kilometers. Treatment municipalities are classified as having high access to Bogotá if their distance to this city is less than the sample median within the treatment group.
- Share of non-poor: According to the index of Unmet Basic Needs (UBN), which is calculated with data from the 2005 census. Treatment municipalities are classified as having a low share of non-poor inhabitants if their UBN index is higher than the sample median within FARC municipalities.
- Equal land ownership: GINI index per municipality, measured in 2008. The information was provided by the Geographical Institute Agustín Codazzi. Treatment municipalities are classified as having low equality in land ownership if their GINI index is higher than the sample median within FARC municipalities.

Additionally, the CEDE database contains information on civilian exposure to armed conflict between 1993 and 2018. These variables are calculated from data provided by the Colombian Registry of Victims:

- Land theft: Yearly number of victims per municipality whose land was stolen during the armed conflict, normalized by the municipality's population in 2008.
- Terrorism: Yearly number of victims of terrorist acts per municipality, normalized by the municipality's population in 2008.
- Threats: Yearly number of people threatened by armed actors per municipality, normalized by the municipality's population in 2008.
- Sexual violence: Yearly number of victims of sexual aggression per municipality, normalized by the municipality's population in 2008.
- Forced disappearances: Yearly number of victims of forced disappearance per municipality, normalized by the municipality's population in 2008.
- Forced displacement: Yearly number of victims forcibly displaced from their properties, normalized by the municipality's population in 2008.
- Homicide: Yearly number of killings related to the armed conflict per municipality, normalized by the municipality's population in 2008.
- Land mines: Yearly number of victims of land mines per municipality, normalized by the municipality's population in 2008.
- Property loss: Yearly number of victims per municipality who reported the loss of property due to the armed conflict, normalized by the municipality's population in 2008.
- Kidnapping: Yearly number of kidnapped people per municipality, normalized by the municipality's population in 2008.
- Torture: Yearly number of torture victims per municipality, normalized by the municipality's population in 2008.
- Underage recruitment: Yearly number of children recruited by armed conflict actors, normalized by the municipality's population in 2008.
- Family of outcomes: Average of the standardized variables of civilian exposure to armed conflict.

9. Variables in the Database on Land Restitution Applications:

- Land restitution applications: Number of applications made between 2011 and 2019 for restitution of properties located in each municipality. Treatment municipalities are classified as having low restitution applications if theirs is lower than the sample median within FARC municipalities.

C A Simple Model of Investment

Suppose that a producer has a Constant Relative Risk Aversion (CRRA) utility function that depends on wealth ($w > 0$) and on a risk-aversion parameter $\rho \geq 0$, $\rho \neq 1$:

$$u(w) = \frac{w^{1-\rho} - 1}{1 - \rho}$$

The producer is faced with an investment opportunity that pays $r > 0$ with probability $q \in (0, 1)$ and fails (i.e., pays 0) with probability $1 - q$. The cost of this investment is $c > 0$. At the beginning of the period, the producer has exogenous wealth $w_0 > 0$. We assume that initial wealth is either too low or insufficiently liquid, such that the producer must take out a loan of size $l > 0$ in order to invest. This loan has a cost equal to $b > 0$, which includes the principal, payment of interest at rate $i \in (0, 1)$, and other application costs and fees ($a > 0$). We refer to $b(l, i, a)$ as the total cost of investment. For simplicity, we assume that the producer fully pays back the loan if the project succeeds and defaults on the loan if the project fails, in which case she pays a cost given by $k > 0$ (results are qualitatively similar as long as the probability of default is higher if the project fails). This cost may reflect lost wealth pledged as collateral, additional payments from the ensuing collection process, and the reputational cost incurred from defaulting on the loan (e.g., lower credit score). If the producer invests, her expected utility is:

$$E[u(w)] = q \left(\frac{(w_0 + r - b(l, i, a))^{1-\rho} - 1}{1 - \rho} \right) + (1 - q) \frac{(w_0 - k)^{1-\rho} - 1}{1 - \rho}$$

If the producer does not invest, her utility depends only on her initial wealth:

$$u(w) = \frac{w_0^{1-\rho} - 1}{1 - \rho}$$

By equating payoffs, we obtain the following indifference condition:

$$q(w_0 + r - b(l, i, a))^{1-\rho} + (1 - q)(w_0 - k)^{1-\rho} = w_0^{1-\rho} \quad (3)$$

Equation 3 provides straightforward comparative statics on the factors that affect the investment decision. All else equal, the producer is more likely to invest in projects with a higher return (r) or lower risk (i.e., higher probability of success q). She is less likely to invest as the total cost of investment (b) or the loss from a failed project (k) increase. A producer with higher risk aversion (ρ) is also less likely to invest. The CRRA utility function implies Decreasing Absolute Risk Aversion (DARA). Hence, higher initial wealth (w_0) will make the risky investment more attractive. Finally, the effect of changes in collateral (i.e., improved property rights over wealth) is theoretically ambiguous. Higher collateral can reduce the cost of investment (b), but also implies a larger loss if the project fails (i.e., higher k).

Equation 3 characterizes the investment decision of a single producer. We can easily extend the model to accommodate multiple producers by including a source of heterogeneity that determines which of them invest in equilibrium. For this purpose, it is useful to distinguish between elements in the model that are fixed parameters and those that potentially correspond to random variables (which could vary across individuals, investment projects, or municipalities). For example, we can

think of the interest rate (i) as roughly constant in our setting.²⁸ The introduction of a random variable gives rise to a threshold condition that determines the investment decision as a function of the fixed parameters. For instance, if investment opportunities randomly vary in their return (r), those with a sufficiently low return are the ones that will fail to materialize.

²⁸As discussed in section 2.2, most BAC loans use rediscounted funds from FINAGRO. Implicitly, we assume an almost perfectly elastic supply of loans by BAC based on the abundant availability of FINAGRO funding and the restrictions that FINAGRO imposes on interest rates. BAC's almost full control over the credit market for small producers further allows us to abstract away from general equilibrium considerations.