

The Long Reverberation: From Forced Displacement to Durable Migration Streams

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Abstract

Why do Guatemala's most peaceful regions send the most migrants, while its most violent send comparatively few? Linking five decades of origin and destination data, I reveal the answer lies in the past. Extreme violence during the Guatemalan Civil War, in the 1980s, displaced hundreds of thousands, seeding networks through which migration became self-sustaining—a process of cumulative causation. Over time, this reshaped the resulting stream, obscuring the violence that first set it in motion. Today, a municipality's wartime violence history positively predicts emigration, while present-day violence is a significant negative predictor. This analysis makes three contributions. First, it provides large-scale evidence that forced displacement can generate cumulative causation, amplifying *and* transforming the streams it sustains. Second, it shows that this capacity, once built, can persist through lulls in migration and respond to pressures distinct from the cause that created it. Finally, it specifies the conditions under which large displacement-born streams endure rather than fade.

The number of Guatemalans living abroad has grown more than eightfold since 1990, now approaching 16% of the country's total population (OIM 2023). Even as irregular migration to the United States has surged in recent years, Guatemala stands out—its undocumented population has grown faster than nearly any other (Warren 2025). Violence permeates much of the country. Extortion, kidnapping, and homicide are routine threats, and Guatemalan homicide rates have ranked among the ten highest globally for much of the twenty-first century (UNODC 2025; Yashar 2018). Together, these facts fuel a common assumption: Guatemalans are fleeing violence. Yet as Figure 1 shows, the departments¹ sending the most migrants are not the most dangerous ones. The Western Highlands—with homicide rates comparable to Western Europe or the United States—account for the majority of emigration, while the eastern region and capital city metropolitan area, the most violent regions in the country, send comparatively few. This presents a puzzle. Amidst widespread violence, why are the most peaceful regions of Guatemala sending the highest number of migrants?

[Figure 1]

This apparent pattern of low migration from high-violence areas holds up to scrutiny. Most studies fail to find a positive relationship between contemporary violence and emigration from Guatemala (Alvarado and Massey 2010; Bermeo, Leblang, and Alverio 2021; Hiskey et al. 2018; World Bank 2022), and fewer than 2% of Guatemalans considering emigration cite violence as their primary motivation (OIM 2023). What, then, accounts for this puzzle? The answer, I argue, lies not in the present but in the past. Migration streams are historical formations. Their character is shaped

¹ Guatemala is divided into 22 departments (*departamentos*), the primary subnational administrative unit, comparable to states or provinces.

by how they were initiated, under what conditions they consolidated, and through what mechanisms they are reproduced (or not) over time (Fussell 2012). Yet in both academic and policy research, analyses continue to rely almost entirely on contemporaneous indicators—violence levels, labor market conditions, survey responses—to characterize streams, necessarily attributing migration to current conditions. Guatemala is a diagnostic case that reveals the empirical and theoretical risks of interpreting migration streams solely through the present rather than through the histories that produced them.

This epistemological tendency is a byproduct of a longstanding disciplinary divide between migration studies and refugee studies, two fields that developed independently, with different empirical tools and objects of inquiry (Chimni 2009; FitzGerald and Arar 2018; Hamlin 2021; Zetter 1988). While many migration scholars have purportedly moved beyond rigid distinctions between “economic” and “political” or “forced” migration, recognizing overlapping motivations and a continuum of volition (Erdal and Oeppen 2018; Fussell 2012; Richmond 1993), this shift is not fully reflected in the field’s theoretical development. In practice, most theories of migration are derived from straightforward contexts of labor migration (Massey 1999; Massey et al. 1993). For instance, cumulative causation is the dominant theoretical framework for understanding how streams become self-sustaining through interconnected feedback at multiple levels and over time, transforming the social and cultural fabric of sending communities.² Developed almost entirely from Mexican migration data (Kandel and Massey 2002; Massey 1990; Massey and Zenteno 1999), the framework’s application to forced displacement contexts has found limited support, often interpreted as evidence of inapplicability rather than as a signal that the temporal or geographic comparisons may be misaligned (Fussell 2010; Kubal and Dekker 2014).

Refugee studies, by contrast, has developed rich accounts of flight and incorporation but has remained undertheorized and largely disconnected from migration study’s theoretical toolkit (FitzGerald and Arar 2018; Fussell 2012; Zetter 2018). Its focus on legally recognized categories overlooks populations displaced by violence but not granted refugee status at scale—as in the case of Guatemalans and Salvadorans fleeing conflict in the 1980s (Menjívar 2023). Scholars have called explicitly for work bridging these two traditions, arguing that doing so will better uncover and address theoretical gaps (FitzGerald and Arar 2018; Fussell 2012; Hamlin 2021; Zetter 2018). Guatemala presents such an opportunity. Its wartime displacement and its contemporary migration have each been documented in detail, but the two have rarely been connected.

In this paper, I argue that forced displacement can initiate migration streams that, over time and through feedback mechanisms, become self-perpetuating. That is, as in labor migration, forced migration *can* lead to cumulative causation. But when a stream is seeded by one force and later sustained by another—when its initiating and sustaining conditions differ in kind—this gap changes what cumulative causation is capable of. As the networks mature and take on a life of their own, they alter the stream’s observable character and sever its visible connection to the original push factor in a process I call *stream transformation*. Once this transformation occurs, contemporaneous

² However, its principles are also observed in diverse migration patterns worldwide, including from China (Liang et al. 2008), Poland (Kalter 2011), and Africa (Liang 2014).

models may mis-specify what is driving migration, because the mechanisms that reproduce the stream also obscure its origins from view. Drawing on the case of Guatemalan migration to the United States between 1978 and 2018, I show that a stream initially seeded by a period of extreme violence in the Guatemalan Civil War (1978–1985) was, over time, consolidated and transformed through feedback processes. Thus, what is commonly attributed to contemporary violence is more accurately understood as the downstream product of a decades-old displacement process, now sustained primarily by the migrant networks that the original shock set in motion.

For this analysis, I draw on an original dataset linking five decades of evidence across both origin and destination contexts: microdata from three Guatemalan censuses, municipality-level records of Civil War violence, municipality-level data on contemporary homicides and crime victimization, U.S. Census and American Community Survey data, and U.S. immigration records, including FOIA-obtained family unit apprehension data. The evidence traces the full arc of the stream: Guatemalans fleeing violence during and in the years following the bloodiest period of the war, the accumulation of a substantial migrant stock in the United States, the subsequent reorganization and growth of sending patterns within Guatemala, and the persistence of these patterns into the present. Even now, statistical models show that a municipality’s exposure to extreme violence four decades ago remains a considerable predictor of contemporary emigration—while contemporary homicide rates and crime victimization actually show negative associations. The long reverberation of the original shock is still legible in the data, even as its origins have remained conspicuously absent in contemporaneous accounts.

In this paper, I make three contributions that speak to the trajectories of forced migration, the long-run consequences of violence, and broader theories of migration. First, I provide large-scale evidence that cumulative causation can arise from forced displacement—a possibility prior literature often dismisses—and demonstrates that it transforms, rather than merely amplifies, the streams it sustains. Second, I show that migration capacity accumulates beneath observable flows: communities can appear quiescent for years, even decades, while retaining—and compounding—the ability to migrate. This produces *differential elasticity* when broader migration pressures rise: places with greater accumulated capacity respond far more strongly than places without. Third, I highlight some conditions under which forced migration streams endure rather than fade and consider what these suggest for the future of today’s displacements.

BACKGROUND

Binary Logic and Its Analytical Costs

The study of international migration has long been balkanized by “binary logic” (Hamlin 2021). The underlying and enduring emphasis on categorizing voluntary versus involuntary migration, economic versus political migration, and refugees versus migrants has ensured a siloed approach to research, shaping *who* is studied, *what* kinds of questions are asked, and *which* theories are employed (or not) to explain broader social processes (FitzGerald and Arar 2018; Fussell 2010; Hamlin 2021; Zetter 2018).

This division has its modern roots in the 1951 United Nations Refugee Convention, the first binding international agreement on refugees (Arar and FitzGerald 2023; Hamlin 2021). The Convention defined a refugee narrowly as someone with a well-founded fear of persecution on the basis of race, religion, nationality, political opinion, or membership in a particular social group, who is outside their country of origin and unable or unwilling to return (UNHCR 2026).³

Sociologists recognized early that this legal line sat awkwardly against social reality. Vernant (1953) rejected any “clear dividing line” between economic and political migration even as he organized his analysis around the Convention, and Petersen (1958) warned that migration theory was hamstrung by its dependence on legal categories. The distinction hardened nonetheless. Kunz (1973:130) reified it, declaring the refugee a “distinct social type,” and by the end of the 1980s refugee studies had consolidated into a discipline of its own: working groups, research centers, and, in 1989, the *Journal of Refugee Studies*, founded explicitly to organize work around the “label ‘refugee’” (Black 2001; Zetter 1988:2).

The disciplinary divorce thus formalized, refugee studies and migration studies continued down increasingly siloed trajectories. Despite some notable exceptions (Castles 2003; Hein 1993; Richmond 1988, 1993; Zolberg, Suhrke, and Aguayo 1989), the two fields developed in parallel: refugee studies focused on legally recognized refugees, while migration studies developed theories of migration understood as inherently economic in motivation and voluntary in function (Hamlin 2021). The consequence is visible in field-defining works intended to “create a comprehensive theory of international migration for the next century” that make no mention of conflict, forced migration, or refugees (Massey et al. 1993, 1999).

Recent scholarship has attempted to disrupt the predominant binary logic, with some— notably Arar and FitzGerald’s (2023) “systems perspective”—calling for a fundamental reframing of refugee movements (loosely defined) as embedded within broader migration systems (see also Fussell 2012; Hamlin 2021; Zetter 2018). Yet the distinction continues to dominate popular, policy-oriented, and even academic discourse and understandings of global migration trends. Indeed, some leading voices in the field have explicitly pushed back against this attempt at change (Collier and Betts 2017; Gibney 2009; Price 2010), doubling down on the resilient claim that “refugees are not migrants” (Feller 2005).

For both fields, even the best intentions to move “beyond binary thinking” (Hamlin 2021) have been stymied by that perennial frustration for migration scholars of all stripes: data availability. refugee studies scholars draw the bulk of their research from data sources either defined by Convention standards or even collected by the United Nations High Commissioner of Refugees (UNHCR) (Betts 2013; Crisp 1999). Of course, this risks a type of circular reasoning that would miss “people fleeing other kinds of violence outside the statutory definition” (FitzGerald and Rawan 2016:7). Migration studies, in turn, has relied heavily on large-scale datasets built around flows traditionally conceived as economic—none more influential than the Mexican Migration Project (MMP) (Durand and Massey 2004). These parallel data practices have significant empirical and

³ The binary did not emerge *ex nihilo* in 1951; pre-Convention scholarship was already shaped by international bodies’ classifications of which displaced populations warranted assistance (Arar and FitzGerald 2023; Skran 1995).

theoretical stakes (Blanton et al. 2026). First, there are certain types of people who are overlooked insofar as they defy easy categorization as a “refugee” or a “migrant” (Bakewell 2008; Fussell 2012).⁴ Asylum seekers, for example, are not so easily labeled. As the vast majority of asylum seekers worldwide are denied refuge (Abdelaaty 2021) yet not straightforwardly “voluntary,” they lack any “easily observable institutional form” (Bakewell 2008:439) and thus “fall between the stools of forced and voluntary migration studies” (Hamlin 2021:19).

Second, the siloed approach has limited our ability to trace, and theorize about, the long-term development of migration streams—especially when the conditions that initiated them change over time. Refugee studies often attends to the causes of forced movement but rarely integrates them into broader migration theory. Migration studies built its traditional theoretical apparatus around flows already conceived as economic, rendering streams with heterogeneous or evolving motivations essentially invisible. The reasons migration occurs initially are often quite different from the reasons it continues decades later, yet most migration scholarship does not consider these temporal dimensions (Fussell 2012; Riosmena 2024; Zetter 2018).

The analytical costs of the binary traced above demand careful attention to terminology, particularly the distinction between substantive and legal categories of displacement. Throughout this paper, I use *forced migration* to refer to movement initiated by political or military violence—whether selective (persecution, ethnic cleansing) or generalized (war, state collapse) (Mandić 2022; Zolberg et al. 1989). I reserve *displacement* for the initiating movement and *stream* for the durable form it later takes. Following Aguayo (1985), I recognize four pathways through which conflict produces displacement: people targeted because of political or social group membership; people in communities indiscriminately attacked; people in neighboring communities fleeing in anticipation of violence; and people whose economic livelihood is destabilized by the conflict.⁵

Historical Sequencing and Cumulative Causation

Migration streams are historical objects—shaped by the conditions of their initiation, produced through sequenced processes, and sustained by factors that may differ substantially from what set them in motion (Fussell 2012). However, the disciplinary divide traced above often renders this temporal structure analytically invisible. The theoretical machinery for understanding how streams persist has been built almost entirely from economic cases, while the conditions that initiate streams through force or displacement have been treated as the concerns of a different field. Analyzing streams historically requires theoretical tools for both—to analyze how contingent events can produce durable trajectories, *and* how self-reinforcing mechanisms might reproduce those

⁴ To thus avoid this binary trap, Rebecca Hamlin uses the term “border crosser” for everyone (2021:9).

⁵ A few years later, Aguayo and colleagues expanded this 1985 conceptualization to the greater displacement crisis unfolding across the developing world, using a twofold understanding of “life-threatening violence” that encompassed both immediate physical violence and “coercive circumstances that have similarly threatening effects” (1989:30–33). Like Mandić’s (2022), this definition of forced migration excludes displacement from non-conflict shocks (e.g. climate, natural disasters, etc.). Whether the theoretical framework developed in this paper extends to those contexts is a question for future research.

trajectories over time. Comparative-historical social science has developed exactly this toolkit, though migration scholarship has rarely drawn on it directly.

Historical disruptions can trigger long-term social trajectories that persist even when the original conditions have faded. *Critical junctures* represent periods of significant change “hypothesized to produce distinct legacies” (Capoccia and Kelemen 2007; Collier and Collier 1991:27)—moments of contingency when multiple pathways are plausible, reconfiguring social structures, institutions, and networks in ways that continue to shape behaviors and outcomes for decades (Capoccia 2016; Mahoney 2000). *Path dependence* describes the mechanism(s) through which those trajectories persist: once a path is initiated, increasing returns lock in specific outcomes, making deviation progressively more costly (Mahoney 2000; Pierson 2000). The two concepts are distinct but complementary—path dependence is, in Hacker’s formulation, “the reproduction of a critical juncture’s legacy” (1998:78). Together these tools encourage analysis of outcomes whose current shape reflects contingent initiations decades earlier, sustained through self-reinforcing mechanisms that may now operate independently of their originating conditions—answering longstanding calls to foreground history in sociological accounts of the contemporary world (Calhoun 1998; Goldstone 1998; Strangleman 2023).

Migration scholars have long conceptualized these processes in parallel. Forced migration streams begin with specific kinds of initiating conditions—what Richmond (1993) called “precipitating events” and Mandić (2022) terms “force factors,” referring to bounded political or military disruptions analogous to what historical sociologists call *critical junctures*. Once streams have begun, they can persist through self-reinforcing mechanisms: cumulative causation, the migration-specific theory of how streams become self-sustaining, is at its core a *path-dependent* mechanism—each migration event alters the probability structure for subsequent ones through feedback that operates at multiple levels. Initial migrants maintain ties to those who remain behind; each new migrant lowers the financial, social, and psychological costs of migration for others in the community, reinforcing the cycle (Massey 1987, 1990; Myrdal 1958). Yet networks are only one channel among several. As theorized, cumulative causation operates through interconnected feedback at the individual, household, community, and destination-side labor-market levels, drawing on—rather than competing with—neoclassical, new economics of labor migration, and historical-structural theories (Massey 1990).⁶

Two features of the original theory bear emphasis. First, cumulative causation has a *cultural* dimension: as migration becomes prevalent within a sending community, it reshapes local values and aspirations, becoming embedded in the community’s repertoire of expected behaviors (Kandel and Massey 2002; Massey 1990). Second, and more fundamentally, the theory is constitutively *temporal*. Massey frames migration as “a historical process that cannot be abstracted in time,” fundamentally requiring a “longitudinal perspective” (1990:3). Cumulative causation, in its full formulation, is not a static correlation between network presence and migration probability but a sequenced process

⁶ For a summary of how the common mechanisms of cumulative causation interrelate with other frameworks, see (Riosmena 2024:698).

unfolding over decades, with mature streams becoming “progressively independent” of the conditions that produced them (Massey et al. 1993:450).⁷

This longitudinal framing carries an implication that the literature has rarely articulated or tested. If streams become independent of their initiating conditions, then cumulative causation is capable of something more transformative. Rather than solely amplifying a stream of fixed character, it can reshape that character over time—as networks consolidate and sustain migration on their own terms, the stream’s contemporary observables can drift from, and ultimately decouple from, the conditions that produced it. The original cause becomes systematically less legible in present-day data because the mechanism itself works to obscure it. Yet in the labor migration contexts where cumulative causation has most often been tested, this transformative capacity has had nothing to act on. Where initiating and sustaining conditions are continuous—labor migration begetting labor migration—there is little for transformation to register against. Cases in which a stream’s initiating conditions differ categorically from those that sustain it, however, are precisely the ones in which the transformation can occur. The literature has had little reason to ask what cumulative causation does in such cases. Cumulative causation theorizes what happens after migration begins, leaving the conditions of initiation to other fields.⁸

This theoretical silence on initiation has shaped which cases scholars have examined. Cumulative causation has been tested almost entirely in contexts of labor migration, in part because of data availability—but also because migration scholars who have explicitly considered forced migration have often argued or assumed that theories like cumulative causation are simply irrelevant there (Castles 2003; Fussell 2012; Richmond 1988). The 2010 special issue of the *Annals of the American Academy of Political and Social Science* offers an instructive example. Explicitly designed to broaden migration scholarship’s empirical base, this collection drew on MMP and Latin American Migration Project (LAMP) data to ambitiously provide “the first systematic assessment of Latin American migration patterns” beyond Mexico, specifically to examine and test theories derived from the “Mexican case” in other contexts (Donato et al. 2010:6).

Two of the papers took up this task for the theory of cumulative causation. First, using LAMP data, Fussell (2010) examined whether social networks explain migration to the United States from Costa Rica, the Dominican Republic, Mexico, Nicaragua, and Puerto Rico. Before the analysis, she distinguished Nicaragua from the other cases because that migration stream stemmed from the Contra War in the 1980s. As such, she expected that cumulative causation of migration would *not* be

⁷ Cumulative causation is frequently invoked more narrowly—glossed as the simple claim that migrant networks lower the costs of subsequent migration (Curran and Rivero-Fuentes 2003; Garip 2008) and/or tested as whether prior migrant stock predicts later moves (Heering, van der Erf, and van Wissen 2004). The fuller formulation emphasized here, multi-channel and constitutively temporal, is the one Massey originally advanced.

⁸ This is explicit in Massey’s (1990) reintroduction of the theory, which surveys neoclassical, new economics of labor migration, and macroeconomic literature as context for *how* cumulative causation subsequently operates, but does not specify the conditions under which streams initiate. As Massey plainly states, “Migration may begin for a variety of reasons, but once the number of migrants reaches a certain level, expanding networks cause the costs of movement to fall and the probability of migration to rise” (Massey 1990:8). Throughout this piece and others, the economic character of initiation is not argued for so much as assumed from the Mexican empirical context. Cumulative causation, as theorized, is agnostic about *why* migration begins but confident about *what can happen next*.

evident in Nicaragua, because streams instigated by “wars, disasters, or other temporally bound disruptions” would be less likely than labor-migration streams to be perpetuated by social networks (Fussell 2010:164). In the end, the analysis confirmed her prediction and she concluded that Nicaragua is the “exception that proves the rule” (Fussell 2010:175).

However, two features of Fussell’s test deserve further consideration. Her conclusion about cumulative causation’s scope rests empirically on a single forced-migration case. This is notable: LAMP data were available at the time for Guatemala and El Salvador, two countries whose conflict-initiated migration streams had ranked second and third behind Mexico in U.S. border apprehensions for much of the preceding three decades.⁹ The test was also constrained by destination: Nicaraguan wartime migration flowed primarily to Costa Rica rather than the United States (Hamilton and Chinchilla 1991) limiting what a U.S.-focused analysis could detect about that stream’s network dynamics. However, what Fussell’s test could not see, a second paper in the same issue inadvertently captured.

In another piece, Lindstrom and López Ramírez (2010) analyze the timing of cumulative causation across thirty-two MMP and LAMP communities in five countries, including Guatemala. The Guatemalan communities were all in Quiché—the department that suffered the most extreme violence and displacement during the Civil War (CEH 1999). Among all communities studied, those from Quiché showed the fastest non-Mexican growth in the “takeoff” stage of network-based migration (Lindstrom and López Ramírez 2010:5). In a predictable omission, however, there was no mention of forced migration. Pioneer migrants across all five countries were characterized through the same economic-lens vocabulary standard in this literature. Quiché’s migration had the fingerprints of cumulative causation—but they were read as evidence of economic pioneer selection, not as a legacy of forced displacement.

Refugee studies, for its part, has not reached for cumulative causation either. Of 430 articles published in the *Journal of Refugee Studies* over two decades, *not one* examined cumulative causation (Paasche 2020). This absence is predictable: refugee studies’ empirical focus on legally recognized refugee populations and short-term protection frameworks is incompatible with a theory of multi-decade stream reproduction (Bakewell 2008). Where migration studies has theorized stream persistence without forced initiation, refugee studies has theorized forced initiation without stream persistence—and neither has reached across the gap.¹⁰

If cumulative causation does operate in displacement-initiated streams, it should leave a specific signature: a stream whose character has decoupled from its initiating cause, with the

⁹ This pattern of omission extended beyond Fussell’s paper. The Massey and Riosmena (2010) contribution in the same issue, analyzing undocumented Latin American migration in an era of “rising enforcement,” examined Mexican, Dominican, Nicaraguan, and Costa Rican flows while omitting Guatemala and El Salvador—the two populations whose apprehensions at the southwest border ranked second and third in the year of publication (Department of Homeland Security 2011).

¹⁰ Recent work has begun to probe this in other conflict contexts—finding that accumulated migration experience and insurgency violence can independently predict emigration, suggesting cumulative causation and violence-driven displacement sometimes operate simultaneously (Korinek et al. 2025). Whether this pattern extends to cases where conflict has ended and network-driven migration has matured over decades is what the Guatemalan case examines.

historical signal still legible at the community level even as it remains absent from contemporaneous indicators. Confirming or refuting this prediction requires the kind of long-arc evidence and cross-field integration that the disciplinary divide has discouraged.

Tracing a stream from forced displacement requires more than documenting that violence caused people to move. It means understanding how violence restructures the communities people move *from*—altering collective memory, social networks, and demographic behaviors in ways that can outlast the original event by generations. An interdisciplinary literature on violence’s lasting effects offers a starting point.

A substantial body of interdisciplinary scholarship documents violence’s effects on beyond its direct victims. Sharkey’s (2018) “long reach of violence” framework calls for attention to the wider impacts of living in violent environments, showing that community-level exposure shapes outcomes regardless of personal victimization. Related work has documented these effects across domains, such as in children’s cognitive and academic performance (Sharkey 2010; Sharkey et al. 2012) and young women’s reproductive lives (Svallfors 2022; Weitzman et al. 2023)—even among those with no direct experience of violence themselves. Most of this work, however, remains focused on individual-level outcomes and recent history. These effects are not only material but symbolic: when violence targets communities bound by shared ethnic, racial, or religious identity, it reshapes how they understand themselves and transmit that understanding across generations, embedding memory of the violence in the social fabric of place (Abrutyn 2024; Eyerman 2019; Hirschberger 2018).ⁿ

The demographic mechanisms of this transmission have been most extensively documented by Alburez-Gutiérrez (2018, 2022) in Maya communities of Quiché, where the genocidal massacres of the Civil War were concentrated. These are the same communities Lindstrom and López Ramírez (2010) analyzed for the timing of cumulative causation. Mortality crises produce large populations of bereaved kin, amplifying the reproduction of historical memory across generations through what Alburez-Gutiérrez calls “demographic memory” (2022). Beyond memory, demographic outcomes such as mortality and fertility are shaped and transmitted intergenerationally in the aftermath of extreme violence, embedding the consequences of collective trauma into the social and behavioral fabric of communities (Alburez-Gutiérrez 2018). What this body of work demonstrates for mortality and fertility, however, has not been examined for migration—the third classical demographic outcome.

Taken together, these literatures share a common implication: that extreme violence has community-level consequences extending beyond direct victims, consequences that can outlast the original event and remain attached to specific places. Testing whether they bear on migration requires a setting where the violence is empirically distinguishable, varies meaningfully at the subnational level, and has produced a migration stream traceable across decades. Guatemala provides that setting.

Genocide, Displacement, and the Making of a Migration Stream

In the early stages of the Cold War (1954), the CIA orchestrated a coup against the democratically elected Guatemalan president Jacobo Arbenz, which set in motion decades of instability (CEH 1999). A failed 1960 uprising by pro-Arbenz officers produced a formal insurgency, beginning Guatemala's 36-year Civil War, which would last until the formal peace accords in 1996 (Ball, Kobrak, and Spirer 1999; CEH 2021). For its first two decades, the war was largely confined to Guatemala City and the predominantly *Ladino*¹¹ eastern regions, where the government targeted students, union members, and religious leaders (CEH 1999). By the late 1970s, however, the "second guerrilla movement" moved its operations to the Western Highlands, actively mobilizing long-marginalized Maya communities to join their struggle against a shared enemy (Garrard-Burnett 2010). Fearing a guerrilla-Maya alliance, the regime abandoned targeted engagement for the systematic use of violence against civilians perceived as sympathetic to the opposition (Figueroa Ibarra 1991). Rooted in racist ideology and long-standing concerns over the "Indian problem," the state exaggerated Maya collaboration with the insurgency to brand the entire population as the "collective enemy of the state" (Brett 2016; CEH 1999).¹²

The extreme scorched-earth campaign that followed, referred to as *La Violencia* (The Violence), was marked by massacres, rape, torture, and the destruction of entire communities (Brett 2016; Sanford 2003).¹³ Survivors were forcibly relocated to "model villages," while the state launched a systematic assault on Maya cultural and symbolic practices (CEH 1999; Sanford 2003).¹⁴ Widely recognized as genocide (Brett 2016; CEH 1999; Garrard-Burnett 2010), this period accounted for the majority of the 626 documented massacres, 440 villages destroyed, and 200,000 people killed or disappeared during the war (CEH 1999) (Figure 2). Recognized as the most intense and violent phase of the conflict, *La Violencia* spanned roughly from 1978 to 1985 (CEH 1999).¹⁵ Scholars

¹¹ While the term *ladino* is contested and has evolved in meaning over time, it generally refers to a population that speaks Spanish as a first language, wears Western-style clothing, and follows customs rooted in both Spanish and Indigenous traditions (Menjívar 2011). The Guatemalan government officially recognizes five national pueblos (peoples): Maya, Garífuna, Xinka, Ladino, and Afrodescendant/Creole/Afromestizo. In the national census, individuals self-identify with one of these five categories or as "foreigner" (INE 2021). As of 2018, the Maya (42%) and Ladino (56%) together accounted for 98% of the population.

¹² This did not go unnoticed by Maya communities. A few days after the second public massacre of civilian indigenous protestors, burned alive in the Spanish Embassy in 1980, leaders from almost every Maya linguistic group attended a meeting at the "symbolically charged" ruins of Iximché, the capital of the ancient Kaqchikel kingdom (Grandin 1997:20). There, they adopted "The Declaration of Iximché," a call to arms in which they denounced the "more than four centuries of discrimination, negation, oppression, exploitation, and massacres made by foreign invaders and continued unto present day by their most savage and criminal descendants" (Garrard-Burnett 2010:49).

¹³ In this case, the term "scorched earth" is not metaphorical. Forensic Architecture's investigation of the Ixil Triangle document the systematic destruction of Maya villages, agricultural lands, and water sources by Guatemalan military forces between 1981 and 1983, using satellite imagery and geospatial analysis to corroborate survivor testimony of burned fields, razed homes, and the deliberate elimination of subsistence infrastructure (Weizman and Tavares 2018).

¹⁴ Historian Virginia Garrard-Burnett called this counterinsurgency campaign "the worst calamity to befall Mayan life and culture in Guatemala since the sixteenth-century Spanish conquest" (2010:7).

¹⁵ Guatemala's Commission for Historical Clarification (*Comisión para el Esclarecimiento Histórico*, CEH), established as part of the UN-facilitated peace process, provided these statistics on human rights violations during the Civil War. Their

frequently describe this period as a pivotal and transformative phase in both the Civil War and Guatemala's broader history, aligning with the conceptualization of a critical juncture.

[Figure 2]

While *La Violencia* produced a range of far-reaching consequences, one of its most significant outcomes was mass displacement (Brett 2016; Pederzini et al. 2015). An estimated 1.5 million people—20% of the population, predominantly Maya—were forcibly displaced during the counterinsurgency campaign (Manz 1988). While the majority were internally displaced within Guatemala, the violence also instigated the *first* large-scale international migration flow in Guatemalan history (Hagan 1987; Jonas and Rodríguez 2015; Pederzini et al. 2015).¹⁶

The most visible migrants of this period were the Guatemalans settled in UNHCR refugee camps in southern Mexico (Jonas and Rodríguez 2015; Manz 1988), but these legally recognized refugees were a small share of the number of those who fled across borders during the critical juncture period (Aguayo and Fagen 1988). In 1982 the Mexican government declined to recognize the rest as refugees even when their circumstances were indistinguishable from those who received protection (Aguayo et al. 1985:17), leaving them effectively undocumented and uniquely exposed to a competitive labor market during the regional economic crisis. Mexican policy then foreclosed the north as a place to settle: visas issued to Guatemalans that year no longer permitted travel to northern Mexico, on the presumption that holders intended to transit toward the United States, and even documented migrants could be apprehended in border cities absent ties demonstrating intent to remain (Aguayo et al. 1985:55–57). As Mexican policy and economic pressures combined to make Mexico an inhospitable destination, an increasing number of forced migrants continued north to the United States (Aguayo and Fagen 1988; U.S. General Accounting Office 1984).¹⁷

exhaustive report found that 93% of atrocities were committed by State forces, and 83% of identified victims were Maya (1999).

¹⁶ Guatemalans have long migrated internationally for economic opportunity, but prior to the 1970s, these represented small flows—composed mainly of seasonal agricultural migration to southern Mexico (Chiapas) and migration within Central America (Pederzini et al. 2015). However, the social and political instability of this period pushed Guatemala into a new phase as a migrant-sender. The vast majority of these migrants came from war-torn regions. As such, the best-known ethnographies of Guatemalan “migration cultures” are of communities who experienced extreme violence or social upheaval during the critical juncture period (Falla 2008, 2012; Jonas and Rodríguez 2015; Stoll 2012). Guatemalan migration scholar Lizbeth Gramajo (2023) explicitly identifies Civil War violence as the clear “detonante” (catalyst) for international migration from the Western Highlands throughout the 1980s. Building on this body of work, other Guatemalan scholars have explicitly characterized the resulting migration patterns as cumulative causation (Andrade, Hernández Bonilla, and Bauer 2017). The temporal framing of this scholarship is consistent with the claim made in the body: Jonas and Rodríguez identify the first phase of Guatemalan migration to the United States—“Phase 1: Fleeing Social Turmoil (1977–1985),” which maps almost perfectly onto the years of the critical juncture identified.

¹⁷ The empirical trace of this onward movement appears in Mexican border-city apprehension records. In the mid-1970s, Guatemalans were not among the nationalities commonly detained by Mexican authorities in Ciudad Juárez, the principal northern transit point. By 1981, Guatemalans constituted 12% of apprehensions; by 1982, 29%—second only to Salvadorans. That year, Mexican authorities deported approximately 250 Guatemalans per week (Aguayo, Irigoyen, and Velázquez 1985).

During this period, Guatemalan arrivals in the United States became increasingly visible—and concerning—to the U.S. federal government. Between 1980 and 1985 there were over 26,000 apprehensions of Guatemalans at the Southwest border (Manz 1988). A 1984 GAO report to Congress found that, by U.S. and international estimates, *most* displaced Central Americans had headed toward North America (see also Aguayo et al. 1985; Hagan 1987), and warned that the United States must be better prepared to deal with the “continued large number of Central Americans trying to enter this country illegally” (U.S. General Accounting Office 1984:v).

The GAO report identified “increasing violence” as the chief reason for Guatemalan migration and labeled those arriving as “refugees,” citing the UNHCR’s *prima facie* refugee designation for Guatemalan and Salvadoran outflow (U.S. General Accounting Office 1984:6, 41).¹⁸ Their *de facto* treatment was the opposite: throughout the 1980s, 98% of Guatemalan asylum claims were denied (Jonas 2013). The gap between recognition and classification reflected Cold War alignment. As a State Department official acknowledged at the time, “of course, refugee policy is politicized. We accept as refugees those individuals coming from our ‘enemies of the day.’ Those coming from friendly countries are simply not accepted as refugees” (Ferris 1987:7). Recognizing Guatemalans as refugees would have meant conceding that a regime the United States actively supported was persecuting its own citizens.¹⁹ Whether through unauthorized entry or denied asylum claims, most Guatemalans who fled the war during these years were absorbed into the category of undocumented migrants—a designation that would define how their presence was counted, studied, and understood for decades to come.

Despite the legal regime that received them, these populations organized themselves on the ground in ways that reflected their actual origins. Wartime arrivals came overwhelmingly from the Western Highlands—the region that had borne the heaviest weight of *La Violencia* (Hagan 1987). Early ethnographic studies of these migrants show that Maya communities from this region organized themselves by *municipio* (municipality), forming close-knit urban “villages” in places like Houston, Los Angeles, and Palm Beach, Florida, that maintained their languages, cultural practices, and social structures (Hagan 1994; Loucky 2000b). These communities enabled later arrivals to secure jobs and resources, and by the late 1980s and early 1990s acted as “magnets” drawing others out of Guatemala’s persistent poverty and instability (Jonas and Rodríguez 2015; Loucky 2000b). Annual Guatemalan arrivals to the United States exploded to an all-time high of over 45,000 (Jonas and Rodríguez 2015). Their permanence was reinforced by the 1986 Immigration Reform and Control Act (IRCA), which allowed many early wartime arrivals to legalize their status—and, in time, to sponsor relatives through legal channels (Jonas and Rodríguez 2015).

From the height of the displacement itself, the prevailing assumption among governments and international agencies was that the crisis would resolve along with the conflicts that had

¹⁸ The use of the term “refugee” was not uncontested even within the U.S. government. In the GAO report’s own peer-review process, the Department of Justice objected to the designation, while the Department of State concurred with the framing (U.S. General Accounting Office 1984:42).

¹⁹ The systematic nature of the denials was acknowledged only in the 1991 settlement of *American Baptist Churches v. Thornburgh*, which conceded that Guatemalan and Salvadoran claims had been adjudicated under improper political criteria and let thousands reapply (Jonas and Rodríguez 2015).

produced it (Congressional Quarterly 1990; Ferris 1987; U.S. General Accounting Office 1984).²⁰ However, as the regional peace process took shape in the late 1980s, a pair of scholars warned against such predictions (Aguayo and Fagen 1988; Aguayo et al. 1985). Aguayo and Fagen observed that such thinking misread the nature of the crisis: displacement at this scale tends to “take on a life of its own,” (1988:2) economic fallout in the sending nations would outlast any political settlement, and migrants who had built productive lives abroad would be reluctant to abandon them. What had occurred was a massive and “largely irreversible demographic transformation” of the region (1988:72). Yet these were conjectures, offered as the war wound down and never tested against what followed.

While the war itself did end with the peace accords of 1996, violence did not end with it. However, its nature and geography shifted dramatically (Yashar 2018). Contemporary violence is largely concentrated in urban centers and the Ladino-dominated eastern regions, driven primarily by criminal actors (Dudley 2017). In contrast, the rural Western and Central Highlands, which bore the brunt of *La Violencia*, are relatively peaceful today, yet they continue to dominate out-migration (OIM 2023; Pachico 2017; Yashar 2018). However, common accounts that frame contemporary Guatemalan violence as a legacy of the Civil War overlook the geographic mismatch mapped below.

These divergent geographies are visible at the municipality level (Figure 3).²¹ Conflict-era violence was concentrated in the Western and Central Highlands and the northern department of Petén. Contemporary homicide (2002–2018), by contrast, clusters along the Southern Coast and eastern regions. The two rarely coincide: historical and contemporary violence fall in the same top-quartile municipalities in only 2% of cases (8 of 340), indicating that different forces drove violence in each period.²² The municipalities sending the most migrants today lie predominantly in the Western Highlands, the very areas that suffered most during *La Violencia* four decades earlier. Why that historical geography still influences who migrates today is the question the rest of the paper takes up, and it resolves into three: when did large-scale Guatemalan migration to the United States begin, and under what conditions; how did the flows of that period become a durable stream; and

²⁰ Again, this assumption was influenced by binary thinking. Much of the conversations around decreasing flows and “return” focused exclusively on the smaller subset of UNHCR refugees, who, in the mid-1980s began to be repatriated by the UNHCR (Americas Watch Committee 1984; Bradley 2011). This increased when, in 1986, the Guatemalan government established a special commission that provided food, shelter, and medical care to repatriating refugees (U.S. General Accounting Office 1989). However, none of these programs applied to the *majority* of displaced Guatemalans who “crafted their own ‘solution’ through undocumented migration” to the United States, and whose flows showed no empirical signs of abatement (Bradley 2011).

²¹ Figure B1 in Appendix B illustrates conflict deaths for the *entire* Civil War period (1960–1996), showing similar spatial dynamics.

²² These findings indicate that the spatial patterns of violence during the Civil War and in contemporary Guatemala differ significantly. This does not imply, however, that contemporary violence is entirely disconnected from the historical conflict (Menjívar 2011; Yashar 2018). As Yashar has argued in more detail, “The geographical and temporal patterns of post-civil war homicidal violence do not simply replicate or extend earlier patterns... the civil war is not the root of the contemporary problem. While tolerance for violence, the brutality, and even the weaponry used to commit the violence might find some of its origins in the civil war, the levels reached by contemporary violence is not simply a reflection of the past” (2018:152).

does a municipality's exposure to wartime violence still predict who migrates today, once present-day conditions are held constant?

[Figure 3]

DATA AND METHODS

I assembled an original dataset linking five decades of evidence across the origin and destination contexts of Guatemalan migration. I describe the sources below and then set out the analytic approach. Table 1 summarizes every measure, its definition, and its source; Appendix A documents provenance and measure construction in full.²³

[Table 1]

Migration Data

Migration outcomes come from the 1994, 2002, and 2018 population censuses.²⁴ In 2018, the Guatemalan National Population Census introduced a new module on migration, asking each household head whether a member had emigrated²⁵ since 2002 and, if so, that migrant's year of departure, age, and sex. Using this module, I identified migrant-sending households²⁶ and, aggregating events to municipality-years, built a 2002–2017 migration panel. I also created a measure indicating the total number of migrants per household. The 1994 and 2002 censuses carried only a general question on emigration in the prior decade, which I used to track department-level migration across three periods (1984–1994, 1992–2002, 2002–2018).

Historical Violence Data

I measure Civil War violence using the Commission for Historical Clarification (Comisión para el Esclarecimiento Histórico, CEH), the UN-facilitated truth commission whose final report, *Guatemala: Memory of Silence* (1999), remains the most comprehensive accounting of the conflict

²³ A complete replication package is deposited at [OSF URL]: a single annotated Stata do-file that runs from the raw microdata to every table and figure in the paper and appendices, the Python extraction that recovers the CEH case register from the published report, and documentation of every input. Almost all sources are public. The municipality-level family-unit apprehension counts were obtained by another research team and cannot be redistributed; they enter only the apprehension columns of Table 3, and every other result reproduces from public data. Three further sources require free registration or a short application rather than open download, and the package documents the procedure for each.

²⁴ The 2018 and 2002 microdata were obtained from Guatemala's National Institute of Statistics (INE); the 1994 microdata via IPUMS International (Ruggles, Cleveland, et al. 2025).

²⁵ Although these data encompass both legal migration and destinations beyond the United States, 90% of Guatemalan migrants reside in the United States, and the vast majority who emigrated during this period did so without documentation (Ward and Batalova 2023).

²⁶ This captures migration anchored in a household that remained in Guatemala. Like most origin-based census instruments, it is well suited to household-linked international migration but may underrepresent whole households that relocated abroad before enumeration or circular moves (UN Department of Economic and Social Affairs 2022).

and has served as evidence in Guatemala’s genocide prosecutions, including the 2013 conviction of former head of state Efraín Ríos Montt (Ball and Price 2018). From the report’s case annexes I aggregated victims across the CEH’s lethal-violation categories. Of the 26,043 killings recorded with date and location, 24,705 (94.9%) fall within the 1978–1985 critical juncture (Figure 2). These are the analytic universe for the violence measure. I normalized killings by 1981 municipal population to a conflict-death rate per 100,000 and, for binary specifications, flagged top-quartile municipalities as high-conflict zones. Construction and a robustness replication with an alternative dataset of historical violence appear in Appendices A and C, respectively.²⁷²⁸

Contemporary Violence Data

For contemporary violence, municipal homicide counts (2002–2017) come from the Center for National Economic Research (*Centro de Investigaciones Económicas Nacionales*, CIEN).²⁹ I calculated municipal homicide rates as the mean annual (2002–2017) number of homicides per 100,000 residents, using the 2018 municipal population. I then log-transformed the rate for modeling. Again, I created a binary indicator for high-homicide (top-quartile) municipalities. To capture the non-lethal insecurity—extortion, threats, assault—that homicide misses, I also calculated (non-homicide) crime-victimization rates with data from the National Institute of Statistics (*Instituto Nacional de Estadística*, INE). I report additional models with these measures as a robustness check in Appendix C.

Household and Municipal Controls

I included three government-sourced municipal controls in all models: a municipality poverty measure using the government’s Unmet Basic Needs (*Necesidades Básicas Insatisfechas*, NBI) method (SEGEPLAN 2020), an indicator for the drought-prone “dry corridor” (*Ministerio de Ambiente y Recursos Naturales de Guatemala* (MARN) 2021), and the 2016 Municipal Governance (*Ranking de la Gestión Municipal* (RGM)), a composite index of municipal governance produced by Guatemala’s National Planning Secretariat (SEGEPLAN) (2024). Household-level controls include a binary indicator for ethnicity of the household head (0= all others, 1= Maya), geographic density (0=urban, 1= rural), and a continuous measure of household size.

²⁷ The CEH visited more than 2,000 communities and gathered 7,338 testimonies. Its determinations incorporate the independent CIIDH and Catholic Church (REMHI) documentation efforts and have been relied upon by Guatemalan courts and international bodies. Extraction and validation are detailed in Appendix A2.

²⁸ Municipal population counts from the 1981 census (INE 1981) serve as the denominator for the conflict-death rate, as the closest available approximation of the population at risk during the 1978–1985 critical juncture.

²⁹ CIEN is an independent Guatemalan research center that has monitored crime and security statistics for two decades, compiling and publishing municipal counts from national police (*Policía Nacional Civil*) records. This is the standard source for subnational homicide figures in Guatemala and is routinely cited in national reporting. Counts for 2012–2017 are public; counts for 2002–2011 were provided on request.

U.S. Data

To trace arrival and settlement I use two historical sources: apprehension and legal-admission records by nationality from the Immigration and Naturalization Service (INS) Annual Reports and Statistical Yearbooks (1977–2002),³⁰ and Guatemalan-born population counts—nationally and for major metropolitan destinations—from Decennial Census and American Community Survey microdata (1970–2020) via IPUMS USA (Ruggles, Flood, et al. 2025). As an alternative measure of migration, I used municipality-level counts of Guatemalan family-unit apprehensions at the U.S.–Mexico border (2012–2017),³¹ obtained by Linke et al. through a Freedom of Information Act request to U.S. Customs and Border Protection (CBP).

Analytic Approach

The analysis proceeds in two main parts, following the descriptive geography already established (Figures 1 and 3). First, I trace the historical emergence, accumulation, and consolidation of the Guatemalan migration stream to the United States by drawing on both origin- and destination-side evidence. From the origin side, I use Guatemalan census data to examine department-level migration rates across the three census periods (1984–1994, 1992–2002, 2002–2018). From the destination side, I use INS, Decennial Census, and ACS data to examine the growth of the Guatemalan-born population in the United States both nationally and across major U.S. metropolitan destinations. To trace the stream’s persistence into the contemporary period and show how the wartime patterns reemerges after a period of dormancy, I compare annual migration rates (2002–2017) across high-conflict, high-homicide, and other municipalities.

Second, I test whether historical violence predicts contemporary migration in household- and municipality-level models that control for present-day violence, poverty, ethnicity, geography, and institutional capacity. The main predictors are the log of the conflict death rate during the critical juncture and a binary indicator for high-conflict zones. I give each model’s full specification where it is estimated. This analysis operates at two levels: the household and the municipality—Guatemala’s second-level administrative unit and the finest granularity in official data.³² At the household level, I estimate linear probability models to predict whether households are migrant-sending. I choose LPMs over logistic regression for interpretability and cross-model comparability of coefficients (Breen, Karlson, and Holm 2018; Mood 2010).

³⁰ The INS was abolished in 2003; its enforcement functions passed to CBP and other Department of Homeland Security agencies, making the contemporary CBP series the institutional successor to the earlier INS records.

³¹ An apprehension is the “physical control or temporary detainment of a person who is not lawfully in the U.S., which may or may not result in an arrest” (CBP 2024). CBP apprehension data are a reliable proxy for trends in undocumented migration (Blanton 2026; Espenshade 1995). This particular data source is valuable given a limitation of census data: households where entire families migrate together would not be counted in subsequent censuses. The family unit apprehension data may thus help capture migration trends that could otherwise be missed, particularly for regions experiencing higher family-based migration patterns.

³² Guatemala’s municipal structure changed over the conflict period; several municipalities were created during and after the war. Appendix A1 details how these boundary changes are handled across census waves.

At the municipality level, I estimate random-effects models. The unit of observation is the municipality-year, with repeated annual observations nested within municipalities. The dependent variables are the family-unit apprehension rate at the U.S.–Mexico border (2012–2017) and the rate of reported international migration from the Guatemalan census (2002–2017), each expressed per 100,000 residents using the 2018 census municipal population as the denominator. The municipality-specific random intercept accounts for unobserved heterogeneity while permitting estimation of between-municipality differences associated with historical violence. Standard errors are clustered by municipality. Formally, the models are specified as:

$$Y_{mt} = \beta_1 H_m^{\text{cj}} + \beta_2 Z_m + u_m + \varepsilon_{mt}$$

where Y_{mt} denotes the migration outcome in municipality m in year t , H_m^{cj} is the municipality's exposure to conflict-related violence during the critical juncture, and Z_m is a vector of time-invariant municipal characteristics. The term u_m represents a municipality-specific random intercept that captures unobserved heterogeneity across municipalities and ε_{mt} is the idiosyncratic error term.

RESULTS

From Displacement to Durable Stream: Tracing the Origins and Persistence of Guatemalan Migration

To trace how the displacement of *La Violencia* became a self-sustaining stream, I follow the process across origin and destination contexts: the initial displacement, the accumulation of a migrant stock in the United States, the consolidation of sending patterns within Guatemala, and the persistence of historical violence as a predictor of contemporary flows.

During and immediately after the critical juncture period, Guatemala experienced unprecedented, large-scale internal and international displacement. While most legally recognized refugees settled in southern Mexico, a *larger* number of Guatemalans continued northward through Mexico to the United States (Aguayo and Fagen 1988; U.S. General Accounting Office 1984). As such, large-scale Guatemalan migration to the United States should appear in the data during the critical juncture, spiking in the years immediately following—given that displacement was typically stepwise, with families first relocating internally or to southern Mexico before continuing northward through increasingly restrictive Mexican transit corridors (Aguayo et al. 1985; Hagan 1987).

Figure 4, which plots annual INS apprehensions of Guatemalan nationals at the U.S. border from 1977 to 2002, reveals exactly this pattern. Apprehensions rise steadily through the critical juncture period, then surge sharply after 1985—more than doubling between 1985 and 1989. Although INS reports tabulated apprehensions by top nationalities as early as 1954, Guatemala does not appear as a separately listed nationality in those tables prior to 1977. When Guatemalans first appear in the tables, however, they already rank among the largest Western Hemisphere nationalities in apprehensions. By 1986—the year after the critical juncture ends—they were the third largest group after Mexico and El Salvador, and they maintain that ranking through the end of the war in 1996. Thus, large-scale Guatemalan migration to the United States first emerged during the most

violent years of the Civil War.³³ What is more, flows do not subside after the war ends in 1996 as most observers anticipated they would; instead, they stabilize at a plateau slightly above pre-war levels, averaging roughly 7,000–8,000 annual apprehensions through 2002.

[Figure 4]

Figure 4 demonstrates that Guatemalans were arriving in large numbers during the conflict years. The next question, then, is whether these flows accumulated into a population capable of sustaining migrant networks. Figure 5 shifts from migration flows to migrant stock, showing how these arrivals built a growing Guatemalan population in the United States. The figure combines *cumulative* apprehensions with *cumulative* immigrant admittances for legal permanent residence to illustrate the growth of the Guatemalan population from 1977 to 2002.

[Figure 5]

By 2002, cumulative apprehensions of Guatemalans exceeded 175,000.³⁴ However, INS estimates from this period suggested that three to five undocumented migrants entered undetected for every one apprehended (Hamilton and Chinchilla 1991), implying a far larger population of undocumented Guatemalans successfully settling in the United States.

INS estimates reinforce this scale: in its first national estimate of the undocumented population in 1992, the agency estimated that approximately 129,000 undocumented Guatemalans resided in the United States—ranking Guatemala third among origin countries after Mexico and El Salvador. By 1996, that estimate had risen to roughly 165,000, with Guatemala still ranking third. Importantly, these estimates exclude migrants who had already legalized their status under the Immigration Reform and Control Act (IRCA), indicating an even larger total population.

The dramatic acceleration in legal admittances after 1989 primarily reflects the IRCA legalization pipeline, as many Guatemalans who qualified for the “amnesty” adjusted to legal permanent residence in the years following (Hagan and Baker 1993).³⁵ As a result, cumulative legal admittances more than doubled between 1988 and 1991 alone. Legal status reshaped the migration

³³ Although U.S. records do not identify migrants’ subnational origins within Guatemala, large-scale displacement occurred in the regions most affected by the conflict (Aguayo and Fagen 1988; Manz 1988). As Aguayo and colleagues observed, “Their composition is not typical of a migration flow driven by economic reasons, in which young men predominate...The truth is that Central American migrants do not want to return and are willing to spend months in U.S. jails waiting for a response to their asylum request.” (1985:52). Consistent with this broader evidence, more than 200,000 applications for political asylum were filed by Guatemalans in the United States between the early 1980s and the 1996 peace accords (INS 1978-1996).

³⁴ As many early migrants later legalized their status under IRCA, the apprehensions and admittances series are not mutually exclusive; individuals apprehended in earlier years could later appear in the admissions data.

³⁵ IRCA’s general legalization program was complemented by the Special Agricultural Worker (SAW) provision, which granted legal residency to undocumented farm workers who had performed at least 90 days of agricultural work between 1985 and 1986 and entered the United States between 1982 and 1986 (Rincón 1999). Between 1978 and 1993, 225,503 Guatemalans applied for legalization through the general program and 66,132 through SAW—together representing roughly 3% of Guatemala’s 1990 total population (Rincón 1999:17)

system in ways that compounded over time: newly legalized migrants could travel more freely between the United States and Guatemala, cultivate transnational ties with communities of origin, and sponsor family members for legal visas (Hagan and Baker 1993). Through the late 1990s and early 2000s, these family-sponsored admissions sustained an upward growth in cumulative admittances even as *annual* apprehensions abated, ultimately codifying the infrastructure of migrant networks linking U.S. destinations with Guatemalan sending regions.

However, origin-based census measures would not be expected to capture this process—at least not initially. The Guatemalan census identifies households reporting a member living abroad, thereby only capturing migration anchored in a household that *remained* in Guatemala—a pattern more typical of labor migration (UN Department of Economic and Social Affairs 2022). Civil War displacement operated differently: it often involved internal relocation that preceded international migration, entire households fleeing together, or stepwise migration unfolding over several years—processes that could result in whole families leaving before the 1994 census enumerated them (Jonas and Rodríguez 2015; Loucky 2000a).

Moreover, because families of political exiles were frequently targeted during the conflict and Guatemalan armed forces at times actually pursued suspected guerrillas into refugee camps in Mexico, households may have been reluctant to report relatives abroad prior to the 1996 peace accords (North and Simmons 1999). Thus, the first post critical juncture census would likely not report high migration because it had not yet crystallized into the household-based migration census measures capture.

Figure 6, which displays the proportion of households reporting a migrant abroad by department for 1984–1994, shows precisely this initial pattern. High-conflict zones are highlighted in red. These departments—Alta Verapaz, Baja Verapaz, Chimaltenango, Huehuetenango, Petén, Quiché, and Sololá—were the most severely impacted by violence during the critical juncture period.³⁶ In 1994, high-conflict areas were among the least likely to report migrant-sending households. Six of the seven departments with the lowest migration rates were high-conflict areas, with Huehuetenango as the exception.

[Figure 6]

Turning back to the destination side, Figure 7 displays settlement patterns in the U.S. metropolitan areas where early forced migrants settled. These include Los Angeles—the primary destination for Guatemalans during this period (Loucky 2000b)—as well as other well-known destinations such as San Francisco (Manz, Perry-Houts, and Castaneda 2000) and Houston (Hagan 1994; Rodríguez 1987), alongside less commonly noted settlement sites such as Providence, Rhode Island (Foxen 2020) and Palm Beach, Florida (Burns 2000). Because nationality-level tabulations are

³⁶Departmental conflict intensity is measured as CEH-documented killings per capita during the critical juncture period (1978–1985; see Appendix A). These seven departments are separated from the rest by a pronounced break in the distribution, each exceeding the next-ranked department by more than twofold. For a map of Guatemalan departments and their corresponding abbreviations used in these figures, see Figure B3 in Appendix B.

not available for all metropolitan areas in earlier census years, some cities appear only in later periods when comparable data become available.

[Figure 7]

Los Angeles already hosted a modest Guatemalan population prior to the escalation of Civil War violence, reflecting earlier small-scale economic migration. The Guatemalan population there grew sixfold from 1970 to 1980 (4,900 to 31,000), making it the dominant destination for Guatemalan migrants as the conflict began to intensify. Meanwhile, San Francisco and Houston, which would become important destination cities, contained only small Guatemalan populations prior to the 1980s.

The most dramatic expansion occurs between 1980 and 1990, corresponding closely with the escalation of Civil War violence and the surge in Guatemalan migration documented earlier. During this decade the Guatemalan population in Los Angeles nearly quadrupled, rising from roughly 31,000 to more than 114,000 residents. At the same time, smaller but rapidly growing communities emerged in other cities: Houston increased from fewer than 1,000 residents in 1980 to nearly 5,700 by 1990, while Providence and Palm Beach—destinations that barely registered in earlier decades—began to develop noticeable Guatemalan populations.

After 1990, these early destinations continued to expand as migration networks matured. By 2020, Los Angeles remained the largest hub with more than 190,000 Guatemalan residents, while substantial communities had also formed in Houston (approximately 44,000), San Francisco (33,000), Palm Beach (24,000), and Providence (nearly 18,000). The sustained growth of these communities—even in cities where the initial migrant presence was relatively small—illustrates how early displacement flows helped seed migrant networks that expanded steadily over subsequent decades. These metro-level patterns reflect a broader national trajectory: the Guatemalan-born population increased from roughly 22,000 residents in 1970 to more than one million by 2020, with the first major expansion occurring during the conflict years, when it more than tripled between 1980 and 1990 alone (see Figure B2 in Appendix B). By the early 2000s, a substantial and geographically concentrated Guatemalan population had taken root in the United States—one whose origins traced directly to the displacement of the critical juncture period.

If cumulative causation was at work, origin-side sending patterns should shift gradually, with high-conflict regions emerging as major senders only as networks matured. During the first census period (1984–1994), mass displacement from war-torn regions largely did not appear in the household-based migration reports typical of labor migration. This pattern begins to shift in the next period (1992–2002), as migration rates from high-conflict departments increased while many other departments experienced declines (Figure 8). By the 2002–2018 period, the pattern had fully reversed: four of the six departments with the highest migrant-sending rates were former high-conflict zones.³⁷

³⁷ A similar reversal is evident at the municipal level, where high-conflict municipalities had lower migration in 1994, but show the highest proportions of migrant-sending households by 2018 (Figure B4 in Appendix B).

[Figure 8]

Figure 9 illustrates these trends by mapping the shifting proportion of migrant-sending households across the three census periods. From the first to the second census period, ten departments experienced migration growth, six of which were high-conflict areas. By the third period (2002–2018), migration growth from high-conflict departments accelerated dramatically, dwarfing that of other departments. During this period, ten departments saw increased migration rates, seven of which were high-conflict areas, and *every* high-conflict department experienced growth.

[Figure 9]

Regions that initially had relatively few migrant-sending households visible in the census—because early migration occurred through displacement rather than household migration strategies that census measures easily capture—gradually emerged as major migrant-sending areas in subsequent decades. In contrast, most non-conflict departments, including those experiencing high levels of contemporary violence, show stagnation or decline across the same census periods.

The persistence of this pattern becomes even clearer when migration is examined annually in the years following the 2002 census. Figure 10 plots annual migration rates from 2002 to 2017 for three groups of municipalities: those in the top quartile of conflict-era death rates (high-conflict), those in the top quartile of contemporary homicide rates but not in the high-conflict group (high-homicide), and all remaining regions. In 2002, the three groups exhibit similar migration rates of roughly 30-50 per 100,000, with high-homicide municipalities slightly above the others. This similarity reflects the system Figures 4 and 5 documented: by 2002, the displacement-driven flows of the 1980s and early 1990s had stabilized, overall Guatemalan emigration had moderated, and there were only modest differentiation among the three groups.

[Figure 10]

The trajectories began to change in 2008, when high-conflict municipalities sent 115 migrants per 100,000 residents, compared to 69 from high-homicide municipalities and 97 from other areas. After 2011, the divergence sharpened as migration exploded nationwide amid a deepening economic crisis and persistent political instability (Andrade, Hernández Bonilla, and Bauer 2017; Jonas 2013).³⁸ All three groups responded, but the magnitudes differed dramatically. Migration from high-conflict areas accelerated to just over 300 per 100,000 by 2016—more than nine times its 2002 level. High-homicide municipalities, by contrast, remained comparatively flat across the period, peaking at only 101 per 100,000. Migration from all other areas rose substantially as well, reaching 182 per 100,000 by 2016. By 2016, the rank order across groups had effectively inverted: places with the most severe current violence sent migrants at the lowest per-capita rates,

³⁸ Between 2006 and 2015, the proportion of Guatemalans living in poverty rose 8.1 points to 59.3%, and the rate of “extreme poverty” grew by 50% (Bolaños 2015)/ Between 2003 and 2012, Guatemala was the *only* Latin American country in which the income of the poorest (bottom two quintiles) actually decreased (Grupo Banco Mundial 2014). By 2014, Guatemala ranked second among all Latin American countries for both poverty rate and economic inequality (Díaz 2019).

while places with historical conflict sent them at the highest, averaging roughly 2.8 times the rate of high-homicide regions between 2011 and 2017.

The pattern fits the trajectory this account has traced. The migrant networks established during the displacement waves of the 1980s and early 1990s had been accumulating in high-conflict regions through the low-volume emigration period of the late 1990s and early 2000s. When regional migration pressures rose sharply in the 2010s, the response was not uniform across Guatemala: high-conflict regions, with dense and mature networks already in place, converted those pressures into outflow at scale, while regions without comparable networks did not. The three groups looked alike in the early 2000s and diverged only as the accumulated capacity of one met a common pressure the others had no comparable means to absorb—the *differential elasticity* that a mature migration network produces.

A Statistical Test of the Historical Legacy

The descriptive evidence developed above shows a clear pattern: regions most affected by *La Violencia* are Guatemala's dominant contemporary migrant-sending areas. But does this pattern hold once present-day conditions are held constant? Table 2 presents the household-level models, with historical violence modeled both continuously (M1) and categorically (M2). To ensure that the estimated effects reflect the legacy of wartime violence rather than present-day conditions, I specifically include the corresponding contemporary homicide measure (logged or binary, matching the specification of the historical violence measure).

All else constant, higher historical violence is associated with a greater probability of emigration (Table 2). In the continuous specification (M1), moving from the 25th to the 75th percentile of the conflict-death distribution increases the predicted probability that a household is migrant-sending by approximately 1.5 percentage points. Relative to the baseline migrant-sending rate of 5.95%, this represents an increase of roughly one-quarter. The contrast is even more pronounced in the binary specification (M2): households in high-conflict municipalities are 3.3 percentage points more likely to have sent migrants during the last census period. Compared to the baseline, this corresponds to an increase of approximately 55%.³⁹

[Table 2]

These findings suggest that historical violence may not have a strictly linear relationship with migration in its original scale; rather, the impact appears concentrated in areas of particularly high

³⁹ Results are substantively unchanged when historical violence is measured using an independent dataset of Civil War killings compiled by the CIIDH; Appendix C1 replicates Model 1 with this alternative measure. Results are also substantively unchanged when historical violence is measured using CEH killings from the full conflict period (1960–1996) rather than the critical juncture period alone. This is not surprising, as 94.9% of documented killings fell within the 1978–1985 window. Given Guatemala City's size and centrality as an internal migration destination, as a robustness test, I also tested whether its inclusion disproportionately influenced results. I re-estimated the models, first excluding Guatemala City and then removing the broader metro area (Amatitlán, Chínautla, Guatemala City, Mixco, San Miguel Petapa, Santa Catarina Pinula, Villa Canales, and Villa Nueva). In both cases, all results in the paper remained substantively unchanged.

violence. Municipalities with the most extreme levels of historical violence exert a disproportionate influence on contemporary migration patterns.

The models also confirm the geographic pattern shown earlier: contemporary homicide is a significant negative predictor of emigration in both specifications. In the continuous model (M1), moving from the 25th to the 75th percentile of the municipal homicide distribution decreases the predicted probability of migration by approximately 4.7 percentage points—a reduction of roughly 78% relative to baseline. The binary specification (M2) shows the same negative relationship. Among the covariates, households in rural areas and the dry corridor are more likely to send migrants, while larger household size and stronger municipal governance are associated with lower probabilities of migration.⁴⁰

The household models capture how migration varies across households living in municipalities with different levels of conflict exposure. They do not directly assess *municipality*-level differences. I therefore estimate random-effects models of two municipality-year outcomes: family-unit apprehensions at the U.S.–Mexico border and reported migrations from the census—one measured at the destination, one at the origin.

[Table 3]

The random-effects models add further evidence of a significant positive association between historical violence and contemporary migration. For each one-unit increase in a municipality's log-transformed conflict-related death rate during the critical juncture period, there is an associated increase of approximately 9 apprehensions of family-unit individuals per 100,000 residents in an average year; the corresponding association with reported migrations is positive but not statistically significant. The binary specification is significant for both outcomes: high-conflict municipalities exhibit an average increase of 51 family-unit apprehensions and 59 reported migrations per 100,000 residents in an average year compared to all other municipalities.

In these models, the relationship between contemporary homicide rates and migration is consistent with earlier findings. Both homicide measures are negatively and significantly associated with reported migrations: each one-unit increase in the log-transformed homicide rate is associated with approximately 41 fewer reported migrations per 100,000 residents in an average year, and high-homicide municipalities average roughly 34 fewer than all others. The continuous homicide measure is also negatively associated with family-unit apprehensions, though the binary measure is not.

Taken together, these results confirm the pattern traced throughout this paper. Across modeling strategies and levels of analysis, the fingerprint of the original shock is legible in the data four decades later. A municipality's exposure to extreme violence during the critical juncture remains among the strongest predictors of whether its residents migrate today, while the contemporary violence that dominates public narratives is actually negatively associated with emigration.

⁴⁰ Appendix Table C2 re-estimates these models, replacing the contemporary homicide measures with non-homicide crime victimization ones. The historical-violence coefficients are substantively unchanged, and the negative association between contemporary violence and emigration persists—indicating that the pattern reflects contemporary violence broadly, not just homicides.

DISCUSSION

In this paper, I considered the puzzle of contemporary Guatemalan migration: In an unusually violent national context, why is high emigration driven predominantly by peaceful regions? Drawing on five decades of data from Guatemala and the United States, I found the answer not in the nation's present conditions but in its past. The long-term effects of extreme violence—now four decades removed—remain central to the shape of contemporary migration.

Consider the metaphor that gives this paper its title. An explosion ends in an instant, but its energy propagates outward, altering the surrounding medium so that the disturbance persists long after the source has gone silent. *La Violencia* was the detonation. Displacement carried its energy outward into the United States, and the migrant stock it deposited remade the medium through which all subsequent migration would move: network, knowledge, and cultural changes that lowered the costs and risks of every journey that followed. This is the *long reverberation*: an energy that persists long after—and, eventually, independent of—the blast that produced it.

In the syntax of migration scholarship, forced displacement during *La Violencia* initiated a path-dependent process of cumulative causation, wherein migration became self-reinforcing over time: sending patterns within Guatemala shifted as conflict-affected regions came to dominate emigration, and those patterns persist into the present. What this case demonstrates, however, is not specific to Guatemala. These findings provide the first large-scale evidence that forced migration can lead to cumulative causation, transforming displacement into a durable migration stream whose observable character no longer matches its origins—with implications for how we understand the trajectories of forced migration, the long-run consequences of violence, and migration theory more broadly. The sections that follow develop the argument's three main contributions in turn.

The first contribution is to cumulative causation theory itself—and to the forced migration scholarship that has largely set it aside. Massey's original formulation contained the possibility of stream transformation all along: if mature streams become "progressively independent" (Massey et al. 1993:450) of the conditions that produced them, then their observable character can drift from and ultimately decouple from its origins. But this transformative capability is not at work in the labor-migration contexts where the theory was developed and tested, because when labor migration begets labor migration, there is nothing for transformation to register against. A stream born of state violence but sustained by economic motivations and social networks is precisely the kind of case where transformation occurs. The Guatemalan evidence thus confirms what the earlier review suggested: the limited support for cumulative causation in forced contexts reflected misaligned comparisons, not incompatibility. In doing so, the case supplies what calls to move beyond the migrant/refugee binary have largely lacked: an empirical demonstration that the same theoretical machinery can govern streams on both sides of the divide.

This respecification is also consistent with the original theory's full depth. As established earlier, cumulative causation was never reducible to its network channel; it operates through feedback running from household calculations to destination labor markets to community values. Read at that depth, the theory readily absorbs what adjacent literatures have described as the "long reach of violence" (Sharkey 2018) and "demographic memory" of genocide (Alburez-Gutiérrez

2022).⁴¹ Extreme violence transforms communities in ways that weaken attachment to place and elevates migration as a central strategy for household survival and advancement. These cultural residues are not competitors to cumulative causation but constituents of it—additional channels through which the original shock continues to propagate after the energy of the blast itself has dissipated.

Recovering this depth speaks directly to Mandić’s diagnosis that sociological theory has not paid enough attention to the “force factor” that does the displacing. Mandić worried that an affirmation of cumulative causation risks “processual dilution”—that attending to networks and feedback shifts analytic credit away from the violence itself (2022:75). For active, visibly forced movements, the concern may hold. But in mature streams the relationship inverts: it is precisely the sequential lens, traced backward, that restores the force factor to view. Without it, La Violencia receives no credit at all for migration now four decades downstream—migration that contemporary observers attribute to wages, drought, or gangs. Read against the economic frameworks that dominate migration theory, the case is thus a direct contrast. Neoclassical accounts and the new economics of labor migration would predict Guatemala’s highest-sending municipalities where wage gaps are widest or household risk is least diversifiable. Instead, they are where the state concentrated its killing four decades ago, and they remain there net of municipal poverty, governance, household composition, and present-day violence. Thus, what began as forced displacement has become a migration stream whose origins have grown increasingly imperceptible in the contemporaneous data that scholars and policymakers use to explain it.

The stakes of this obscurity extend well beyond Guatemala. The bias the mechanism produces is directional: transformation re-codes forced origins as economic, while no symmetric process re-codes economic origins as forced. Because most contemporaneous migration data measures *motives* rather than *origins*, any such estimate of violence’s long-term contribution to global migration is best understood as a lower bound. And given how many of the world’s largest and longest-running streams originate from episodes of forced displacement (e.g., El Salvador (Menjívar and Gómez Cervantes 2018), Somalia (Gundel 2002), and Vietnam (Anh 2006)), violence’s role in shaping the contemporary global migration order is likely systematically underappreciated.

The second contribution concerns what cumulative causation predicts—and the form the mechanism takes when it is not visibly producing migration. Observers of the 1980s exodus broadly expected the flows to abate, and perhaps reverse, once the war ended (Aguayo and Fagen 1988; U.S. General Accounting Office 1984). For roughly a decade, the data appeared to vindicate them. By 2002, emigration had moderated nationwide, and the municipalities that had endured the war’s most extreme violence were sending migrants at rates nearly indistinguishable from everywhere else (Figure 10). A cross-sectional observer surveying Guatemala in those years would have found little reason to dissent: the shock, it seemed, had run its course. However, the infrastructure laid down by wartime displacement had not eroded; it had simply gone dormant.

⁴¹ Of migrants reported in the census (departing 2002–2018), only 36% of those from high-conflict municipalities were alive at the end of the critical juncture (1985), with a mean age of 10 years old. Thus, direct exposure to wartime violence cannot explain the relationship between historic violence and contemporary migration.

The test came with the common pressures of the 2010s. Economic stagnation and renewed regional instability bore on the entire country (Jonas and Rodríguez 2015), yet the response was anything but uniform: high-conflict municipalities converted these shared pressures into outflow at nearly nine times their 2002 levels, while the country's most violent contemporary municipalities barely moved. The capacity accumulated under one causal regime had lain dormant until conditions of an entirely different kind called upon it—the *differential elasticity*—visible in Figure 10, legible only when communities are compared across a window long enough to capture accumulation, dormancy, and activation in sequence.

This account speaks directly to the work of Hein de Haas, who has mounted the most influential contemporary challenge to cumulative causation. Among other critiques, de Haas argues that contextual migration impacts are complex, heterogeneous, and non-linear (2010). He thus warns against treating internal dynamics as giving migration “momentum *independent* of its initial causes, because this would de-link theories on the continuation of migration from theories on the initiation of migration” (2010:1598). This objection has two parts. First, an autonomous-momentum account ignores how shifting macro conditions can themselves dampen the aspirations and capabilities that networks and feedback build up. Second, taken to its logical end, unchecked momentum implies that established streams should expand indefinitely, drawing an ever-larger share of the origin into the destination. The warning is well taken, but *momentum* is the wrong physics. Momentum belongs to a moving mass: it is spent against friction, and once spent it is gone—which is why, under that intuition, any sustained slowdown reads as falsification. A reverberation works differently. The energy of the blast is not carried forward as motion; it is banked in the medium the shock remade, and a medium can fall silent without surrendering its structure. Relationships do not emigrate in reverse when flows slow, and a culture of migration, once established, does not unwind in a few lean years. Moreover, there is no reason to assume that this banked capacity remains stagnant. The remittances, accumulated knowledge, and destination footholds that sustain a network can deepen even when migration itself is low—so that a stream may emerge from its lull not merely intact but with more capacity to draw on than before.

The appropriate test of cumulative causation is therefore not whether migration continues in a linear growth pattern—the straw man against which the theory is sometimes measured—but whether the medium itself has been dismantled. De Haas's own account of the exogenous *and* endogenous forces that undermine migration systems is, read this way, exactly such an inventory.⁴² In Guatemala's high-conflict municipalities, the activation of the 2010s is itself evidence that no such dismantling had occurred: had the medium eroded across the quiet decade, these communities could not have converted common pressures into outflow at rates far exceeding the rest of the country's. Why the medium held—why the war's energy was retained rather than dissipated—is the subject of the final contribution below. On the central point, then, the two views converge rather than collide. De Haas is right that macro conditions shape migration, but they govern *when* the

⁴² These include the erosion of ties between migrants and origin communities, weakening commitments across migrant generations, declining remittances, and increases in migration costs that outpace the cost reductions networks provide (de Haas 2010:1611). I do not claim these processes were wholly absent in Guatemala. But they did not accumulate sufficiently to dismantle the system's feedback structure—as the differential response of the 2010s reveals.

medium sounds, not whether it can; the medium itself, once remade, governs how loudly. Massey (1990) granted as much, noting that rising wages and tightening labor markets could slow, without extinguishing, the forces he described. Suppression and resurgence, then, are not contradiction and recovery but a single process observed in two phases. Properly specified, cumulative causation predicts not perpetual growth but conserved potential.

The final contribution moves from whether the medium held to why—and from cumulative causation to the broader issue of migration systems. In addition to his critiques of cumulative causation, de Haas (2010) explores an essential question: why do some migration systems endure across generations while others contract and disappear? His compelling analysis points to group cohesion, economic integration paired with limited assimilation, and the maintenance of strong collective identities as essential characteristics for those *few* migration systems “which survive several generations and even centuries” (De Haas 2010:1612). But these are features of a system’s ongoing operation, not of its origin. For streams born of force, the formative moment goes untheorized—exactly the de-linking of continuation from initiation that de Haas himself warns against (2010:1598). The reverberation metaphor reframes the question. If displacement is a blast and its effects travel through a medium, then what varies from one setting to the next is *damping*: the rate at which those effects decay as they move. Identical disturbances reverberate across some terrain and die out in another. The question for forced migration is therefore not whether displacement can seed a durable system; the Guatemalan case establishes that it can. The question is what features of a forced beginning, and of the terrain it strikes, keep damping low.

This case suggests four candidate conditions. The first is duration: violence prolonged enough to foreclose early return, so that footholds abroad consolidate into infrastructure rather than dissolving into repatriation. The second is the character of the violence itself: genocidal targeting of Maya communities did not merely displace people but severed allegiances to state and place, converting flight into something closer to permanent reorientation. The third is continuing push—persistent poverty kept aspirations directed outward through the very years when return might otherwise have competed with settlement. The fourth is incorporation: the legal and labor footholds that Guatemalans secured in the United States allowed the deposited migrant stock to consolidate rather than dissipate (Hagan 1994; Jonas and Rodríguez 2015). Where these conditions are weak or absent, the reverberation should fade—and the stream with it. Notably, the communities at the center of this study approximate de Haas’s own profile of the systems that survive longest: tightly knit groups combining economic integration with strong, maintained identities. The conditions proposed here do not replace that account; they extend it backward, to the rupture where such systems can begin.

These conditions convert speculation about today’s displacements into observable questions. For instance, Venezuela presents a low-damping profile on every dimension: a prolonged collapse foreclosing return, continuing economic push, and diasporas consolidating footholds across the hemisphere (Freier and Parent 2019; Pirovino and Papyrakis 2023; Weitzman and Huss 2024). On this reading, the stream is positioned to outlive its precipitating crisis. Whether its forced origins fade from view as thoroughly as Guatemala’s is less certain.

Ukraine presents a different configuration: national allegiance strengthened rather than severed, widespread return intentions, and reception regimes built explicitly around temporariness (Adema et al. 2024; Kulyk 2016; Sadowski-Smith 2025)—higher damping, though a longer war could rewrite the profile. These contrasts offer a way to read a displacement-born stream’s durability as it is still being decided—in the conditions accumulating, or failing to, in real time. Whether observers a generation from now repeat the misattribution this paper documents will depend on whether they know where to look.

Two data limitations warrant consideration. First, the census data omit whole-household departures and return migrants (whether voluntary or deported). The census identifies migration only when a household remains in Guatemala and reports a member living abroad; in neither case is that condition met. This concern is mitigated, however, by the use of U.S. apprehension records, which directly capture the family-unit crossings the census misses, and by the fact that the historical-violence association remains consistent across both data sources. Moreover, the analysis of long-term trends is broadly robust to period-specific undercounting.

Another limitation is the inherent incompleteness of wartime violence registries; even the authoritative CEH records likely suffer from underreporting in some communities. Nevertheless, the geographic patterns measured here align closely with established historiography of the conflict (Brett 2016; Manz 1988), and the central results successfully replicate using the independently collected CIIDH dataset (Appendix C1). Despite these limitations, this study offers new theoretical and empirical insights into the long-term relationship between violence and migration.

These contributions carry practical implications for how migration is modeled and governed. For scholars, the findings expose a specific, directional failure mode in the standard toolkit. Push-factor models estimated on contemporaneous data assume the initial causes of migration are contemporaneous with it—an assumption that may fail wherever a stream has transformed. But the failure is also spatial. Aggregated to the national level, the story is “Guatemalans flee violence”; disaggregated, the relationship reverses—it is the peaceful highlands that send migrants and the violent east that does not. That this kind of inversion goes undetected reflects a flattening rarely applied to wealthy countries, whose internal heterogeneity scholars take for granted. Together, these tendencies produce accounts of migration that are confident, coherent, and misguided.

“Root causes” programming that targets contemporary drivers may also, in cases like this one, direct resources toward the municipalities *least* likely to send migrants while bypassing those whose outflows are largest. Projections of future flows inherit the same defect: a model trained on present conditions will be perpetually surprised by streams whose magnitude is governed not by today’s triggers but by yesterday’s accumulated capacity. None of this implies that contemporary conditions are irrelevant—they supply the pressures to which communities respond. But where capacity governs the size of the response, an accounting built solely from present conditions will systematically understate the violence sitting upstream and misjudge the streams still to come.

The error this paper documents is not new, and neither is its correction. In 1988, with the war still underway, Aguayo and Fagen surveyed the displaced of Central America and rejected the prevailing assumption that peace would bring them home; what they saw, they warned, was already becoming irreversible. Two years later, on the other side of the disciplinary divide with which this

paper began, Massey (1990) formalized the same dynamic—migration that, once begun, generates the conditions of its own continuation—in the experience of Mexican labor migrants. He was not describing the displaced; the categories that organized the field ensured no one would, and the literature that followed came to treat the mechanism as theirs alone, inapplicable to populations set in motion by force. Two records of one process, produced almost simultaneously, were not connected. This paper has been, in one sense, nothing more than the act of connecting them—and of confirming, four decades on, that what they documented has not ended. The displacement *La Violencia* set in motion reverberates still, long after the blast that produced it.

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TABLES AND FIGURES

Table 1. Descriptive Statistics of Household- and Municipality-Level Variables

Household-Level					
Variable	Description	Source	Mean or %	SD	Range
Migrant-sending household	Binary: 1 if household sent a migrant during last census period	1994 Census 2002 Census 2018 Census	6.7 6.01 5.95		
Household size	Count of household members	2018 Census	4.54	2.34	1-41

Total migrants per household	Count of migrants among migrant-sending households	2018 Census	1.54	1.02	1-19
Maya household head	Binary: 1 if household head is Maya	2018 Census	37.47		
Rural	Binary: 1 if household lives in a rural area	2018 Census	42.38		
Municipality-Level					
Variable	Description	Source	Mean or %	SD	Range
Conflict-death rate	Conflict deaths per 100,000 residents during critical juncture (1978–1985)	CEH	419.4	1328.67	0-13,747.66
High conflict area	Binary: 1 if municipality is in the 4 th quartile of the conflict-death rate	CEH	25.00		
Homicide rate	Mean annual homicides per 100,000 residents (2002–2017)	CIEN	25.72	25.33	0.79-111.93
High homicide area	Binary: 1 if municipality is in the 4 th quartile of the homicide rate	CIEN	25.00		
Crime victimization rate	Mean annual non-homicide crime victimizations per 100,000 residents (2016–2017)	INE	141.9	126.8	0-851
High crime area	Binary: 1 if municipality is in the 4 th quartile of the crime victimization rate	INE	25.00		
Reported migrations	Annual reported migrations per municipality-year (2002–2017)	2018 Census	38.17	60.63	0-661
Family unit apprehensions	Mean family-unit apprehensions per municipality-year (2012–2017)	CBP	27.29	85.14	0-1,254
Municipal poverty	% of households classified as poor (NBI method)	2002 Census	67.20	15.23	26.73-97.80
Municipal governance	2016 Municipal Governance Ranking score	SEGEPLAN	.291	.1	.05-.62
Dry corridor	Binary: 1 if municipality is in dry corridor	MARN	22.35		

Note: Household-level statistics are from the 2018 census unless noted; municipality-level statistics cover Guatemala's 340 municipalities. Binary variables are reported as percentages; rates are per 100,000 residents. Census = Guatemalan

Population and Housing Censuses (*Instituto Nacional de Estadística*, INE); CEH = Commission for Historical Clarification (*Comisión para el Esclarecimiento Histórico*); CIEN = Center for National Economic Research (*Centro de Investigaciones Económicas Nacionales*); INE = National Institute of Statistics (crime-victimization series); CBP = U.S. Customs and Border Protection; NBI = Unmet Basic Needs (*Necesidades Básicas Insatisfechas*); SEGEPLAN = Secretariat of Planning and Programming; MARN = Ministry of Environment and Natural Resources.

Table 2. Linear Probability Models Predicting Migrant-Sending Households with Historical Violence

	M1	M2
Log of conflict death rate	.003* (.001)	
High conflict		.033** (.010)
Log of homicide rate	-.025*** (.003)	
High homicide		-.016*** (.005)
Maya household head	-.005 (.005)	.007 (.006)
Household size	-.001***	-.001***

	(.000)	(.000)
Rural	.020***	.022***
	(.004)	(.005)
Dry corridor	.025***	.015*
	(.006)	(.006)
Municipal poverty	-.053*	-.013
	(.021)	(.020)
Municipal governance	-.060*	-.071**
	(.026)	(.025)
Constant	.177***	.081***
	(.022)	(.017)
R-squared	.017	.013
N	3,275,931	

Note: The outcome is whether a household sent a migrant abroad during the last census period (2018 census). Historical violence enters as the logged conflict-death rate during the critical juncture, 1978–1985 (M1), or a high-conflict indicator (top quartile; M2); both adjust for the contemporary homicide rate. Coefficients are probability changes. All models use ordinary least squares (OLS) to estimate the probability of a household being a migrant-sending one. Standard errors are clustered by municipality to account for within-group correlation. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3. Random-Effects OLS Regression Models Predicting Municipal Family Unit Apprehensions and Reported Migrations

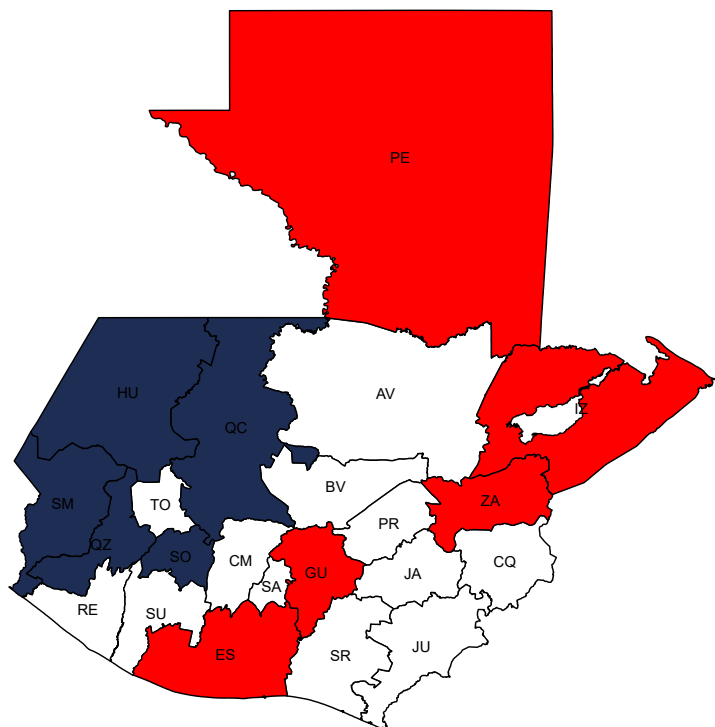
	M1	M2	M3	M4
	Family Unit Apprehensions (2012–2017)		Reported Migrations (2002–2017)	
Log of conflict death rate	8.55*** (2.11)		3.78 (2.30)	
High conflict		50.95** (17.07)		58.61*** (17.58)
Log of homicide rate	-11.74* (5.83)		-41.10*** (6.18)	
High homicide		-3.71 (7.37)		-33.59*** (9.99)
Dry corridor	9.16	-8.29	64.69***	37.36**

	(8.62)	(8.00)	(12.42)	(11.94)
Municipal poverty	12.31	51.36	-47.09	1.85
	(30.00)	(33.89)	(38.66)	(37.28)
Municipal governance	-29.81	-30.13	-151.53*	-160.78*
	(48.04)	(48.87)	(61.06)	(62.94)
Constant	9.69	-34.87	208.74***	73.88*
	(27.31)	(25.79)	(42.87)	(34.33)
N	1,938		5,296	

Note: This table presents random-effects OLS regression results predicting family-unit apprehensions and reported migrations at the municipality level using historical violence. Coefficients reflect the relationship between a municipality's conflict-related death rate during the critical juncture (1978–1985) and the mean of the migration outcome (per 100,000 residents) over the observed periods. Columns M1–M2 predict family-unit apprehensions and M3–M4 reported migrations; within each, conflict deaths enter as a continuous logged rate (M1, M3) or a high-conflict indicator (M2, M4). Standard errors are clustered by municipality to account for within-group correlation.

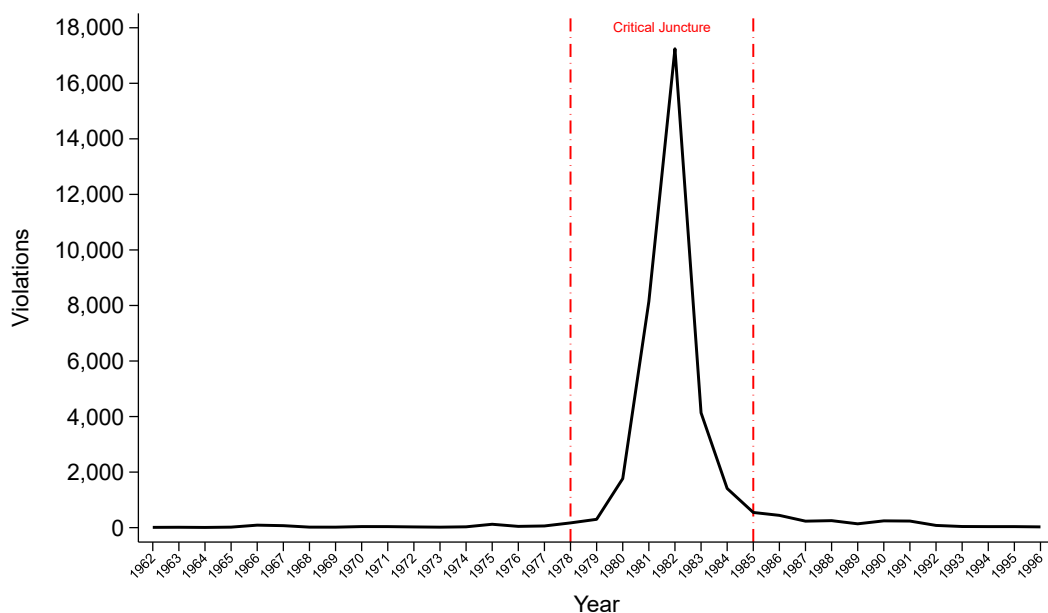
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1. Top Migrant-Sending and Top Homicide Departments in Guatemala



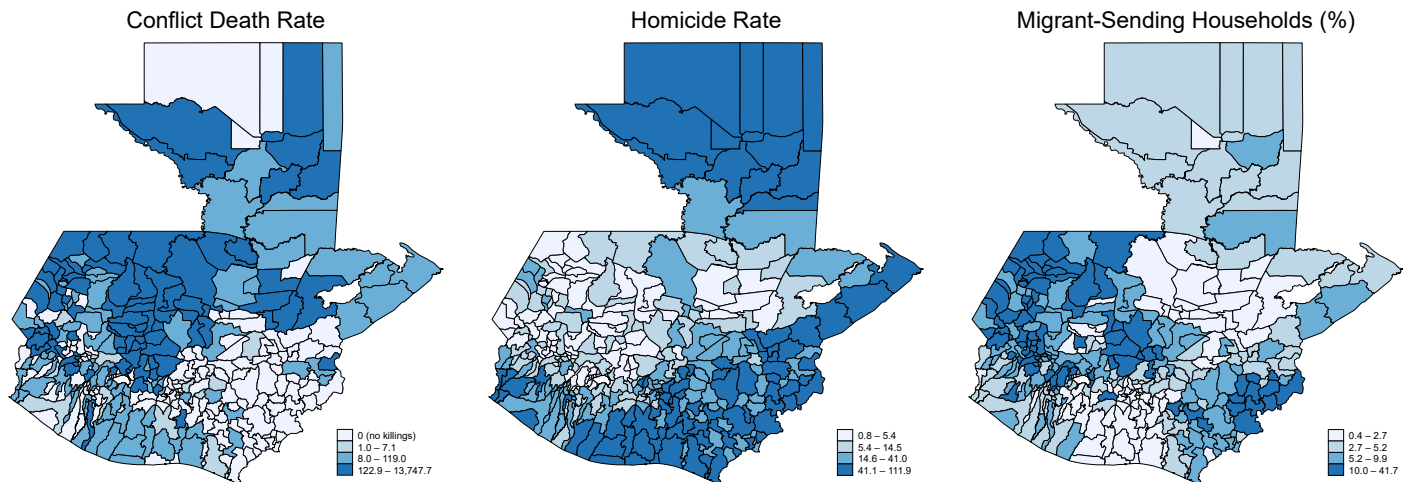
Note: Departments in the top 5 of homicide rates (2002–2017) are shown in red; departments in the top 5 of emigration rates (2002–2018) are shown in blue.

Figure 2. Annual Human Rights Violations During the Guatemalan Civil War



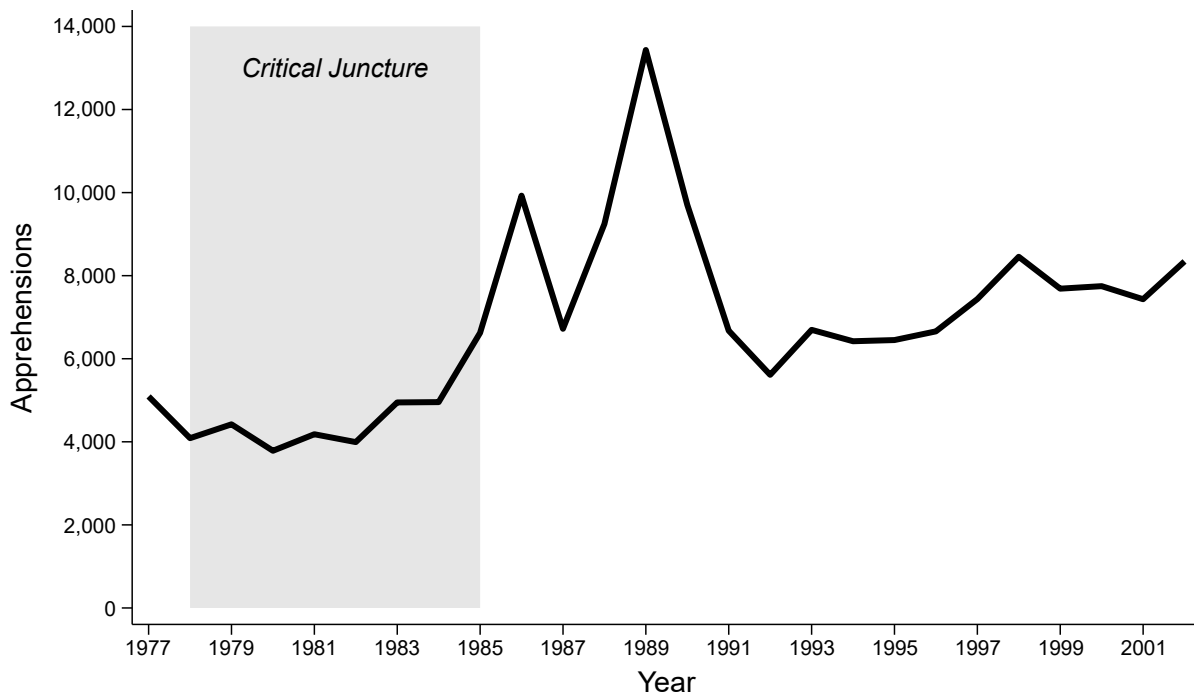
Note: This graph displays all recorded victims of human rights violations in the CEH dataset ($n=36,634$) for the whole conflict period, including killings, disappearances, injuries, kidnappings, and cases of torture. The critical juncture is indicated by red lines, 1978–1985.

Figure 3. Spatial Distribution of Municipal Measures by Quartiles



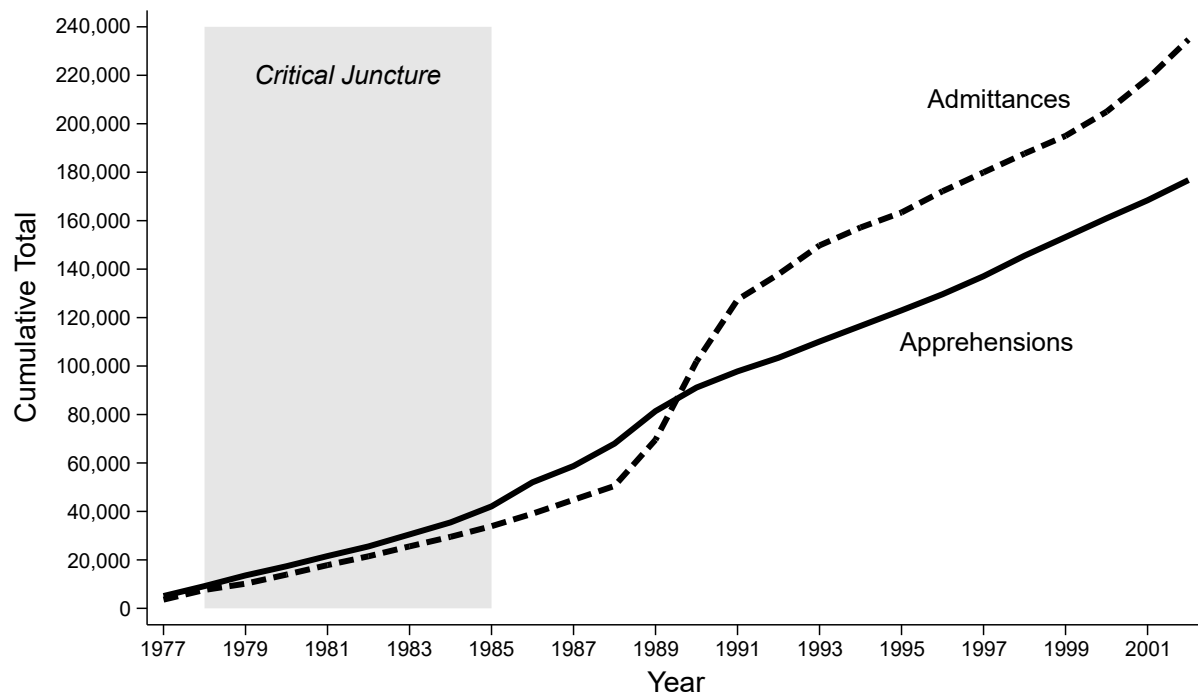
Note: This figure presents the geographic distribution of key variables by municipality (N=340), categorized into quartiles. The conflict death rate reflects killings during the critical juncture period (1978–1985) and is normalized per 100,000 residents. Homicide rates represent the mean annual municipal homicide rate from 2002 to 2017, also normalized per 100,000 residents. The proportion of migrant-sending households corresponds to the share of households that reported sending a migrant abroad during the most recent census period (2002–2018).

Figure 4. Annual U.S. Apprehensions of Guatemalan Nationals, 1977–2002



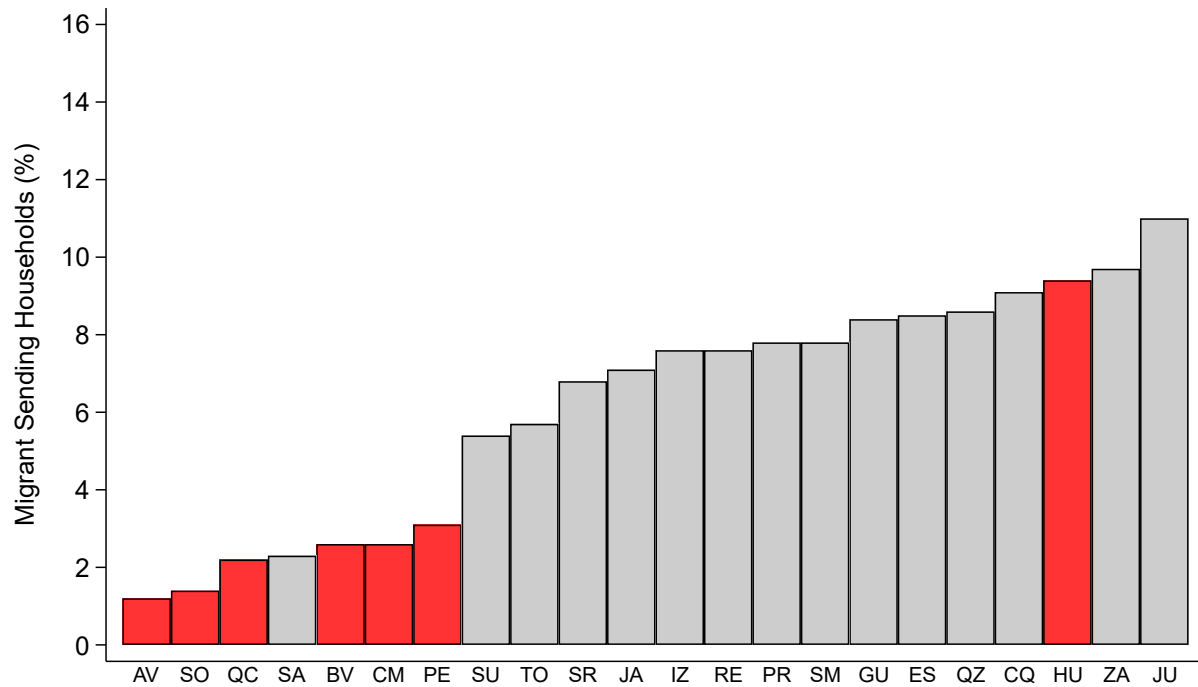
Note: Data are drawn from INS Annual Reports (1977) and INS Statistical Yearbooks (1978–2002). Guatemalans do not appear as a separately tabulated nationality in the apprehension data prior to 1977.

Figure 5. Cumulative Apprehensions and Legal Admissions of Guatemalans to the United States, 1977–2002



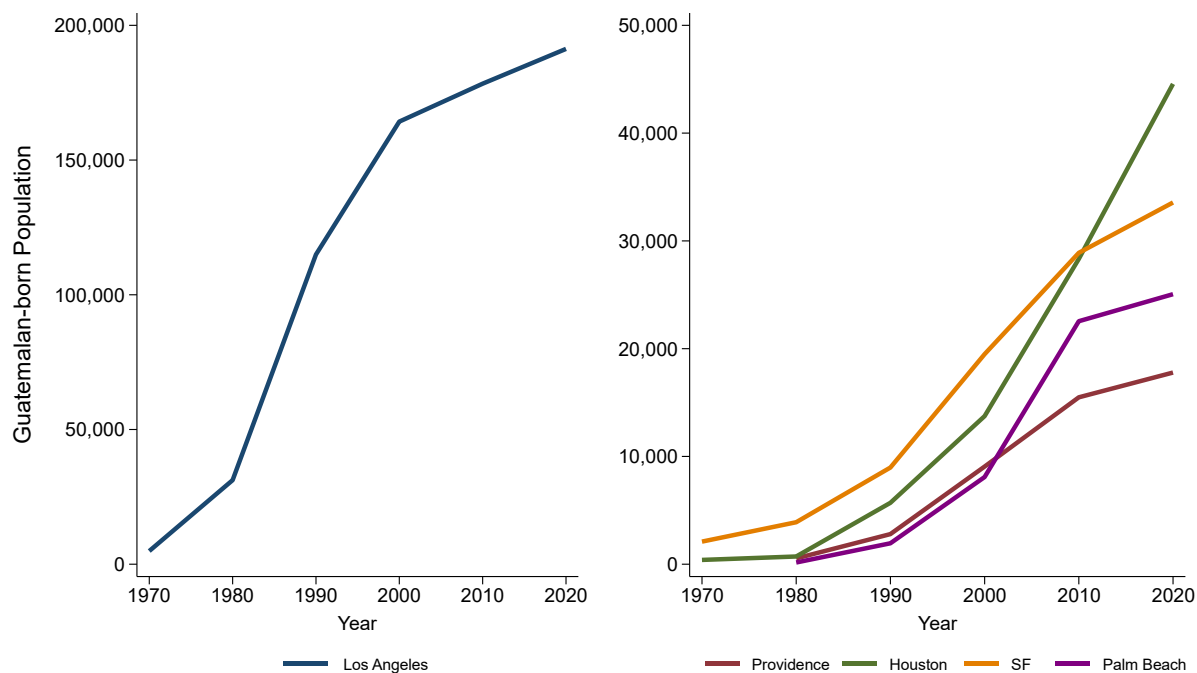
Note: Each year's value is a running total summing all prior annual apprehensions and admissions for legal permanent residence from 1977 onward, approximating growth of the U.S. Guatemalan population. Data are drawn from INS Annual Reports (1977) and INS Statistical Yearbooks (1978–2002). Guatemalans do not appear as a separately tabulated nationality in the apprehension data prior to 1977.

Figure 6. Departmental Proportion of Migrant-Sending Households, 1984–1994



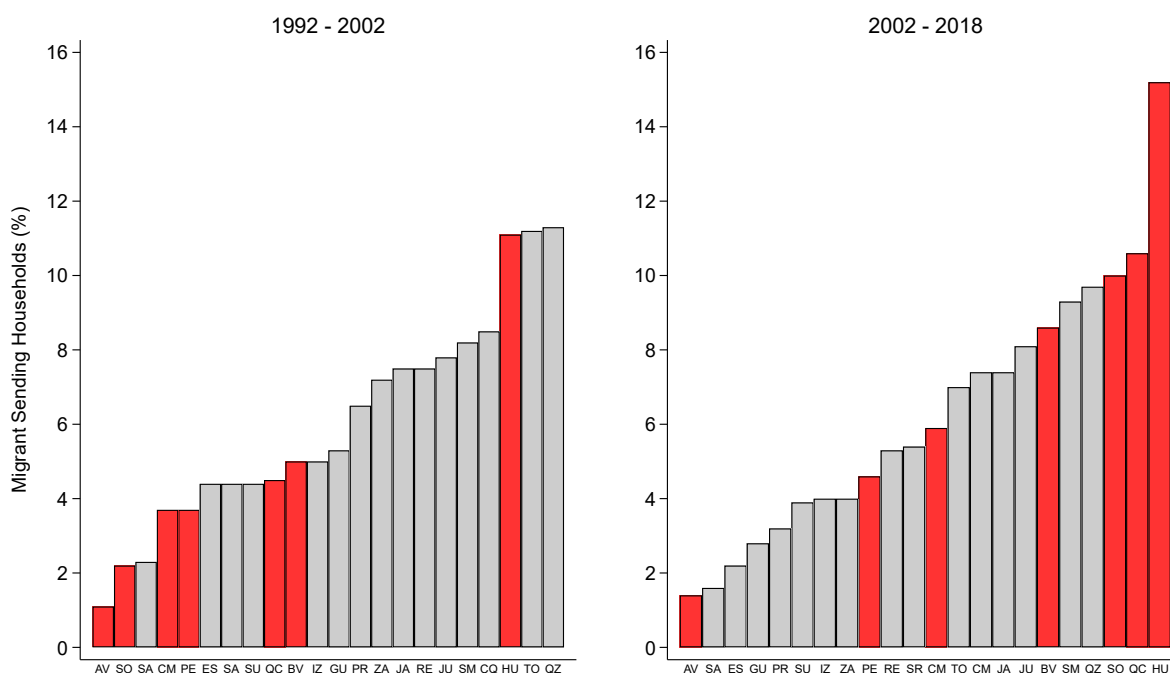
Note: This figure displays the proportion of households in each Guatemalan department reporting a migrant living abroad during the 1984–1994 census period (as measured in the 1994 census). Departments shaded in red are those with the highest Civil War–era conflict intensity, measured as CEH-documented killings per capita during the critical juncture (1978–1985; see Appendix A). These seven—Alta Verapaz, Baja Verapaz, Chimaltenango, Huehuetenango, Petén, Quiché, and Sololá—are separated from the remaining departments by a pronounced break in the distribution, each exceeding the next-ranked department by more than twofold.

Figure 7. Growth of Guatemalan Populations in Key U.S. Destinations, 1970–2020



Note: This figure plots the Guatemalan-born population in major U.S. metropolitan destinations, 1970–2020, from U.S. Decennial Census and American Community Survey microdata (IPUMS USA). Because nationality-level tabulations are not available for all metropolitan areas in earlier census years, some cities appear only in later periods when data become available.

Figure 8. Growth in Departmental Migrant-Sending Households Across Later Census Periods



Note: This figure displays the proportion of households reporting a migrant living abroad in Guatemalan departments across two subsequent census periods: 1992–2002 (as measured in the 2002 census) and 2002–2018 (as measured in the 2018 census). Departments shaded in red are those with the highest Civil War–era conflict intensity, measured as CEH-documented killings per capita during the critical juncture (1978–1985; see Appendix A). These seven—Alta Verapaz, Baja Verapaz, Chimaltenango, Huehuetenango, Petén, Quiché, and Sololá—are separated from the remaining departments by a pronounced break in the distribution, each exceeding the next-ranked department by more than twofold.

Figure 9. Changes in the Departmental Proportion of Migrant-Sending Households Since the Last Census Period (1994–2002 and 2002–2018)

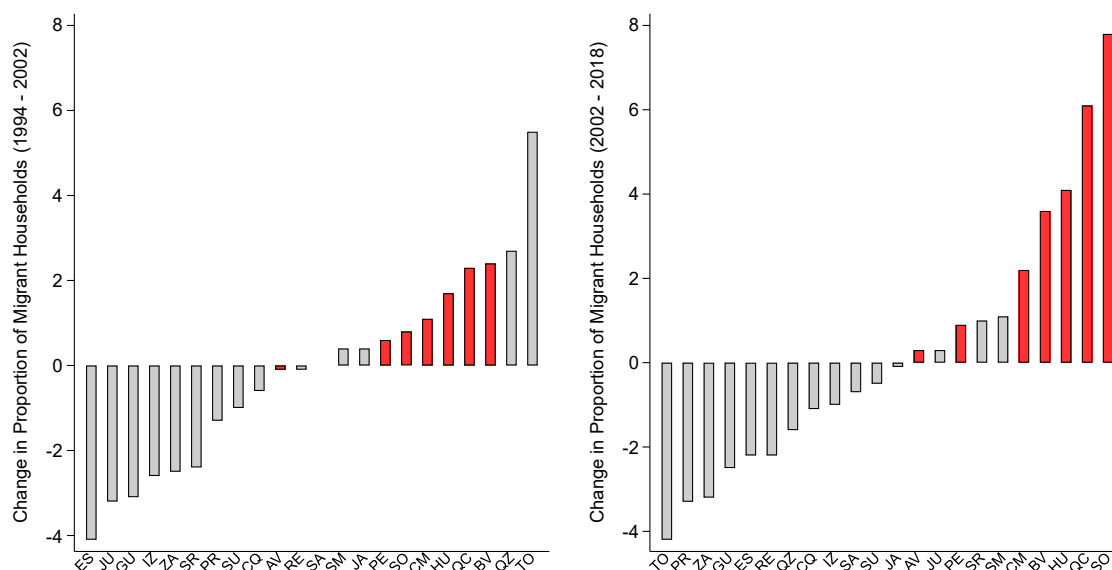
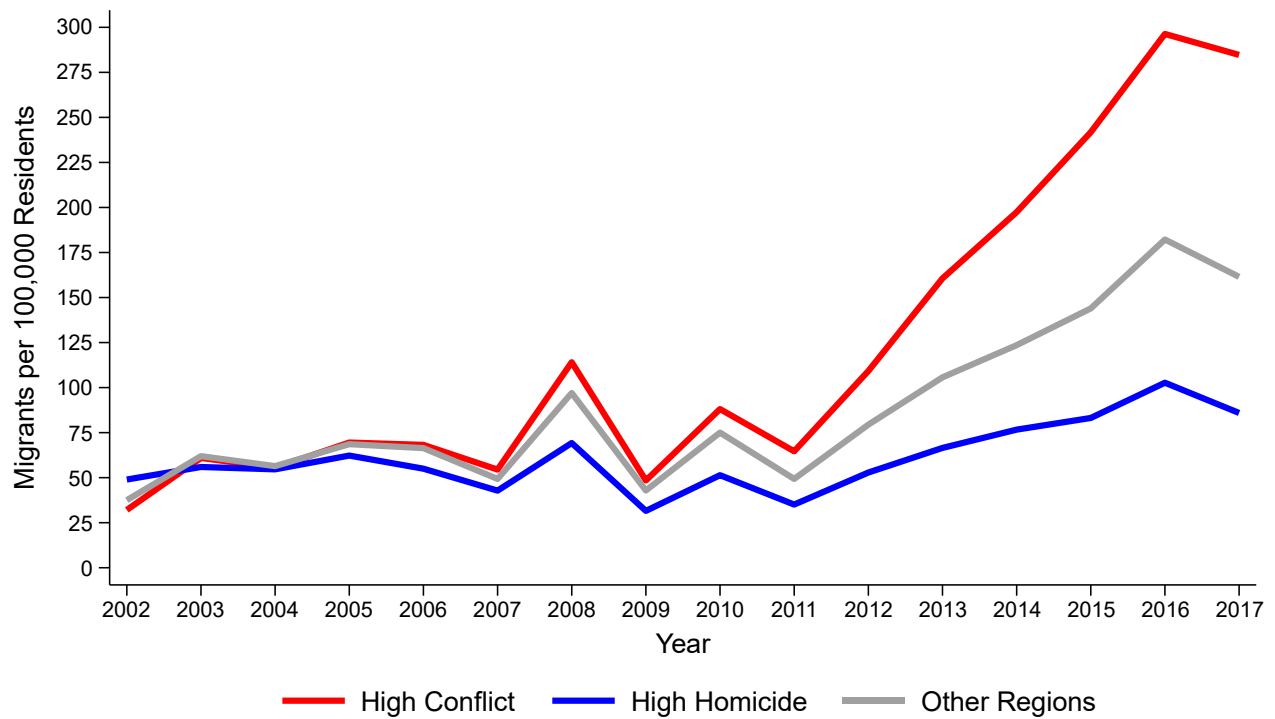


Figure 10. Annual Migration Rates from High-Conflict, High-Homicide, and Other Municipalities, 2002–2017



Note: This figure displays annual international migration rates from Guatemalan municipalities between 2002 and 2017, measured as migrants per 100,000 residents. Municipalities classified as high-conflict (red line) are those in the fourth quartile of conflict-related deaths during the Civil War critical juncture period (1978–1985), municipalities classified as high-homicide (blue line) are those in the fourth quartile of contemporary homicides (2002–2017). All other municipalities are shown in gray.

APPENDIX A: Data and Measures

*This appendix provides supplementary detail on data sources and measure construction referenced in the Data and Methods section of the main text.*⁴³

A1. Municipal Boundary Changes

While today Guatemala has 340 municipalities, several were added during and after the 36 years of the armed conflict. Because this study uses municipality-level data from different time periods in various ways, specific strategies were required to account for these administrative changes. Thirteen municipalities require such a strategy, and they divide into two groups according to whether they appear in the 1981 census, which supplies the denominator for the conflict-death rate. Municipalities created before that enumeration are recorded in it under their own names and need no adjustment. Three others—Chicamán (1984), Ixcán (1985), and Pachalum (1986)—were created after the 1981 census but before the Commission collected its testimony, so their recorded violence is genuinely their own. What they lack is a 1981 denominator, which is estimated as described below.

The remaining ten were created after the official end of the Civil War. Each was carved entirely from a single existing “parent” municipality and has no wartime violence of its own, requiring additional adjustments in the analysis. Table A1 lists all thirteen municipalities, their parent units, their years of establishment, and the treatment each receives.

Table A1. New Municipalities, Parent Units, and Establishment Years

Department	New Municipality	Parent Municipality	Year Established	Treatment
Alta Verapaz	Santa Catalina La Tinta	Panzós	1999	Parent value
Huehuetenango	Unión Cantinil	Chiantla	2005	Parent value
Alta Verapaz	Raxruhá	Chisec	2008	Parent value
Petén	Las Cruces	La Libertad	2011	Parent value
Petén	El Chal	Dolores	2014	Parent value
San Marcos	La Blanca	Ocos	2014	Parent value
Suchitepéquez	San José La Máquina	Cuyotenango	2014	Parent value
Zacapa	San Jorge	Zacapa	2014	Parent value
Escuintla	Sipacate	La Gomera	2015	Parent value
Huehuetenango	Petatán	Concepción Huista	2015	Parent value

⁴³ A complete replication package is deposited at [OSF URL]: a single annotated Stata do-file that runs from the raw microdata to every table and figure in the paper and appendices, the Python extraction that recovers the CEH case register from the published report, and documentation of every input. Almost all sources are public. The municipality-level family-unit apprehension counts were obtained by another research team and cannot be redistributed; they enter only the apprehension columns of Table 3, and every other result reproduces from public data. Three further sources require free registration or a short application rather than open download, and the package documents the procedure for each.

Quiché	Chicamán	Uspantán	1984	Own violence; 1981 population estimated
Quiché	Ixcán	Three parents	1985	Own violence; 1981 population estimated
Quiché	Pachalum	Joyabaj	1986	Own violence; 1981 population estimated

Note: Municipalities are listed by year of establishment within each group. The ten post-war municipalities take their parent's historical measures, which they cannot have of their own; the three wartime municipalities keep their own recorded violence and receive an estimated 1981 population. Contemporary measures are always the municipality's own.

Estimating 1981 Population for Wartime Additions

Chicamán and Pachalum were each carved from a single parent, so each takes a share of that parent's 1981 population in proportion to the two units' 1994 populations, and the parent's figure is reduced by the same amount so that no resident is counted twice. Ixcán requires different handling. It was created in 1985 out of Uspantán, Chajul, and Santa Cruz Barillas simultaneously, across two departments, and was depopulated and resettled over the course of the war, so apportioning its population from any one parent would be arbitrary. Its own 1994 population is used instead.

Because Ixcán is the only municipality of the 340 whose population at risk is neither enumerated nor apportioned, I re-estimated the main models with it dropped altogether. Excluding it removes 18,651 of 3,275,931 households and leaves the results unchanged. In the household models the conflict-death coefficient moves from .003 to .003 and the high-conflict indicator from .033 to .032, both still significant; in the municipality-year models the high-conflict coefficient moves from 58.61 to 58.52, and both homicide coefficients are unchanged to two decimal places.

The approach for handling these new municipalities differs between the household-level regressions (using census data) and the municipality-level random-effects regressions.

Household-Level Analyses

For household-level regressions, all data from parent municipalities were applied to the newer municipalities. This means that households residing in a newer municipality were assigned the municipal-level measures of their parent municipality. For homicide *counts*, data began being split in the year after a municipality's establishment. In these cases, I added the homicide counts for the newer municipalities to their parent municipalities for overlapping years, and the combined data were used to calculate homicide rates for both the parent and child municipalities.

Municipality-Level Analyses

The municipality-year models are random-effects regressions rather than fixed-effects: the conflict-death rate does not vary within a municipality over time, so a fixed-effects estimator would absorb the very quantity the analysis is designed to measure. All 340 municipalities are therefore retained. For the ten post-war municipalities, homicide counts are summed with those of the parent in the years both are reported separately, and the combined count is assigned to both units over their combined population, so that no homicide is lost and none is counted twice. Santa Catalina La Tinta is not part of this adjustment: it was established in 1999, before the homicide series begins, and is reported separately throughout. When visualizing data through maps, newer municipalities are demarcated but display the values of their parent municipalities.

A2. CEH Data Extraction and Measure Construction

To measure municipality-level violence exposure during the critical juncture period, I use data from Guatemala's Commission for Historical Clarification (CEH), the official truth commission established under the 1994 Oslo Accord as part of the United Nations-facilitated peace process that ended the Civil War (1999). Between 1997 and 1999, the CEH conducted what remains the most comprehensive accounting of human rights violations committed during the 36-year armed conflict (Impunity Watch 2024; Rothenberg 2012). Investigators visited more than 2,000 communities in the country's most affected regions, interacted with over 20,000 individuals, and gathered 7,338 firsthand testimonies of human rights violations. The Commission also conducted approximately 1,000 interviews with key witnesses—including former army and guerrilla members—and collected testimony from Guatemalans in Mexico, the United States, and Canada. These primary sources were supplemented by Guatemalan state records, declassified U.S. government documents, and submissions from victims' organizations and Guatemalan civil society. The Commission also incorporated findings from earlier independent documentation efforts, including the International Center for Human Rights Research (CIIDH) and the Catholic Church-led Recovery of Historical Memory project (REMHI), into its overall determinations of conflict-related mortality, victim demographics, and findings of state-perpetrated genocide.

Here, I detail the procedure used to recover the case records described in the Data and Methods section from the annexes of the CEH's final report. The annexes are published only as a typeset PDF formatted for print, rather than as a structured data file such as a spreadsheet or database; the case register occupies pages 2,472 to 4,120 of that document. Each of the 7,156 case blocks printed in the annex follows a consistent two-column page layout: the left column carries structured metadata—the department, the perpetrating group, the violation type, the year, and the case number—while the right column contains a narrative account of the incident followed by a roster of named victims (*Victimas identificadas*) and a count of unnamed victims (*Victimas sin identificar*).

I wrote a Python script (using the *pdfplumber* library) that reads each page as a set of words tagged with their horizontal and vertical coordinates on the page. The script divides every page at a fixed horizontal boundary into the metadata column and the narrative column and, within each column, reassembles words into lines by their vertical position. Each case is anchored on the

location line that opens its metadata block—normally a department, but for a small number of cases a label such as MÉXICO or DESCONOCIDO/SIN ESPECIFICAR, used where the Commission could not place the violation in a Guatemalan department—from which the perpetrator, violation type, year, and case number are read in sequence. The narrative and victim roster in the right column are then matched to the correct case by vertical alignment: a case’s content extends from its own vertical position down to the position of the next case, carrying across page breaks where necessary. This coordinate-based alignment preserves the link between each case’s metadata and its victims in a two-column print layout.

For each case the script records the case number, year, certainty rating, department, municipality, perpetrating group, violation type, and the number and names of identified and unidentified victims, together with the page and vertical position in the source PDF from which the record was drawn, so that any record can be checked against the page it came from. The extraction recovers all 7,156 case blocks printed in the annex, which carry 7,136 distinct case numbers; the twenty numbers that appear more than once are repeated in the source itself. Fifty-eight cases carry no roster of named victims—predominantly non-lethal violations, chiefly sexual violence that the Commission recorded without naming victims. These are retained in the case file and marked with a flag rather than dropped, because a case may state a number of unnamed victims without naming any of them.

Place names in the source are irregular, with naming, spelling, and accent variants. The department is printed as structured metadata, but the municipality appears only within the narrative account and must be read out of a sentence such as “en la finca Salaguna, municipio de Cobán, departamento de Alta Verapaz.” I standardized department names to the twenty-two official department codes of the National Statistics Institute (INE), then resolved each municipality candidate against the INE register of 340 municipalities, restricted to the case’s own department. Matching proceeds in three steps: an exact match on the official name; a short-form match, where the candidate’s words are contained in the official name or the official name in the candidate—the Commission prints “Nebaj” for Santa María Nebaj, and “San Juan Comalapa” for the municipality registered simply as Comalapa—accepted only where it identifies one municipality uniquely within the department; and a near match, tried against the official name as a whole and against its distinctive word, for spelling and typesetting variants. Restricting matching to the case’s own department is necessary for two reasons. Six municipality names are duplicated across departments, and name-only matching cannot distinguish them. Less obviously, a name that is not duplicated at all can still resolve to the wrong department: the Commission records one case in “municipio de Santa María Ixtahuacán, departamento de Sololá,” which is closer as a string to Santa María Ixhutatán, in Santa Rosa, than to Santa Catarina Ixtahuacán, the Sololá municipality the narrative is describing—the aldea it names, Guineales, appears under the latter’s correct name in a neighbouring case. A candidate that does not resolve yields no municipality rather than a partial name, and the route by which each case was resolved is recorded alongside it. Cases whose narrative names a municipality in a different department than the case metadata are recorded but excluded from the measure, since the Commission documents where a violation occurred and a narrative pointing elsewhere most often names where victims came from or were taken to. Cases that could not be reliably dated or

geolocated—those without a usable year, or whose municipality could not be resolved—were retained in the case file but excluded from the municipality aggregation, since the violence measure requires placing each killing in a specific municipality and time window. I validated the extraction by reconciling the recovered case blocks against every case number printed in the annex and by checking samples of parsed records against the original report pages.

I constructed the violence measure from these verified case records as follows. I aggregated victims across the CEH’s lethal-violation categories: *ejecución arbitraria*, *masacre*, *muerto/ataque indiscriminado*, *muerto/desplazamiento forzado*, *muerto/escudo humano*, *muerto/hostilidades*, and *muerto/minas, bombas*. I excluded *desaparición forzada* (forced disappearance) because death cannot be definitively confirmed from the case records, though most disappearances in the Guatemalan context are believed to have resulted in death (CEH 1999); substantive findings are unchanged when disappearances are included. Of the 26,043 killings recorded with date and municipality, 24,705 (94.9%) fall within the 1978–1985 critical juncture, drawn from 3,311 verified cases. I normalized killings by 1981 municipal population to a conflict-death rate per 100,000, applying a $\log(x+1)$ transformation to accommodate zero-count municipalities and flag fourth-quartile municipalities as high-conflict zones.

The extraction described here is released with the replication materials in two files. The first is open and contains every case block recovered from the annex, with all of the fields described above except the roster of victim names, together with the flags that define the analytic universe used in this paper; it reproduces every count and every model reported here. The second contains the victim names, which the Commission itself published in the annex; because a searchable file of named victims is a different object from a printed report, access to it is recorded through the repository’s guestbook. Both files carry the source page and position of every record, so that any row can be traced to the page of the annex it was read from, and no case is filtered out of the released file: the sample used in this paper is recoverable from it as a single documented restriction.

A3. Contemporary Violence Measures

Municipal homicide counts (2002–2017) come from CIEN; counts for 2012–2017 are public and those for 2002–2011 were provided on request. I calculated homicide rates per 100,000 using the 2018 municipal population, log-transformed them, and used the mean 2002–2017 rate as the municipal violence measure, with a fourth-quartile binary indicator for high-homicide municipalities.

While homicide is the most common measure of violence used in quantitative analysis due to its availability and relative reliability (Van Breen, Devarakonda, and Liem 2023), it is possible that homicide rates may not fully capture the forms of insecurity that motivate migration. This is particularly relevant in contexts like Guatemala where violence is routinely exercised through non-lethal means such as extortion, threats, or assault. To assess the sensitivity of the results to the choice of violence measure, I conducted robustness checks using administrative crime victimization data produced by Guatemala’s National Institute of Statistics (Instituto Nacional de Estadística (INE), 2025). INE reports data on multiple categories of violence, including *hechos delictivos*, which records all crime victims documented by the national police (Policía Nacional Civil).

While INE has published annual reports on crime victimization going back to 2008, these data are typically aggregated at the department level and therefore cannot be linked to municipal-level migration outcomes. Only in more recent years has INE released victim-level data that identify the municipality of occurrence. The only years for which such municipal-level crime data are available and align with the census-based outcome window used in the main analysis are 2016 and 2017. Accordingly, the robustness checks below focus on this period.

Using the full victim-level microdata for 2016–2017, I aggregated the total number of crime victims to the municipality level for each year. As in the main analysis, I then calculated reported crime victimization rates per 100,000 residents by the 2018 municipal population. This yielded a measure of the reported crime victimization rate that is directly comparable to the homicide rates used in the main text. I constructed two versions of this alternative violence measure. The first includes victims of *all* reported crimes. The second excludes homicide victims, as homicide constitutes a non-trivial share of total crime victimization during this period. Specifically, between 2016 and 2017, approximately 12.1% of all documented crime victims ($N = 8,931$) were victims of homicide. Excluding homicide allows an assessment of whether results using broader crime measures are driven by homicide. As in the main analysis, all violence measures are log-transformed prior to estimation.

As a preliminary check on comparability across measures and periods, I examined correlations among the homicide and crime victimization rates. Homicide rates averaged over the full 2002–2017 period are moderately correlated with homicide rates averaged over 2016–2017 (0.67 , $p < .001$). Within the 2016–2017 period, homicide rates are also moderately correlated with the all-crime victimization rate (0.42 , $p < .001$) and with the non-homicide victimization rate (0.34 , $p < .001$).

M1 in Table A2 estimates whether a household is migrant-sending using the log of the homicide rate averaged over the 2002–2017 period. Because crime victimization data are only available at the municipality-level for a limited two-year period, M2 re-estimates this specification using the log of the homicide rate averaged over 2016–2017. The resulting coefficient is substantively similar, indicating that the estimated homicide–migration relationship is *not* driven by long-term trends.

M3 and M4 then replace homicide with broader measures of violence for the same period. Results remain negative and statistically significant when using both the log of the all-crime victimization rate and the log of the non-homicide victimization rate. Notably, coefficients using broader crime victimization measures are larger in magnitude than those based on homicide alone, indicating that when violence is measured more comprehensively, the negative association between contemporary violence and out-migration is stronger. Excluding homicide from the crime measure yields nearly identical estimates, indicating that the findings are not driven by lethal violence alone.

Table A2. Linear Probability Models Predicting Migrant-Sending Households with Alternative Measures of Violence

	(1)	(2)	(3)	(4)
	M1	M2	M3	M4

Log of homicide rate (2002–2017)	-.026*** (.003)			
Log of homicide rate (2016–2017)		-.017*** (.002)		
Log of all crime victimization rate (2016–2017)			-.034*** (.004)	
Log of all crime victimization rate (without homicides) (2016–2017)				-.033*** (.004)
Constant	.175(.022)	.130(.019)	.295(.035)	.282(.036)
N	3,275,931			

Note: All models use ordinary least squares (OLS) to estimate the probability of a household being a migrant-sending one. Standard errors are clustered by municipality to account for within-group correlation.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

A4. Migration Measures and Municipal Controls

Household migration outcomes come from the 2018 census migration module. Household heads were asked, “Since the year 2002 has someone who belonged to this household gone to live in another country and not yet returned?” Affirmative responses prompted the year of departure, age, and sex of each migrant. From these I coded a binary migrant-sending household indicator and a count of total migrants per household ($\mu = 1.9$).

For panel analyses, I aggregated individual migration events from the 2018 census into annual municipality counts, yielding a municipality-year panel for 2002–2017; I excluded the partial 2018 enumeration year. The 1994 and 2002 censuses included only a general question on whether a member had emigrated permanently in the prior decade. I used these to compute the proportion of migrant-sending households at the department level for 1984–1994, 1992–2002, and 2002–2018, supporting the trends in the main text.

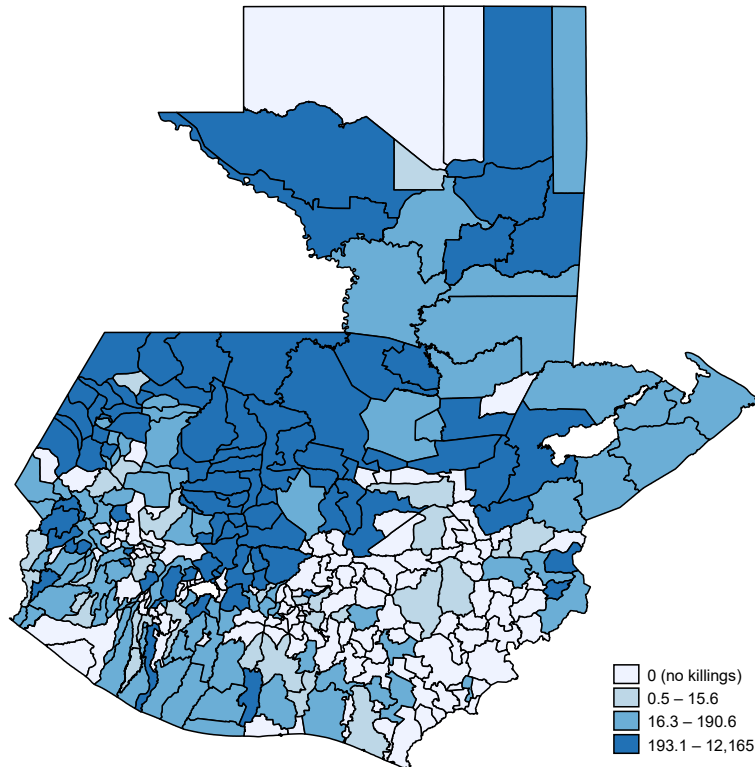
From the 2002 microdata I constructed a municipality poverty indicator using the Unmet Basic Needs (Necesidades Básicas Insatisfechas, NBI) method used by the Guatemalan government (SEGEPLAN 2020). NBI classifies a household as poor if it has at least one unmet need across six domains—dwelling quality, overcrowding, water supply, sanitation, educational attainment, and employment stability. The municipality indicator ($\mu = 70.24$) is the share of poor households, included as a structural poverty control for the 2002–2018 migration window. Finally, municipal population counts from the 1981 census.

I used the 2016 Municipal Governance Ranking (Ranking de la Gestión Municipal, RGM), which is a composite index of institutional capacity spanning six domains—citizen participation, access to public information, service provision, administrative management, financial management, and strategic planning—operationalized through 32 indicators (SEGEPLAN 2024).

APPENDIX B: Supplementary Figures

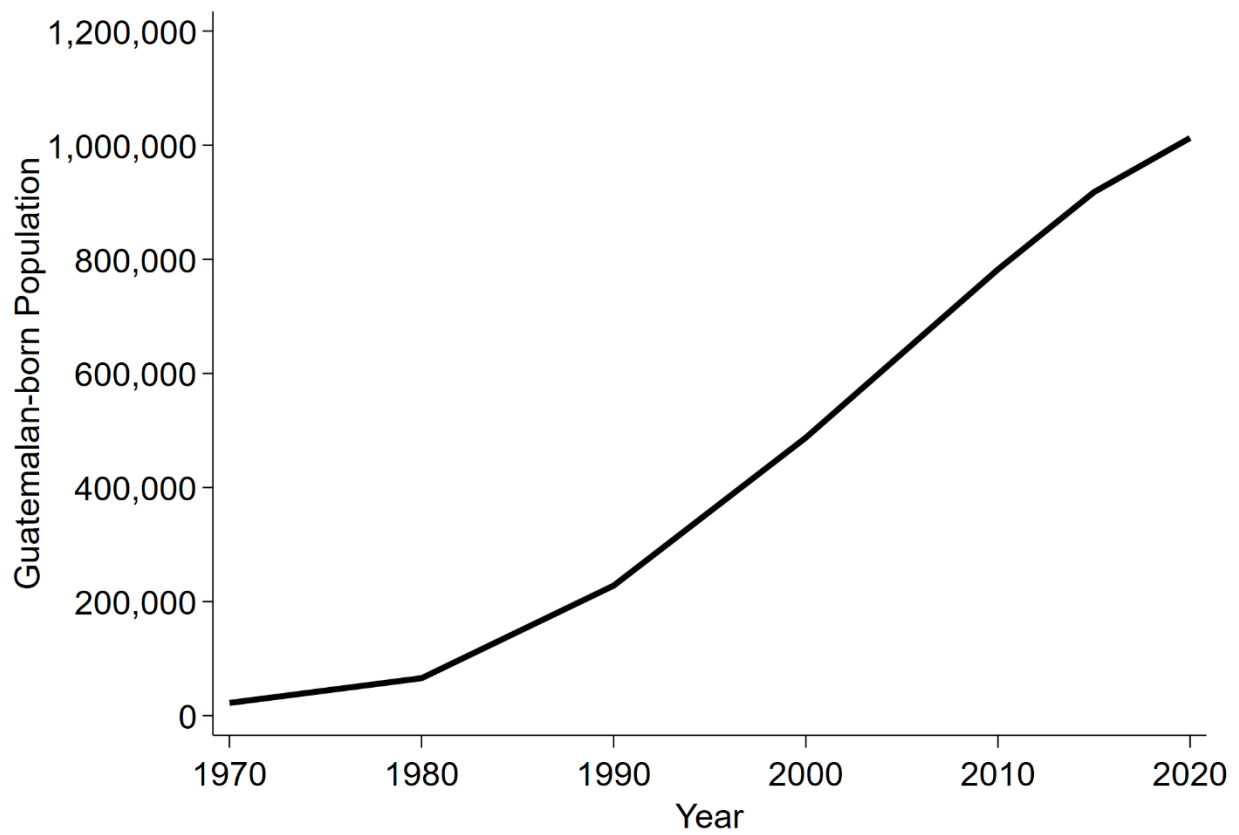
This appendix presents supplementary figures that extend or contextualize the descriptive findings in the main text.

Figure B1. Conflict Deaths, Full Civil War Period (1960–1996)



Note: This figure depicts the geographic distribution of conflict-related death rates across the entire Civil War period (1960–1996), with municipalities categorized into quartiles.

Figure B2. Guatemalan-Born Population in the United States, 1970–2020



Note: Line graph of Guatemalan-born U.S. population by decade, 1970–2020. Sources: U.S. Decennial Census and American Community Survey microdata (IPUMS USA).

Figure B3. Map of Guatemalan Departments and Abbreviations

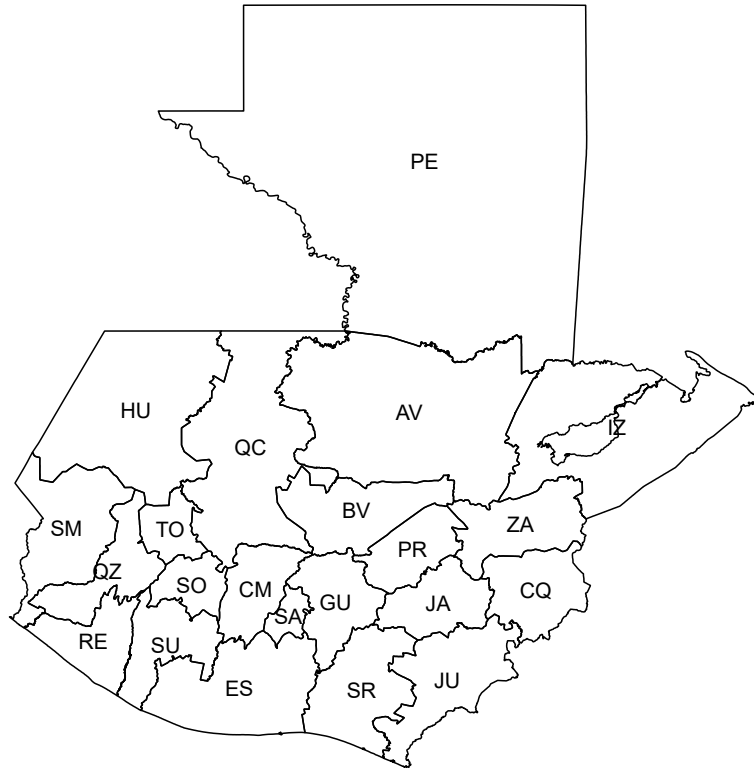
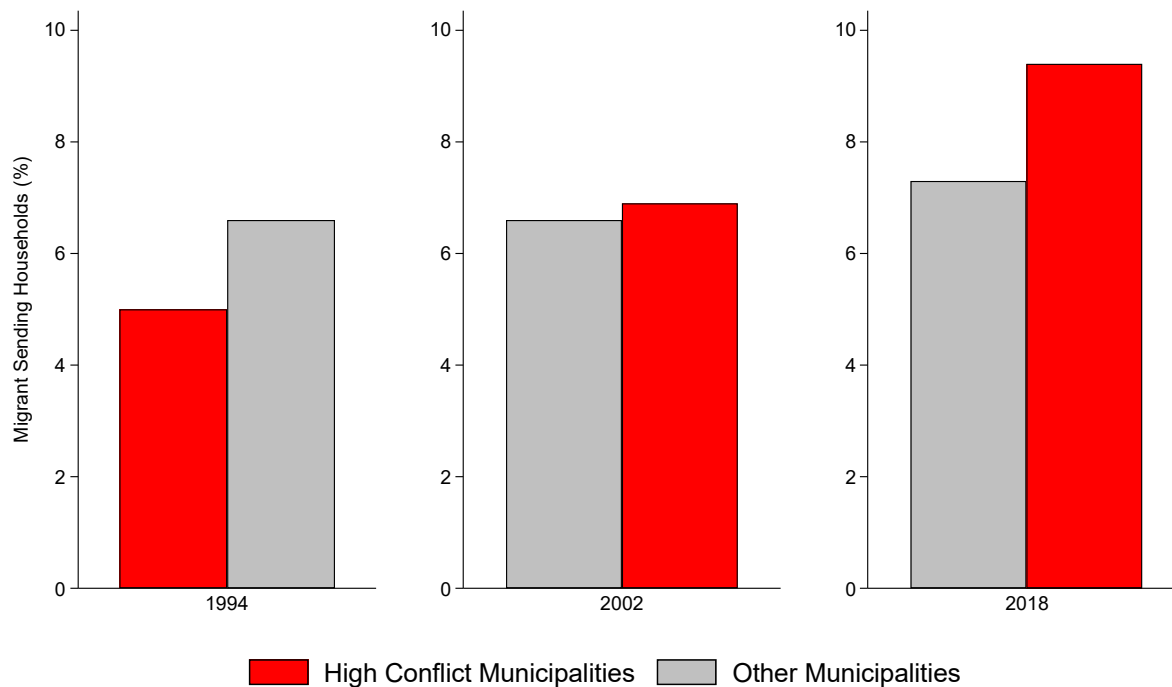


Table B1. Standard State Abbreviations

AV	Alta Verapaz
BV	Baja Verapaz
CM	Chimaltenango
CQ	Chiquimula
ES	Escuintla
GU	Guatemala
HU	Huehuetenango
IZ	Izabal
JA	Jalapa
JU	Jutiapa
PE	El Petén
PR	El Progreso
QC	El Quiché
QZ	Quetzaltenango
RE	Retalhuleu
SA	Sacatepéquez
SM	San Marcos
SO	Sololá
SR	Santa Rosa
SU	Suchitepéquez
TO	Totonicapán
ZA	Zacapa

Note: This table provides the standard abbreviations for Guatemalan states, following ISO 3166-2:GT conventions. These abbreviations are used consistently across figures and tables in the analysis.

Figure B4. Proportion of Migrant-Sending Households in High Conflict and Other Municipalities Across Census Periods



Note: This figure displays the proportion of households in each municipal category (High Conflict and “Other”) that reported sending a migrant abroad during three census periods: 1984–1994, 1992–2002, and 2002–2018. High conflict municipalities are those in the 4th quartile of municipalities during the critical juncture period. In each graph, the municipal category is in ascending order of migrant-sending households for that specific period, meaning the order of the categories varies across graphs.

APPENDIX C: Robustness and Sensitivity Analyses

This appendix reports robustness and sensitivity analyses confirming that the main findings do not depend on specific data sources or modeling choices.

C1. Alternative Violence Measure: CIIDH Dataset

As an alternative measure of municipality-level violence exposure during the critical juncture period, I use data from the Guatemalan nonprofit organization, the International Center for Human Rights Research (El Centro Internacional para Investigaciones en Derechos Humanos (CIIDH)). Between 1993 and 1999, the CIIDH undertook extensive efforts to document human rights violations that occurred in Guatemala from 1960 to 1996. Researchers gathered evidence from press reports, NGOs, and more than 6,000 semi-structured interviews with victims and witnesses. The resulting dataset includes detailed records of 17,423 human rights violations affecting 43,070 individuals, with data organized at the municipality level.⁴⁴

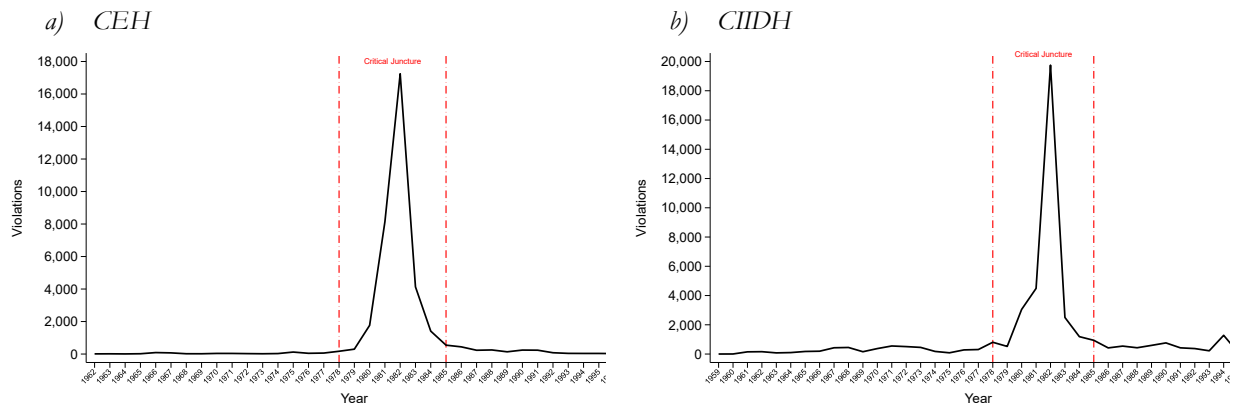
In the CIIDH dataset, each observation corresponds to a recorded violation, which impacted one or more individuals. Frequency weights are included to estimate the total number of affected individuals. As with the CEH data, I calculated a conflict-related death rate per 100,000 residents by normalizing killings and disappearances during the critical juncture period (1978–1985) by the 1981 municipal population, then log-transformed it for modeling.⁴⁵ I also generated a binary variable identifying municipalities in the top quartile of conflict death rates. Municipalities in this highest quartile are designated as “high conflict areas” (coded as 1), with all others coded as 0.

Figure C1 plots annual human rights violations recorded by the CIIDH across the full Civil War period, from 1960 to 1996. This closely mirrors the CEH-based figure in the main text and confirms that the critical juncture period (1978–1985) captures the overwhelming majority of conflict intensity regardless of which source is used as the basis for measurement.

⁴⁴ Notably, statistician Patrick Ball, affiliated at the time with the American Association for the Advancement of Science (AAAS), served as an advisor to the CIIDH. Ball co-authored a key report based on these findings (Ball, Kobrak, and Spierer 1999) and later utilized the CIIDH data, along with other sources, to support statistical evidence of genocide in the CEH report (Ball and Price 2018). Ball subsequently founded the Human Rights Data Analysis Group, a non-profit organization dedicated to the scientific analysis of human rights violations, which now hosts the CIIDH dataset.

⁴⁵ To accommodate municipalities with zero reported conflict-related deaths, I applied a log transformation to the conflict death rate by using $\log(x+1)$, where x represents the raw count of conflict-related deaths. This transformation allows for inclusion of zero-count cases while maintaining a continuous measure across municipalities. I apply the same transformation to the contemporary violence measures.

Figure C1. Temporal Distribution of Civil War Violence: CEH and CIIDH Compared



Note: Subgraph a displays all human rights violations recorded in the CEH dataset ($n=37,024$) and subgraph b displays all violations recorded in the CIIDH dataset ($n=17,423$) for the whole conflict period. The critical juncture is indicated by red lines, 1978–1985.

The same correspondence holds in the regression estimates. Table C1 replicates Model 1 of Table 2, substituting the CIIDH-derived conflict death rate for the CEH-based measure used in the main analysis. The two columns are presented side by side to facilitate direct comparison. The correspondence is remarkably close: coefficient estimates for the historical violence measure, contemporary homicide rate, and all covariates are nearly identical in sign, magnitude, and significance across both data sources—despite the fact that the CEH and CIIDH were compiled through independent processes, draw on different evidentiary bases, and differ in their geographic coverage and total documented cases. Consistency of results across two independent documentation efforts confirms that the core finding does not depend on the source used to operationalize historical violence exposure.

Table C1. Linear Probability Models Predicting Migrant-Sending Households: CEH and CIIDH Measures Compared

	CEH	CIIDH
Log of conflict death rate	.003* (.001)	.003* (.001)
Log of homicide rate	-.025*** (.003)	-.027*** (.003)
Maya household head	-.005 (.005)	-.005 (.005)
Household size	-.001*** (.000)	-.001*** (.000)
Rural	.020*** (.004)	.020*** (.004)
Dry corridor	.025*** (.006)	.025*** (.006)
Municipal poverty	-.053* (.021)	-.043* (.019)
Municipal governance	-.060* (.026)	-.069** (.024)
Constant	.177*** (.022)	.179*** (.022)
R-squared	.017	.017
N	3,275,931	

Note: All models use ordinary least squares (OLS) to estimate the probability of a household being a migrant-sending one. Standard errors are clustered by municipality to account for within-group correlation. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

C2. Alternative Measure of Contemporary Violence: Non-Homicide Crime Victimization Rates

Appendix A3 describes the construction of an alternative measure of contemporary violence drawn from INE victim-level crime records for 2016–2017, and Table A2 shows that broader crime measures carry the same negative association with emigration as the homicide rate does. Those models compare the violence measures against one another; they do not carry the historical violence measure or the covariates used in the main analysis. They therefore leave open whether the association between wartime violence and contemporary emigration holds when present-day violence is measured more comprehensively.

Table C2 re-estimates both specifications of Table 2 with the non-homicide crime victimization rate in place of the homicide rate, retaining the full set of household and municipal controls. The historical violence coefficients are substantively unchanged: the logged conflict death rate is .004 in the continuous specification (M1), against .003 in Table 2, and the high-conflict indicator is .032 in the categorical specification (M2), against .033. Contemporary violence remains a significant negative predictor in both, with coefficients larger in magnitude than their homicide counterparts (-.032 against -.019 in M1, and -.032 against -.017 in M2). Measuring present-day violence more comprehensively therefore sharpens the contrast the paper draws between the two forms of violence: the historical association persists, and the contemporary association grows more pronounced.

Table C2. Linear Probability Models Predicting Migrant-Sending Households: Non-Homicide Crime Victimization as the Contemporary Violence Measure

	(M1)	(M2)
Log of conflict death rate	.004** (.001)	
High conflict		.032** (.010)
Log of crime victimization rate	-.032*** (.004)	
High crime victimization		-.032*** (.006)
Indigenous head of household	.002 (.005)	.006 (.005)
Household size	-.001*** (.000)	-.001*** (.000)
Rural	.017*** (.004)	.021*** (.004)
Dry Corridor	.010 (.006)	.006 (.006)
Municipal poverty	-.117*** (.023)	-.067*** (.019)
Municipal governance	-.066** (.024)	-.083*** (.022)
Constant	.303*** (.035)	.130*** (.020)
R-squared	.019	.015
N	3,237,931	

Note: All models use ordinary least squares (OLS) to estimate the probability of a household being a migrant-sending one. Crime victimization is measured as reported non-homicide crime victims per 100,000 residents for 2016–2017; M1 uses the log of the rate and M2 a binary indicator for the fourth quartile. Construction of the measure is detailed in Appendix A3. Standard errors are clustered by municipality to account for within-group correlation. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$