

# **Essays on Displacement During and After War**

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I, Sigrid Weber, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.



## Abstract

How do internally displaced persons navigate the contested environment of conflicts? When violence breaks out, civilians have to make difficult decisions regarding the questions of whether to leave, how to protect themselves from armed actors and when to return. In three empirical chapters, this thesis investigates how violence affects population movements but also how population movements shape conflict dynamics and post-conflict recovery. The first chapter investigates how different patterns of violence lead to differential decisions to flee by conducting a survey experiment in the Kurdish-dominated areas of Turkey. I find that certain patterns of violence, in particular the threat of repeated and future violence but also the perpetrator of violence, explain when civilians flee and where they go. The second empirical chapter highlights how armed actors respond to the resulting displacement. I propose a revised theory of civilian victimization during civil wars in which the local population is not static but moves dynamically through zones of territorial control. In a spatial regression analysis of one-sided violence against civilians and IDPs, I show in the context of the Iraq war against the Islamic State that territorial rulers respond with violence to disloyal IDPs moving into their areas while territorial challengers spoil local rule by targeting civilians that support the current local ruler and move towards their territories. This study contributes to the literature on territorial control, civilian victimization, and conflict contagion. The last chapter analyses how housing, land and property rights affect the decision to return home after displacement. Using a matching analysis of actual return decisions in Northern Iraq and survey experiments with the Yazidis in Iraq, I demonstrate that political discrimination and economic uncertainty in property rights security slow down returns and hinder a speedy recovery in post-conflict environments. Situated at the intersection between forced migration research and conflict studies, the thesis as a whole provides insights into the interlinked dynamics of violence and displacement during and after conflicts.



## Impact Statement

The dissertation makes key contributions to research on the interlinked nature of forced displacement and conflict but also to policy-making aimed at protecting internally displaced persons and other vulnerable populations on the move.

For academics, the first two chapters of the dissertation outline improvements to our existing theories and models for flight decision-making and civilian victimization. In chapter 2, I show the importance of including other factors than the scale of violence in predictions and explanations of forced displacement. Future research on the process leading to flight decisions should aim to understand how different dimensions of violence affect whether civilians make the decision to flee. For example, depending on who perpetrates violence, we might expect larger refugee or IDP movements. Next steps for academic research could be to translate my experimental findings into predictive models of flight patterns based on patterns of violence or to further focus on the question how threat perceptions shape displacement decisions. My extension of classic theories of civilian victimization in civil wars in chapter 3 is also relevant for future research on one of the key questions in conflict research: when do armed actors attack civilians? My claim to conceptualise local populations as a dynamic element that changes over the course of a civil war due to displacement seems crucial to improve our explanations and predictions about when and where civilians (on the move) are endangered.

These contributions directly link to the impact of my research on policy-making. My dynamic model of civilian victimization can explain why vicious cycles of violence and displacement emerge - a phenomenon that causes concerns for humanitarians trying to keep displaced populations safe. With an improved understanding of why protection crises emerge, policy-makers may be able to identify better ways to shelter people on the move. My refinement of our understanding of flight decision-making may be helpful to improve predictions of displacement flows that are relevant for humanitarian planning and aid allocation. The third chapter of the dissertation directly contributes to an ongoing policy dialogue about how to protect the rights of forcibly displaced populations - such as their rights over housing, property and land but also their freedom to move. The data collection for this project was implemented in direct coordination with a humanitarian partner and has been used in their advocacy efforts. As such, my academic contribution to the question of how housing, land and property rights shape return decisions by internally displaced persons has directly impacted policy processes. Humanitarian and development interventions designed to ensure housing, land and property rights for internally displaced persons may benefit from further analyses on how this enables vulnerable populations to return home.

Finally, the dissertation contributes in a methodological way by providing more fine-grained data and analysis on the dynamics of forced displacement and violence. I produce original data - such as through my machine learning and manual coding of territorial control in Iraq - that can be used by other academics, researchers or analysts. The cases for which I provide data and analysis - with the Kurds in Turkey and the Yazidis in Iraq - are of high relevance to organisations and individuals aiming to understand how fleeing populations and minorities in particular navigate contested spaces.





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# Chapter 1

## Introduction

When armed conflict and political violence break out, many civilians are uprooted from their homes. Yet those who move seeking safety face a set of challenges: Displaced persons have to learn how to navigate a politicised and militarised space. Conflict-induced human mobility means that ordinary citizens make high-risk decisions to move to new areas, to evaluate when it is safe for them to return home, and to identify strategies to mitigate their own vulnerability while being displaced. While making these choices, forcibly displaced persons often find themselves caught between various fronts.

Displaced persons - whether they flee within their own country or cross borders to other states - face restrictions to move or work. In host communities, anti-migrant attitudes (Czaika and Di Lillo, 2018) and stereotypes against people on the move (Zhou and Lyall, 2021; Bansak, Hainmueller and Hangartner, 2016) shape their everyday life. Even violent attacks against displaced persons are all too common (Benček and Strasheim, 2016). Additionally, displaced persons that remain within their own country as *internally displaced persons* (IDPs) have to carefully interact with various armed actors - such as conflict parties, the government, smugglers and traffickers - to move through checkpoints and reach refuge.

Interactions with militarised actors bring hurdles as displaced people may (un)intentionally signal war loyalties or support for certain actors with their movement decisions (Balcells and Steele, 2016; Steele, 2018). In the complex context of war zones - with changing patterns of violence, moving front lines, and overburdened local communities - it is no surprise that humanitarians and policy makers are alarmed about how to keep people on the move safe and protected (UNHCR, 2006).

At the same time, it is precisely these situations of internal displacement that have received less attention in the academic and policy literature compared to cross-national refugee and migration movements.

In three main chapters, this PhD thesis traces how civilians make decisions to flee, how armed actors respond to these population movements, and how displaced persons make the decision to return home. The thesis specifically focuses on the question of how civilians move in contested spaces *within* conflict-affected countries in which persistent violence, the presence of armed actors and differential access to services and institutions shape the decision making of people on the move. Each chapter provides insights into various challenges that arise in displacement contexts - from the initial decision to flee, to the violent interactions with armed actors, and to challenges of deciding when it is safe to return home.

Using a conjoint experiment in the Kurdish areas of Turkey, the first chapter outlines when and what type of violence forces civilians to flee. The chapter highlights that civilians respond to certain types of violence: they flee when violence is frequent and indiscriminate, when the risk of repeated incidents of violence is omnipresent and when violence moves closer. Civilians are less likely to flee when violence only happens sporadically and in distance to their own families. This pattern not only highlights that the most vulnerable and endangered civilians make the decision to flee, it also highlights that civilians make conscious decisions about when to go and take on the risk of relocation during conflict.

An additional finding in this chapter is that civilians strategically flee abroad when governments conduct violence while they tend to relocate more within the country when rebels commit violence. While violence by a government may only be preventable by moving abroad, localised rebel violence can be avoided by moving to other less conflict-prone areas. The finding shows that civilians rationally consider where they can find safety when being attacked and navigate the contested surrounding of violence by choosing locations depending on their social networks and the risk of being attacked again.

The chapter contributes to recent forced migration research (e.g., Giménez-Gómez, Walle and Zergawu, 2019; Moore and Shellman, 2006; Steele, 2019; Turkoglu and Chadeaux, 2019) with experimental evidence on how different types of violence shape human decisions to flee. The important theoretical innovation in this chapter

is the more nuanced perspective on how different features of violence - and in particular the perpetrator of violence - affect flight decisions. This is important to create a theoretically more informed link between violence, social networks, and displacement that eventually helps to better predict and explain movements by refugees and internally displaced persons.

The second substantial chapter engages the question of how armed actors respond to vulnerable civilians fleeing in a politicised and militarised world in which armed actors fight over political power and territory. Focusing on the Islamic State in Iraq, the chapter conducts a spatial analysis to understand when armed actors attack civilians and IDPs. The chapter advances the theory that displacement and population movements alter local balances of control between territorial rulers and challengers. Territorial rulers have incentives to govern more violently if displaced persons from opposing loyalty groups move into their areas while territorial challengers inflict harm on civilians if they reinforce the territorial control of the opponent. The chapter presents novel data, using a combination of manual coding and machine learning, on monthly territorial control and civilian victimization inflicted on fleeing civilians in Iraq from 2014 to 2017. The associational regression analysis indeed finds that territorial challengers and rulers distinctively respond to population movements.

The chapter contributes to research on civilian vulnerability during displacement by explaining why internally displaced persons struggle to find safe shelters during ongoing wars and why vicious cycles of displacement and violence frequently emerge – a phenomenon that causes concerns for humanitarians and policy makers. I build on the literature on civilian victimization (i.e. Kalyvas, 2006) and conflict contagion (Salehyan and Gleditsch, 2006) in a novel way by conceptualising populations in civil war zones as fluid rather than static element. This helps to uncover important differences in the patterns of violence by territorial rulers and challengers and highlights the role of displaced persons as “moving targets” in conflict contagion processes.

The last substantial chapter then turns to the question of how populations in displacement make the decision to return home when violence subsides (e.g. Ghosn et al., 2021). In particular, the chapter focuses on one often overlooked factor in academic research on return decisions by forcibly displaced persons: property rights security. The chapter proposes that security over housing, land and property (HLP)

rights is a major factor explaining why some IDP populations choose to return while others stay in displacement. Displaced individuals that face high economic uncertainty and political discrimination in accessing their property rights are less likely to actually return and these dimensions of property rights security also shape their perceptions about whether a return is feasible or not. The chapter combines a matching analysis of actual return decisions by those with secure and insecure property rights in the conflict-affected areas of northern Iraq with a conjoint and a vignette experiment in the Yazidi dominated area of Sinjar in Iraq to provide multi-faceted evidence on actual return decisions and return decision-making.

Focusing on one durable solution to displacement, the chapter contributes to research on returns after displacement by investigating how HLP rights shape the decision making of people on the move. While various policy-makers and humanitarians stress the importance of helping individuals and communities to access HLP rights, academic research on the link between population returns after conflict-induced displacement and rights to housing, land and property is scarce as of now. As such, the chapter also contributes to research on post-conflict stability because the return of displaced populations is a crucial step in the transition from war to peace after conflict.

The remaining sections of this introduction aim to provide background information to enable the reader to contextualise my findings in the three main substantial chapters. I first summarise recent trends in human mobility due to violence and conflict to give an overview of the scale of displacement worldwide. I shed a light on *internal* displacement and its particular challenges. As part of this description of the empirical reality of internal displacement, I then provide a short overview of the displacement cases studied in this thesis. I discuss to what extent the Kurdish region of Turkey, the displacement in Iraq from 2014 to 2017, and the displacement of the Yazidis after the genocide by the Islamic State are representative for displacement situations worldwide and enrich our understanding of dynamics of displacement. I then summarise the contributions of the three substantive chapters drawing links to the academic literature on internal displacement and conflict dynamics.

## 1.1 Human mobility and conflict

At the end of 2021, the United Nations High Commissioner for Refugees (UNHCR) estimated that 89.3 million people were forcibly displaced (UNHCR, 2022). Forced migration or displacement refers to the movement of people away from their habitual residence due to violence, conflict or disasters.<sup>1</sup> In this thesis, I center my attention on *conflict-induced* displacement - the “civilian migration during war that is provoked, directly or indirectly, by the actions of one or several armed groups” (Steele, 2009, 422). My focus is not on disaster-induced displacement (Piguet, Pécoud and De Guchteneire, 2011; McAdam, 2012; Wilkinson et al., 2016; Islam and Hasan, 2016), which will gain relevance in coming years due to the climate crisis (Gemenne, 2011), or voluntary forms of migration, for example due to job opportunities (Tsourapas, 2018; Barsbai et al., 2017; Mosley and Singer, 2015) that are sometimes hard to distinguish from “forced” migration (Erdal and Oeppen, 2018). My findings, however, have potential implications for other migration movements.

### 1.1.1 The scale of internal displacement

By far the biggest group of forcibly displaced persons are *internally displaced persons*: In 2021, a total of 59.1 million IDPs were displaced *within* their own country to escape violence and conflict (IDMC, 2021). In contrast to refugees, that often receive more attention in public discourse, IDPs do not cross international borders to seek refuge. IDPs make up around 59.57% of the stock of people on the move due to conflict and violence. The number of IDPs has steadily risen with sharp increases in the total global number of IDPs since 2018 (see Figure 1.1). Because IDPs make up the vast majority of displaced people but academic research, policy-making, and public discourse often focus on refugees, some political scientists, sociologists, demographers and geographers prefer the broader term *human mobility* to migration to open up the discussion on local human movement patterns (Brettell and Hollifield, 2014).

While many people flee from violence to other countries, becoming refugees, conflict-induced human mobility is a much more complex and broader phenomenon: Individuals faced with violence may initially flee within their own country as IDPs

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<sup>1</sup>Another definition of the synonyms *forced migration* and *displacement* is “human movement that takes place under significant structural constraints that result from existential threat” (Betts, 2009).

but then experience *repeated* and *protracted* displacement - when a status of limbo due to displacement is maintained for a long period. In addition, spontaneous and short-lifted *return* movements - for example to check on the own house or help family members - are common. Continued violence may mean that IDPs and their families eventually flee to other areas as locations for *secondary* displacement or they flee abroad becoming *asylum seekers* and *refugees*. Over time, IDPs and refugees may find *durable solutions* by permanently *returning*, through *resettlement* or *local integration*. To shed light on this complex picture of human mobility and forced displacement, I focus predominantly on the movement of internally displaced persons within their own country as this has received less scholarly attention.

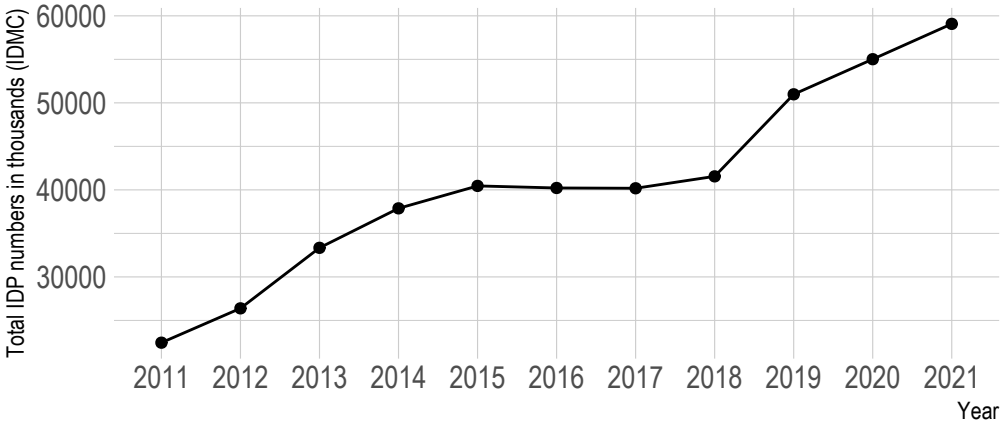


Figure 1.1: Trends in global internal displacement

The scale of conflict-induced internal displacement is constantly growing. Around 87.2% of all IDP have fled as a result of conflict and violence (IDMC, 2020) - but disaster-related displacement is on the rise. Syria, the Democratic Republic of the Congo, Colombia and Afghanistan are home to the largest number of people in internal displacement (IDMC, 2021). In 2021, Afghanistan, Burkina Faso, Ethiopia and Yemen experienced the highest increase in displacement due to conflict (IDMC, 2021).

**1.1.2 Navigating contested spaces as IDPs**

Internal displacement means that IDPs often have to move through and out of contested war zones within their own country. Beyond the mere definitional difference of crossing international borders and the reduced attention and humanitarian funding

for internal displacement, several distinct features characterize IDPs and refugees:

First, IDP *movement patterns* are more irregular and complex than refugee movements. There is also significantly less information and data available on the decision to move and the resulting movement patterns for IDPs. IDPs often temporarily return to insecure areas, they move through areas with widespread destruction and face cyclical and prolonged displacement. One of the reasons why the global number of IDPs has almost doubled over the past 15 years and surpasses the number of refugees is that many internal displacement situations have found no solution (OCHA, 2017). As violence continues, IDPs experience repeated displacement and renewed victimization - compared to refugees that exit the conflict zone. In chapter 2, I will explore the question of how IDPs make movement decisions and how the perpetrator of violence may also play a role in the decision of displaced people to stay within their own country or eventually exit to hosting countries elsewhere.

Second, when fleeing violence, IDPs experience a less formalised and less internationalised system of protection. While UNHCR and hosting states take over responsibility for refugees, the *primary responsibility to protect* IDPs remains with national authorities (UNHCR, 2006). In many displacement contexts, the government or the state are the reason for displacement in the first place. In practice, this means that international actors face a reduced ability to intervene in interactions between displaced persons and armed actors. At the international level, no single agency or organization has been designated to protect and assist IDPs vis-à-vis the state. In many circumstances, this can lead to more vulnerabilities for displaced persons that have to navigate hostile armed actors. In chapter 3, which discusses how armed actors respond to internal displacement and interact with IDPs, this thesis assesses how cycles of repeated displacement occur because of violent interactions between armed actors and IDPs.

Third, although the policy community struggles to resolve protracted refugee situations<sup>2</sup>, identifying *durable solutions* for IDPs appears particularly challenging. Less than 12% of IDPs are housed in formal camps or settlements (OCHA, 2017). Instead, IDPs rely on very vulnerable host communities in developing countries to locally integrate and find temporary shelter. Whether these local communities, that are often food deprived themselves, are capable to provide long-term durable solutions for

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<sup>2</sup>Durable solutions for refugees include voluntary repatriation, resettlement or local integration.

IDPs remains open. Given the informality of IDP settlements, it is also more difficult for humanitarian and development actors to step in and create the conditions under which locals and IDPs can simultaneously improve their livelihoods. The alternative pathway to durable solutions for IDPs - the return rather than integration elsewhere - seems particularly challenging as well: Destruction and persistent security threats make it often infeasible for IDPs to return to their origin communities. In 2021, only an estimated 5.3 million IDPs returned during the year, less than 9% of all IDPs (UNHCR, 2022). If certain areas of a country are heavily destroyed due to conflict and violence and informal armed groups persist even after the end of official fighting, IDP returns to these areas are slow and dangerous. In chapter 4, I analyse how one relevant aspect of the post-conflict environment - the access to housing, land and property rights - shapes when IDPs return to their origin communities and find durable solutions. The focus on HLP rights maps on the interest of policy makers that often identify assistance in accessing their rights as a critical area for humanitarian and development interventions for displaced populations (UNHCR, 2015).

Overall, the scale of internal displacement and the distinct challenges and characteristics of IDPs highlight the importance of understanding how population movements during conflicts emerge, how they affect conflict dynamics and how populations return after displacement.

## 1.2 Case selection

To contribute to research on population movements in the contested surroundings of armed conflicts, this thesis focuses on displacement situations in the broader Middle East, more specifically in Iraq and Turkey.<sup>3</sup> With three distinctive case studies that focus on different displaced populations within Iraq and Turkey, I aim to contribute to micro-level quantitative research on population movements in contested spaces of political violence and conflict. While chapter 2 focuses on displacement in the Kurdish region of Turkey, chapter 3 analyses displacement and violent dynamics in

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<sup>3</sup>Strictly speaking, the Middle East is comprised of different territorial states that share an Arab identity. As such, Turkey is not a core Middle Eastern state but is rather situated at the periphery of the Middle East as non-Arab state. Nevertheless, Turkey- and in particular the Kurdish region of Turkey - is an integral part of the region's conflicts and its balance of power (Hinnebusch, 2003, 1). To simplify the discussion around case selection, I hence focus on the Middle East *including* Turkey. The displacement dynamics in Iraq and Turkey are also closely interlinked given the cross-border Kurdish populations.



the whole of Iraq during the war against the Islamic State (IS). The third substantial chapter focuses on the northern areas of Iraq and specifically on the Yazidi population. In the following sections, I briefly discuss how displacement in the Middle East and my cases in particular fit into the general picture on forced displacement and can provide representative evidence on displacement dynamics (see map in Figure 1.2 for an overview of the sampled areas for my case studies).



Figure 1.2: Countries and areas covered in this PhD thesis

Internal displacement in Turkey's eastern and south-eastern region is a result of the long-standing and unresolved armed conflict between the Kurdistan Workers' Party (PKK) and the Turkish state. Between 1984 and 1999, fighting between the PKK and the Turkish military forces resulted in the displacement of hundreds of thousands of people, mostly in rural Kurdish villages in the south-eastern provinces (Belge, 2016). Although some people returned after Kurdish armed groups ceased their armed activities in 1999, a second period of displacement was triggered between 2015 and 2016 with security operations by the Turkish military. Several neighbourhoods were severely damaged with heavy Turkish weaponry in cities such as Suriçi, Nusaybin (Mardin), or Cirze (Mandıracı, 2022). Cross-border shelling at the Turkish border to

Syria and the Turkish offensive in north-eastern Syria in October 2019 also led to significant displacement in the region. Since then, Turkey has become increasingly involved in military operations in Syria and Iraq.

In Iraq, millions of IDPs remain in displacement after the war against the Islamic State in Iraq has uprooted almost 15% of the country's population. In 2014, Iraq experienced the highest number of new displacement worldwide with more than 2.2 million newly displaced IDPs (IDMC, 2019b). The terrorist group rapidly gained territory in 2014 but was also rapidly pushed back by a coalition of government forces, the Kurdish Peshmerga, and Shia militias in the following years of the conflict. This period of displacement due to the rise of the Islamic State in late 2013 can be described as fourth major period of conflict-induced population movements in modern Iraq (IDMC, 2019b) - after Saddam Hussain's Arabisation campaign, the US-led invasion of Iraq in 2003 and the prolonged instability after the toppling of the Hussein regime, and the sectarian violence starting in 2016. Even before the Islamic State emerged, around 2.1 million IDPs were displaced in Iraq (IDMC, 2019a) and this war added about 6 million more IDPs (OCHA, 2019). State weakness and persistent insecurity still hinder the return of many IDPs almost 5 years after the conflict.

One population that was almost entirely displaced by the Islamic State from 2014 to 2017 are the Yazidis in the northern area of Sinjar in Iraq. While the Sinjar region can be considered the homeland of the Yazidis, a Kurdish-speaking religious minority in Iraq, the area actually inhabited a diverse mix of people with sizeable Sunni Arab, Kurdish, Turkmen and Christian minorities before the war (UN-HABITAT, 2020). The Yazidis and other groups in this area of Iraq have a long history of forced displacement: Under the Baathist's Arabisation campaign in the 1970s, hundred of thousands of Yazidi were forcibly displaced and discriminated (UN-HABITAT, 2015). But when the Islamic State captured the area in August 2014, the situation of the Yazidis dramatically deteriorated. The IS conducted massacres in Sinjar, forcibly displacing around 300,000 Yazidis, 8,000 Kurds and 30,000 Turkmen (UN-HABITAT, 2020). Although the IS was cleared from the area in November 2015, the genocide against the Yazidis left Sinjar demolished and many Yazidis remain in displacement up to today. Only 34% of the inhabitants in Sinjar have made the decision to return (UN-HABITAT, 2020).

Why is it useful to study displacement situations in the Middle East? The first reason certainly is the scale of human mobility in the Middle East. Displacement in the

Middle East in recent decades has been a dominant societal force. Around 21.2% of all internal displacement globally is recorded in the Middle East, only topped by displacement in Sub-Saharan Africa. Turkey is the country hosting most refugees. Syria in Iraq's and Turkey's neighbourhood is still the country causing most displacement in the world (UNHCR, 2022).

Although forced displacement has such a high prevalence in this small area of the world, there are many differences between displacement in the Middle East and Sub-Saharan Africa, Latin America or Asia. For example, levels of economic development are generally higher in the Middle East than in Sub-Saharan Africa. While displacement in the Middle East is largely due to full-scale conflicts, the causes of displacement - with the prevalence of criminal gang violence, irregular war tactics and poverty in some Latin American countries and coups and repression in some Asian countries - can differ from other regions. Nevertheless, the scale of internal displacement makes my case studies policy relevant.

A second reason is data availability. Fine-grained data on internally displaced persons that goes beyond the often unreliable counts of persons on the move and captures their socio-economic profiles, identity groups and their decision making is still scarce. Increasingly, studies in the Middle East have improved on the available data on forced displacement (e.g., Alrababa'h et al., 2020; Ghosn et al., 2021; Camarena and Hägerdal, 2020; Holland and Peters, 2020). Collecting data on forced displacement but also using available data is hence easier in the context of Turkey and Iraq, making this not only a crucial case but also a convenient case to analyse.

### **1.3 Contribution**

My PhD thesis makes several contributions to research on conflict and displacement from a theoretical and methodological perspective. My chapters speak to research on the emergence of displacement, the experience in displacement, and the return to origin communities. I connect these core areas of migration research with key debates in conflict research on the relevance of territorial control in civil wars, the contagion of violence across space, and the agency of civilians in war and post-war settings. Table 1.1 provides an overview of my contributions.

Table 1.1: Overview of contributions

Ch.	Case	Method	Literature	Specific findings and contributions
2	Turkey	Targeted online survey, Survey conjoint experiment	Forced migration, Territorial control	Relevance of heterogeneous patterns of violence for flight decisions, importance of social networks, dependence of flight destinations on armed actors perpetrating violence
3	Iraq	Spatial analysis, count models, machine learning	Forced migration, Territorial control, Civilian victimization, Conflict dynamics/ contagion	Local populations as dynamic element in theories of civilian victimization, displacement movements as cyclic, identification of spoiling mechanism for territorial challenger
4	Sinjar	In-person survey, matching analysis, conjoint and vignette experiment	Post-conflict recovery, population returns	Housing, land and property rights as important return factor

### 1.3.1 Before displacement: understanding flight decisions

My first main chapter speaks to the large literature on flight-decision making. The question when people decide to flee is at the core of migration research. Many studies have analysed what explains country-level global migration patterns (e.g., Giménez-Gómez, Walle and Zergawu, 2019; Moore and Shellman, 2006; Steele, 2019; Turkoglu and Chadefaux, 2019; Weiner, 1996; Rüegger and Bohnet, 2018; Devictor, Do and Levchenko, 2021) - the aggregated patterns of displacement that emerge because individuals and families make the decision to flee. Fewer quantitative studies have focused on the individual-level, collecting data on why certain households and individuals flee while the majority of people stay behind (Ceriani and Verme, 2018).

My chapter on flight decisions in the Kurdish areas of Iraq is based on individual-level data from an online survey. The aim is to conduct a more disaggregated analysis of what drives the choice to flee. My co-author and I focus on the question whether

different patterns of violence - who commits violence when, where and how - affect the decision to flee.

This is a theoretical innovation to most previous research that commonly assumes that higher levels of violence linearly lead to higher levels of displacement (e.g., Braithwaite, Cox and Ghosn, 2021). We show that it matters how patterns of violence shape threat perceptions and the cost-benefit assessment whether to flee. Our conjoint experiment shows that when violence is near, repeated, and indiscriminate, chances are higher that individuals make the decision to flee. A second contribution of this paper is that we demonstrate that the perpetrator of violence - either the government or a rebel force - can affect if individuals seek safety within the same county as IDPs or exit the conflict zone as refugees. This empirical finding supports emerging literature on the perpetrator of violence as crucial predictor of flight patterns (Steele, 2019; Turkoglu, 2022). We are making an empirical contribution by experimentally testing previous theoretical ideas (Steele, 2019). Lastly, we also demonstrate - in line with previous literature - that social networks shape flight decision making (Schon, 2019; Adhikari, 2013).

### **1.3.2 During displacement: analysing reactions to displacement**

My second main chapter originally emerged from the literature that tries to understand conflict contagion due to forced migration (e.g., Salehyan and Gleditsch, 2006; Bove and Böhmelt, 2016; Choi and Salehyan, 2013). I demonstrate that many initial studies highlight that forced displacement can lead to the spread of violence across borders (Salehyan and Gleditsch, 2006) but that more recent sub-national studies question this link (Zhou and Shaver, 2021; Böhmelt, Bove and Gleditsch, 2018; Bove and Böhmelt, 2016) because the mechanisms for conflict diffusion due to forcibly displaced populations and their movements are not tested in detail.

Departing from this conflict contagion literature, I then provide a novel theoretical argument why displacement at a local scale can lead to violent responses by armed actors competing for territory and control. As such, I am carefully thinking through what the conditions are under which population movements *cause* conflict by focusing on one causal mechanism: armed actors' strategic incentives to maximise intensive and extensive control.

Generating novel data on territorial control, forced displacement, and one-sided violence against populations on the move for the Iraq-IS war, I show in fine-grained monthly and grid-cell level regression analyses that territorial rulers use violence against moving populations if these populations threaten their grip over their own territory. In contrast, territorial challengers use violence to prevent strongholds for the opposing side that could build up if moving supporters cluster in a territory.

Most importantly, the theory in this chapter makes a contribution to the academic literature on civilian targeting in civil wars (e.g. Kalyvas, 2006). I show with my analysis that previous theories about when armed actors use violence against civilians do not conceptualise local populations as a dynamic element in their models of violence. If conflict researchers ignore that local populations shift throughout a conflict, we miss important nuances in our theories and predictions of violence against civilians.

### **1.3.3 After displacement: understanding population returns**

The last substantial chapter is rooted in the emerging literature on population returns after displacement (Stefanovic, Loizides and Parsons, 2015; Arias, Ibáñez and Querubin, 2014; Alrababa'h et al., 2020; Beber, Roessler and Scacco, 2021; Camarena and Hägerdal, 2020; Joireman, 2017). The idea that displaced persons return to their origins is one major *durable solution* to displacement. Because other pathways to the end of displacement are often described as dysfunctional due to the low numbers of resettlements and the critique against “voluntary” repatriation (Chimni, 2004), policy makers have high hopes that internally displaced persons simply find solutions by going back to their villages and towns after violence ends. However, academic research on the return of forcibly displaced populations is still largely focused on refugees and broader factors that could affect slower/faster returns such as violence, economic development and ethnic compositions in the origin (e.g., Alrababa'h et al., 2020; Ghosh et al., 2021).

Because humanitarians often neither have control over the level of security nor can quickly intervene to rebuild whole communities, my co-author and I focus on housing, land and property rights as one area in which policy makers may be able to support IDPs (UNHCR, 2015). We study how political inequality and economic uncertainty in property rights security shape the decision of displaced persons to return.

We do this in the context of northern Iraq by studying actual returns in a matching analysis and innovative conjoint and vignette experiments with a Yazidi sample.

We demonstrate that economic uncertainty and political discrimination in access to housing, land and property rights slow down population returns in the post-conflict environment. This is a critical contribution to the academic literature on population returns but also to the literature on post-conflict stability and the transition to peace.

### **1.3.4 Methodology and data contribution**

My substantive contributions taken together, I contribute to research at the intersection between conflict and migration studies. I demonstrate that the choices made by forcibly displaced populations, in particular by IDPs, are made in a contested environment. Displacement and return decisions are shaped by the actions of armed actors - by their targeting patterns, by territorial control across space, and by access to rights and institutions on the ground. At the same time, human mobility itself shapes conflict dynamics and the post-conflict environment. In addition to these theoretical insights, the chapters of this PhD thesis are also united in their contributions from a methodological perspective.

My research makes use of micro-level data on fluid and vulnerable populations such as IDPs that is often hard to obtain. Quantitative migration and conflict research on the cross-national level has provided crucial insights to understand fleeing and war violence (e.g., Adhikari, 2012; Blair, Grossman and Weinstein, 2022; Shaver et al., 2022). There is also important rich qualitative work on the perceptions and experiences of displaced populations (e.g. Fiddian-Qasmiyeh et al., 2014). However, micro-level studies on the dynamics of displacement and conflict - with a focus on individuals, households, and spatially disaggregated units - is comparatively rarer because of difficulties in obtaining high-quality data. This level of analysis is important as displacement data up to today is still hardly comparable across countries and conflict data also seriously suffers from biases in cross-country analyses.

I demonstrate in this PhD thesis how micro-level data - generated by targeted online surveys, spatial regression analyses, and in-person surveys - is key to generate insights into the dynamics of human mobility during conflict. The thesis includes original survey data from the south-eastern part of Turkey (chapter 2) and from the area

around Sinjar in Iraq (chapter 4). Other parts of the thesis make use of innovative combinations of existing data sources from academic research (e.g. UCDP-GED), from humanitarian organizations (e.g. IOM) and news-reports (e.g. LexisNexis). I combine several of these data sources to generate a new fine-grained dataset of monthly dynamics of violence, territorial control, and displacement in Iraq (for chapter 3). I also use existing data on forced displacement patterns to re-analyse them in a spatial matching framework and a panel analysis (in chapter 4).

Beyond the different data sources, I use a wide range of quantitative methods to gather evidence on the challenges of internally displaced persons in contested spaces. While the thesis includes associational regression analyses with spatial data, count models and machine learning, I also use tools for causal inference such as matching and survey experimental treatments.

The remainder of this thesis presents my data collections, theoretical arguments and empirical tests. I conclude with a summary of my findings, discussing potential pitfalls, highlighting the relevance for policy-making and pointing out areas for future research.



# Chapter 2

## **When to go? - A conjoint experiment on social networks, violence and forced migration decisions in eastern and south-eastern Turkey**

*Co-authored with Oguzhan Turkoglu, Post-doctoral researcher, Hertie School*

**Abstract:** How do heterogeneous patterns of violence affect people's decision to flee? We provide individual-level evidence on flight decision-making in light of violence with a conjoint experiment in Turkey. The results suggest that intense indiscriminate violence nearby forces individuals into the decision to leave. In contrast to previous studies, we find that the fear of repeated violence plays a more important role in flight decision-making than the attack frequency. The survey experiment reveals that violence committed by the government makes a decision to flee abroad more likely than rebel violence and that individuals with support networks abroad are less responsive to patterns of violence, making flight decisions more independently. Our findings contribute to the growing literature on forced migration with individual-level evidence on the decision-making process underlying displacement.

### **2.1 Introduction**

Understanding how individuals decide to flee from armed conflict and how this translates into flight patterns is a central endeavour in forced migration research to anticipate movements and emerging humanitarian needs. However, our understanding of the individual-level decision-making process leading to flights is limited. Many studies identify predictors of refugee flows at the aggregated global, national, or sub-national level and do not distinguish between different patterns of violence that induce population movements (Davenport, Moore and Poe, 2003; Moore and Shellman, 2004; Schmeidl, 1997).

Violence looks substantially different across displacement contexts, ranging from individual and targeted killings and abductions to large-scale genocides and mass violence. Civilian responses to these heterogeneous patterns of violence can vary from participation to passivity, from hiding to active efforts to end violence, from fleeing to staying. We focus on the decision to stay or flee in this chapter. We argue that for a better understanding of flight patterns we should understand how an individual reacts to violence as a heterogeneous treatment: Different patterns of violence induce variation in an individual's decision to flee and choose a destination.

First, drawing on aggregated studies of flight patterns (e.g., Turkoglu and Chadeaux, 2019; Giménez-Gómez, Walle and Zergawu, 2019; Melander, Öberg and Hall, 2009; Moore and Shellman, 2006, 2004; Davenport, Moore and Poe, 2003; Schmeidl, 1997; Weiner, 1996) and testing them on the micro-level, we argue that the type of violence in a country matters to understand if individuals leave their homes and risk the notoriously dangerous journey of people on the move. The consideration to flee depends on the patterns of violence that individuals observe such as the frequency and proximity of violence but also the perpetrator and target type (i.e., discriminate and indiscriminate).

Second, we argue that social networks, conceptualised as ties to people in other countries, can affect decisions to flee. Drawing on existing studies on the role of social networks in shaping displacement decisions (e.g., Adhikari, 2013; Harpviken, 2009; Colletta and Cullen, 2000), we argue that social networks explain variation in how individuals respond to the diverse treatment of violence. Individuals with social networks in other countries have easier access to outside options, which makes flights less costly and more feasible. As a result, individuals that have social networks to other countries are more flexible and mobile. Their decision to move is less dependent on the observed patterns of violence. In contrast, individuals without social networks abroad have to base their decision-making more strongly on the extent of urgency created by violence.

To better understand individuals' responses to heterogeneous types of violence, we conducted a conjoint experiment in the eastern and south-eastern parts of Turkey that have experienced fighting for decades. We asked respondents to evaluate information about carefully drafted and neutral violent scenarios and to hypothetically choose in which scenario they would rather flee than stay and where they would go.

We also examine how respondents' social networks affect their response to violence and their choice between fleeing to a location abroad or within the country. It is important to note that this research design cannot track and explain *actual* flight decisions but it helps to elicit which features of violence - a non-randomly assigned treatment in the real world - can provoke particularly strong concerns by ordinary citizens that are faced with the pressure to flee.

In our hypothetical scenarios, we find that civilians respond more strongly to nearby violence than to distant violence. Civilians also show more fear of indiscriminate violence and flee from it compared to targeted attacks. The results suggest that a fear of violence happening again drives more variation in decisions to flee than how much or how frequent violence occurs. This finding is more nuanced than the existing literature that emphasizes the mere scale of violence as factor shaping flight decisions (Balcells and Steele, 2016; Davenport, Moore and Poe, 2003; Turkoglu and Chadeaux, 2019).

Importantly, we find that the perpetrator of violence affects the location to which people decide to flee. In line with Steele (2019), who provides a theoretical framework to understand this finding, we find that government violence leads to more decisions to flee abroad while rebel violence encourages more relocations within the country. This is likely to stem from the fact that a government cannot easily be contained by the weaker non-state opposition and civilians may only feel safe abroad. Exposure to rebel violence can be mitigated by moving to areas with less conflict activity.

Regarding the question of whether individuals with strong social networks respond differently to violence and make different flight decisions, we find that survey respondents with networks abroad are less responsive to different patterns of violence in their decision to flee abroad than those with no support network elsewhere. Although this experimental finding may suffer from poor statistical power, we provide additional observational evidence that individuals with support networks tend to be more inclined towards mobility in our sample. Taken together, this provides a first indication that individuals with social networks abroad make decisions to move in light of violence with less pressure and urgency than those without social networks because exits are a more feasible strategy.

This study makes important contributions to the literature. First, we complement existing macro-level analyses of flight patterns (Davenport, Moore and Poe, 2003;

Moore and Shellman, 2004; Melander, Öberg and Hall, 2009; Schmeidl, 1997) by using a conjoint experiment to study individual-level decision-making processes. Second, previous research has generally examined the effect of violence on flight decisions with a focus on the scale of violence (Adhikari, 2013; Moore and Shellman, 2004; Melander, Öberg and Hall, 2009; Turkoglu and Chadeaux, 2019). However, we conceptualise violence as a heterogeneous phenomenon to which individuals respond differently. This study disentangles which features of violence lead to the decision to flee in an experimental setting. Third, we contribute to forced migration research by exploring how social networks affect flight decisions. Our associational findings demonstrate that social networks - to some extent - lift the burden of high-stake decision-making and broaden the scope of action for conflict-affected populations by providing feasible exit strategies.

## **2.2 When and where to go: flight decisions during conflict**

Research on forced migration tries to understand where people flee to during armed conflicts (e.g., Giménez-Gómez, Walle and Zergawu, 2019; Moore and Shellman, 2006; Steele, 2019; Turkoglu and Chadeaux, 2019; Weiner, 1996). This growing literature predominantly conducts country-level studies to understand global forced migration patterns. Geographical proximity, ethnic linkages (Rüegger and Bohnet, 2018), pre-existing migrant communities (Neumayer, 2004), lenient immigration policies (McAuliffe and Jayasuriya, 2016), and colonial ties (Moore and Shellman, 2007) explain how refugees choose their destinations when armed conflict forces them to leave. Research also investigates how global refugee patterns changed over time, with recent shifts to more geographical dispersion and longer refugee journeys than in past decades (Devictor, Do and Levchenko, 2021).

While these country-level studies identify predictors of global refugee patterns, the question remains unanswered *when* individuals flee in the first place. The main reasons why households flee during political unrest is violence (Melander, Öberg and Hall, 2009; Moore and Shellman, 2004; Davenport, Moore and Poe, 2003; Schmeidl, 1997). Nevertheless, we empirically observe that most civilians choose to stay in their homes amidst fighting (Ceriani and Verme, 2018). What are the determinants of individual decision-making to flee? How do we explain variation in displacement deci-

sions; does any type of violence result in refugees and internally displaced persons?

From anecdotal evidence, popular accounts, and qualitative studies, two pictures emerge: individuals either abruptly flee after immediate threats to their families' lives or they make the decision to flee after having experienced long and extreme periods of violence (e.g., Pearlman, 2017). For example, interviews with displaced persons in Mexico and El Salvador indicate that incidents with immediate or imminent risk were catalysts for people to leave their homes when faced with criminal gang violence (Knox, 2017). In other situations, such as in the Karen State in Myanmar, civilians go into hiding from being attacked, trying to return to their fields and villages when troops return to their military base, until the constant disruption to their food supplies and the burning of their homes makes staying in their homeland untenable (Eubank, 2008).

Our study aims to complement qualitative accounts and cross-national studies with experimental research. This objective directly speaks to recent developments in political science research on forced migration that no longer considers all types of violence as equally causing displacement. Braithwaite, Cox and Ghosn (2021) show in the Lebanese context that indirect violence increases the likelihood that individuals' flee within their own state while direct forms of violence, such as torture or sexual violence, lead to more external displacement.

The second aim of this study is to analyze how the existence of social networks and bonds changes the decision-making process of individuals and their response to violence. Do individuals with social networks move more easily or do they tend to stay on for longer? Adhikari (2013) shows that violence, economic opportunity, physical infrastructure, and social networks at the origin have an impact on the decision to flee or stay at home. The role of networks is also examined in other observational studies on forced migration decisions such as Engel and Ibáñez (2007)'s study in Colombia. Using the case of Afghanistan, Harpviken (2009) highlights that social networks are crucial to understand how individuals and communities respond to violence, how they settle down in new locations, and how they make the decision to return.

Interviews with Syrians in Turkey reveal that a combination of motivation (e.g., witnessing violence early on in the conflict) and opportunity (e.g., money, and connections to flee) explain earlier exit from Syria during the civil war (Schon, 2019). Using individual-level administrative data for adult refugees resettled in the US between

2000 and 2014, Mossaad et al. (2020) show that refugees prioritize locations with existing networks of co-nationals for secondary displacement. However, neither Adhikari (2013)'s nor Schon (2019)'s research can precisely explain when motivations are high enough for civilians to leave their well-known environment. The role of social networks in individuals' calculations to stay or flee during violence still requires additional research.

Beyond the observed pattern of violence - pushing people to leave their homes - and the networks they can turn to for help, many other factors determine a household's decision to flee. Holland and Peters (2020) show that civilians gather information on the displacement environment first; Ceriani and Verme (2018) argue that risk preferences in individuals explain flight decisions; Epstein and Gang (2006) and Schon (2018) focus on herd behavior of humans; and the financial ability to flee may also play a role (Schon, 2019). While the decision to flee is complex and many more factors should be considered, our study focuses on social networks and facets of violence.

### **2.3 Violence and social networks: understanding the decision to flee**

Violence is a heterogeneous phenomenon that varies across conflicts. For example, violence in one conflict may be largely discriminate and perpetrated by rebels while other conflicts are characterised by large-scale indiscriminate violence by the government. We argue that the different patterns of violence affect the rational decision-making process of individuals to flee, that is their choice when to leave and whether to flee within their country or abroad.

Because individuals consider the risks involved in staying or leaving, civilians are more likely to flee if violence occurs repeatedly and intensifies, when violence is closer to their homes, and when violence is indiscriminate rather than targeted. Following Steele (2019), we also argue that the perpetrator of violence affects flight decisions, making a flight abroad more likely when governments commit attacks and internal relocation more likely when rebel groups perpetrate violence. However, when civilians have a stronger support network in the form of family or friends elsewhere that

can host them after their flight, this outside option reduces civilians’ responsiveness to different features of violence. The decision to move becomes less dependent on the urgency to flee violence. The following sections summarise our pre-registered hypotheses on individuals’ flight decision in light of violence and their embeddedness in social networks.

**2.3.1 Hypotheses on flight decisions and patterns of violence**

The decision to flee is made under high uncertainty: individuals have to judge whether the *utility of staying* is higher or lower than the *utility of leaving*. While it has many benefits for individuals to stay in their communities and close to their social networks, violence in their residence increases the risk associated with staying. The risk of leaving includes the probability of experiencing harm during the dangerous journey ahead of individuals as well as in the chosen displacement location (see Figure 2.1). Additionally, adjusting to life in a new destination imposes costs (e.g., learning a new language, finding a job). Civilians are more likely to flee if they believe the violence surrounding them is more likely to harm them or their family members than the violence they could experience during the flight or in displacement.

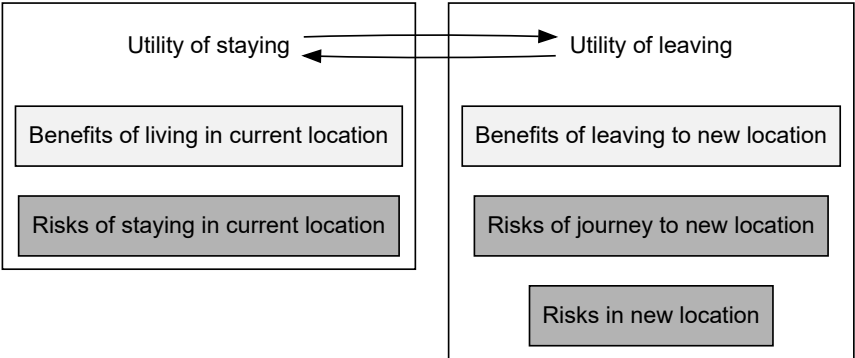


Figure 2.1: Summary of choice model for flight decisions

Understanding the decision to flee as a rational consideration between the benefits and risks of staying and leaving is a useful framework to analyse flight decisions. First, many individuals do not make the decision to flee - and this framework helps to understand the incentives of both *stayer* and *leavers*. Second, this framework helps

to incorporate how different patterns of violence serve as signal to civilians whether staying or leaving is more crucial for survival. More precisely, depending on the intensity, frequency and location of violence, civilians may learn about just how much risks they are facing when staying, and how much risk they may face during the journey or in the new location. Additionally, patterns of violence may allow learning about how risks will develop in the future, providing guidance under the high stress and uncertainty of armed conflict.

Consequently, a decision to flee is more dominant if attacks intensify and happen regularly. Civilians may fear that this pattern of violence will continue in the future. Because individuals feel increasingly threatened, the intensity and frequency of violence increase their likelihood to flee.

**Hypothesis 2.1.** Civilians are more likely to flee if violence occurs repeatedly and intensifies compared to the first occurrences of violence.

Similarly, civilians are more likely to flee if violence has reached their immediate surroundings rather than if violence is taking place in other regions of the country. Violence close to their locations or in their homes drastically increases the risks of staying while violence in other locations signals potentially more risks on the journey or in new locations.

**Hypothesis 2.2.** Civilians are more likely to flee if violence occurs in their areas rather than in distant areas of their country.

Armed actors can attack civilians indiscriminately (e.g., air strikes and shelling), or they can target specific disloyal civilians and collaborators with the enemy. In general, civilians fear direct attacks against themselves and their families (Revkin, 2021; Knappe, 2022). However, “indiscriminate violence - violence in which people are targeted based not on what they have done, but rather because of their appearance, race, religion, where they live or their proximity to a rebel attack” (Downes, 2007) may increase the fear of ordinary citizens that they will become targets of violence and may raise their threat perceptions: Fabbe, Hazlett and Sinmazdemir (2017) show that Syrian civilians who lost their home due to indiscriminate barrel bombing perceive the Assad regime as a greater threat to the country but also as a greater *personal* threat to themselves. This is likely because indiscriminate violence provides civilians with



no means to minimise the risk of attacks to their families. In contrast, in the case of targeted violence by rebels or the government, individuals have the option to actively cooperate with the armed actor conducting attacks, to share local information, and to comply with the rules of armed actors. Since armed actor using discriminate violence focus on punishing non-compliers, such behaviour may effectively prevent personal harm to those demonstrating their loyalty. We hence assume that indiscriminate violence increases flight decisions compared to more targeted patterns. This connection, however, only applies for the general public, which is the focus of this study. Active participants in rebellion, government officials or politically mobilised individuals are likely to strongly fear targeted violence because they have clearly sided with one conflict party while they may have effective hideouts and information channels to protect themselves from indiscriminate shelling and bombings.

**Hypothesis 2.3.** Civilians are more likely to flee if hit by indiscriminate violence rather than by targeted attacks.

The perpetrator of violence may affect *if* and *where* civilians seek shelter. In a conceptual contribution to the discipline, Steele (2019) argues that displaced civilians consider which actors perpetrate violence and choose a safe destination depending on where the perpetrator has the capacity to strike again. Accordingly, civilians are more likely to try crossing international borders if the state conducts attacks because the government's coercive power is not likely to reach civilians on the soils of another country. In contrast, non-state actors as perpetrators of civilian victimization are more likely to be constrained by the state, making it more feasible for non-combatants to stay within national borders and to only relocate to a location with less conflict activity. This theoretical argument shows that the perpetrator of violence may play an important role in an individual's decision to flee abroad or within the country, but the argument has not yet been tested with individual-level evidence. Overall, the perpetrator of violence affects civilian's decision to flee. This particularly manifests itself in the choices of destinations.

**Hypothesis 2.4.** The perpetrator of violence has an impact on civilians' likelihood to flee.

The following expectations are tested to assess this hypothesis:

*Expectation 4a: If civilians flee, they are more likely to move abroad when faced with violence perpetrated by the government.*

*Expectation 4b: If civilians flee, they are more likely to move internally when faced with violence perpetrated by non-state actors.*

### **2.3.2 Hypothesis on flight decisions and social networks**

The previous theoretical expectations relate to the question of how different features of violence affect flight decisions. We now focus on the question of why some individuals and communities respond differently to the treatment of violence. We offer the explanation that individuals with social networks to other countries make flight decisions under different parameters than individuals that have no network abroad.

Compared to an individual that has no ties to other communities, individuals with wide social networks to other countries have a more feasible outside option to endure the conflict because social networks abroad reduce the risks and costs associated with fleeing. Social networks abroad provide knowledge over potential flight routes and the receiving environment in hosting countries. Social networks in other countries also provide entry points for finding shelter, getting assistance for registration, and identifying employment possibilities or language classes. If social networks provide more “security, money and other material possessions, and information” (Harpviken, 2009, 3), and flights become more feasible, we should see that individuals with and without ties to other countries respond differently to violence (e.g., Schon, 2019; Harpviken, 2009).

We expect that networks to other countries make the choice to relocate easier. In our survey experiment, we expect this to be reflected in the extent to which survey respondents respond to violence. We argue that those with strong social networks abroad are less likely to respond to different features of violence when choosing to stay or leave. Having flights abroad as a feasible option, they may leave earlier regardless of the frequency and proximity of violence, and regardless of the type of targeting and the perpetrator of violence. Less connected individuals are more likely to see fleeing as the last resort and flee depending on features of violence. For individuals without social networks abroad, they only flee if certain features of violence strongly increase the perceived urgency to flee.

Beyond the reduced responsiveness to violence in an experimental setup, we should also descriptively see that respondents with social networks abroad are more mobile, i.e., they have considered moving before, they may have moved in the past, or they express a stronger preference for moving.<sup>1</sup>

**Hypothesis 2.5.** Civilians with more social connections outside of their country respond less to violence compared to civilians with fewer connections.

## **2.4 Forced displacement patterns in Turkey and its neighbourhood**

We study decision-making on forced displacement in the context of eastern and south-eastern Turkey. Inhabitants in the sampled areas of Turkey experienced and continue to live under the armed conflict between the Turkish Republic and Kurdish forces demanding autonomy and an independent Kurdish state. Experiences of violence and displacement are prevalent in this area, providing a plausible setting to study high-risk decision making.

### **2.4.1 The Turkish-Kurdish conflict**

The Kurds in Turkey make up around 18-20% of the population. They traditionally live in the eastern and south-eastern parts of Turkey bordering Syria, Iraq, and Iran. In these regions, Kurds are the dominant group but they share the land with Turks and other ethnic groups. In total, the Kurdish population in this part of the country is slightly over 50%, and among cities, it varies between 15% in Kahramanmaras and 90% in Hakkari (Mutlu, 1996).

Despite the large proportion of Kurds in Turkey, the Kurds have been historically excluded from power and experienced repression since the establishment of the Turkish Republic by Turkish nationalist elites (Yadirgi, 2017). Under the founding ideology of a single nation and language, the Kurdish language was banned, Kurdish names

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<sup>1</sup>In the pre-registered survey experiment, we claim to additionally test the effect of social networks within the country on flight decisions, arguing that stronger local ties will make you less responsive to violence because you find better local coping strategies such as community support. However, empirically, there is not enough variation in our sample to test this hypothesis and we hence limited the chapter to five hypotheses.

of towns were replaced by Turkish names, there has never been formal education in Kurdish, many Kurdish villages were forcibly evacuated, and many Kurds have been imprisoned (Belge, 2016; Çelebi et al., 2014; Tezcür, 2016).

Towards the end of the 1970s, a group of leftist Kurds established the rebel group *Kurdistan Workers' Party* (PKK) and launched a violent campaign with the goal of establishing an independent Kurdish state. Since 1984, Turkey is in conflict with the PKK with a break in 2014 due to peace negotiations that eventually failed. Initially, the yearly number of battle deaths was around 200 deaths (Gleditsch et al., 2002). Starting in 1992, the fighting escalated and peaked in 1998 with more than 4,000 annual battle deaths. Following the capture of PKK leader Ocalan in 1999, the intensity of conflict declined to around 500 deaths per year on average (Sundberg and Melander, 2013; Romano et al., 2006). Approximately 35,000 lives in battle deaths were lost until Ocalan was captured; meaning that around 80% of the violence in the fight between the Turkish state and the PKK occurred between 1992 and 1998 (Belge, 2016). Most of these conflict events in Turkey took place in the eastern and south-eastern regions. Between 1989 and 2019, more than 97% of battle deaths related to the conflict occurred in those areas (Sundberg and Melander, 2013). Following the failure of peace negotiations in 2015, the conflict escalated again and reached 1,064 battle deaths in 2016.

Between 2015 and 2017, Turkish forces sought to drive out the PKK group from strongholds in Diyarbakır, Şırnak, Hakkari and Mardin. From these urban centres the fighting then moved to more rural areas in the south-east (Mandıracı, 2022). The conflict intensity slightly decreased to 500 battle deaths in 2019 (Sundberg and Melander, 2013) but Turkish forces continue to use air strikes, roadside bombings and rocket attacks. The Turkish military increasingly pushed PKK rebels out of Turkey and shifted the battleground away from the south-east of Turkey to northern Iraq. Since July 2015, roughly one in six deaths in the conflict have occurred in Iraq, the majority of them PKK militants (Mandıracı, 2022).

#### **2.4.2 Patterns of civilian violence and forced displacement**

In the 1990s, around 5,000 civilians died due to the conflict, with violence being perpetrated by both government and PKK forces (Belge, 2016). Much of the violence against

civilians committed by the PKK targeted individuals who had joined the village guards and their families. The more extensive civilian deaths perpetrated by the government often took place in the form of extra-judicial executions, murders by unidentified gunmen, and disappearances (Bozarslan, 2001). The government specifically targeted individuals suspected of providing support to the PKK as well as their families.

By far the most extensive form of civilian victimization committed by the government during the 1990s was forced displacement. Some 3,400 Kurdish settlements in eastern Turkey were forcibly evacuated by the state (Belge, 2016). Forced village evacuations by the government but also by rebels were quite common, particularly between 1991 and 1994. The government used these practices to control territory, whereas the main purpose of rebels was to police and silence dissent (Ayata and Yüksek, 2005; Belge, 2016; Tezcür, 2016). The government's displacement policy meant that a critical mass of civilians were affected by the violence and conflict - whether this was in urban centres or in the rural Kurdish populations. Additionally, many people left their homes due to problems caused by fighting and deprived conditions in the region (Icduygu, Romano and Sirkeci, 1999). Both poor living conditions and forced relocation practices by the government and armed groups played a significant role in the displacement process in the eastern and south-eastern parts of Turkey (Aker et al., 2005; Ayata and Yüksek, 2005).

While the conflict parties killed many civilians in the 1990s, intentional civilian killings by insurgents and the government were limited in the past two decades. However, many civilians were unintentionally killed (e.g., caught between fires) in the eastern and south-eastern area. By leaving these regions, people can live relatively free from fighting, but Kurds face significant levels of discrimination in the west of the country or abroad (Yarkin, 2020).

Forced migration continues to be a prominent aspect of the conflict, particularly internal displacement. The massive displacement during the 1990s can be seen as one key issue within the larger Kurdish issue in Turkey that needs to be addressed to resolve the conflict (Çelik, 2015). While there is no consensus on the number of displaced people, estimates of internally displaced persons range from 378,335 (a parliamentary report) to three to four million (NGO reports). According to the IDMC (2022), the number of internally displaced people (IDPs) in Turkey is slightly over one million IDPs. While some people fled to another country, the number of refugees was not as

large as the number of IDPs. In the 1990s, there were around 50,000 refugees and at the beginning of the 2000s around 200,000 refugees from Turkey (UNHCR, 2020).

In addition to its own conflict and displacement past, Turkey has recently experienced a significant refugee inflow from Syria. Since 2014, Turkey is hosting the largest number of refugees under UNHCR's mandate in the world with more than 3.5 million Syrian refugees by 2019 (UNHCR, 2020). Almost all of the refugees entered Turkey through the south-eastern part of the country and many Syrians stayed in the region.

Given this history of conflict and displacement, and the exposure to refugee flows in the direct neighbourhood, the south-eastern and Eastern parts of Turkey provide good conditions to study forced migration decisions as households in the region have plausible experiences with the difficulties of moving and fleeing during conflict.

## 2.5 Research design

We conducted a pre-registered on-line conjoint experiment with 1,011 respondents in the eastern and south-eastern parts of Turkey.<sup>2</sup> The survey took place in September/October 2020.<sup>3</sup> We ask respondents to read two short information sets on hypothetical violent events and to evaluate in which situation they would be more likely to flee than to stay and whether they would move abroad or within Turkey, using a similar empirical approach as Holland, Peters and Sanchez (2020). The following sections outline the sample selection, ethical considerations, and the setup of our survey experiment.

### 2.5.1 Case selection and sampling procedure

We invited members of an on-line panel of Turkish citizens to participate in our study if they were over 18 years old and lived in the 19 sampled administrative districts.<sup>4</sup> Figure 2.2 displays the sample areas in the eastern and south-eastern part of Turkey,

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<sup>2</sup>The survey design and theoretical argument were pre-registered under the registration number 20200927AA in the EGAP registry. See the full pre-analysis plan in Appendix A.5.

<sup>3</sup>Due to the COVID-19 outbreak in 2020, in-person surveys were not possible.

<sup>4</sup>We teamed up with *Benderimki*, which hosts the leading on-line panel in Turkey and is widely used. Only Turkish citizens are invited and the survey was administered in Turkish. Given that the panel members of *Benderimki* are proficient in Turkish, we were advised by the company to administer the survey only in Turkish. Respondents were not paid for their participation but receive bonus points from *Benderimki*.

bordering Syria and Iraq and historically populated by a large proportion of Kurds. These areas were sampled because of the region’s exposure to violence and displacement, allowing a realistic and plausible setup to study forced migration decisions.

We recruited a total of 1,011 respondents of which 35.31% identified as Kurdish, 59.35% as Turkish, and 5.34% as other ethnic groups. Descriptive statistics of our sample population (e.g., age, religiosity, unemployment rate, and gender distribution) can be found in the appendix (Table A.1). We made the conscious decision to sample a population that is under pressure to move but has not (yet) left their country or area to counteract the known bias in migration research to focus on “leavers” rather than “stayers” (Schewel, 2020).

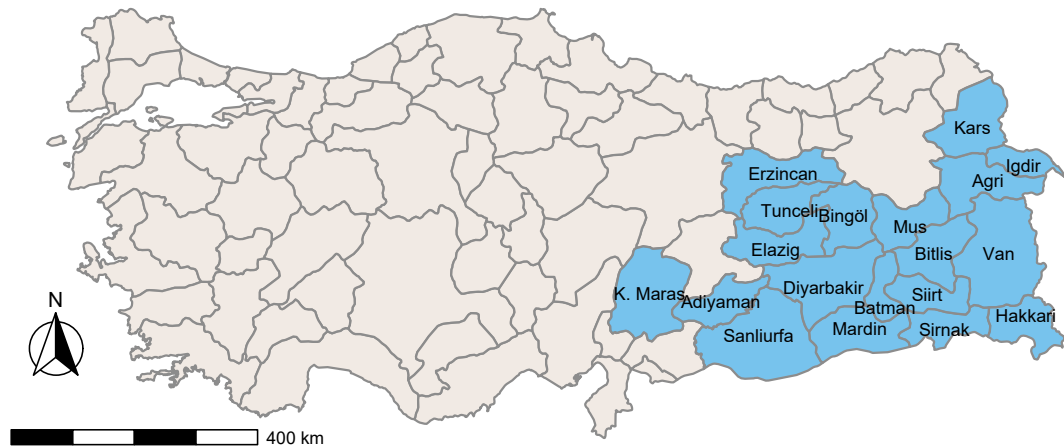


Figure 2.2: Sampled areas in south-eastern Turkey (in blue)

## 2.5.2 Conjoint experiment

Our conjoint experiment asks respondents to read two information sets about hypothetical violent events. Attributes of these scenarios vary along four dimensions of violence: perpetrator, intensity/frequency, spatial proximity, and target (discriminate and indiscriminate). We ask respondents to identify the set in which they would be more likely to flee rather than to stay at home. We also ask respondents to evaluate whether they would go abroad when faced with this type of scenario or if they would move within Turkey. Respondents evaluated five pairs of information sets, each time choosing in which scenario they would consider a flight and where they would go.

Table 2.1: Attributes of violence for the conjoint experiment

Attributes	Pr(Fleeing) for each of the two/three attribute levels
H1: Intensity	Repeatedly/Frequently > Sometimes/Rarely > First time
H2: Proximity	Home town > neighbouring city > Distant border city
H3: Target group	Indiscriminate > Discriminate *
H4: Perpetrator	Government $\neq$ PKK Pr(Fleeing abroad   Government) > Pr(Fleeing abroad   PKK)

\* *Indiscriminate*: Civilians who were working on their farmland died through air strikes and bombings.  
*Discriminate*: Civilians helping the other side died in attacks by ground forces.

This is a ‘forced-choice’ design that aims at identifying flight preferences given the fact that staying at home is a dominant strategy for civilians during armed conflict: If allowed to make no decision, we expect that the majority of the sample never chooses flight because a simple information treatment cannot shift their “real-life” flight preferences. However, there is evidence that forced choice conjoint experiments come closer to real-world behavior compared to other survey experimental designs (Hainmueller, Hangartner and Yamamoto, 2015) and that the question format encourages deeper cognitive processing of response options (Smyth et al., 2006).

Table 4.1 summarises the attributes that randomly vary, their dimensions in our conjoint setup, and the hypothesized effect on the likelihood of fleeing. When assessing hypotheses 1-3 on the proximity, frequency and the targeting patterns of violence, our dependent variable is whether respondents considered a flight (1) or not (0). When assessing hypothesis 4, our dependent variable is whether the respondent would flee abroad (1) or not (0) because we expect the effect of government violence on flights abroad to be larger than for rebel violence.

We randomized the order of attributes to reduce the risks of satisficing and the challenge of attributes presented earlier masking those of later attributes (Bansak et al., 2019). We limit the attributes and their associated levels to a minimum to have distinct dimensions of violence that do not correlate too strongly and are plausibly existent in the real world (Hainmueller, Hopkins and Yamamoto, 2014). Table 2.2 demonstrates an example conjoint setup. In this example, scenario 1 contains all levels that theoretically should increase a flight compared to scenario 2.



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### Example conjoint setup

You will read two hypothetical scenarios about the ongoing violence in your country. Please read them carefully and indicate in which scenario you would be more likely to **flee** rather than to stay at home.

Table 2.2: Example conjoint setup: flight decisions

Scenario 1	Scenario 2
The government attacked your city with airstrikes and bombings. In the attack, civilians who were working on their farmland died. The attacks have happened repeatedly in the past month.	The PKK attacked a distant border city with ground forces. In the attack, civilians who helped the other side died. The attacks have happened for the first time.

If you had to choose, in which scenario would you **leave your home and flee**?

Scenario 1  Scenario 2

If you would have to flee from this scenario, would you try to find shelter somewhere in the country you currently live in or move abroad?

I would relocate within the country  I would flee abroad

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### 2.5.3 Heterogeneous treatment effects along social networks

To examine hypothesis 5, we ask respondents if they have any relatives or friends living abroad and how often they interact with these individuals. We define well-connected respondents as individuals that have a friend or family member living abroad that they are in touch with at least once a month. Individuals that do not have a contact or are less often in touch with their network abroad have a weak network. By this definition, 29.75% of respondents have a network abroad (291 respondents), while 70.25% have no or weak ties abroad (687 respondents).<sup>5</sup>

### 2.5.4 Ethical implications

We obtained ethics approval at the UCL Research Ethics Committee under the project ID 18557/001. Since we are posing an abstract choice task, we required a survey population that has experienced violence and displacement to increase plausibility. At

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<sup>5</sup>We pre-registered an interest in social networks abroad and within Turkey. There is too little variation in ties within Turkey amongst our respondents (almost everyone has reliable contacts elsewhere) to allow a reasonable examination of this effect and we hence only focus on networks abroad.

the same time, we want to avoid a population with high-intensity conflict exposure that could feel distressed. With the Kurdish-Turkish conflict in mind, the Syrian civil war in its neighbourhood, and the linkages to friends and relatives abroad, many respondents in the eastern and south-eastern parts of Turkey have personal links to displacement or conflict. However, due to the recent shift of violence from Turkey to Iraq, large parts of the population in the east and south-east are less directly endangered or an immediate subject of acute fighting in the study period.<sup>6</sup>

Participants were informed that they could always skip uncomfortable questions or they could discontinue the whole survey at any time. We have mitigated the risk of distress by keeping our information sets about violent events purposefully short, neutral, and purely descriptive. The used information sets resemble neutral pieces from news outlets and are not aimed at provoking strong emotions.<sup>7</sup> Our information sheet and consent form highlighted resources respondents can turn to for support in trauma management. We directed respondents to government and non-government resources as some people may not trust government officials.

### 2.5.5 Empirical strategy and subset analysis

Following Hainmueller, Hopkins and Yamamoto (2014), we estimate the probability that an individual flees in the forced choice design via:

$$\text{Flight}_{ijk} = \gamma_0 + \gamma_1 \text{HighFrequency}_{ijk} + \gamma_2 \text{CloseProximity}_{ijk} + \gamma_3 \text{IndiscriminateTarget}_{ijk} + \gamma_4 \text{RebelViolence}_{ijk} + \epsilon_i \quad (2.1)$$

where  $i$  indicates the respondent,  $k$  indicates the round, and  $j$  indicates the scenario. In our setting,  $i \in \{1, 2, \dots, 1,011\}$ ,  $k \in \{1, \dots, 5\}$ , and  $j \in \{1, 2\}$ . Each respondent  $i$  yields 10 observations: 5 rounds, and 2 choices per round. The unit of analysis is the hypothetical flight scenario, the outcome is a binary indicator for whether the respondent would flee, and the explanatory variables are the attributes of violence. Because each violence attribute is randomly assigned, the unbiased estimate of the average effect of each attribute on the likelihood that the respondent would choose to flee is given by the equation above. We cluster standard errors at the respondent

<sup>6</sup>Given the increasing autocratic tone of the Turkish government, to make the participants more comfortable, geo-location information was not collected.

<sup>7</sup>Before the survey, we asked respondents for their consent to read hypothetical violence scenarios.

level. When assessing whether individuals would flee abroad or within Turkey, we estimate the probability of fleeing abroad (with the alternative of staying at home) and the probability of fleeing within Turkey (with the alternative of staying at home) separately.

$$\begin{aligned} \text{FlightAbroad}_{ijk} = & \gamma_0 + \gamma_1 \text{HighFrequency}_{ikj} + \gamma_2 \text{CloseProximity}_{ikj} + \\ & \gamma_3 \text{IndiscriminateTarget}_{ikj} + \gamma_4 \text{RebelViolence}_{ikj} + \epsilon_i \end{aligned} \quad (2.2)$$

$$\begin{aligned} \text{FlightWithin}_{ijk} = & \gamma_0 + \gamma_1 \text{HighFrequency}_{ikj} + \gamma_2 \text{CloseProximity}_{ikj} + \\ & \gamma_3 \text{IndiscriminateTarget}_{ikj} + \gamma_4 \text{RebelViolence}_{ikj} + \epsilon_i \end{aligned} \quad (2.3)$$

We analyze heterogeneous effects for well-connected and less-connected individuals by splitting the sample.

## 2.6 Analysis and findings

Figure 2.3 presents the main results. While points denote the Average Marginal Component Effect (AMCE) of attributes on the probability of choosing a scenario to flee, horizontal lines refer to 95% confidence intervals clustered by respondent. Dots without confidence intervals are reference categories. Compared to the reference category, we find that rebel violence, indiscriminate violence, violence in neighbouring cities or the home town, and frequent or repeated violence increases the probability that a respondent chooses flight.

The results corroborate our hypothesis on the proximity of violence. The proximate violent events significantly affect respondents' forced migration decisions. We presented three different options to respondents: violence in the home town, in the neighbouring city, and in a distant border city. We expected a hierarchical relationship between those attribute levels, which is confirmed in our experiment. Attacks happening in the home town compared to attacks in a distant border city increase the probability of choosing a scenario to flee by around 16%. The effect of attacks in a neighbouring city compared to a distant border city is around 7%. The difference in the effect of attacks in the home town compared to a neighbouring city is around 9%.

As expected, the proximity of violent events plays a significant role in the decision

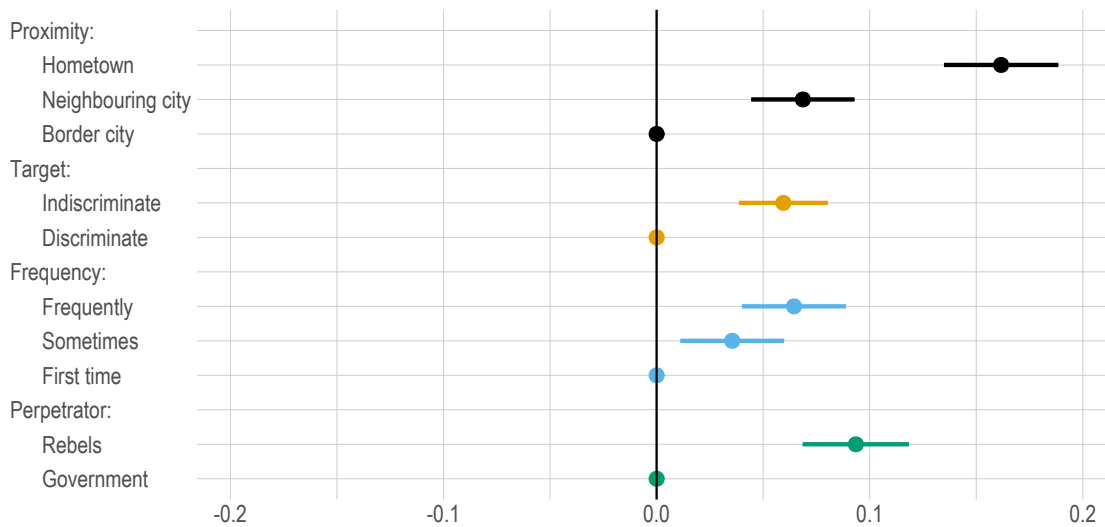


Figure 2.3: Effects of violence attributes on the probability that respondents choose a scenario to flee. Dots refer to AMCEs and horizontal lines to 95% confidence intervals clustered by respondents. Dots without a horizontal line are reference categories.

to flee. Respondents are more likely to choose relocation if violence happens nearby. All levels are significantly different from each other, providing statistical support for our second hypothesis.

The results on the effect of the type of violence also support our argument. Compared to discriminate violence (death of those who collaborate with the other armed group), scenarios with indiscriminate violence (death of farmers) increase the probability of choosing a scenario to flee by around 6%. When armed groups perpetrate discriminate violence, civilians can mitigate the potential harm to their families by obeying the rules and supporting armed groups. However, when indiscriminate violence is employed, civilians are constantly at risk and the main solution to eliminate threats is to leave the conflict zone.

Regarding our first hypothesis on the effect of the frequency of violence on flight decisions, the results from our conjoint experiment provide partial support. The observed pattern seems to be more complex than initially assumed. Similar to the effect of violence in proximity, we hypothesized a hierarchical relationship for the frequency of violence. We expected that the more intense or frequent violence is, the more will respondents decide to flee. In our conjoint setup, respondents were shown one of the three levels for this attribute: attacks happen repeatedly/frequently, some-

times/rarely, and for the first time in the last month. We indeed find that attacks happening frequently increase the probability of respondents choosing a scenario to flee by around 6.5% compared to those happening for the first time. Attacks happening sometimes increase a flight decision by around 3.5%. However, while this relationship is statistically significant, there is no significant difference between violence happening frequently and sometimes. In other words, respondents did not differentiate between attacks happening frequently and sometimes. This result suggests that persistent threats might be more important for civilians to make flight decisions than its exact frequency.<sup>8</sup>

The finding is more nuanced than findings from existing research on the effect of frequent violence. Previous studies have generally measured the frequency of violence through the number of deaths (Balcells and Steele, 2016; Davenport, Moore and Poe, 2003; Melander, Öberg and Hall, 2009; Turkoglu and Chadeaux, 2019). The understanding is that the more attacks happen, the more threatened people feel and the more likely they are to flee. While the number of battle deaths may approximate conflict intensity or frequency, there is significant variation in the spread of violence and how often violence happens, which might significantly affect the threat perception for individuals. Recent research argues that not only past violence but also expected future violence impacts decisions to flee (Fearon and Shaver, 2020). Our study corroborates this research strand. Since fleeing home is costly, following the first attack in their town, people might be cautious about fleeing as this might be a one-time temporary incident. However, if attacks happen at certain intervals (frequently or sometimes), people are more likely to flee due to the persistence of threat. It might happen twice a week or twice a month. As long as the threat persists, people are likely to flee.

When it comes to the effect of the perpetrator of violence on flight decisions, we have argued that the perpetrator affects decisions to flee by alternating the destination choice. We strongly follow Steele (2019)'s argument: while government violence increases the number of refugees, rebel violence increases the number of IDPs. Our main results in Figure 2.3 do not differentiate between the choice of destination. The results suggest that attacks perpetrated by rebels, compared to government-induced

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<sup>8</sup>This is also in line with research from psychology showing that long-term exposure to terrorism and other violent events can lead to habituation (e.g., Bleich, Gelkopf and Solomon, 2003).

violence, increase the probability of fleeing. A plausible explanation is that more respondents in our sample are Turks than Kurds and may hence perceive PKK violence as more threatening.

However, to fully examine the effect of the perpetrator of violence on displacement decisions, we have to analyze our respondent's choice to flee *within* Turkey or *abroad* (see Equations 2.2 and 2.3). Within-country relocation is a much more dominant strategy than fleeing abroad in our sample. In almost 64% of our observations, respondents preferred fleeing within the country. Only in 36% of decisions to flee, respondents favoured fleeing abroad. This is a plausible finding as internal displacement is much more common worldwide than refugee movements. Given our theoretical framework, we want to understand if rebel versus government violence induces different levels of internal and external displacement.

More specifically, for internal displacement, we only kept rounds in which respondents preferred to flee within Turkey and for flight abroad, we only kept rounds in which respondents preferred to flee abroad.<sup>9</sup> We then estimated ACMEs by using the equations 2.2 and 2.3. We also compared scenarios in which they would flee within the country to those that they would flee abroad. The results for the choice of destination and their comparison are presented in Figure 2.4.<sup>10</sup>

In terms of frequency, proximity, and the type of violence, the decision to flee abroad or within Turkey does not seem to be different. The effects of these attributes have the same direction for a flight abroad or within the country. The comparison panel in Figure 2.4 also displays that there is no difference between fleeing abroad or within the country (as the confidence intervals include zero). The main difference is observed with respect to the perpetrator of violence: When attacks are carried out by rebels, respondents are more likely to choose internal displacement and when the perpetrator is the government, people are more likely to flee abroad. Compared to the government, attacks perpetrated by rebels decrease the probability of choosing to flee abroad by around 5.6% and increase the probability of fleeing within the country by around 17.9%. This finding is compatible with existing studies (Steele, 2019).

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<sup>9</sup>Note that if we compare fleeing abroad with all scenarios in which respondents chose to stay or flee internally, and if we compare fleeing internally with all scenarios in which respondents chose to stay or flee abroad, we find the same results. Please see Figure A.5 in the appendix.

<sup>10</sup>For the purpose of comparison, we also compare scenarios in which the respondents chose to flee internally (coded as 0) or externally (coded as 1) and we completely drop the scenarios in which individuals would stay at home.

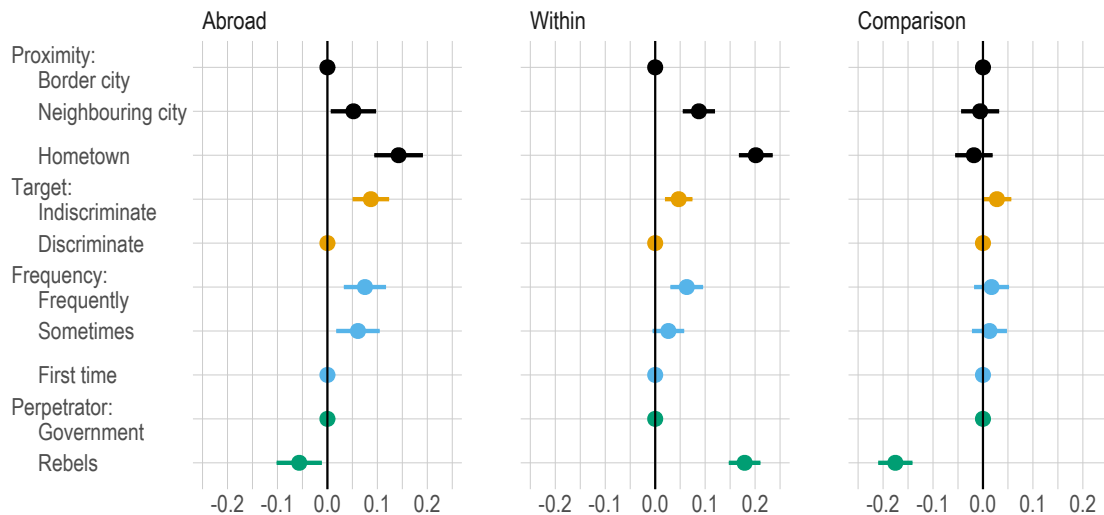


Figure 2.4: Effects of violence attributes on the probability that respondents choose a scenario to flee abroad, within the country, and their comparison. Dots refer to AMCEs and horizontal lines to 95% confidence intervals clustered by respondents. Dots without a line are reference categories.

The results should not be read as if government violence has no effect on internal displacement and rebel violence has no effect on external displacement. AMCEs denote the effects relative to the base categories. For instance, rebel violence decreases the probability of decisions to flee abroad compared to government violence. But this does not mean that rebel violence does not have any effect on external displacement. A previous cross-sectional examination of the effect of government and rebel violence on internal and external displacement for example reveals that rebel violence can increase both the number of people who cross an international border and those who flee within the country (Turkoglu, 2022).

In conclusion, the results support our fourth hypothesis that the perpetrator of violence matters for the choice of displacement locations. In tendency, rebel violence is correlated with more internal displacement compared to government violence which is associated with more external displacement.

### 2.6.1 Role of social networks

Our fifth hypothesis is related to the moderating effect of social networks. We argue that civilians with social connections abroad respond less to violence compared

to people without connections because social networks to other locations facilitate flight decisions. In turn, this means that the observed patterns of violence are less important for those individuals in their decision to flee. To test our argument, using Equation 2.2, we estimated ACMEs for fleeing abroad while splitting the sample with a binary network variable that denotes whether respondents have a reliable social network abroad or not. To split the sample, individuals in our survey are coded as having a close network if respondents have a relative or friends abroad that they are in touch with at least once a month and less well-connected otherwise. The AMCEs for this subset analysis are reported in Figure 2.5.

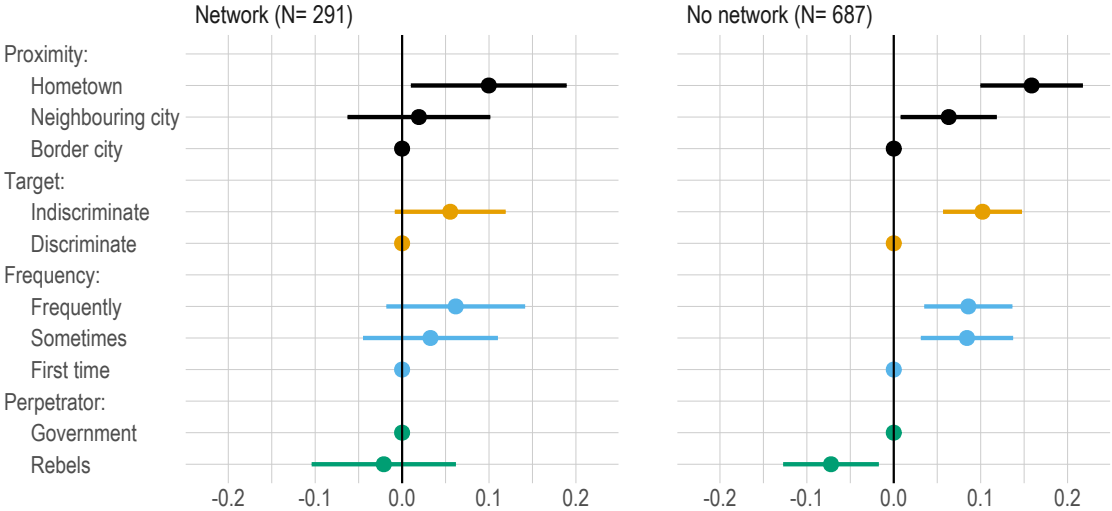


Figure 2.5: Heterogeneous effects of violence attributes on the probability to flee abroad by respondent's social networks abroad. Dots refer to AMCEs and horizontal lines to 95% confidence intervals clustered by respondents. Dots without a horizontal line denote the reference categories.

The results for the subset of respondents without external networks are very similar to the overall results in Figure 2.4. Attacks by rebels decrease the probability of choosing a flight abroad and indiscriminate attacks increase it. The closer the attacks to where respondents live, the more likely for them to pick the scenario to flee. Scenarios with a persistent threat of violence are more likely to be picked compared to scenarios with first time attacks.

However, when it comes to the subset of our respondents with networks, there is no such clear pattern. There is no significant difference regarding the frequency,



the perpetrator, and the type of violence. We only observe a significant difference if violence is happening in their home town compared to attacks in distant border cities. These results suggest that respondents with networks react differently than those without network. The results in Figure 2.5 suggest that people with networks abroad are more indifferent towards the frequency, perpetrator, and targeting pattern of violence. They seem to make their choice to flee with more independence than individuals without networks. Although the confidence intervals are larger, it should be noted that the substantive effect of the attributes (i.e., AMCEs) in the subgroup of respondents without social networks is almost double the effect for those with social networks. This might indicate that decision-making between these two groups is indeed different.

Splitting the sample into individuals with and without social networks abroad raises concerns about the size of our sample, potential power issues, and wider confidence intervals. We have hence complemented our experimental evidence on the role of social networks with an observational analysis: In the survey, we asked respondents whether they have thought about migrating/fleeing or have talked to someone about it. Using this question, we created a binary indicator for the inclination to flee or migrate and we predict this variable using our network variable and other controls.<sup>11</sup> The results are reported in Table 2.3. Model 1 is a mean comparison of the inclination to flee between those with social networks abroad and those without. Model 2 includes demographics as control variables.<sup>12</sup> Regardless of the bivariate and multivariate model, having a friend or family abroad that people keep in touch with increases the probability of thinking about fleeing. Individuals with networks seem to lean more towards flight/migration than those without. This is in line with other studies on networks and flight decisions (Schon, 2019).

The weak experimental findings and the unidentified observational findings taken together, we can tentatively conclude that individuals with social networks seem less responsive to violent patterns because individuals that have connections abroad have a higher probability to leave earlier and more easily than individuals without social networks. For individuals without family or friends abroad fleeing may be an infea-

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<sup>11</sup>We reported a logistic regression. When we used a linear probability model, we obtained similar results that are supportive of our arguments.

<sup>12</sup>Control variables include urban/rural, gender, education, marital status, religiosity, age, household size, employment, income, and ethnicity.

Table 2.3: Logistic regression of thinking about displacement on network

	Thinking about moving	
	(1)	(2)
Network abroad	0.636* (0.148)	0.520* (0.189)
Observations	959	614
Log Likelihood	-645.115	-391.385
Akaike Inf. Crit.	1,294.230	808.771

Note: Binary dependent outcome whether respondents have considered migration. Robust standard errors in parentheses. Control variables included. \*p<0.05

sible endeavour and might be seen as a last resort if violence is at its worst. The evidence from this exploratory model and our conjoint experiment suggests that individuals with social networks abroad are freer in their choice to flee than individuals without ties to another country.

## 2.7 Robustness, selection and discussion

### 2.7.1 Robustness checks

In sum, we find that patterns of violence indeed affect the choice to flee and that social networks are crucial to understand when individuals can no longer cope with violence and leave. We conducted several robustness checks to increase confidence in our results.

First, we ran diagnostic tests with respect to carry over and profile order effects as suggested by Hainmueller, Hopkins and Yamamoto (2014). The results increase our confidence in the validity of our conjoint experiment. For carry over effects, there is no significant difference between the effects found in earlier and later rounds. In other words, if we run the analysis round by round, we get similar results (see Figure A.3 in the appendix). For potential profile order effects, whether attributes appear in the first or second profile does not affect our results (see Figure A.2 in the appendix).

We also examined whether there is an interaction effect among the proximity, fre-

quency, perpetrator, and violence type in decisions to flee (e.g., indiscriminate violence by rebels) as suggested by Egami and Imai (2019). We found that none of the interactions were statistically significant.

We carried out an on-line survey experiment. One of the common challenges in on-line surveys is satisficing. Respondents may randomly answer the questions without paying much attention. To alleviate concerns, we ran the analysis by dropping the respondents who finished the survey in less than seven minutes and the results still corroborate our argument.<sup>13</sup>

The interpretation of AMCEs is relative to the baseline categories. In the subgroup analysis (e.g, network vs no network), the observed differences may stem from subgroup preferences for the baseline category. A possible way to alleviate these concerns is to use marginal means in addition to AMCEs (Leeper, Hobolt and Tilley, 2020). For Figures 2.3, 2.4, and 2.5, we present marginal means in the appendix (Figures A.6, A.7, and A.8). The results still support our arguments.

## **2.7.2 Self-selection into social networks and displacement**

A key finding in this paper is related to the differences between people with and without social networks abroad. If having a relative or friend abroad is correlated with other factors, it would be challenging to attribute the observed difference in Figure 2.5 to social networks. To alleviate these concerns, we predicted the variable *networks abroad* using observable demographics.<sup>14</sup> The only significant determinant of social networks is income (i.e., individuals with higher income tend to have more social networks abroad). The results for this regression to assess selection effects can be found in Table 2.4. We interpret this as limited selection into who has social networks abroad although we cannot fully rule out that the two subgroups analysed in this chapter differ on unobservable traits.

Income is an important factor to consider. We have to plausibly rule out that the main difference between those with networks and without is not confounded by income and wealth. To do so, we split the sample by high and low-income respondents to see if the heterogeneity in effects found here maps on to differences between those

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<sup>13</sup>The median time to complete the survey in our sample is 9.8 minutes.

<sup>14</sup>More specifically, we used gender, age, urban/rural, marital status, education, religiosity, household size, income, employment, and ethnicity.

with and without networks abroad from Figure 2.5. The disaggregated analysis by income groups shows no big differences between high and low income respondents in their flight decisions in contrast to our disaggregation by social networks. The only significant difference between high and low-income respondents is observed with respect to frequency. While for low-income respondents attacks happening frequently or sometimes increases the probability of choosing a scenario to flee compared to first time attacks, for high-income people, there is no significant difference among these three levels. Overall, individuals with high and low income largely respond similarly to our conjoint and make comparable flight decisions (see Figure A.4 in the appendix). We hence conclude that the main findings reported in this analysis predominantly come from differences in respondent's social networks rather than the effect of income differences.

Table 2.4: Logistic regression of network abroad: selection on observables

	<i>Dependent variable:</i>
	Network abroad
Urban	-0.110 (0.187)
Male	0.070 (0.191)
University	0.163 (0.189)
Married	-0.769 (0.735)
Single	-0.782 (0.758)
Religious	0.012 (0.204)
Age	-0.011 (0.012)
Household size	-0.069 (0.051)
Unemployed	-0.277 (0.213)
Income	0.200* (0.078)
Kurdish	0.184 (0.189)
Constant	0.149 (0.910)
Observations	621
Log Likelihood	-382.363
Akaike Inf. Crit.	788.726

Note: \*p<0.05

Another selection problem is the question whether Turkish citizens already living abroad differ substantially from our survey population. If we survey a population that would never flee or migrate outside of the experimental setting, our conjoint experiment is not easily generalized. A population resistant to any migration or displacement would not be informative for displacement in the real world. However, despite political violence and challenges, Turkey is an upper-middle-income country and compared to other active conflict zones, there is no immediate pressure to migrate or flee. It is unlikely that our survey population only consists of those having no means or willingness whatsoever to move abroad and that they hence are significantly different to those that have left Turkey.

This is further underpinned by the fact that around 57.06% of our survey population has actively considered migration in the past and 59.15% have a past history of migration. Additionally, our survey sample is not fundamentally different from the average Turkish citizen living abroad and within Turkey.<sup>15</sup> While we acknowledge that this does not solve potential external validity issues and selection into our sample, we consider “stayers” in the Kurdish areas of Turkey as an important survey sample on its own that allows us to study what kind of violence could increase the chances that these individuals make the decision to flee. Our sample could complement other analysis on flight decisions that tend to heavily draw on populations that have already fled rather than studying “stayers” (Schewel, 2020).

### **2.7.3 Generalisability**

In this chapter, we offer evidence from the Turkish case. Many of our findings, for example on the proximity and type of violence, are intuitive and may apply to a range of contexts. Other findings may be harder to generalize. Our finding that government violence leads to more external displacement than rebel violence is based on the logic argument that civilians can find safer places within the country to escape rebels, while this may not be the case when the asymmetrically stronger government perpetrates attacks. The underlying logic has territorial conflicts in mind - such as secessionist conflicts - and may not easily apply to contexts where violence is less localized. While this may be a scope condition for this finding, a broader cross-sectional analysis by

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<sup>15</sup>See Appendix A.1 for a discussion of our sample composition.

Turkoglu (2022) supports our findings by demonstrating that government violence has a greater effect on external displacement and rebel violence on internal displacement.

Additional concerns with our case selection includes the fact that the Turkish government is a relatively strong government in comparison to other conflict-prone societies, in particular in Sub-Saharan Africa and elsewhere. In conflict settings with weaker governments, where the asymmetry between rebels and governments is less strong, our findings may not be replicable because the relationship is weaker.

Another concern is that we are consciously focusing on an area that currently sees less civilian victimization than most active conflict zones, such as in Syria or Iraq. For individuals in active conflict zones the likelihood of repeated, close and indiscriminate violence is higher. Such repeated “treatments” would imply that the different features of violence overlap and less clear choice patterns emerge or that one dimension of violence (e.g. distance) overshadows other features. New methodological concerns that conjoint experiments not always easily translate into the majority choice highlight the need for researchers to get the distribution of randomized attributes exactly right (Abramson, Koçak and Magazinnik, 2022). One methodological weakness in this study is certainly that our conjoint experiment does not reflect the true distribution of violent events in Turkey or other conflicts and may hence not generalise. Nevertheless, we have some confidence that our results translate to active conflict zones: We do not find significant differences between respondents close to the border – that are potentially more exposed to the recent violence by the Turkish military – compared to those further away.

For our finding that the threat of repeated violence matters more than the actual frequency of events, we conducted an exploratory cross-sectional examination using the replication data of Turkoglu (2022) to identify if we can replicate the findings in cross-sectional data. In this observational analysis, we operationalized conflict frequency in two different ways to predict the numbers of displaced people. First, following the general practice in the literature, we employed the number of battle deaths (log-transformed). Second, we used the percentage of the first-level administrative units that experienced more than one attack, which may proxy for the threat for repeated violence. In the regression analyses, both are positively and significantly correlated with the number of displaced people but an examination of out-of-sample cross-validation reveals that the model with the percentage of administrative units

outperforms the model with the battle deaths.<sup>16</sup> This provides some support that the threat of repeated violence as opposed to one-time violence is relevant to individuals making decisions to flee, across different contexts.

## 2.8 Conclusion

Our study examines individuals' decisions to flee in light of different facets of violence through a conjoint experiment in Turkey. We identify not only if certain features of violence drive decisions to flee but also if individuals that are embedded in social networks make decisions to move differently than individuals that have no relatives or friends abroad that could help them. While our conjoint experiment cannot trace actual flight decision, it elicits that the consideration to flee may be driven by observed patterns of violence.

Overall, we find intuitive results suggesting that intense and indiscriminate violence happening in close proximity and likely to happen repeatedly increases the chances that individuals would flee in comparison to violence that is further away, more targeted, and happens for the first time. These experimental results complement and reconfirm observational evidence (e.g., Braithwaite, Cox and Ghosn, 2021). More interestingly, individuals seem to not distinguish between how often violence happens but mostly focus on whether it is likely to happen again and poses a persistent threat. These findings are in line with qualitative accounts of how and when individuals flee during conflicts and complement aggregated observational studies on flight patterns. The general impression is that flight is the last resort when the risk of staying at home is no longer bearable.

Regarding the question of how the perpetrator of violence shapes flight decisions, we find that government violence is more likely to lead to individuals' decision to move abroad while rebel violence tends to lead to relocation within the country. This empirical finding is important because it confirms Steele (2019)'s *theoretical* argument that the less constrained nature of government violence will drive individuals abroad to seek protection while rebel violence leaves the possibility open to flee to

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<sup>16</sup>The median absolute error for the model without battle deaths is 135,015. When battle deaths are included, it drops to 128,066. Adding the percentage of first-level administrative units instead of battle deaths, the median absolute error is 113,082. The lower the error term, the more successful the model in predicting displacement (Chadefaux, 2014).

areas under the protection of the government or other actors. Our individual-level findings also match observational evidence from cross-country regressions that government violence is associated with refugee flows and rebel violence is linked to IDP movements (Turkoglu, 2022). This finding helps to understand better how violence affects population flows and which type of population flow we should expect in light of different patterns of violence.

Finally, our study contributes to the growing literature on the role of social networks in flight decisions. We find that individuals with social networks abroad are more indifferent towards observed levels of violence. In combination with our observational evidence that individuals with networks are more inclined to consider fleeing, we preliminarily conclude that individuals with social networks make their choice to flee or stay more easily, more independently, and less driven by violence. This finding complements research that shows individuals with networks are associated with earlier exit from conflict-affected countries (Schon, 2019). It also has an important implication for policy-makers: To enable communities and individuals to make good choices amidst conflict and violence, social networks seem crucial as they reduce the pressure under which vulnerable populations have to make decisions.

While our findings shed light on the importance of easing pressure for individuals, they are generated by an abstract research design. Respondents saw randomized attributes for violent scenarios on their laptop or phone and picked a scenario in which they would flee. The real world is much more complex. Civilians gather information before making their decision (Holland and Peters, 2020). Their choices are also impeded by practical considerations, for example by the significantly higher amounts of money they need to flee abroad than internally. Decisions are also made under much higher stress in real-life. Additionally, what we examine here are intentions to flee rather than actual behavior. The results offer important insights into the ways people think about fleeing. However, it should be kept in mind that we do not observe the act of fleeing and we encourage further work on the link between displacement intentions and actual flight behavior.

Hence, many research questions about human mobility on the individual-level remain open. Studies could examine how social networks within the country or personal risk preferences affect people's decisions to flee and their reactions to violent events. Further work on the behavioural effects of social networks seems crucial.



# Chapter 3

## Controlling a moving world: territorial control, displacement and the spread of civilian targeting in Iraq

**Abstract:** How do armed actors respond to population movements during civil wars? While conventional models of civilian victimization see local populations as static, I argue that incentives to victimize civilians change for armed actors if we consider dynamic populations that move within the conflict zone. Because displacement alters local balances of control between territorial rulers and challengers, rulers have incentives to govern violently if displaced persons from opposing loyalty groups move into their territories. Challengers spoil local governance by inflicting harm on civilians if incoming supporters of a local ruler reinforce the governor's control. To test these dynamics, I use a combination of manual coding and machine learning to create a novel monthly dataset of territorial control, one-sided violence against moving populations and displacement patterns dis-aggregated by ethno-religious groups in the Iraqi civil war against the Islamic State (2014-2017). My associational regression analysis finds that territorial challengers and rulers distinctively responded to population movements in Iraq, contributing to research on displacement, territorial control and civilian victimisation by explaining the emergence of vicious cycles of displacement and violence.

### 3.1 Introduction

More than 2.2 million Iraqis were newly displaced within Iraq in 2014 because of the rapid territorial advances of the Islamic State. This was the largest number of new displacements recorded worldwide in 2014 (IDMC, 2019b). Yet, the displacement situation in Iraq is only one example of large-scale population movements during armed conflicts. Countries such as Afghanistan, Syria, Nigeria, and the Democratic Republic of the Congo experienced massive population relocation during ongoing conflicts. Despite the immense scale of local displacement, political scientists have not clearly

conceptualised how the movement of people in war zones affects dynamics of violence in civil wars. While humanitarian agencies stress that displaced populations frequently get caught up in cycles of repeated displacement and violence, we do not know why local conflict dynamics expand into areas to which many civilians fled to escape fighting. The theoretical reasons why internally displaced people (IDPs) become moving targets during conflicts and have to resettle multiple times remain under-theorized.

Tracing one mechanism that links displacement to the local spread of violence, this study focuses on the research question of how armed actors respond to population movements into their territories during civil wars.<sup>1</sup> I argue that displacement alters the local balance of control between territorial rulers and challengers. As strategic armed actors aim to maximise their own level of control, they react with violence against civilians if displacement threatens their grip over territory. More specifically, local rulers govern more violently if displaced persons from opposing loyalty groups move into their territory. Territorial challengers have incentives to spoil local governance by harming civilians if incoming supporters reinforce the territorial control of their enemies. These violent reactions to population movements help to explain why civilian targeting occurs in displacement destinations within a civil war affected country.

I analyze whether IDP movements of different ethno-religious groups in zones of control explains the occurrence of one-sided violence (OSV) in a grid-cell level regression analysis of the 2014-2017 civil war against the Islamic State in Iraq. I first determine monthly zones of territorial control on the grid-cell level using a combination of hand-coding and machine learning. I combine this territorial control data with unique displacement data from the Displacement Tracking Matrix (DTM) by the International Organization for Migration (IOM) that is disaggregated by ethno-religious groups; and one-sided violence data from the UCDP Geo-referenced Event Dataset (UCDP-GED) (Sundberg and Melander, 2013) to estimate violence against civilians. Beyond relying on UCDP-GED, I collected a new dataset on the local victimization of IDPs by armed actors by reviewing news articles and humanitarian reports in Iraq to code when violence against *moving* individuals occurred.

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<sup>1</sup>Other authors have engaged with related questions about how local populations respond to displacement, e.g., Zhou and Shaver (2021), Duncan (2005).

I find that territorial rulers reign with more violence against civilians if IDPs that do not support their rule move into their areas. Territorial rulers also target fleeing IDPs more if they are perceived as disloyal to the ruler. For territorial challengers, I find that they tend to victimize civilians in areas to which many supporters of the territorial ruler flee, suggesting that armed groups currently not in control of a certain area punish civilians for siding with the opponent and spoil the relative stability in those areas. I do not find, however, that territorial challengers specifically target IDPs on the move for joining opponents' territory. This suggests that displacement movements and war loyalties may have general effects on where civilians face more violence but less clear effects on the specific targeting of people on the move. The discussion section of the paper explores why this may be the case, highlighting data limitations but also possible theoretical explanations, such as resource constraints for territorial challengers to specifically attack IDPs.

My focus on cycles of local violence and forced displacement addresses gaps in the forced migration, conflict contagion and civilian victimisation literature: As contribution to the literature on one-sided violence, I conceptualise local populations as a dynamic rather than static element in armed actors' strategic considerations to attack civilians. Given this conceptualisation, I stress that actors engage in a balancing behaviour of securing own control and spoiling belligerents' territorial rule when they face dynamic populations that move within the conflict zone.

I also provide critical insights into the violent dynamics of the Islamic State in Iraq as a crucial case to understand forced migration patterns and civilian victimisation across time and space.

Speaking to the conflict contagion literature, I trace on a local level how population movements lead to violent reactions by armed actors and how this ultimately has the potential to spread conflict to different locations. Instead of focusing on displaced persons as carriers of violence, I focus on why IDPs become moving targets. Understanding the conditions under which armed actors attack displaced populations is essential for policy makers that aim to identify suitable shelter solutions and protection mechanisms that interrupt vicious cycles of repeated violence and displacement.

Finally, this study produces a fine-grained monthly dataset on territorial control and violence against IDPs in Iraq that can be used for broader research on the micro-dynamics of conflicts.

## 3.2 Displacement, conflict contagion, and civilian targeting

Displacement is a devastating consequence of strategic fighting in civil wars and most studies on the link between displacement and violence rightly emphasise the vulnerability of fleeing civilians (e.g., Melander, Öberg and Hall, 2009). These studies treat population movements as a result of violence and as a dependent variable.

On the other hand, research on conflict contagion indicates that forced population movements - as independent variable - can also perpetuate, intensify or create violence. Refugees that cross international borders are often identified as one driver of conflict contagion to hosting countries (e.g., Salehyan and Gleditsch, 2006; Bove and Böhmelt, 2016).

Refugees might actively militarise because of strong grievances (e.g., Lischer, 2005) or economic motivations to join rebel groups (Lebson, 2013). The likelihood of conflict in refugee-hosting states may also increase because of attacks by hostile local populations against refugees (Buhaug and Gleditsch, 2008), although most relationships between host communities and refugees remain non-violent (Onoma, 2013, 4). Refugee entry can lead to changing ethnic balances in host countries, sparking violent tensions between ethnicities (Salehyan and Gleditsch, 2006, 342-344). Another reasons why refugees might drive conflict contagion across borders are genuine spill-over effects, when conflict actors attack those having fled to neighbouring countries in refugee-hosting sites or areas close to the border (e.g., Choi and Salehyan, 2013). Conflicts may also destabilise weak states due to the burden of hosting refugees, decreasing mobilisation costs, and lootable resources in the form of incoming humanitarian aid (Choi and Salehyan, 2013; Böhmelt, Bove and Gleditsch, 2018).

However, while the contagion literature delivers multiple theoretical reasons why forced migration increases the potential for violence, the empirical results are not coherent due to aggregation on the cross-country level. Salehyan and Gleditsch (2006) finds a positive link of transnational refugees on conflict spread but others find no substantial contagion effect or only conditional effects (e.g., Buhaug and Gleditsch, 2008; Böhmelt, Bove and Gleditsch, 2018; Bove and Böhmelt, 2016). Studies that disaggregate the analysis to sub-national administrative units find an even more diverse picture. While Fisk (2014) finds no substantial effect of refugees on local conflict

events, Zhou and Shaver (2021) find a negative effect on conflict contagion. However, one-sided violence against civilians seems to increase in areas with higher numbers of refugees (Fisk, 2018).

The incoherent empirical results are likely an artefact of researchers studying micro-level mechanism in aggregated cross-country studies that focus heavily on cross-border refugees rather than population movements more broadly (see Table 3.1 for an overview of quantitative literature on conflict contagion through migration). If we want to understand the effect of population movements on renewed violence and conflict contagion, studying the local level is important.

The majority of fleeing civilians remain within their country as internally displaced persons, and are being subjected to repeated displacement (Moore and Shellman, 2007). It is crucial for humanitarians to understand the local reality that IDPs are not safe in areas where they seek shelter because fighting often re-emerges and conflict contagion manifests on the local level.

Fewer studies have focused on internal displacement and its effect on local patterns of violence. Notably, Bohnet, Cottier and Hug (2016)'s Large-N study shows that internal displacement indeed increases the spread of conflict within a country. Complementary case studies add that similar causal channels as put forward by transnational contagion studies apply to the local context:

Rebel groups recruit among local displaced populations, turning IDPs into active fighters (Lischer, 2008, 2005). In some instances, IDP entry also leads to tensions between local hosts and IDPs but this does not usually lead to local outbursts of violence (e.g., Duncan, 2005). Additionally, the populations that IDPs flee to are often equally exposed to ongoing violence in a country's conflict and research is divided whether this exposure to violence increases empathy for displaced people (Hartman and Morse, 2018; Hartman, Morse and Weber, 2021) or hardens ethnic exclusion and anti-peace attitudes (Hirsch-Hoefler et al., 2016).

Table 3.1: Quantitative literature on conflict contagion induced by forced migration

Study	Aggregation	Independent variable	Dependent variable	Substantial finding
Polo and Wucherpfennig (2022)	Country-level	Number of refugees (with transnational tie)	Terrorist attacks	Contagion but not in developed countries
Zhou and Shaver (2021)	Sub-national	Presence of displacement site for refugees & IDPs (binary)	Civil Conflict	No contagion; refugee- hosting provinces are less likely to experience conflict
Böhmelt, Bove and Gleditsch (2018)	Country-level	Number of refugees	Non-state & civil conflict	Contagion only in non-state conflicts; not for civil conflict
Bartusevičius and Gleditsch (2018)	Country-level	Number of refugees	Intrastate conflict	Replication of Salehyan and Gleditsch (2006); contagion but primarily in countries with existing incompatibilities
Fisk (2018)	Sub-national	Number of refugees (self-settled vs camps)	One-sided violent events	More violence against civilians in refugee-populated areas
Bohnet, Cottier and Hug (2016)	Sub-national	IDP presence (binary)	Ethnic conflict	Contagion in ethnic conflicts
Bove and Böhmelt (2016)	Country-level	Number of immigrants	Terrorist attacks	Contagion only if migrants come from terror-prone countries
Choi and Piazza (2016)	Country-level	Number of IDPs	Suicide terrorism	Higher rate of suicide terrorism
Fisk (2014)	Sub-national	Number of refugees (in camps & dispersed)	Conflict events	No contagion
Choi and Salehyan (2013)	Country-level	Number of refugees	Terrorist attacks	Contagion; higher likelihood of terrorism
Milton, Spencer and Findley (2013)	Country-level	Number of refugees in dyad	Transnational terrorist events	Contagion; increased likelihood for attacks
Buhaug and Gleditsch (2008)	Country-level	Number of refugees	Civil conflict	No substantial contagion
Salehyan (2008)	Country-level	Number of refugees in dyad	Militarized Inter- state Disputes	Contribute to international conflict
Salehyan (2007)	Country-level	Refugees in neighbour state (binary)	Civil conflict	Refugees in neighbours contribute to conflict onset
Salehyan and Gleditsch (2006)	Country-level	Number of refugees	Intrastate conflict	Contagion

Regarding the change of ethnic balances due to internal displacement, IDPs indeed flee to areas that are predominantly resided by their own ethnic or political groups (Balcells, 2018). It remains open whether this clustering of IDPs in ethnic enclaves increases the communities' exposure to armed groups or reduces levels of inter-ethnic violence due to separation (Steele, 2009). The work of Steele and Balcells in Colombia and Spain demonstrates that rebels and the government trace back and attack resettled IDPs to punish them for disloyalty (Balcells and Steele, 2016; Steele, 2018), showing that IDP movements can change incentives for strategic conflict parties to attack a specific territory.

These studies demonstrate that population movements in conflict zones indeed affect patterns of violence. Nevertheless, we do not have a systematic understanding why armed actors use violence when faced with mobile civilian populations.

Understanding when armed actors target civilians makes up a large proportion of the civil war literature. Following Kalyvas (2006), research generally assumes that strategic armed actors have an interest in keeping ordinary people safe because they rely on civilian support for recruits, legitimacy, humanitarian aid, and other resources. From this perspective, the empirical reality that civilians are frequently attacked in civil wars can only be explained by short-term advantages that emerge from one-sided violence against civilians. However, the majority of studies on civilian targeting assume a static population that does not move across zones of control and does not select where to live.

Conflict actors use violence against civilians to reinforce territorial control and to gain strength. While indiscriminate violence against civilians would backlash (e.g., Schutte, 2017) and fewer civilians would accept insurgency groups that do not offer peaceful governance (Arjona, Kasfir and Mampilly, 2015; Mampilly, 2012), strategic armed actors do selectively attack dissidents in the local population to maintain and reinforce their strength while simultaneously keeping up the spirit in the remaining local population. Secondly, armed actors use violence against civilians to weaken the strength of opponents (e.g., Schwartz and Straus, 2018; Valentino, Huth and Balch-Lindsay, 2004). Downes (2006) for example argues that killing civilians that support an enemy will reduce the future threat posed by this opponent because potential recruits are removed. Thirdly, civilian casualties in civil wars can also be traced back to weak actors that do not have the capacity to police their own members or to provide

them with revenue, incentivising recruits to compensate for the lack of benefits from membership in an insurgency with looting violently in the local population (e.g., Wood and Kathman, 2015).

These studies usually assume a static population without displacement. This might be a strong assumption given the actual mobility of civilians during conflicts. IDPs in war zones do not only change the overall population density at different locations, they also shift the composition of local populations along politicised cleavages in the civil war. A clear conceptualisation of how population movements change the strategic landscape and provoke violent responses by armed actors is missing. To explicitly understand these dynamics, I study how forced population movements affect armed actors' strategic considerations to victimise civilians.

### **3.3 Violence and control in displacement crises**

I examine how population movements during conflicts alter incentives of rational armed actors to conduct strategic one-sided violence against civilians. This actor-based framework considers armed actors, such as the government and various rebel or insurgency groups, as unitary actors and as the central perpetrators of violence.<sup>2</sup> I argue that conflict actors, that strategically seek to maximise control, have incentives to attack civilians in areas that experience incoming population movements. Local *rulers* of a territory use one-sided violence or the “deliberate infliction of harm” on non-combatants and civilians (Kalyvas, 2006, 19) in areas with incoming IDPs from loyalty groups of their opponents to maintain their control of territory. *Challengers* of a territory engage in one-sided violence to undermine the current ruler in light of incoming supporters to the region. This interplay between spoiling local rule by challengers and establishing control by local governors explains how population movements diffuse violence across regions. Figure 3.1 summarises the theoretical expectations outlined in the next sections.

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<sup>2</sup>IDP movements may also lead to clashes between local and displaced populations, but my analysis focuses on reactions to population movements by conflict parties.



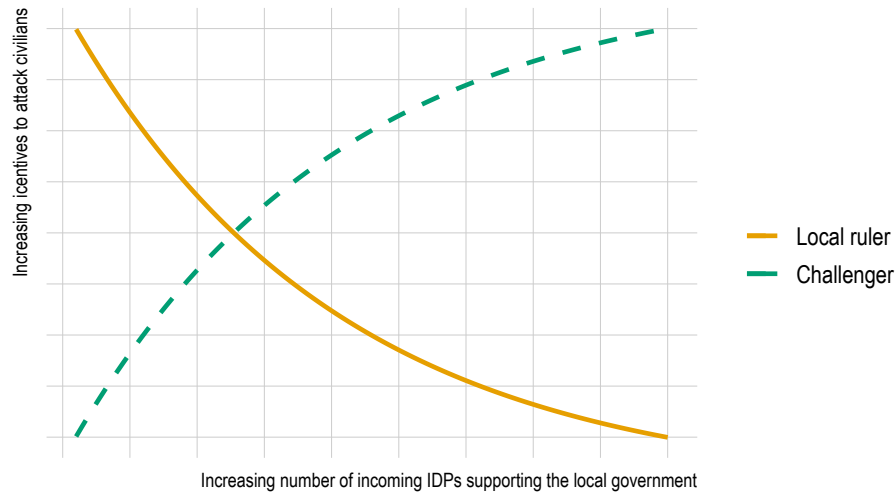


Figure 3.1: Theoretical expectations for ruler and challenger violence

### 3.3.1 The duality of control in intrastate conflict

Armed parties to a civil war try to maximise control to win the war (Kalyvas, 2006). In civil wars, control not only refers to the amount of territory captured by an actor - or an actor's *extensive control* - but also comprises the intensity of control over the local population. *Intensive control* describes how capable a local conflict party is to establish governance structures, remain in power, gain civilian support and extract resources - such as recruits but also revenue - from the local population. Previous research on the nature of control and power in civil war has already conceptualised this duality of control in civil wars (e.g., Kalyvas, 2006; Arjona, Kasfir and Mampilly, 2015; Mampilly, 2012; Balcells, 2017). Most influentially, Kalyvas (2006) assumes that after gaining extensive control, civilians will increasingly comply with a territorial ruler. A process of civilian socialisation with governing institutions set up by rebels or the government will reinforce intensive control over time.

However, local populations are *dynamic*. For moving populations that are not socialised with a ruler or have not yet benefited from institutions set up to gain their approval, intensive control may not be given over time. Conflict actors - in an effort to maximise extensive and intensive control hence have to respond to incoming and leaving civilians in their zones of control.

### **3.3.2 Preferences of strategic conflict actors**

If strategic armed actors strive to maximise a duality of control, this implies different preferences for the *local ruler*, which is currently in control of an area, and the *challenger*, which is the armed actor that has no extensive control over the territory. Given their status as rulers and challengers, their short-term objective to maximise control differs as rulers focus on intensive control while challengers focus on obtaining extensive control.

Local rulers try to remain in control of their territory and they increase the intensity of their rule. Ruling rebels or the government expand governance structures, provide public goods (Arjona, Kasfir and Mampilly, 2015) and gain civilian support (Kalyvas, 2006). When choosing between using one-sided violence or governing peacefully, local rulers only use attacks against civilians to minimise challenges to the own rule, for example by punishing dissidents.

In contrast, challengers aim to take over the territory in question to maximise their amount of extensive control. Unlike for local rulers, one-sided violence is not a governance tool for challengers. When evaluating their preferences over attacking civilians or not, challengers opt for violence against civilians to undermine the rule of the local occupier. They strategically use one-sided violence against non-combatants to spoil the intensive control of the opponent over the territory, to signal to the civilian population that the current ruler cannot guarantee safety, and to destabilise the area. This undermining behaviour might eventually help the challenger to take over extensive control and is a short-term strategy.

### **3.3.3 Violent interactions in displacement environments**

In this interplay of establishing and spoiling control between rulers and challengers, displacement may significantly modify local balances of power and intensive control. In any area that currently experiences no or comparably little violence during a civil war, one can assume that a balance of control in favour of the local ruler exists (see Status Quo in Figure 3.2). While the current governor may not fully control all civilian behaviour, the risk of defection is relatively low and the level of intensive control is high enough to ensure the political survival of the local ruler.

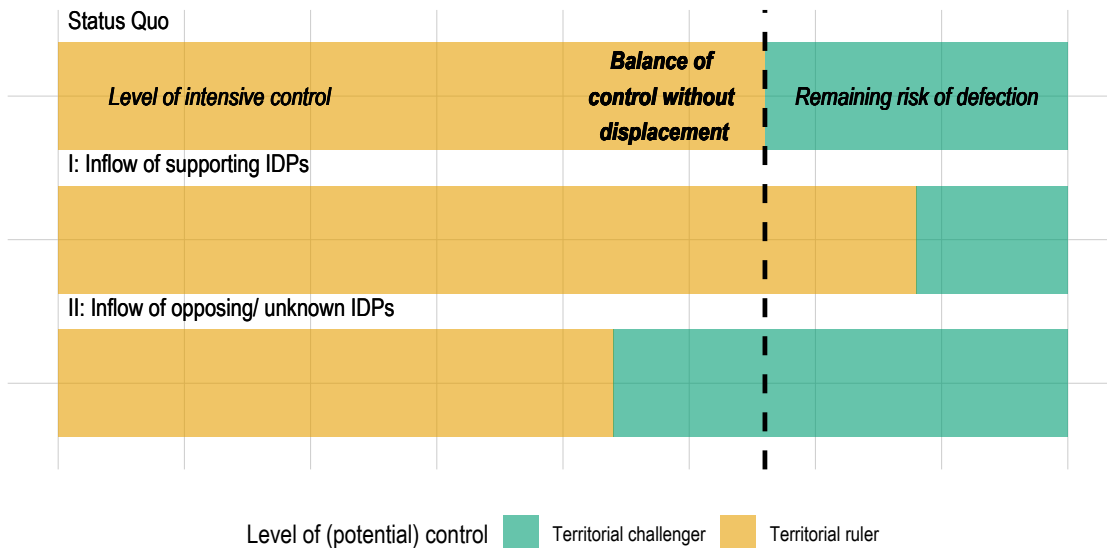


Figure 3.2: Theorized effect of displacement on control levels of rulers and challengers

Those relatively calm locations are attractive destinations for IDPs seeking safety (Ibáñez and Vélez, 2008). Although IDPs generally aim to move to areas in which they support the local ruler, their de facto choice of destination is limited in forced displacement scenarios: Geography, road networks, and fighting shape how IDPs can move in the conflict zone. Given those restraints to the free choice of shelter, not all IDPs that come into a zone of control support the local ruler: they may support other conflict parties or their affiliation is unknown. While incoming supporters may reinforce the governance of local rulers, non-supporters increase the risk of civilian defection. I argue that local governors as well as challengers will react to these displacement-induced changes in the level of control.

### 3.3.4 Strategic considerations for the local ruler

As local ruler, incoming displaced supporters can be considered favourable. First, IDPs that support a local ruler might be a valuable resource for recruitment as they tend to have high levels of grievances (Bohnet, Cottier and Hug, 2016). Second, they credibly inform the local population about war atrocities committed by other conflict parties (Balcells, 2018). Third, under Kalyvas (2006)'s assumption that local populations largely collaborate with conflict parties in power, supporting IDPs are also not likely to cause tensions with the local population. The absence of such tensions, that

could destabilise the area and impede easy governance, allows local rulers lenience with incoming IDPs. Fourth, a high number of displaced persons in their territory may provide local rulers with international legitimacy, and sources of food and medicine through humanitarian aid (Lischer, 2008). Overall, incoming IDPs of the same loyalty group as the territorial ruler reinforce power on-site (See Scenario I in Figure 3.2).

However, IDPs that enter territory without belonging to the support group of the current ruler or whose loyalties are unknown to the local governor may constitute a challenge to the ruling conflict party.<sup>3</sup> In particular, supporters of challengers might not comply with the local institutions built by the current ruler. Competition between loyal locals and disloyal IDPs might destabilise present institutional structures. Current occupiers also have to fear that these individuals actively undermine their rule by providing crucial information to the outside conflict party they are aligned with. As rulers cannot be sure about the compliance of individuals with no clear preference for one conflict party or with unknown war loyalties, governors will likely assume non-compliance from these groups. In sum, rulers will expect a deterioration of their level of intensive control from an IDP entry composed of persons that do not support the ruler or whose loyalties are unknown (See Scenario II in Figure 3.2).

Reacting to this, local governors will attempt to keep up firm governance in the increasingly contested area. Rulers can follow two strategies to preserve control that both involve an increased level of violence against civilians. First, local rulers may use coercion to enforce compliance. This involves signalling strength to the local population by violently punishing all potential dissidents or non-complying individuals. Threatening the population might also ensure that individuals with no clear preference towards one conflict actor do not dare to release information to opponents. Second, rulers may use violence to drive out non-supporters from the original population and the mobile IDP population, creating enclaves of supporters.

Violent governance in response to displacement might hit local civilians indiscriminately - whether they are IDPs or belong to the local population - as IDPs often settle informally within local populations and are not always clearly distinguishable from other civilians. IDPs that merge into the local population increase Kalyvas (2006)'s

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<sup>3</sup>This framework makes the assumption that armed actors can observe the loyalty of IDPs (e.g., through markers of ethnicity or origin) and perceive civilians whose loyalties are unknown as potential threat. This is a strong assumption. Since my empirical analysis also works with the assumption of "perfect information", future studies should investigate more systematically to what extent the identification problem changes the expected actions of armed actors.

identification problem. Unable to only filter out actual collaborators with opponents, insurgents or the government may increase general violence against civilians in displacement destinations to enforce compliance, expel dissidents and ultimately mitigate losses in intensive control.

**Hypothesis 3.1.** With an increasing IDP entry of non-supporters of a local ruler, one-sided violence by the territorial ruler increases.

### **3.3.5 Strategic considerations for the local challenger**

The entry of IDPs may also alter incentives to locally attack civilians for territorial challenger. As previously argued, challengers use civilian victimisation to manipulate the intensive control of rulers. Looking at a static situation without displacement, challengers have fewer possibilities to actively spoil local rule as civilians in this territory may not provide the challenger with internal information and mostly comply with the local governor. Since a stable governance system is in place that extracts resources from the local population but also provides public goods such as stability in return, the control structures in favour of the ruler are consolidated.

However, displacement can disrupt this power balance to the detriment of the local ruler when incoming IDPs support the challenger rather than the ruling party. In such a situation the external challenger profits from the local IDP entry because this slowly increases the potential influence of the invader over the territory. IDPs may provide the challenger with crucial strategic information about the increasingly heterogeneous area, they weaken governance structures and occupy the capacities of local institutions (See Scenario II in Figure 3.2).

While the local ruler may mitigate these effects violently, the challenging party has little incentives to use one-sided violence in these areas. If civilian victimisation is a tool for territorial challengers to undermine local governance, then these processes are already triggered by displacement and two main reasons should keep the challenger from additional violence: First, challengers do not want to risk attacking their own supporters in the area. Struggling to identify civilian supporters from opponents in the irregular settlement structures of internal displacement, the invader neither wants to attack IDPs that are aligned with it, for example through ethnic ties, nor the few supporters in the original population. Second, a non-violent approach

may win the hearts and minds of the local population that is increasingly targeted by the struggling ruler. I expect that challengers will not increase attacks against non-combatants if their own loyalty group flees into this territory.

Challengers that observe the IDP entry of supporters of the local ruler might conduct attacks against civilians. With increasing clustering of opponents in an area, challengers may fear the strengthening power of the local ruler. A growing local support base for the ruler, as initiated through the displacement movement, not only suggests that conquering this particular territory becomes more difficult; it also provides the local ruler with more resources from the local population such as additional recruits. Challengers have incentives to prevent this rise of the current ruler in a particular locality to prevent that the overall balance between the antagonising armed actors across all localities shifts to the disadvantage of the challenger (See Scenario I in Figure 3.2).

The challenger hence uses attacks against civilians in a preventative manner to spoil positive effects for the governor. The second mechanism why challenger may use one-sided violence in such locations is to punish all 'disloyal' civilians in this area that either sought shelter in enemy territory or remained in the area visibly siding with the local governor (Balcells, 2018). Thirdly, violent attacks also signal to the local population that the ruler cannot provide sufficient safety.

**Hypothesis 3.2.** With an increasing IDP entry of supporters of a local ruler, one-sided violence by the territorial challengers increases.

### **3.4 Research Design**

I assess the dynamics of one-sided violence by territorial rulers and challengers against all civilians and against IDPs in Iraq between 2014 to 2018 with the presence of IDPs and their ethno-religious composition as main predictors. The following sections first justify the selection of the Iraqi displacement crisis as my quantitative case study. Then, I specify my data sources and I present the operationalisation of my key concepts.

### 3.4.1 Case selection: Iraqi displacement crisis 2014-2018

I selected the civil war between the Islamic State of Iraq and the Levant (ISIL) and the Iraqi government from 2014 to 2018<sup>4</sup> for this case study because Iraq constitutes a critical case that provides the necessary within-case variation in displacement, territorial control and one-sided violence as the main dimensions of theoretical interest (Seawright and Gerring, 2008, 296). Iraq is the fifth most conflict-affected country worldwide in terms of fatalities (Pettersson and Eck, 2018, 537). Recurring political violence and strategic forced displacement during the Saddam Hussein regime, during the US-led invasion, and during waves of sectarian violence characterise the political landscape of Iraq. The civil war against ISIL has additionally displaced around 15% of the entire population (IOM, 2018). This long history of violence and displacement makes Iraq a critical and policy-relevant case to analyse.

Following the rapid territorial advances of ISIL in Iraq in 2014, many Iraqis from various ethno-religious background fled to Kurdish, Sunni, or Shia areas (IDMC, 2019b). The choice of displacement destinations within Iraq followed clear sectarian patterns (IOM, 2018) but at the same time, fleeing civilians were limited in their choice of displacement shelters through inhabitable desert in the west, border closures and fighting patterns.<sup>5</sup> In the following months, ISIL was able to launch major offensives and to capture central cities such as Mosul. While ISIL quickly conquered large areas of Iraq, the jihadist group was also rapidly pushed back by government forces, the Kurdish Peshmerga, and Shia militias in the following years of the conflict. Hence, the Iraqi case provides high temporal and spatial variation in territorial control by different conflict parties, in IDP numbers and in ethno-religious flow compositions. See appendix B.1 for details on the dynamics of violence and displacement in Iraq.

Finally, disaggregated data on the composition of IDP flows is still scattered and not reliably available for all countries experiencing civil war. For Iraq, efforts by the International Organisation for Migration to monitor which ethno-religious groups were most affected by displacement provide the unique opportunity to assess how conflict actors react to different social groups in the overall IDP population.

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<sup>4</sup>The civil war ended in 2017 but I include 2018 as levels of local violence remained high.

<sup>5</sup>A regression analysis in appendix B.7 shows that IDP numbers and support for conflict actors amongst IDPs can be predicted with both strategic and non-strategic factors. While this does not solve the selection problem into displacement, this provides some empirical variation in IDP numbers and composition that I can leverage in this descriptive design.

### 3.4.2 Units of analysis: monthly grid cells in Iraq

With awareness for the modifiable areal unit problem, I use monthly PRIO-GRID cells in Iraq because they offer the advantage of a standardised resolution of units and because they are relatively large.<sup>6</sup> I want to avoid over claiming to do a localised analysis with smaller administrative units that appears precise but is distorted given the knowledge in the discipline that news-based event data come with very high spatial uncertainty and biases (Weidmann, 2015). Figure 3.3 on later pages provides a visualisation of the size of grid cells used for the analysis. I aggregate data to monthly units because of the nature of the displacement data collection.<sup>7</sup> The final time-series cross-section dataset entails 11,495 observations corresponding to grid cells per month from April 2014 to December 2018.

### 3.4.3 Dependent variable: one-sided violence

As dependent variable, I measure attacks against all civilians in a grid cell (broader conceptualisation) and against fleeing civilians only (narrower conceptualisation). The data for *one-sided violent events against all civilians* comes from UCDP Geo-referenced Event Dataset (UCDP-GED) (Sundberg and Melander, 2013). Although other data sets also provide geo-referenced events of one-sided violence for Iraq, I use the UCDP-GED because the dataset covers the full observational period, reports higher precision in the geo-location of events compared to other event data collections, and provides a clear definition of one-sided violence as targeted civilian victimisation.<sup>8</sup> The UCDP-GED dataset excludes collateral damage, restricts events to incidents with at least one fatality, and only records violence that can be attributed to a conflict party. Due to these coding choices, the UCDP-GED provides a conservative estimate of the amount of civilian victimisation in Iraq (477 events in total).

My second dependent variable is *one-sided violent events against moving civilians*. To capture when armed actors attack IDPs in Iraq, I collect original and geo-

<sup>6</sup>The PRIO-GRID project for example uses a 0.5 x 0.5 decimal degree grid format (Tollefsen, Strand and Buhaug, 2012). This corresponds to a cell of 55 x 55 km at the Equator.

<sup>7</sup>The IDP data were collected in biweekly assessments but only 50% of the locations were updated each time and it is more appropriate to aggregate to the monthly level.

<sup>8</sup>Data based on media are inevitably prone to biases as incidents closer to cities are reported with more precision, casualty numbers are frequently unreliable, and violent events are over-reported in comparison to non-violent actions (Weidmann, 2015). Nonetheless, these datasets remain the main source of data to explain sub-national variation in violence. I discuss differences between possible event datasets in appendix B.2.



graphically fine-grained data on the victimization of moving individuals and groups in Iraq. For the time period from April 2014 to December 2017, I manually coded any violent or peaceful interaction between armed groups and civilians moving from one area to the next by reviewing all news reports on fleeing civilians in *LexisNexis* and all events of violence against IDPs or refugees in the Armed Conflict Location & Event Data Project. I also coded all humanitarian reports from Human Rights Watch, Amnesty International, the Office of the High Commissioner for Human Rights, the UN Assistance Mission for Iraq, the UN Office for the Coordination of Humanitarian Affairs, the UN High Commissioner for Refugees and the CCCM Cluster Management in Iraq.<sup>9</sup> For details on the data collection please refer to appendix B.3. This novel dataset captures 289 events of violent targeting against IDPs in Iraq.

However, neither my hand-coded data nor the UCDP-GED data allow me to distinguish between violence committed by territorial rulers and challengers as specified in my hypotheses. I hence determined where which conflict party held territory in Iraq over time.

#### **3.4.4 Measuring territorial control in Iraq with manual coding and machine learning**

To identify territorial rulers and challenger, the approach chosen is two-folded: I first hand-coded maps of territorial control that were published by various news sources, in particular by the Institute for the Study of War (ISW, 2019). For each grid-cell, I coded the armed actor holding the majority of the territory as the territorial ruler, distinguishing between the Iraqi government, the Kurdish Peshmerga, the Islamic State, and Shia militias. The hand-coded maps cover 29 months of the 55 months in this analysis (52.73%).

For the remaining months, I then trained a machine learning classifier with a bagging algorithm. As features for this machine learning task, I used various spatial covariates such as distance to the capital or ruggedness of terrain, the dominant ethnic group in the area, as well as the amount of battles according to UCDP-GED. After pre-processing the data, I held back 10 randomly selected months of the hand-coded data as test set. The remaining 19 months were used to train various machine learning al-

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<sup>9</sup>The CCCM Cluster Management in Iraq is the main humanitarian cluster organising the response to displacement in Iraq in camps and managing these formal camp settings.

gorithms, to tune their parameters by means of 10-fold repeated cross-validation, and to then compare the classification performance on the held-back test data. Bagging outperformed other algorithms with an accurate out-of-sample classification of 94.69% of the test data. I then retrained the bagging classifier with the full hand-coded data and classified the zones of territorial control in Iraq for the whole time period where data is missing.

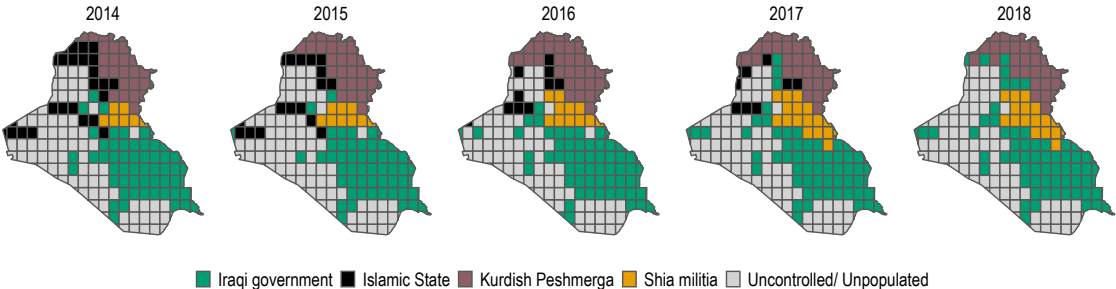


Figure 3.3: Territorial control in Iraq per year (most frequent actor): hand-coded and classified data (bagging)

Figure 3.3 displays the classified zones of territorial control in Iraq for the five observational years.<sup>10</sup> Purely descriptively, the territorial control estimates seem to capture well the decline of ISIL-held territory, the gaining in strength by Shia militia and the contest between Kurds and the Iraqi government around the 2017 Kurdish independence referendum. More details on the machine learning procedure can be found in appendix B.4.2.

With this territorial control data, I determine whether one-sided violence has been committed by a ruler or challenger: My final dataset counts 148 events of OSV committed by rulers and 329 events perpetrated by challengers against all civilians (see location of all events in Figure 3.4). Focusing on violence against fleeing civilians, I identified 233 events of violence against fleeing IDPs committed by rulers and 56 victimizations of IDPs by challengers.

<sup>10</sup>I use machine learning over multiple imputation methods because the proportion of “missingness” in my data is very high to easily use multiple imputation. For machine learning, which essentially implies a large amount of logistic regressions, the imputation task is however fairly easy: to connect two manually coded months with a one-month gap in between.

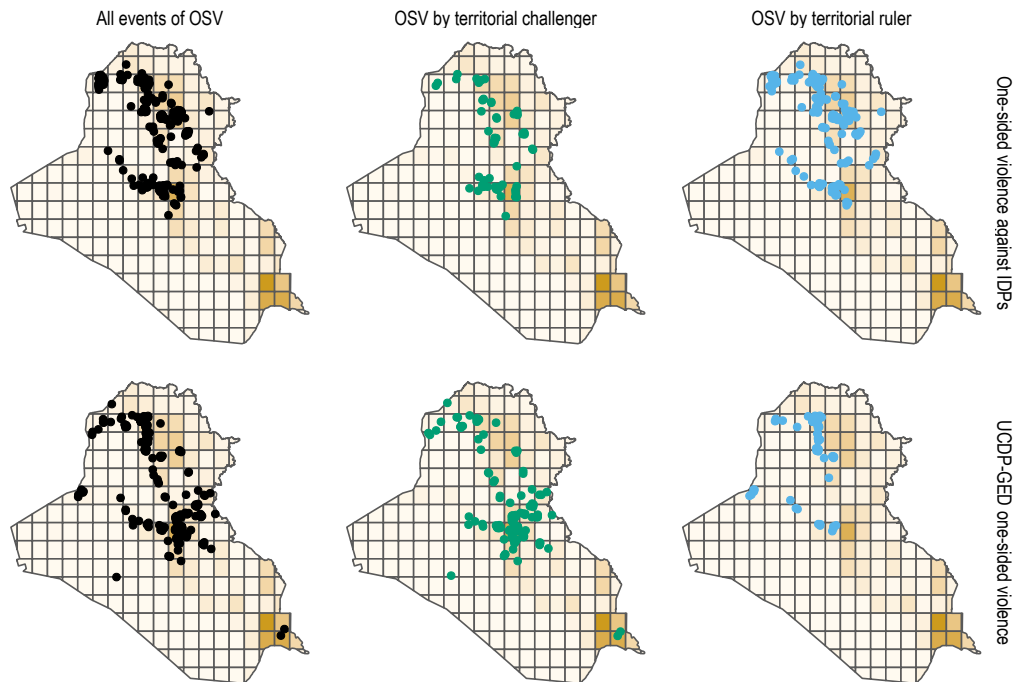


Figure 3.4: Events of one-sided violence in Iraq disaggregated by perpetrator of violence (dependent variables); intensity of night-time light emissions in the background.

### 3.4.5 Independent variables: IDP numbers and composition

The main independent variables in this analysis are the total *number of IDPs families* in a grid cell and the *proportion of IDPs families supporting the local ruler* in each grid cell. In Iraq, the Displacement Tracking Matrix (DTM) by the International Organization for Migration (IOM) has recorded the point locations of IDPs and their numbers in these locations throughout the whole crisis in 107 assessment rounds from 2014 to 2018. I aggregated the data to months per PRIO grids.

To identify how many local IDPs supported a ruler, I use the ethno-religious composition of IDPs in each grid cell as well as information on IDPs' origin as approximation. The DTM-IOM team has recorded the ethno-religious composition of Iraqi IDPs for point locations in three data collection rounds by means of direct observation or key informant interviews on-site. The assessments took place in August 2016, April 2017, and March 2018. The DTM-IOM team has shared this non-public point data on the ethno-religious IDP identities with me for usage in aggregated form. I use these three data collections to impute the composition of IDP flows throughout the civil war. I linearly interpolate between the different assessment rounds for all IDP locations

that were assessed at least once. For point locations that have not been assessed in any round, missing values are replaced by the nearest spatial and temporal neighbour using KNN with  $k=1$ . I aggregate the ethno-religious composition of all points to grids. Details on the imputation steps and their validation can be found in appendix B.5.

I then associate each ethno-religious or origin group in the IDP population with the conflict actor most closely associated with (see the coding scheme in Table 3.2). If the Iraqi government or Shia militia hold a specific territory, I approximate the proportion of IDPs supporting these actors with the amount of Shia IDPs. If areas are sparsely populated, I also assume some level of governmental control and approximate IDP support for local rulers with the amount of Arab Shia Muslims. In the case of territory controlled by the Kurdish Peshmerga, I approximate loyalties based on the proportion of Kurdish IDPs in a grid cell. If ISIL controls territory, I approximate support for this actor with the proportion of IDPs originating from the Anbar governorate in west Iraq. While the Islamic State is a Sunni jihadist group, few Arab Sunni Muslims in Iraq actively supported ISIL and assuming that a Sunni identity means support for the Islamic State would overestimate backing of the terrorist group in the local population. Although still imperfect and rough, I instead use the proportion of Anbari IDPs as some Sunni Arab tribes in Anbar have indeed supported the Islamic State (Dawod, 2015).

Table 3.2: Coding scheme to approximate IDP support for local rulers

Territorial control	Ethno-religious/ origin support group in IDP population
Iraqi government/ Shia militia	Arab Shia Muslim IDPs
Islamic State	Anbari IDPs
Kurdish Peshmerga	Kurdish IDPs
Uncontrolled/ Sparsely populated	Arab Shia Muslim IDPs (government support as default)

This coding assumes that ethno-religious group identity in Iraq is a good proxy for the *perceived* rather than actual support of conflict parties. Although this remains a rough approximation due to data limitations, I use this approach because sectarianism is one of the defining political structures of Iraq since the Iraq war (Ismael, 2015), the Iraqi conflict parties do speak to distinct sectarian audiences and there is

qualitative evidence that the armed actors involved in the civil war in Iraq have used ethno-religious group identities as proxy to target certain social groups. For example, the Iraqi government has reportedly harassed Sunnis from Anbar in IDP camps based on alleged ties to ISIL. Although many of these Sunni Anbaris do not support ISIL, other armed actors, such as the Kurdish Peshmerga and the Iraqi government, use their ethnicity as identifier for war loyalties. There is also some evidence, further discussed in the appendix, that armed actors monitored and screened for the origin villages and ethno-religious identity of IDPs at checkpoints before letting them pass, giving further confidence that - in this specific context- ethno-religious group identity is a good proxy for *perceived* support of armed actors. Figure 3.5 displays the distribution of IDP support for local rulers and the number of IDP families in the data, which constitute the main independent variables. On average, 10.29 % of the IDP population supports the local ruler, suggesting that few IDPs were able to flee to areas in which they support the local ruler.

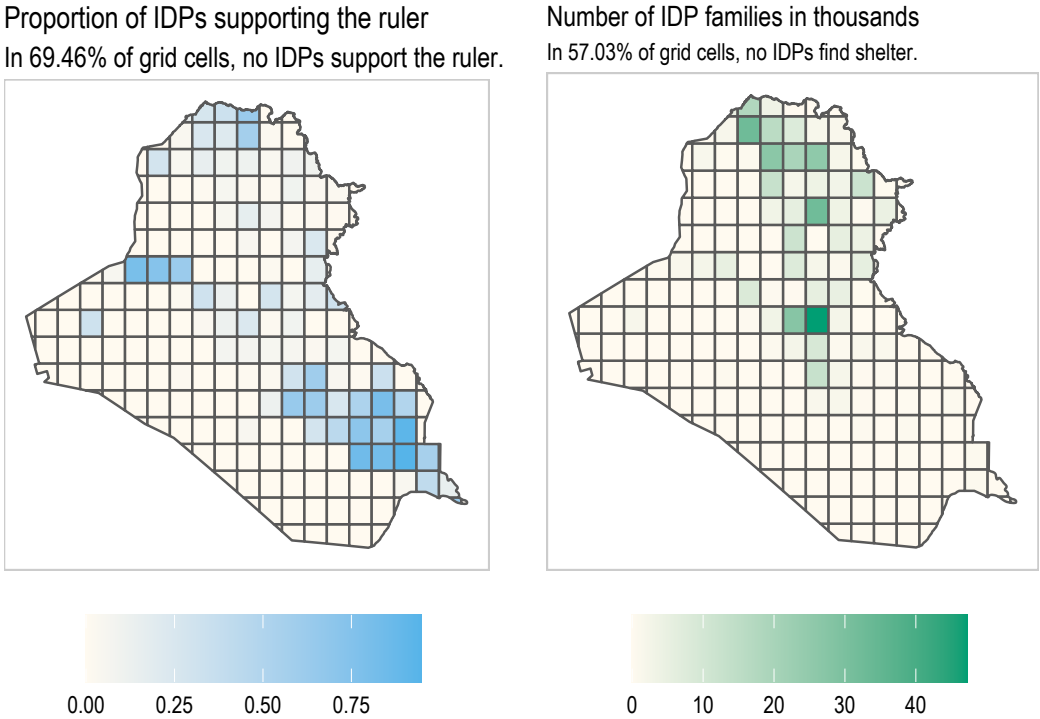


Figure 3.5: Distribution of IDP families and their support for local rulers in Iraq

### 3.4.6 Estimation, alternative explanations and controls

I fit negative binomial count models with and without accounting for zero inflation - to reflect the over-dispersion and the high percentage of zeros in my data. The negative binomial models regress 1) OSV by the territorial ruler and 2) OSV by the territorial challenger on IDP numbers and the numbers of IDPs supporting the current territorial ruler. I use incidents of one-sided violence against all civilians and only against IDPs. The independent variables (IDP numbers and ruler support) enter the regressions as interaction effects as I want to account for the fact that a few incoming supporters may not change violent dynamics but many will make a difference. The model is:

$$\log(\text{Violence}_i) = \beta_0 + \beta_1 \text{IDPFamilies}_i + \beta_2 \text{RulerSupport}_i + + \beta_3 \text{IDPFamilies}_i * \text{RulerSupport}_i + Xb + \epsilon_i \quad (3.1)$$

where  $\text{Violence}_i$  refers to the count of one-sided violence against civilians or IDPs by either ruler or challenger in a given grid cell-month  $i$ .  $X$  refers to a matrix of  $K$  control variables (outlined below) and  $b$  is a vector of  $K$  coefficients to be estimated.  $\epsilon_i$  describes the error term.  $\beta_3$  is the interaction between my main independent variables and the main coefficient of interest. I expect  $\beta_3$  to be *negative* for ruler violence - regardless of whether this violence is directed at all civilians or more narrowly at IDPs. In contrast, I expect  $\beta_3$  to be *positive* for challenger violence against all civilians and against IDPs.

The dependent variable – counts of one-sided violence – can only take non-negative integer values. For example, for more than 98.64% of the grid cell-months, one-sided violence against IDPs by the territorial challenger. I report zero-inflated binomial models that first estimate an inflation model to distinguish grid cells experiencing violence from those without and then a count model that estimates the number of violent events for violent grid cells. I report the second stage.

I focus on associational rather than fully causally identified models.<sup>11</sup> I include two sets of control variables in my regression analysis (see Table 3.3):

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<sup>11</sup>I report fixed effects models in appendix B.8.2: I use “arbitrary” grid cells and my units of analysis are not inherently meaningful categories to interpret in the sense of having theoretically informed unit-specific traits. Given my theoretical setup, I also cannot exclude the possibility that past treatments (IDPs) directly influence current outcomes (violence) or past outcomes (violence) affect current treatments (IDPs). In this case, fixed effects may not be the best estimate.

Table 3.3: Control variables

Control	Theoretical justification	Data & operationalisation
Geographical controls		
Population density	Relocation of IDPs most likely at places that are already populated; likewise OSV is more likely in populated spaces	Populated places in grid cell (source: IOM-OCHA data)/ Persons in grid cell (source: Tollefsen, Strand and Buhaug, 2012)
Terrain ruggedness	Mountainous and inaccessible terrain is less likely to see IDP movements into the area and OSV events	Proportion of mountainous terrain within cell (Tollefsen, Strand and Buhaug, 2012)
Theoretical controls		
Economic performance	IDPs may flee to more urban and economically strong areas; prosperity often linked to less conflict	Average measured night-time light emission; calibrated for time-series analyses (source: NGDC, 2013)
Connectivity	Allows travelling for conflict actors and IDPs; symbol of strategic value of location for IDPs and armed actors	Distance to road network (source: OCHA data), distance to capital, distance to next urban centre
Border	IDPs may flee to border regions to escape; may be contested areas	Distance to border of Iraq
Humanitarian aid	Presence of formal IDP camps and humanitarian actors might change interaction between conflict actors	Distance to next formal IDP camp (source: CCCM Cluster Iraq)
Battles	Fighting causes displacement (increases number) and is correlated with OSV	Events of state-based conflict or non-state conflict (source: UCDP-GED)
Contestation	Territorial takeovers may increase OSV and lead to IDP outflow	Change in territorial occupation compared to previous time period (source: coded data on territorial control)
Control	Actor that controls a territory may inherently be more violent towards civilians or fewer civilians may choose to move to this area	Actor in control as categorical variable (source: coded data on territorial control)
Spatial lags		
IDPs (nb)	IDPs may flee towards other fleeing civilians and may cause contagion	
OSV (nb)	Violence in the neighbourhood explains IDP numbers and conflict cluster	

First, I control for various geographical factors to reduce ‘white noise’ in the data, observations that almost certainly do not experience IDP entry or one-sided violence. A second set of control variables accounts for alternative drivers of one-sided violence and IDP relocation from previous research.<sup>12</sup> In the simple negative binomial count models, all these control variables are included in the regression. In the negative binomial count models that account for zero-inflation, the control variables are used to model the zero component while the main predictors (IDP families and their support for the local ruler) and the actor currently in territorial control are used in the count component.

### **3.4.7 Selection into treatment: displacement patterns in Iraq**

This regression analysis provides associational rather than causal evidence because of strong selection into the treatment. Individuals fleeing from violence actively choose their locations. There is ample evidence that IDPs in Iraq followed sectarian patterns and different ethno-religious groups chose different displacement paths and destinations (e.g., IOM, 2018). We also know from other studies that IDPs tend to flee towards their co-ethnics. As a result, neither IDP numbers nor their ethno-religious composition are randomly assigned to areas of territorial control.

While this issue of endogeneity cannot be resolved here, I discuss in appendix B.7 what factors predict high IDP numbers and high ruler support in the IDP population in my specific data setup. I find that IDPs are more likely to go to government-held areas than to areas held by any of the other conflict parties. The most dominant ethnic group living in a grid cell is also a significant predictor of higher IDP numbers. Previous battles, contestation and one-sided violence also explain higher/lower IDP numbers. These “strategic” factors in the choice of displacement destinations make causal inference difficult. At the same time, however, several other factors that are not political in nature explain where IDPs seek shelter in Iraq: IDPs tend to go to more populated areas with less mountainous terrain, they tend to go to areas with a better economy and that are closer to roads and camps. Overall, the selection into my treatment - into displacement - is driven by a mix of strategic and non-strategic incentives.

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<sup>12</sup>I provide robustness checks to identify if dropping one of the control variables drastically shifts the findings of my regression analysis.



Nevertheless, there is value in conducting this associational regression analysis as a starting point to conceptualise local civilian populations as dynamic concept. First, despite selection into displacement locations, the majority of IDPs in my data do *not* support the local ruler (Mean local ruler support: 10.29%) and they do not seem to strategically choose a territory in which they might be safer given their ethno-religious identity. This is because of the nature of forced displacement in contrast to more voluntary movement patterns: Forced displacement scenarios considerably limit the space to choose preferred destinations for fleeing civilians. For example, if fighting in Anbar breaks out, most Iraqi IDPs can only move westwards because the Syrian border and the desert in the South do not allow for other directions. As a result of this, Sunnis from Anbar must move into territory controlled by Kurdish, Shia, and minority forces but these forces often do not want further Sunnis moving into their areas (EASO, 2019). Second, the regression analysis might still provide useful evidence given that switches in territorial control over time, as commonly seen in the northern part of Iraq, turn IDPs that used to be in “their” territory into potential non-supporters of the new current ruler. Hence, further analyses could investigate how territorial takeovers affect civilian victimization (e.g., Oswald et al., 2020) and rearrange displacement movements.

### **3.4.8 Risk of one-sided violence in displacement locations**

Before moving to the main results, I first demonstrate that we generally see that IDP destinations are more prone to the experience of one-sided violence. Figure 3.6 displays coefficient estimates for a regression analysis that estimates all one-sided violence (against all civilians and against IDPs) that occurred in the observational period depending on the amount of IDPs and my set of control variables.

The results indicate that IDP numbers are positively associated with one-sided violence across model specifications. For the models using UCDP-GED data, the effect size of 0.13 (negative binomial regression) and 0.21 (zero-inflated negative binomial regression) is comparable in size to the effect of the total population per grid cell on levels of violence. The effect size is smaller for violence against IDPs only (0.12 for the negative binomial regression and 0.1 for the zero-inflated estimation).

To get a better understanding of the substantial effect, Figure 3.7 plots the pre-

dicted counts of one-sided violence as a function of IDP numbers. The confidence intervals have been generated with bootstrapping and predicting event counts for all observed IDP numbers in data with other covariates set to their mean/ median value. Despite large confidence intervals for high numbers, more IDP families are associated with more one-sided violence against all civilians and against IDPs.

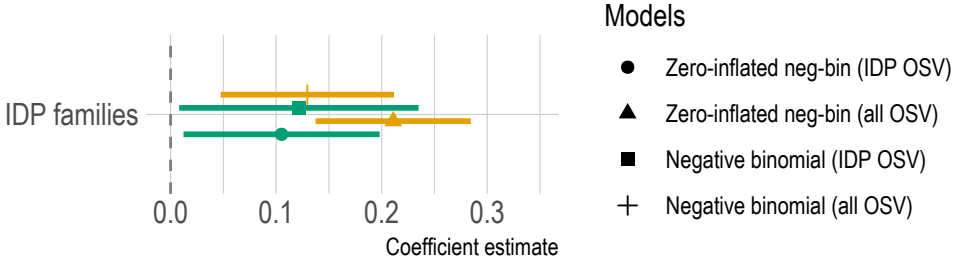


Figure 3.6: Coefficient plot for the total number of one-sided violence events (negative binominal count models and zero-inflated negative-binomial models for violence against all civilians (green) and against IDPs (yellow)).

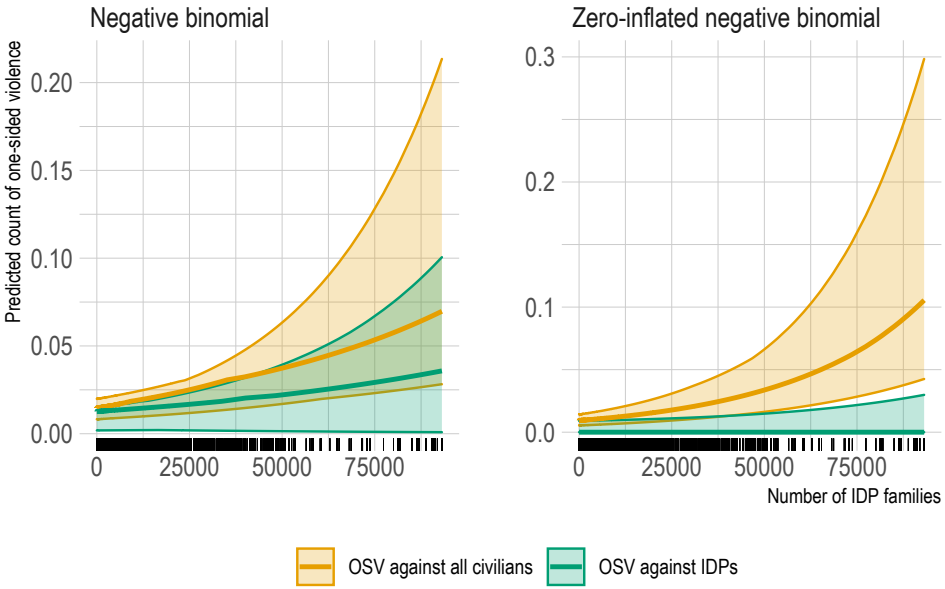


Figure 3.7: Predicted count of one-sided violence as a function of the IDP numbers. Predictions are based on negative-binomial count models with and without zero-inflation. Confidence intervals are generated by bootstrapping with covariates set to mean/ median.

## 3.5 Results

I now turn to the main test of my theoretical hypotheses on the behaviour of territorial challengers and rulers. In Table 3.4, I report results when dis-aggregating civilian victimisation in Iraq into attacks committed by a local ruler (models 1-6) and by a local challenger (model 7-12).<sup>13</sup> I present results from negative binomial count models that account for zero-inflation or not and I distinguish between general OSV and attacks against IDPs. I interact the absolute number of IDPs with my measure of support for the local ruler. With this interaction effect, I aim to test hypotheses 1 and 2. The intuition is that - if my theoretical argument finds associational support - the interaction term is *negative* for violence committed by the ruler and *positive* for violence committed by the challenger because both respond to the distribution of war loyalties in population movements.

### 3.5.1 Violence by the territorial ruler

I first focus on violence committed by the *territorial ruler*. Overall, I find associational evidence for my hypothesis 1 when looking at all incidents of one-sided ruler violence reported by UCDP-GED: I find that the interaction of IDP numbers and ruler support is negative for violence perpetrated by rulers (Models 2+3), meaning that the entry of IDPs that support a local ruler slightly reduces the chance that this ruler will use one-sided violence against all civilians when facing high IDP numbers. This pattern can be found across negative binomial and zero-inflated models. When looking at the results for ruler violence specifically directed against IDPs and not the general civilian population, I also find negative and significant interaction terms in Models 5+6, providing support for my argument.

Using negative binomial count models, I have predicted the count of one-sided violence against all civilians and report those predictions in Figure 3.8. The panel on the right displays the predicted count of ruler-inflicted one-sided violence as a function of IDP families and for different levels of ruler support. The shaded areas are the 95% confidence intervals.

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<sup>13</sup>Note that models 1, 4, 7 and 10 are baseline models without controls.

Table 3.4: Regression models for one-sided violence committed by the territorial ruler (1-6) and by the territorial challenger (7-12). Negative binomial regressions (with and without zero-inflation) for all OSV and for OSV against IDPs. For models with zero-inflation, only the count model is displayed. Baseline negative binomial models without controls are also included.

	<i>Dependent variable:</i>											
	Ruler OSV			Ruler OSV-IDPs			Challenger OSV			Challenger OSV-IDPs		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
IDPs x ruler support	-1.082 (0.625)	-0.629* (0.300)	-0.454* (0.133)	-0.702* (0.348)	-0.557* (0.218)	-0.331* (0.128)	-0.578 (0.319)	0.813* (0.246)	0.714* (0.229)	0.448 (0.353)	-0.374 (0.346)	0.042 (0.213)
IDP families	2.021* (0.133)	0.241* (0.097)	-0.042 (0.097)	1.232* (0.075)	0.196* (0.069)	0.140* (0.067)	1.004* (0.056)	0.103* (0.042)	0.240* (0.040)	0.482* (0.071)	0.127 (0.100)	0.081 (0.075)
IDP ruler support	1.523* (0.608)	0.403 (0.478)	0.751 (0.469)	1.328* (0.383)	-0.072 (0.388)	-0.345 (0.428)	-0.927 (0.537)	-2.196* (0.714)	-2.935* (0.782)	-0.023 (0.706)	-0.872 (0.970)	-0.404 (0.790)
Controls ?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Model	Neg-bin	Neg-bin	Zero	Neg-bin	Neg-bin	Zero	Neg-bin	Neg-bin	Zero	Neg-bin	Neg-bin	Zero
Observations	11,495	11,495	11,495	9,196	9,196	9,196	11,495	11,495	11,495	9,196	9,196	9,196
Log Likelihood	-440.057	-222.268	-217.168	-743.870	-553.386	-530.374	-872.388	-586.542	-581.677	-292.254	-229.037	-237.343

Note:

Significance threshold: \* p < 0.05

Although uncertainty around these estimates are high, we can generally observe that high IDP numbers lead to more predicted one-sided violence *if* the ruler support amongst the IDP population is low. For higher levels of ruler support, the predicted count of one-sided violence remains low. This provides some evidence in line with my theoretical argument that local rulers respond to the support structure of IDP entries and consider IDPs as potential resource if they do not challenge their intensive control over territory. For the subset of data focusing on the victimization of IDPs (not plotted in Figure 3.8), I find a similar but less strong pattern.

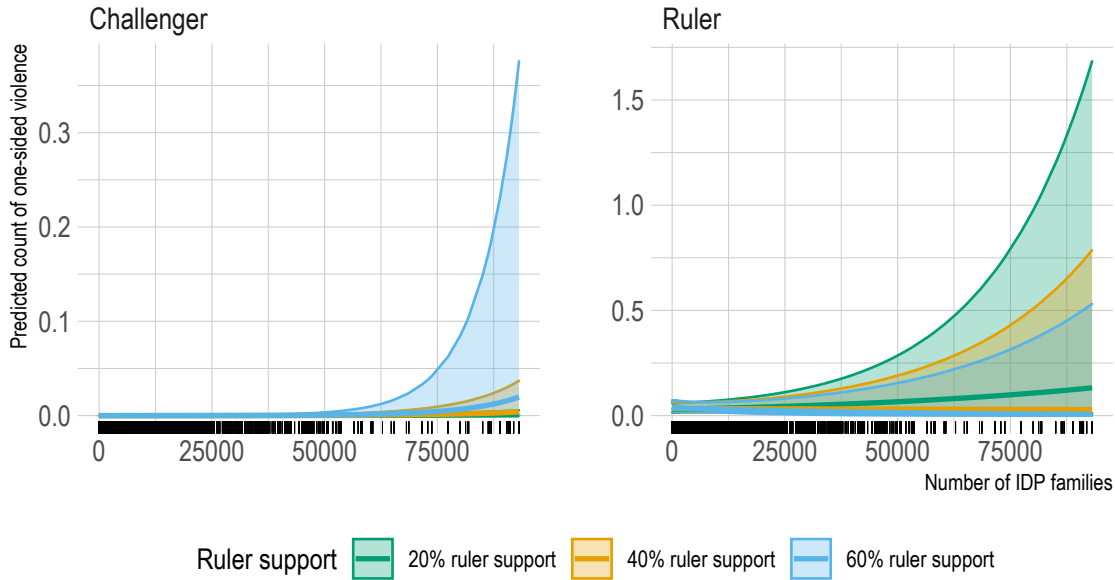


Figure 3.8: Predicted OSV counts by rulers and challengers as a function of IDP numbers for different levels of IDP support for the local ruler (UCDP-GED). Negative binomial regressions. Other covariates set to mean.

### 3.5.2 Violence by the territorial challenger

As theoretically expected, the results are different if I regress one-sided violence by *territorial challengers* on IDP numbers and the support for territorial rulers (Models 8-9 in Table 3.4). The interaction effect of IDP families and ruler support is statistically significant and positive for both negative binomial regressions (with and without zero-inflation) that use data on all civilian victimization. This indicates that support for a local ruler potentially increases civilian targeting by territorial challengers that do

want to prevent the creation of strongholds for their enemies. The panels on the left in Figure 3.8 show that this positive effect on violence can be found for various levels of ruler support. With higher levels of ruler support, the predicted count of one-sided violence increases. From a theoretical perspective, this provides some associational evidence that challengers indeed observe loyalties of fleeing civilians and react with more violence to weaken the territorial control of their opponents (hypothesis 2).

However, I do not find a consistent effect when I focus on violence against fleeing civilians and IDPs more specifically (Models 11+12). I find no support for the theoretical expectation that more IDP entry of ruler supporters would also lead to more specific targeting of IDPs by challengers. Subsequent sections discuss why my data may explain these weak findings. On a theoretical level, this could indicate that spoiling behaviour – the idea that territorial challengers spoil areas with violence against civilians to weaken strongholds of the enemy – targets civilians more broadly and not specifically IDPs. Given my observational and descriptive data, this cannot be conclusively determined. Beyond the scope of this study, future research in the form of case studies or causal research designs could explore more in-depth whether this follows a logic of destabilising the rule of an opponent or preventing strongholds.

Given the distribution of my data, with excess zeros and few event counts, Figure 3.8 - showing predicted counts for different levels of ruler support and IDP families - can be difficult to interpret due to overlapping confidence intervals. In Figure 3.9 I hence plot the difference between the predicted count of one-sided violence for 60% of ruler support and for 20% of ruler support. I plot this difference for one-sided violence against all civilians and distinguish between challenger (green) and ruler violence (yellow). The plot shows that the difference between the predicted amount of one-sided violence by the challenger for high levels of ruler support (60% of IDPs support the ruler) and low ruler support (only 20% of IDPs support the ruler) is positive. In other words, challengers use comparatively more violence when IDPs support the local ruler while they use less violence when IDPs do not support the local ruler. In contrast, the panel on the right, displaying ruler violence, shows a negative difference. Rulers use less violence when IDPs largely support their rule (support levels at 60%) than when IDPs do not support their rule (support level at 20%).

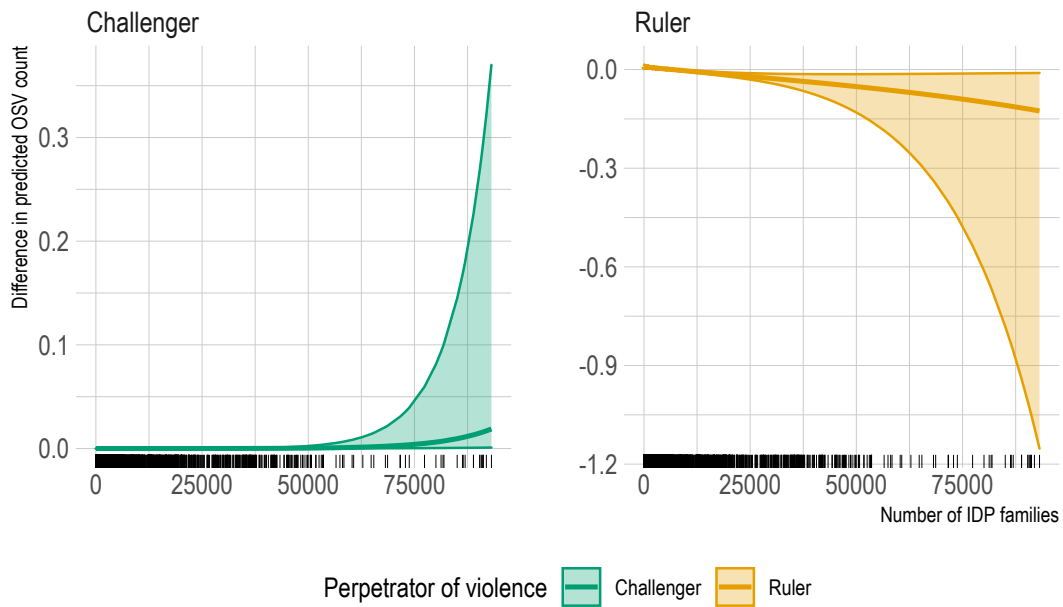


Figure 3.9: Difference in predicted OSV counts for 60% and 20% of ruler support for different levels of displacement. Plot shows predictions for one-sided violence against all civilians by rulers and challengers predicted with negative binomial regressions. Other covariates set to mean.

All in all, I demonstrate that armed actors that either control or challenge a territory respond to the distribution of war loyalties in the IDP population. The results provide initial support for hypotheses 1 and 2. The intertwined local dynamics of displacement, territorial control, and civilian targeting could lead to vicious cycles of repeated flight and attacks.

### 3.6 Robustness checks

I have conducted several robustness checks to mitigate concerns in regards to my analysis: I tested whether my results are robust if I a) limit the data to populated grid cells, b) restrict the data to areas that have seen civil war fighting, c) reduce the data to areas without camps and the presence of humanitarian actors, d) focus on Islamic State violence, e) take into account the uncertainty of my machine learning predictions on territorial control, f) replace outlier values in the dependent variable and g) drop covariates from the analysis.

These robustness checks can be categorized into two sections: First, I focus on

*substantive concerns* that might affect my analysis and results by limiting the data to grid cells that are populated, have seen contest during the conflict, have seen activity by ISIL and do not contain humanitarian camps. Although I also control for those factors, I want to make sure that neither white noise (e.g., grid cells that are inhabitable), nor international actors (e.g., in camps) bias my estimates. Overall, I find that excluding grid cells that are less likely to see violence and conflict because they are only sparsely populated, they have not seen actual contestation, or they are seen as humanitarian spaces does not strongly affect my overall conclusion that territorial rulers respond differently to IDPs than territorial challengers. However, the robustness checks indicate that my findings for territorial rulers are more robust than my theoretical expectations and empirical findings related to the behaviour of territorial challengers. Given this realisation, I discuss in a separate section why this might be the case. The robustness checks also highlight that the Islamic State is a particular violent actor, which limits the generalisability of my findings.

In a second step, I focused on several *methodological concerns*: First, I assessed how my machine learning classification affects my results as I am concerned that areas where territorial control is unclear and prediction error is higher drive my results. To assess this problem, I first investigated if I get the same results if I only focus on months that have been coded manually. I then include more and more predicted territorial control data to see if my estimates change. I do not find that the uncertainty around my machine learning prediction changes my general findings. I also conducted outlier analyses, dropped covariates from my models, and lagged the independent variables in time. In these methodological robustness checks, I do not find strong evidence that my results are an artefact of methodological choices.

Nevertheless, uncertainty around my estimates is high and this study only provides associational evidence. Given the structure of my data - with many time-invariant covariates, uncertainty around territorial control, and imputed proportions of ethno-religious groups in the IDP population, it seems crucial to revisit the theoretical argument when more fine-grained data on IDP characteristics and territorial control become available.



### 3.6.1 Limiting the data: biases through inhabitable, uncontested, and humanitarian areas

Looking at the geography of Iraq, a reasonable concern is that many areas, in particular in the west of Iraq, are only sparsely populated. If few people live in those areas - and fewer people flee towards these areas - we most likely also do not observe much one-sided violence. If these grid cells are added as data to the regression analysis, we might overestimate the effect of IDP entries on one-sided violence because the counter-factual in the data is inhabitable land without many settlements. Although I control for population size, this statistic is time-invariant in my analysis and it might still be worth exploring if my results hold when focusing on a core populated area in Iraq. I have hence excluded grid cells that were continuously coded as sparsely populated or uncontrolled.

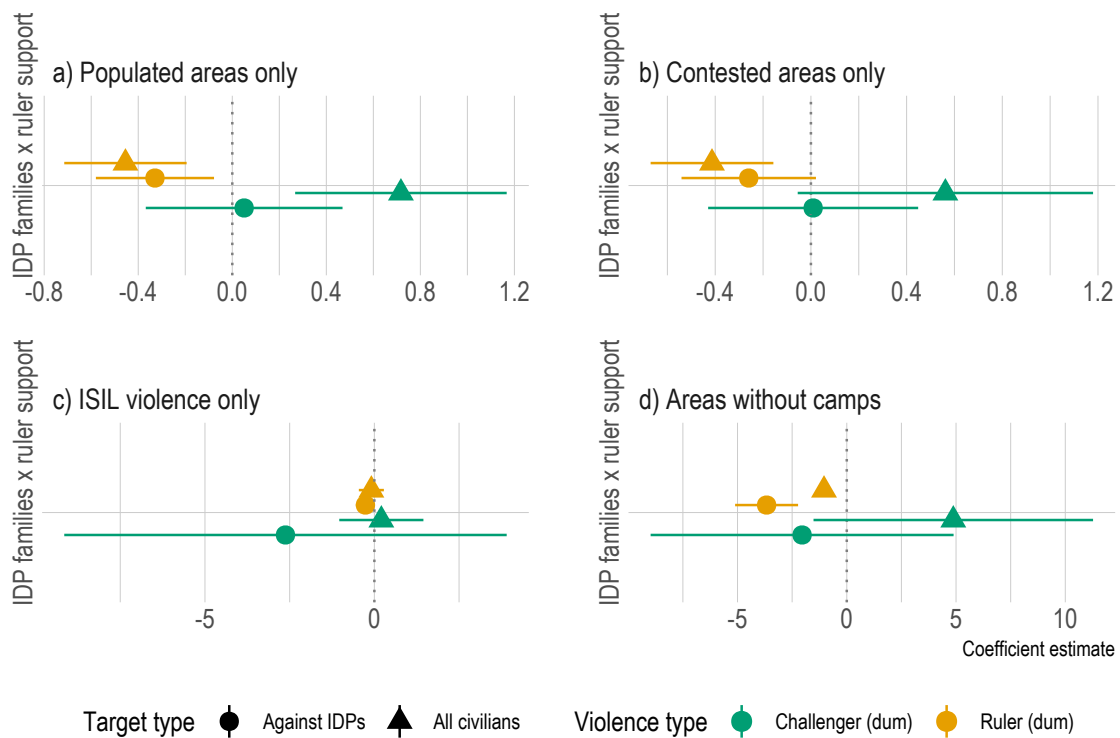


Figure 3.10: Interaction estimate for zero-inflated negative binomial count regressions: OSV by territorial challenger and OSV by territorial ruler. Data was limited to populated areas (panel a), to contested areas (panel b), ISIL violence only (panel c) and areas without camps (panel d).

I find that IDP numbers are overall still associated with more events of one-sided violence and that the challenger and ruler dynamics described in the main results still hold. Panel a in Figure 3.10 displays the coefficient plots for zero-inflated negative binomial regressions on the populated subset of the data. Control variables are omitted from the plot and only the interaction effect is shown for ruler violence (yellow) and challenger violence (green). The panel shows that my overall finding still holds: territorial rulers tend to react to non-supporting IDPs with violence while challengers use violence if incoming IDPs reinforce the enemies' grip over territory. However, this is not the case if I limit the dependent variable to challenger attacks against fleeing civilians only (as we have already seen in the main models).

In addition, I have limited the data to grid cells that have seen at least one change in territorial control. This provides an even narrower scope as the analysis then only focuses on the conflict zone. While IDPs remain positively associated with one-sided violence if looking at all civilian victimisation, panel b in Figure 3.10 demonstrates that the theorised ruler-challenger interaction with IDPs is not entirely robust when only focusing on contested grid cells. While a high number of supporting IDPs are still negatively and significantly associated with less violence against all civilians by the territorial ruler, the effect for the territorial challenger becomes insignificant. Ruler and challenger violence against IDPs also seems to be not significantly different for different levels of IDP support for the ruler. That means if I focus on contested areas, I cannot be sure that challengers indeed respond with violence to IDP entry in favour of the local ruler.

Various issues could explain why this result is not as robust. In contested areas alone, we might see that the battle between challengers and rulers dominates their strategic action rather than their focus on governing civilians. Practical access to the area in order to attack civilians might be hindered for territorial challengers. In contested areas, my machine learning algorithm is additionally less likely to accurately predict who the actual ruler and challenger is. This not only introduces higher uncertainty around the ruler-challenger classification but also introduces uncertainty over my measurement of ruler support in the local population. We can observe a large confidence interval for this factor. Finally, this subset limits the data to very specific areas in northern Iraq. Some incidents of violence by the territorial challenger in southern Iraq - the Islamic state - are hence taken out of the analysis albeit the fact

that many Shia IDPs followed sectarian patterns and indeed sought shelter under the protection of the Iraqi government in the south (Thibos, 2014).

The robustness of my findings may also depend on the IDP resettlement patterns in Iraq. Although 71% of IDPs in Iraq lived outside of formal camps (OCHA, 2019), the existence of such a camp in a grid cell could affect patterns of violence. High IDP numbers in a grid cell may be explained by a camp and the settlement around it. This in turn means that high IDP numbers may not always be linked to higher one-sided violence as the presence of international actors may constrain local conflict parties or may indicate relative stability of the area. This could lead to an underestimation of the effect of freely moving IDPs on violence. IDP camps may also host various ethnic groups, affecting the amount of ruler support per grid cell. I display a regression based on grid cells without any IDP camp in panel d in Figure 3.10. For violence against all civilians and against IDPs committed by the ruler, I still find very similar results: the ruler seems to respond with violence to IDP populations not supporting their rule. For challengers, the picture is again less clear: Looking at OSV events against all civilians, I find a positive interaction effect that is not statistically significant. Looking at violence against IDPs, I find a negative interaction effect. Overall, in non-camp areas, I cannot say for sure how territorial challengers respond to the support structure in IDP flows but the tendency remains that supporting IDPs provoke a less violent response by rulers than other population groups on the move.

### **3.6.2 Limiting the dependent variable: Islamic State violence**

Another concern is that the Islamic state as main perpetrator of one-sided violence acts differently than the other actors and that the Islamic State dominates the events of one-sided violence. The assumption could be that ISIL - due to its extremist ideology - attacks more civilians regardless of the loyalties in the IDP population or the group's status as territorial ruler or challenger. If this is the case, I should find that IDP numbers increase one-sided violence but splitting the sample into ruler and challenger dynamics and adding an interaction effect should not affect the strategy of the Islamic State. In panel c in Figure 3.10 I have limited the dependent variables to violence by the Islamic State only. One can see that none of the interaction effects are significant, and that the confidence interval for challenger violence against all IDPs is

very large. This indeed shows that the jihadist group alone does not directly respond to war loyalties in the IDP population but more generally attacked non-combatants.

I also want to point out that the uncertainty about whether ISIL held a specific territory or not is comparably higher in the machine learning I use to make this distinction. In addition, my approximation of IDP support for ISIL is also rough as I define Anbar IDPs as the main supporters although ISIL is more likely to hold territory in Anbar and hence attack civilians. Given these two restrictions in my data and ISIL's ideological agenda, it is not surprising that I do not find clear dynamics when reducing the dependent variable. Adding the additional instances of violence by the government, the Kurdish Peshmerga, and the Shia militia also introduces more variation in the independent variable of IDP ruler support and this potentially explains why I find stronger dynamics in the whole data.

### **3.6.3 Accounting for uncertainty: assessing the machine learnt classification of territorial control**

I am concerned that areas with unclear territorial control introduce noise in the data. This could decrease the differences between my analyses of ruler and challenger dynamics. To further assess how my machine learning classification affects the outcome of this regression analysis, I have created a variable that takes the value 1 if I have hand-coded the zone of control. For the grid cells and months I used the random forest classification, this variable takes the value of the probability of the highest predicted class. For example, if the random forest algorithm classifies one grid cell as controlled by the Iraqi government, the variable takes the certainty estimate that the Iraqi government is the right prediction from the model. In a second step, I have then ran my main regressions for different uncertainty thresholds. In one model, I only include areas that I have hand-coded (uncertainty threshold is 1). In the next regression I only use grid cells that have been predicted with 80% certainty or above. I do this for the full range of uncertainty thresholds in my data.

Figure 3.11 displays the coefficient point estimate and confidence interval for the main interaction effect between IDP numbers and their support for a local ruler for all civilian victimization and the targeting of IDPs. I iterate through different uncertainty thresholds but I find more or less consistent patterns for all of them. The point

estimate for the interaction between IDP numbers and ruler support is always statistically significant and negative for violence committed by the ruler against all civilians or against IDPs. This effect is robust to all uncertainty thresholds. Turning to challenger violence, I show that the effect of support for the local ruler and IDP families is positively associated with violence against all civilians independent of the uncertainty of my territorial control variable. Only for violence against IDPs committed by the challenger, I do not find consistent patterns across the uncertainty thresholds, with changing signs in the point estimate.

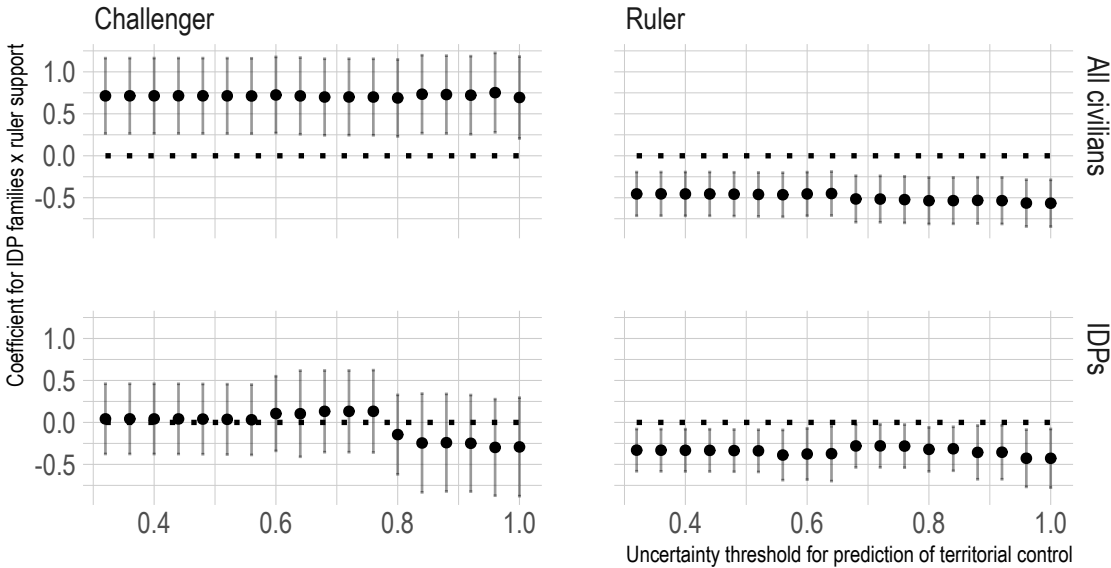


Figure 3.11: Coefficient plot and confidence intervals for the interaction between IDP numbers and ruler support for data restricted by thresholds of uncertainty over territorial control. Zero-inflated negative-binomial models.

This is not surprising as the main models reported in this paper were already not statistically significant. While the conclusion should be that the uncertainty around my territorial control estimation does not strongly affect my results, this robustness check highlights that I cannot properly explain challenger violence against IDPs.

### 3.6.4 Considering outliers: replacing extreme values

Another crucial question is whether my results are driven by outliers, i.e. specific grid-cells that experienced a high number of events in a given month. Outliers are of

theoretical interest if we assume that the violent counts in an outlier grid cell are produced by a different data-generating mechanisms that the counts in other grid cells. For example, high counts of one-sided violence in Islamic State held Mosul may not be driven by my theoretical mechanism but rather by the strategic and symbolic importance of Mosul for the jihadist group. To test how strongly my results are affected by outliers, Figure 3.12 displays coefficient estimates for the interaction term between IDP families and ruler support for the four critical outcome variables: ruler and challenger violence against all civilians and against IDPs. To account for possible outliers, I ran negative binomial regressions repeatedly. In each iteration, I replaced the actual count of an outlier with one. For example, in one iteration, I replaced all outlier counts of more than 20 events with a count of one. For the next iteration, I replace all counts above 18. The darker the colour of the point estimate, the more outliers/cells with high counts I have removed. Note that in the case of one-sided violence against IDPs, and in particular by challengers, there are fewer outliers to remove and I hence estimate fewer models.

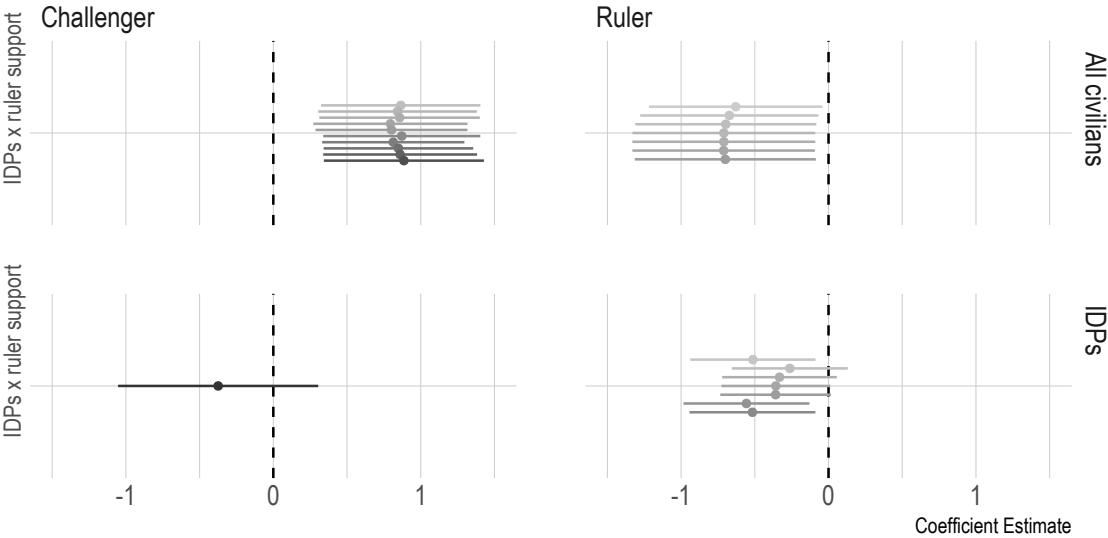


Figure 3.12: Outlier analysis: Coefficient plots for the interaction between IDP families and ruler support for negative binomial regressions. The darker the color of the point estimate, the more outlier counts have been replaced by the count of one.

Overall, the results of the negative binomial regression are more or less robust to outliers. For ruler and challenger one-sided violence against civilians (upper row of the figure), I find the expected negative interaction effect for rulers and positive

interaction for challengers regardless of how many outliers I replace with a count of one. For the ruler and challenger targeting of IDPs, the patterns are less robust, which is unsurprising as the original models were already inconsistent. Replacing outliers for ruler targeting of IDPs (lower-right panel) generates a negative significant effect that I was also theoretically expecting for most iterations. For challenger one-sided violence against IDPs, I do not find significant effects but there are also few outliers to remove from the data.

### **3.6.5 Assessing modelling choices: Dropping of covariates**

As there might be concerns about the selection of my control variables, I have run the models multiple times while always dropping one covariate. Figure 3.13 displays the coefficient plot for the interaction between IDP families and ruler support while always dropping one control variable. Overall, the dynamics are similar as in the main models: I find negative interaction effects for ruler violence, mostly positive interaction effects for challenger violence against all civilians and insignificant results for challenger violence against IDPs. As expected, the most relevant control variable - that makes the most difference - is the categorical variable who controls the territory as Islamic State held territory is much more likely to see violence.

I assess further modelling choices in the appendix to demonstrate whether my results are robust to lagging my main independent variables (Table B.13 in the appendix) or including random or fixed effects (Appendix B.8.2). Overall, when using different models - in particular fixed effects - I do not find consistent results throughout. The general impression is that my analysis of one-sided violence against *all* civilians is more robust than my analysis of specific violence against IDPs. Additionally, my regression analysis seems to produce more reliable estimates for ruler dynamics than challenger dynamics.

The fact that my results are not consistently robust across these model specifications does not surprise me as I heavily rely on various imputation steps across time, making it harder to identify *temporal* variation in one-sided violence across grid cells. Modelling rare events data with fixed effects is also not straightforward as I likely overestimate the base rate of one-sided violence. Nevertheless, the fact that these models and lagged versions do not support my overall argument means that further

explorations are needed, with better data, to fully understand the mechanisms of civilian targeting in dynamic populations that move within the conflict zone.

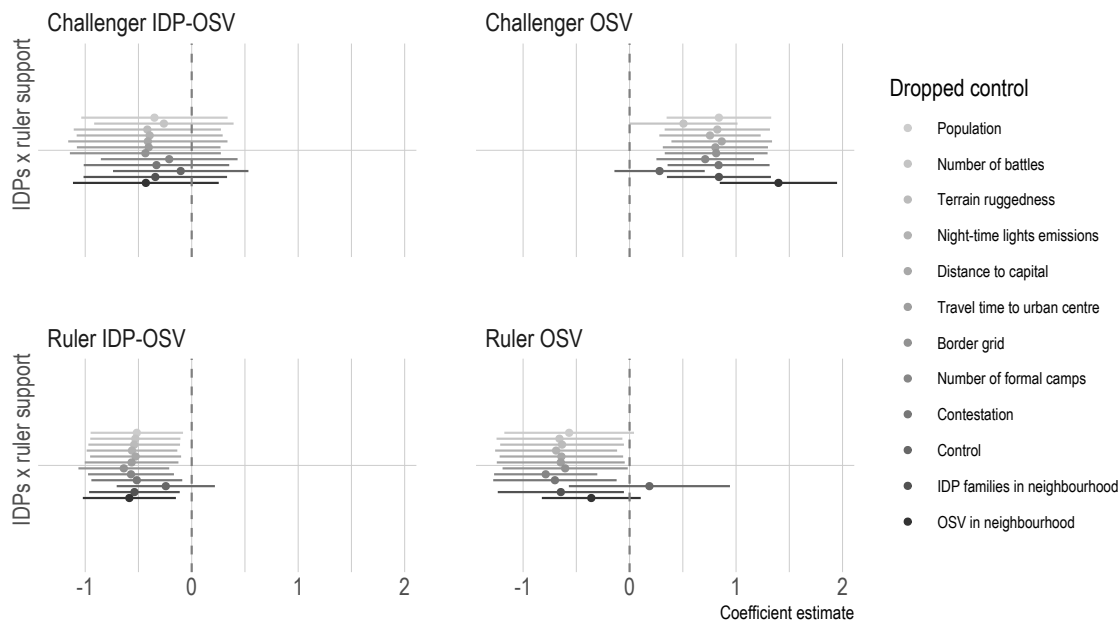


Figure 3.13: Coefficient plot for negative binomial count models that drop one of the covariates in each iteration.

### 3.6.6 Explaining challenger violence against IDPs

The main models have highlighted that I cannot explain well when territorial challenger specifically target displaced people. The empirical reason for this is likely that my data only captures 56 events of challenger violence against IDPs. It is not credible that the count models I have fitted do a good job at estimating those very rare incidents of violence even if I account for zero-inflation. It is difficult to disentangle whether this low count of violence is due to the actual rarity of challenger violence against IDPs or due to a lack of reporting.

On a theoretical level, the fact that territorial challengers may have limited access, knowledge, or capacity to infiltrate enemy territory to specifically identify IDPs and target them may also explain why I find clear results for general violence against civilians by territorial challengers but not for more targeted violence against fleeing civilians. When descriptively looking at the news reports linked to challenger violence against IDPs in my data, the most common event type is indeed some terrorist-style



attack against IDP shelters or indiscriminate shelling of IDPs from the distance. Future research should hence explore how access and resources shape when territorial challengers spoil local governance by attacking civilians or IDPs.

Explaining challenger violence against IDPs, but also ruler violence against IDPs, may also require a more flexible definition of war loyalties than I employ. We know from previous research that movement patterns into an area are seen as a visible sign of loyalties (Lichtenheld, 2020) and that fleeing civilians “vote with their feet”. My static approximation of IDP support for local rulers based on sectarian groups certainly does not cover this empirical reality well and I make a strong assumption that armed actors perceive loyalties merely based on group identities.

### **3.7 Discussion and conclusion**

This study makes a theoretical argument to explain why local population movements during civil wars spread civilian victimisation (for a summary of contributions see Figure 3.14). I argue that population movements to more peaceful locations during civil war can cause cycles of repeated violence and secondary displacement because strategic territorial rulers and challengers have incentives to respond violently to population relocation that threatens the balance of intensive control between the warring parties. Violence against the population is used to either prevent a decrease in intensive control from the perspective of a territorial ruler that is faced with incoming non-supporters; or to undermine the intensive control of the opponent from the perspective of a challenger that observes waning influence in light of incoming supporters of the ruler. My sub-national regression analysis of grid cells in the Iraqi displacement crisis from 2014 to 2018 finds support for this argument. However, my theoretically described patterns only emerge clearly when looking at general patterns of violence against civilians and not at specific incidents of attacks against moving IDPs.

On a theoretical level this study does not only make a contribution to research on local conflict contagion; I also contribute to research on civilian targeting by extending Kalyvas’ (2006) theoretical model of civilian victimisation with additional dynamic element: population movements. This dynamic parameter sheds light on different strategies to control civilians for territorial rulers and challengers and helps to identify a spoiling mechanism as war strategy of territorial challengers.

The identification of these nuances in the reaction of territorial rulers and challengers to displacement is only possible due to my extensive work to manually code maps of territorial control, to fill data gaps with machine learning algorithms, to gather and clean data on the ethno-religious affiliation of IDPs in Iraq, to collect spatially fine-grained data on the victimization of Iraqi IDPs and to combine this rich territorial control and displacement data with other data sources and spatial covariates. As such, the study not only tests a theoretical argument about violence against civilians in displacement crises, I also provide a monthly geographically fine-grained dataset of territorial control during the Islamic State insurgency in Iraq that can be used by other researchers to understand broader conflict dynamics.

However, further explorations are needed to understand how armed actors manipulate movement patterns to prevent changes in effective control, how access and knowledge constraints shape targeting patterns, and how armed actors learn about patterns of war loyalties from population movements. On a theoretical level I am largely agnostic of the movement and flow patterns of IDPs although we know that IDPs escape from violence and resettle along conflict lines and social networks (e.g., Balcells, 2018). Given the fact that I do not clearly conceptualise flows or use an exogenous shock to the distribution of IDPs in Iraq, strong causal claims are problematic and this analysis can only be seen as a first step to understand the victimisation of fleeing civilians in civil wars.

From an empirical perspective, various factors make the study of these dynamics challenging. Regarding IDP populations, the data environment is still sparse as we increasingly collect information on the location of IDPs but not on the socio-economic composition or ethnicity of IDPs. I had to rely on various imputation steps to create a time-series cross-sectional dataset that approximates IDP numbers and support for conflict actors over time. Given data limitations, my operationalisation of support for local rulers remains problematic and there is scope for future work to better measure these theoretical concepts. I also use a machine learning algorithm to estimate zones of territorial control in Iraq in the absence of fine-grained quantitative data on territorial control. Although I show in robustness checks that the uncertainty over my classification does not strongly distort my results, better data could mitigate concerns about the biases in my analysis.

Future studies should also use smaller grid cells if event data is precise enough

and should extend the analysis to well-defined spatial econometric models. This would allow to understand more clearly how migration, learning, and contagion effects affect cycles of violence and displacement. If more fine-grained data on population flows and territorial controls become available, investigating temporal dynamics while holding units constant seems crucial.

Lastly, this is a case study on the dynamics of one-sided violence in Iraq. Almost all violence recorded in the UCDP data is committed by the Islamic State, a particular brutal group that has engaged in widespread civilian targeting and killings of ethnic minorities. Whether these results transfer to other groups remains open. The described dynamics of maximising extensive and intensive control in civil wars might only apply if insurgencies are able to capture significant amounts of territory and are able to establish some long-term rule over their areas. While ISIL has taken over large areas from the government, other civil wars do not experience strong rebels that can control territory for a longer period. In other words, my theoretical argument might only apply when the scope condition of a territorial and conventional civil war applies.

Furthermore, the implicit assumption is also that the moving population can be identified as either supporters or non-supporters of conflict actors. This may be plausible in civil wars with an ethno-religious dimension, but less clear in other cases. On the one hand, massive displacement during civil wars like in Iraq is a very common feature of many conflicts such as in Syria, Colombia or Afghanistan. This stresses the importance of studying the phenomenon of population movements in times of political violence.

Research on the spread of violence because of local flight patterns in conflicts is messy because the link between violence against civilians and displacement is bidirectional. Violence creates displacement and displacement may cause violence. Despite these challenges, research on the interaction between armed actors and fleeing civilians is crucial if we want to understand how repeated displacement emerges and how we can protect civilians that have to flee their homes from future harm. More research could for example address how formal displacement camps, that aim to be safe havens for civilians, affect internal displacement flows and local dynamics of violence.

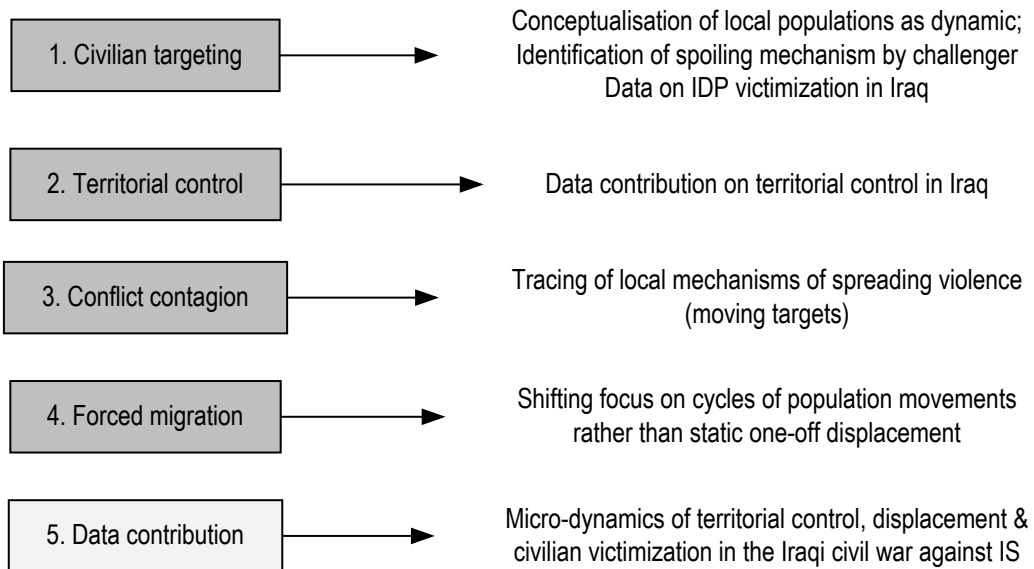


Figure 3.14: Research contributions in the second chapter

# Chapter 4

## Property rights and post-conflict recovery: theory and evidence from IDP return movements in Iraq

*Co-authored with Alexandra Hartman, Associate Professor, UCL*

**Abstract:** How do rights over housing, land and property shape the transition from conflict to peace in fragile states? Real property rights are a territorial institution that structures the relationship between individuals and the state. Yet most micro-level analyses of return following conflict-related violence do not explicitly explore property rights. We assess the degree to which variation in economic and political access to property rights matter in the decision to return after conflict and displacement. We analyze original survey data in Iraq on the origin and destination of internally displaced persons and returnees from 2019 in a spatial matching framework and survey experiments with returnees and IDPs in Sinjar in 2021 and find that individuals who report more secure property rights are more likely to return home after displacement. The perceptions that property rights institutions perpetuate economic uncertainty and political discrimination shape individuals' decision-making about (re)settlement after conflict, with important implications for the transition from war to peace.

*"My house's situation has a lot to do with my decision not to return. I have spent years building this house, and now I even cannot see it, even from afar. I do not even want to see it." - Sunni IDP in East Mosul, originally from Sinjar*

### 4.1 Introduction

What explains why some people return after forced displacement while others do not? Many factors influence how displaced populations decide if and when they return home, including economic opportunities, social networks, and security (e.g., Arababa'h et al., 2020; Beber, Roessler and Scacco, 2021). In this chapter, we explore

how a critical governance institution shapes population returns and the transition from conflict to peace: property rights.

Property rights, or the rules, norms, and practices that structure access, ownership and use of immovable property (Knight and Jack, 1992; North et al., 1990), are at the heart of governance. They structure not only economic hierarchies, but also access to, and the legitimate use of, power. We build on work that highlights the critical role that property rights play in conflict onset and duration (Autesserre, 2010; Boone, 2014; Van Leeuwen and Van Der Haar, 2016) and explore the role of individual and group-level housing, land and property (HLP) rights security in shaping the decision to return after displacement (Schwartz, 2019).<sup>1</sup>

We argue that an individual's ability to enjoy their property rights, or the strength of their property rights security, is a function of a multifaceted relationship between individuals and local institutions. Individual characteristics and memberships in specific social groups determine the extent of property rights security.<sup>2</sup>

First, property rights shape individuals' economic well-being (e.g., Galiani and Schargrodsky, 2010; Berry, 2009; Goldstein and Udry, 2008). Multiple aspects of individual property rights security shape economic outcomes (e.g. documented versus undocumented; long-term versus short-term; access versus ownership). An individual's ability to benefit from their real property is thus shaped by a range of processes that recognize and enforce rights. Variation in the functionality of these processes creates uncertainty about the economic value and utility of HLP assets. We expect that an individual's *economic uncertainty* about their property rights shapes their property rights security and influences their decision to return after conflict.

Second, an individual's property rights security may also depend on their membership in a given social groups. Particularly in divided societies, property rights institutions may discriminate (formally or informally), for example by only providing written documentation of rights or neutrally adjudicating disputes for members of specific groups. We thus focus on group-level discrimination that renders members of specific communities unable to enjoy their property rights. We argue that when individuals believe that property rights institutions engage in *political discrimination*,

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<sup>1</sup>The link is identified as critical by policy makers, see for example, the United Nations High Commissioner for Refugees Emergency Handbook (2015) for a discussion from a legal and humanitarian perspective (UNHCR, 2015).

<sup>2</sup>Property rights have other dimensions but we focus on these two, while acknowledging there may be other ways that property rights and return are linked.

this also factors into property rights security and return decisions following displacement.

We use a two-pronged strategy within the case of displacement in Iraq to understand how economic uncertainty and political discrimination in property rights shapes individual variation in return after forced displacement. Despite the end of the armed fight against the Islamic State in 2017, more than 1.3 million Iraqi IDPs have not returned to their homes as of June 2020 (IOM, 2020), making this a policy-relevant case to understand return patterns.

First, we use an individual-level survey collected in 2019 by a humanitarian organization with internally displaced persons (IDPs) and returnees from the wider area that was affected by the Iraqi war against the Islamic State. Using a spatial matching strategy, we show that differences in property rights security are correlated with *actual* returns. We find that compared to people that own property without a proof of ownership, respondents with written documentation are on average 9 percentage points more likely to return. Disputes over property, as another indicator for property rights security, reduce the likelihood of a return after displacement by an average of 14 percentage points.

Second, we explore whether it is plausible that the two dimensions of property rights security we theoretically focus on - economic uncertainty and political discrimination - affect return decisions using data from a survey of Yazidi and Sunni Muslim IDPs and returnees that originate from the area around Sinjar, an area that the Islamic State (IS) captured in the early years of Iraqi State-IS conflict. We use a conjoint and a vignette survey experiment to explore how differences in individual's perceptions about property rights influence return decision making, and show that the economic and political effects of property rights insecurity both shape perceptions about return following displacement.

Given our evidence that property rights security does matter in an experimental and observational setting, we then test the external validity of our theory. The data in the first two empirical analysis comes from areas of Iraq that might have a specific type of property rights institution and face specific post-conflict challenges. Given this concern, as well as legitimate questions about the external validity of survey experiments, we analyze another panel dataset created by the International Organization of Migration (IOM) that includes a larger sample size of Iraqi respondents from through-

out the country. We identify a similar correlation between return and the strength of property rights, supporting our conclusion that variation in individual enjoyment of property rights may harden pre-conflict inequalities or introduce new hierarchies that exclude or empower specific groups through its effect on return after displacement.

Incomplete or limited return after forced displacement fundamentally reshapes society, preventing durable solutions to increasingly hard-to-resolve displacement situations. Much existing literature on return after conflict is focused on cross-border refugee populations and their *intent to return* as opposed to actual returns. Our data on *manifested* IDP returns and experimental evidence on return decision-making complements these existing analyses. Our study does not show that property rights are the only, or necessarily the most important, factor shaping who returns after violence. However, if movements during and after conflict are shaped at least in part by differential access to these institutions within a specific geographic location, efforts to register IDPs and support returns should consider what it takes to ensure equal access to and protection of these rights, not the least to predict return flows and the risk of protracted displacement. Addressing HLP issues may also be a crucial part of transitional justice measures (Unruh and Abdul-Jalil, 2021).

## **4.2 Conceptual framework**

### **4.2.1 Returns and Post-Conflict Recovery**

Political scientists and economists increasingly study when displaced individuals return to their place of habitual residence after displacement. The restoration of pre-war settlement patterns and the equal access to resources for displaced persons are important for post-conflict stability and uniform economic recovery (e.g., Black and Gent, 2006; Bohnet, 2016; Dahlman and Ó Tuathail, 2005; Engel and Ibáñez, 2007). During conflicts, out-migration deprives countries of citizens that could provide economic and political capital needed to rebuild. Within-country displacement often leads to rapid urbanisation, the creation of new inequalities, and the depopulation of land in which fighting was most pronounced. The unequal distribution of conflict may lead areas that already held grievances against political elites before the conflict to suffer worse post-conflict outcomes (Büscher, 2018; Urbatsch, 2017). Furthermore, instru-



mental population movements, including ethnic cleansing, are based on the premise that a social group must be permanently expelled from a territory (Naimark, 2002). Negative effects of population movements during conflicts are one reason why the policy community promotes voluntary returns after conflict-induced displacement, to facilitate long-lasting peace and a successful transition away from conflict (UNHCR, 2016).

Emerging research on returns suggests that violence during conflict as well as displacement patterns can explain resettlement (Steele, 2017, 2018, 2019). Recent literature has also focused on the economic side of return movements. Displaced individuals return if economic opportunities in the place of origin outweigh those in displacement (e.g., Stefanovic, Loizides and Parsons, 2015; Arias, Ibáñez and Querubin, 2014). Economic prospects, the availability of public services, and personal networks shape return decisions (Alrababa'h et al., 2020; Beber, Roessler and Scacco, 2021). For example, Camarena and Hägerdal (2020) study the return of Christians in Mount Lebanon, arguing that attractive economic opportunities explain when displaced persons return to their habitual residences. However, Camarena and Hägerdal (2020) and Tuathail and O'Loughlin (2009) also suggest that population dynamics can shape return (Joireman, 2017). Displacement that exacerbated ethnic separation has consequences for the demography of different territorial and electoral units, as people are less likely to return to mixed areas.

Security in the place of previous residence is also critical: Recent research on *future* return intentions shows that refugees are influenced primarily by safety and security concerns in their place of origin (Alrababa'h et al., 2020). While social networks in the original home also help to explain patterns in return, experiences of violence and trauma play a central role (Arias, Ibáñez and Querubin, 2014). Overall, intentions to return for refugees are shaped by the trade-off of being anchored in origin communities and becoming attached to the hosting country as well as the experiences of trauma during the conflict (Ghosn et al., 2021).

This evidence, together with policy reports by humanitarian and international actors working with displaced populations, suggests that IDPs' and refugees' decision to return to their homes may not only depend on economic aspects but also on pre-existing political and social inequalities (e.g., Sert, 2014; Smit, 2006). We explore how property rights fit into this complex picture.

## 4.2.2 Property Rights and Contested Politics

Property rights institutions are a diverse set of rules, norms and practices that determine how individuals and groups make and resolve claims over real (immovable) property. Although property rights are often formalized in state law and documented in writing, they can also be generated through informal, unwritten and flexible institutions, often based at the community level.

Uncertain and unequal property rights are often linked to economic underdevelopment (e.g. Acemoglu, Johnson and Robinson, 2001). Classical theories in economic development suggest that investments remain inefficiently low if individuals and groups perceive a threat of expropriation (Besley and Ghatak, 2010). As a result, in the past 40 years (mostly Western) international actors have made substantial efforts not only to formalize and document, but also to individuate, real property rights in many countries around the world. A growing empirical literature on the documentation of property rights shows mixed results for a range of outcomes including decreasing the risk of expropriation (e.g. increasing tenure security) and creating economic benefits for individuals with stronger rights (Field, 2007; Goldstein and Udry, 2008; Onoma, 2009).

Historically, access to property was a condition for political participation, democratic development, and a reduction in conflict (e.g., Acemoglu and Robinson, 2012; Dower and Pfutze, 2015; Albertus, 2020); and it remains a determinant of wealth in many states (e.g., Galiani and Schargrodsky, 2010; Deere et al., 2013). Yet, despite increasing expansion of political participation, and efforts to extend access to, ownership of, and decision-making over real estate assets, property rights are often distributed extremely unequally. For example, women control only 20% of agrarian land globally (FAO, 2010). When combined with other social group identities, differential access to property rights can contribute to civil war onset, or can become embedded in ongoing conflict dynamics (e.g., Autesserre, 2010; Klaus and Mitchell, 2015).

Given the relevance of property rights to economic and political stability (e.g. Galiani and Schargrodsky, 2010; Berry, 2009), we shift the focus to the question of how property rights function in the post-conflict period (Hartman, 2018). In this chapter, we explore how property rights affect a key *post*-conflict process: the return of displaced population groups to their homes after violence.<sup>3</sup>

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<sup>3</sup>A critical question that is beyond the scope of this paper is how governance during conflict shapes

### 4.2.3 Mechanisms

We link variation in individual property rights security to population returns after conflict through two mechanisms.

First, we link individuals' ability to engage with a functional property rights system - where an institution has the capacity to carry out their responsibilities in a systematic and predictable way - to relative levels of economic development (e.g, Galiani and Schargrodsky, 2010; Berry, 2009; Goldstein and Udry, 2008), which increases the probability of return. Property rights uncertainty can manifest in numerous ways, including delays or obstacles individuals face when accessing the basic functions of property administration, such as claiming, transferring or make changes to a property (for example to transfer property upon the death of a family member). As a result, individuals face different levels of economic uncertainty. When resuming economic activity is both riskier and costlier, lower property rights security deters return.

Second, we also link discrimination within property rights institutions to return after conflict. Despite, or perhaps because of, the increased demand for access to a minimum level of economic and political power, most property rights institutions remain exclusive, in that they only grant selective access to power for members of specific social groups.<sup>4</sup> Members of these groups may face *de jure* discrimination, where institutions explicitly limit their ability to enjoy property rights.<sup>5</sup> They may also face *de facto* limits on property rights, including prejudice during administrative or legal processes, that makes equal enjoyment of their rights less likely or impossible. Individuals that do not enjoy the same access to property rights, or whose property rights are contested because of their membership in a particular group, face higher levels of exclusion or vulnerability in their place of origin, making them less likely to return.

We expect that when an individual considers their property rights as uncertain or believes they will face discrimination, they are less likely to return to that property.

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other post-conflict outcomes, such as community cohesion, described in Kao and Revkin (2020) on these processes in Iraq.

<sup>4</sup>Groups might be defined in terms of individual characteristics such as gender, ethno-linguistic group, or even ties to imagined historical communities (such as indigenous, first-comer status).

<sup>5</sup>There are many examples including limits on foreign ownership of real property; property ownership via mortgages only for men until 1970s in Ireland; only indigenous communities in Côte d'Ivoire following the 1998 Land Law, and recent changes to laws that occur during conflict, as described by Stubblefield and Joireman (2019) in Syria.

**Hypothesis 4.1.** Uncertain property rights institutions create variation in an individuals' expected economic return from real property assets reducing property rights security and decreasing return after conflict.

**Hypothesis 4.2.** Discriminatory property rights institutions create variation in an individual's ability to make and protect claims over real property based on their membership in a specific group reducing property rights security and decreasing return after conflict.

### **4.3 Conflict exposure, property rights and return movements in Iraq**

We explore property rights and return in the case of Iraq. The civil war from 2014 to 2017 against the IS by now constitutes the worst displacement wave in the country with over 15% of the entire population being displaced (IOM, 2018). This instability has stretched the country's complex land and property system (Isser, 2009). Individuals face both different levels of economic uncertainty and political discrimination leading to variation in property rights security, which could contribute to differing rates of return. The following sections summarise the dynamics of conflict and displacement as well as the Iraqi property rights system.

#### **4.3.1 Dynamics of conflict, displacement and return during the fight against the Islamic State**

When the Islamic State emerged in 2014, the terrorist group quickly made territorial advances in the west and north of Iraq due to a deteriorating security situation, losses of de-facto control by the government and weak governance already before the conflict (Khedery, 2015; McCants, 2015; Hassan, 2014). IS advances were marked by the systematic targeting of Shia and minority communities and have resulted in the removal of entire communities from their original homelands. An example of such an almost entirely displaced community are the Yazidis around Sinjar.

In areas under their control, the IS systematically rented out and sold property expropriated from previous owners, which particularly affected religious and ethnic minorities and those affiliated with the Iraqi government (Jahn, 2018). Property rights around housing and land were hence a salient feature of the conflict.

Population movements were particularly high at the beginning of the conflict (IOM, 2018) and occurred mostly within Anbar, but IDPs soon moved to more central areas of Iraq, reaching Ninewa and Salah al-Din. As the Islamic State moved front lines further to the east, a significant proportion of IDPs sought shelter in the Kurdistan Region of Iraq. Population movements in Iraq followed clear sectarian patterns, effectively resorting and un-mixing the ethno-religious groups in Iraq (Thibos, 2014).

With broad resistance from the Iraqi Armed Forces, the Kurdish Peshmerga, and the Shia Popular Mobilisation Forces, the Islamic State was pushed back successfully in the later years of the conflict. In November 2017, the last strongholds of the IS were recaptured but the group continued to wage low-scale insurgency campaigns. IDP numbers first started to decrease in 2016 as the Iraqi government forces retook areas in Anbar and have steadily declined over time. Nevertheless, as of March 2021, 1.2 million IDPs have not yet returned to their homes or have not found a durable solution. In particular, the return of Turkmen, Yazidi, Christian, and Shabak minorities has been slow (IOM, 2018).

#### **4.3.2 Background on Iraq's property rights system**

Property rights in Iraq today are recognized in a range of complex formal and informal institutions. Iraq's pluralistic legal system, not uncommon in the region, draws on state law, community-based or customary institutions, as well as Islamic *Shari'a* law.<sup>6</sup> The system has its roots in the Ottoman empire with a characteristically strong focus on maintaining and reinforcing existing political power through the allocation of large land holdings to influential individuals who supported the regime (Farouk-Sluglett and Sluglett, 1983). In an attempt to centralize and integrate Iraqi provinces into the Ottoman Empire, the Ottoman Land Code of 1858 in Iraq defined categories of land, and reasserted the state's ultimate right of ownership. The result was a feudal system with strong property rights and large formal land holdings concentrated in a small segment of the population (Farouk-Sluglett and Sluglett, 1983).

After a military coup in 1958 that brought a Baathist regime to power, a series of land reforms expropriated Iraqi oligarchs that previously held large accumulations

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<sup>6</sup>Courts specifically use the *Shari'a* law in personal status cases. Article 41 of the Iraqi constitution sets out that individual religious and sectarian beliefs govern personal status matters, which can include issues of inheritance, and intra-household property division.

of land. Following a socialist ideology, the Baathist regime implemented large-scale land reforms in the rural areas of Iraq, enacted limitations to the size of land holdings and enabled collective ownership of property (Link, 2005). In the later Baathist period, however, government land was allocated to supporters of the regime. During the Arabisation campaign between 1968 and 2003 the Iraqi central government encouraged Sunni Arab settlers to relocate to northern Iraq to effectively displace ethnic minorities, including the Kurds, as well as the Yazidis, Assyrians and Turkmen. Arabisation programs particularly targeted Kurds living in and around Kirkuk for expropriation (Baumann, 2019).

### **4.3.3 Uncertainty in Iraq's current property rights system**

*De jure* property rights in Iraq are based both on civil law as well as *Shari'a* law. In addition to these sources of property rights, local informal institutions, including tribal governance mechanisms and locally powerful individuals (in some cases linked to armed groups), also provide property rights in Iraqi and influence the *de facto* implementation of formal institutions.

In order to deal with property right issues in the aftermath of conflict and also specifically in response to displacement, the Iraqi state has created several formal legal institutions. However, because these institutions have not been accessible to all Iraqis and have been rolled-out unevenly, they are characterized by a high degree of uncertainty. Following the US-led invasion of Iraq in 2003, an *Iraqi Property Claims Commission* was established to address the property rights violations understood to have been committed during Saddam Hussein's regime. Evidence suggests the system was not effectively implemented. By February 2010, over 75% of restitution and compensation claims made over property before the commission were still pending and only 8.2% of its decisions were enforced as of March 2015 (Jahn, 2018).

Similarly, efforts to reverse the pre-2003 policies and undo Arabisation policies implemented under the Baathist regime led to many cancelled agricultural and long-term lease agreements. The IOM stepped in and, working with the United Nations in Iraq (UNAMI), between 2009-2011 sought to resolve these issues (IOM, 2016). According to the international organizations involved, this effort was only partially successful. The most sensitive areas affected by Arabisation and its reversal are covered by

a legal remedy inscribed in Article 140 of the Iraqi constitutions that requires a referendum in the disputed geographic area, as well as a census, both of which remain unimplemented.

The Iraqi government has used additional formal legal tools to try to deal with property rights in the post-conflict period. For example, the Council of Ministers Decree 262 of 2008 sought to provide IDPs with a small economic incentive to move on from irregularly occupying the real property of other IDPs (often referred to as secondary occupation). However, an assessment of these tools in 2016 suggests that they were weakly, if ever, implemented (IOM, 2016). Similarly, Law 20, “Compensating the Victims of Military Operations, Military Mistakes and Terrorist Actions”, sets out a compensation program for households that provide evidence of property destroyed as a result of the conflict. The law, amended in 2015, applies from March 20, 2003 through the present day and covers harm caused by IS, or during military operations against IS. Although there has been some success, a heavy evidential burden, long processing times and the challenges of actually carrying out restitution remain important obstacles for accessible implementation (Sandoval and Puttick, 2017).

Despite the efforts of the Iraqi state described above, *de jure* legal remedies for completing property rights claims face ongoing obstacles at both a political and practical level. Although a state-provided decentralized judiciary system remains intact in all major cities in Iraq, and administrative and court processes are one of (several) legitimate sites for dealing with post-conflict property issues, critical components of this system do not function as envisioned in the law.

Additionally, a number of Land Registry Offices have been looted by IS, destroying cadasters, the critical written records of property rights and making the use of processes based on written documentation difficult (UN-HABITAT, 2014). In other instances, the IS intentionally destroyed existing property deeds as part of its efforts to undermine Iraqi legal institutions and reclaim “Muslim land”. The reissued property documents by the IS are not legally recognized by the Iraqi government. The difficulties around proving ownership for property are paired with large-scale destruction of houses and property as well as a historically depleted housing stock in Iraq (Indhar, 2020). Financial challenges, local politics, ongoing security concerns, as well as the complex political dynamics at the national level have led to uneven functioning and implementation - and a general high level of uncertainty over HLP rights. Property is-

sues are therefore often dealt with through other mechanisms, including less formal and community-based processes.

#### **4.3.4 Discrimination in Iraq's property rights system**

Long-standing discrimination against minorities' access to HLP rights is common in Iraq's property rights system and has been amplified by the most recent violence. Unequal property rights across ethno-religious groups in Iraq manifest in a lack of officially recognized property deeds and documentation for minorities and high levels of mistrust in the ability of the Iraqi state to enforce property rights.

Historically, contestation over property rights was particularly pronounced in northern Iraq, strongly affecting Sunni Iraqis and minority groups. In the context of Saddam Hussain's Arabisation campaign, the government moved Arabs into the settlement areas of Kurds and other minorities (Yazidis, Assyrians, Shabaks, Armenians and Turkmen) at a large scale. Yazidi villages, for example, were virtually all destroyed and Yazidis were forcibly resettled into 11 collective towns. However, land in those towns was never formally transferred from the government to Yazidi communities, barring Yazidis effectively from formal property ownership in Sinjar (Baumann, 2019, 19).

Until today, Kurds and minorities suffer from the forced displacement and the high levels of expropriation from property during the Arabisation campaign, in particular around Kirkuk. In some surveys, only 10% of people living in Ninewa have formally registered their property (IOM, 2016). The Iraqi Property Claims Commission, established to retribute and compensate claims, has largely failed to resolve land and property ownership disputes resulting from the Arabisation campaign. Additionally, land ownership is highly politicized in the disputed territories between the Iraqi and Kurdish authorities (Baumann, 2019, 19).<sup>7</sup>

In attempts to reverse the Arabisation campaign and undo some of the created inequalities, the post-2003 government cancelled many long-term agricultural contracts between the Iraqi state and Sunnis that moved to minority areas during the Arabisation (Jahn, 2018). Overall, this weakened the enjoyment of property rights for

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<sup>7</sup>In interviews, Kurdish Shabaks express problems to formally register land with the Central Land Registration due to a requirement for Arab names. They fear that the government can take away property as they have no reliable proofs of ownership in their own names (Baumann, 2019, 19).



Sunni Arabs and increased their land-based grievances in recent years (Baumann, 2019, 107-108).

The outbreak of the civil war against the IS further amplified the long-standing discrimination in Iraq's property rights system. The conflict mostly affected Sunni and minority areas in the north – in which property rights were already weak, informal and politicized. Sunni-dominated areas, such as cities like Ramadi, have been almost completely destroyed. The Islamic State also deliberately destroyed property in Sinjar district and expelled Kurds, Yazidis, Christians and Turkmen from territories in Ninewa and around Mosul. Due to their sudden flight, many documents to prove ownership were lost in the course of displacement (Baumann, 2019, 28)

At the same time, the IS actively resettled Sunni Arabs into former minority areas, handing out property to Sunni families as “gifts from al Baghdadi” (UN-HABITAT, 2014). The terrorist group also marked houses of Shia Arabs and minorities as “property of the Islamic state” (IILHR and UNPO, 2015) and resold those assets with their own property deeds. For example, IS fighters marked Shia property in Mosul with the word *Rwafidh* (protestants/rejecters) to later sell or rent to supporters (Jahn, 2018, 21).

In the immediate post-conflict period, there is increasing evidence of a backlash against Sunni Arabs and increasing challenges to access HLP rights at equal rates. First, news reports suggest revenge attacks by Popular Mobilization Forces and the Kurdish Peshmerga destroyed the property of Sunni Arabs in “liberated” villages. Second, Shia Waqf Offices carried out land grabs in areas liberated by the Iraqi government or the Shia-dominated Popular Mobilization Forces (Ibrahim and Al-Rubaie, 2019). In some places, Kurdish forces have also banned Arabs from returns to majority Kurdish areas regardless of their property status. Finally, the Iraqi government issued a formal statement declaring void all transfers of ownership of real estate in directorates in Anbar, Saladin, and Ninewa that were under IS control (UN-HABITAT, 2014).

Overall, the property rights system in Iraq is characterized by variation in group-level discrimination in accessing and proving ownership over housing and land.

### **4.3.5 The Yazidis in Iraq: Uncertain and discriminatory property rights**

Specifically relevant to this chapter are property rights and return conditions in and around Sinjar, in the Northwest of Iraq. The Sinjar region is known to be the homeland of the Yazidis, a Kurdish-speaking religious minority in Iraq (UN-HABITAT, 2020). Prior to the conflict in 2014, the area was predominantly inhabited by Yazidis with sizeable Sunni Arab, Kurds, Turkmen and Christian minorities.

Under the Baathists' Arabisation campaign in the 1970s, hundred of thousands of Yazidi were forcibly deported from their ancestral villages in the mountains to collective townships in the plains of Sinjar. Their habitual residences were confiscated. In the 11 collective townships, the government denied Yazidi the right to register their assigned parcels in their names (UN-HABITAT, 2015). This discriminatory policy in practice meant that Yazidis had no access to a *tapu* (property document), were unable to sell their plots or apply for construction loans. Because this policy continued until 2003, up to 250,000 Yazidis may still lack tenure documents. In contrast, Arab families moving into these areas could buy and officially register property in their names under the ruling Baath Party (UN-HABITAT, 2015). Due to political differences between the central authorities and the Kurdistan Region of Iraq regarding the disputed areas of Iraq, essentially all official land allocation processes in Sinjar are frozen, leading to many "nominal" and legally invalid land transactions.

In August 2014, the Islamic State captured the district and conducted massacres in Sinjar, forcibly displacing around 300,000 Yazidis, 8,000 Kurds and 30,000 Turkmen (UN-HABITAT, 2020) until the occupation ended in November 2015. IS fighters demolished over 6,000 homes in Sinjar (UN-HABITAT, 2015), forcing Yazidis to stay in IDP camps at the outskirts of Kurdish territory in Iraq.

In the post-conflict environment, the large-scale destruction and general lack of records and legal evidence related to HLP ownership in Sinjar creates challenges for population returns. Sinjar district is characterised as one of the lowest return areas in Iraq: while 78% of Iraqis have returned home in October 2019, only 34% of the inhabitants in Sinjar have made the decision to return (UN-HABITAT, 2020). A plethora of Turkish, Kurdish and Yazidi forces are still active in the area and property rights are enforced informally through armed actors or Yazidi community leaders. While Sunni Arabs had more privileged access to formal institution prior to 2003, there is

now growing suspicion against local Sunni Arabs that are perceived as having taken advantage of the expulsion of Yazidis under the Islamic State. Fears for reprisal attacks are high (UN-HABITAT, 2015). Although data on returns by different ethnicities is scarce, several reports suggest that in particular local minorities such as Sunni Arabs do not return.

## 4.4 Empirical strategy

We use two surveys to assess the effect of economic uncertainty and political discrimination in property rights security on returns. First, we use a matching strategy on individual-level survey data from 960 Iraqi IDPs and returnees in the post-conflict area to understand whether property rights security affect *actual* returns. We match respondents with secure and insecure property rights based on their origin location and gender. This helps us to focus on whether individual differences in property rights security drives variation in return within a specific geographic location. We use OLS regressions on this matched sample to demonstrate the effect of secure rights on individuals' actual return.

Next we turn to survey data from a sample of 1,474 Yazidi and Sunni Muslim respondents from Sinjar to understand how economic uncertainty and political discrimination in access to property rights shape return decision making. We use a pre-registered conjoint and a vignette experiment to provide more details on the mechanisms that link property rights to return decisions.<sup>8</sup> The following sections outline the empirical strategy in detail.

### 4.4.1 Survey data from IDPs and returnees

A humanitarian organization<sup>9</sup> conducted the two surveys we analyze in this chapter. The first survey was conducted in July-August 2019 in the governorates Anbar, Dahuk, Kirkuk, and Ninewa, covering the major conflict-affected areas in Iraq.<sup>10</sup> The survey included 540 self-reported returnees and 420 individuals who are still displaced (IDPs) and records their property rights situation, their places of origin and their current

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<sup>8</sup>The Sinjar data collection and hypotheses were pre-registered at OSF: <https://osf.io/bsfxn>.

<sup>9</sup>The humanitarian organization wishes to remain anonymous.

<sup>10</sup>The humanitarian organization included sub-districts based on the number of IDPs in the area and the ability of the humanitarian organization to access the location safely.

location on the sub-district level. Survey respondents were recruited for an in-person survey by random door-to-door visits in the sampled sub-districts. Figure 4.1 displays the displacement and return patterns in our sample in Iraq. Overall, the respondents mostly originate from Anbar and Ninewa. Around 53.3% of IDPs in the sample have been displaced within their sub-district of origin. 75.2% of returnees in the sample have returned to their original sub-district while 24.8% have resettled to a different location after displacement.

The second survey focuses on a sample of IDPs and returnees originally from the Sinjar area of Iraq (denoted with an orange cross in Figure 4.1). The data were collected in December 2021. The sample includes 1,474 Yazidi and Sunni Muslim respondents (1,250 Yazidi, 183 Arab, and 41 other ethnic groups) from the 5 sub-districts in Iraq with the highest proportion of Yazidi IDPs. The survey sampling was intended to be as representative as possible of the displaced originally from Sinjar.<sup>11</sup>

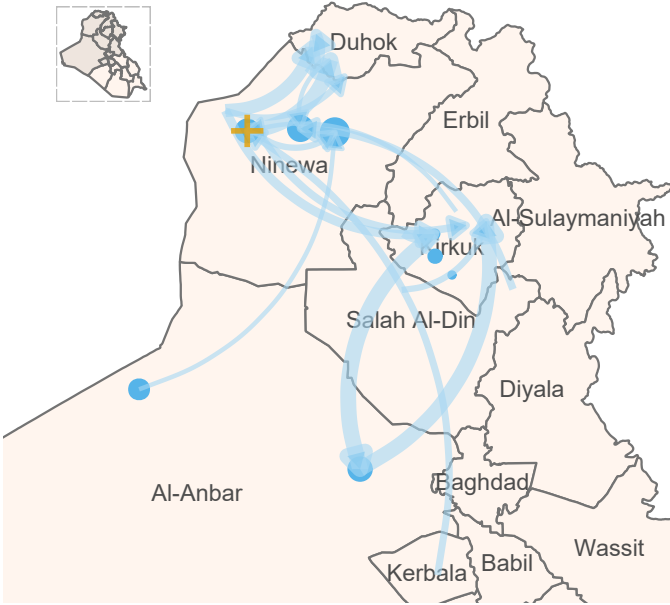


Figure 4.1: Displacement patterns in sampled areas: arrows link the origin sub-district to the current location for IDPs and returnees. Movements within the same sub-district are displayed as spheres. Sphere diameters and arrow sizes denote IDPs/returnees numbers. Orange cross marks Sinjar.

<sup>11</sup>Details on the sampling frame can be found in appendix C.1.

#### **4.4.2 Ethical considerations**

The data were collected by a humanitarian organization as part of their efforts to understand return movements and access to property rights in conflict affected communities in Iraq. Instead of conducting a separate data collection, we analyze the data they required for their humanitarian planning and advocacy. While this constrains our ability to fully control the sampling and to test certain hypotheses, it relies on information that will directly support the planning and delivery of humanitarian services in conflict-affected communities. The data collection was managed by employees of the humanitarian organization. Participants were informed in advance that their participation was entirely voluntary, their responses are anonymous, that they could end participation at any time and their decision to participate would not affect their access to services in any way.

#### **4.4.3 Matching strategy: HLP rights and actual returns**

We first explore the relationship between property rights security and actual returns in the first sample of the wider conflict zone. A naive comparison of the property right security of IDPs and returnees could be misleading: Some places of origin might be more attractive for returns due to a better local economy or less conflict activity. In Iraq, locations with high conflict exposure that are unattractive for returns often coincide with weak pre-war property rights systems, introducing selection bias. In addition, female-headed IDP households are less likely to have secure property rights and might also struggle to move back to their homes independently. To clearly identify whether property rights drive individuals' return - independent of respondent's gender or origin location - we follow a matching strategy. We use exact matching to select individuals with secure and insecure property, matching them based on the pre-treatment variables *gender* and *latitude and longitude of origin* on the sub-district level.<sup>12</sup> We use matching without replacements in this context – rather than controlling for these factors – to eliminate residual imbalance between returned and displaced populations and to directly account for the origin location of our survey respondents in a non-parametric way. On the matched data, we then use OLS regres-

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<sup>12</sup>We demonstrate results for coarsened exact matching, full, genetic and nearest neighbour matching in Figure C.3 in the appendix.

sion with robust standard errors clustered at the current sub-district level to estimate the effect of secure property rights on return decisions.

To operationalize *property rights security* in this matching analysis, we use four different binary variables:

- *Property ownership*: Whether individuals have property in the origin or not. 51.94% of respondents report that they had access to a piece of real estate in their habitual place of residence.
- *Property destruction*: Whether individuals' property in the origin has been destroyed or not. 37.13% of the respondents in the matched sample report that their flats or houses have been destroyed or heavily damaged.
- *Property documentation*: Whether individuals have written documentation for their property or not. 50.19% of respondents report written documentation.
- *Property disputes*: Whether respondents report disputes over their property or not. 5.9% of respondents report their property as disputed, reducing their secure access to it.

While we report results matching the data on each property rights indicator individually, our main model matches individuals on having any property in their place of origin and include all four property rights measures. Before matching, 56.25% of the persons of concern have returned in our sample.

Naturally, not only property rights affect the decision to return. In particular, circumstances in the displacement location may explain why individuals return or not. To partially account for these controls in the displacement location and to generate precise estimates, we add *living in displacement camps* (binary indicator whether respondents currently live in a camp) and *length of displacement* (categorical indicator whether respondents have been displaced for less than 6 months, for 6 to 12 months, or for more than 12 months) as controls to all OLS regression in addition to controlling for the matching variables.

#### **4.4.4 Conjoint experiment: Importance of HLP rights for return decisions**

We complement the observational matching analysis with two survey experiments conducted with the Sinjar sample. First, we conducted a conjoint experiment that

allows us to explore the extent to which variation in property rights security affects return decision-making while taking into account additional factors that could shape return decisions. Survey respondents from Sinjar were introduced to two scenarios and were prompted that these are displaced individuals considering a return to their homes. We ask respondents to evaluate which person is more likely to return home in comparison to the alternative scenario (forced choice design). The different attributes include the *security* in the return location, the *social networks* of returnees, *economic constraints* and *property right security* in the origin as displayed in Table 4.1. The respondents evaluate two rounds of scenario pairs, each time they are asked to decide who should return. The main outcome measure is hence a binary indicator (should return or not).

Attribute	Level 1	Level 2
Security	Occasionally some insecurity in the returnee’s home town and presence of armed groups.	Improved security situation in the home town and armed actors have left the area.
Social network	Family and friends have resettled to different parts of Iraq because of suspicion towards returnees in the home town.	Family and friends have returned and were welcomed warmly.
Economic constraints	Lacking recovery of local shops and businesses and labour is short.	Reopening of restaurants and shops and businesses start hiring staff.
<b>HLP rights</b>	<b>Many displaced people face obstacles accessing their houses and land at return and uncertainty whether documentation is sufficient to reclaim the owned house.</b>	<b>Ownership of written proof of ownership over the house and functioning compensation mechanisms for damage to house and land.</b>

Table 4.1: Conjoint setup: Respondents are presented with two scenarios that vary on four attribute dimensions with two potential levels. Level 1 describes the prompts theoretically disfavours a return. Level 2 lists the prompts theoretically favouring a return.

Given our hypotheses, we expect from this forced choice conjoint experiment that property rights security will shape respondents’ choice between returning or not. For all other attributes, the underlying assumption is that high levels of insecurity, reduced social networks, and economic constraints deter respondents from returns to

the hypothetical home town (as identified in the literature, e.g. Ghosn et al., 2021). Importantly, we do not expect the effect of property rights security to crowd out or be stronger than other factors driving return decisions.

We estimate average marginal component effects following (Hainmueller, Hopkins and Yamamoto, 2014). We run OLS regression with clustered standard errors at the respondent level.

#### **4.4.5 Vignette experiment: mechanism of economic uncertainty and political discrimination**

In a second experiment in the Sinjar survey, we explore whether economic uncertainty and political discrimination shape return decision-making. Respondents were randomly presented with one of four scenarios about hypothetical returnees and are asked whether they believe the described hypothetical person will return to their place of origin (Likert-5-point scale). Depending on the vignette that is randomly selected and presented to the respondent, the degree of economic uncertainty (high or low uncertainty) and political discrimination (high or low discrimination) that the hypothetical returnee faces varies. Table 4.2 lists the four full vignettes.

To operationalize *economic uncertainty*, two sentences in the scenario vary. First, the vignette varies whether the potential returnee *has lost their property documentation* or not, making it uncertain whether they are able to provide proof for contested property. Second, the vignette varies whether *procedures for property compensation are slow* as opposed to well-functioning. The rationale is that slow procedures increase uncertainty because it remains unclear when assets can be accessed and used for economic activities.

To operationalize **political discrimination**, the vignette varies whether an **armed militia occupies the house because it belongs to a family from a specific social group** or whether the house is occupied by another family because it was the most intact. Although subtle, in the Iraqi context, we hope that an occupation because of group membership vs because of destruction distinguishes between high and low discrimination while holding constant that the house is not available/occupied in both vignettes. A good example is that the Islamic State has deliberately confiscated minority property during the conflict. Additionally, the vignette varies whether the poten-



Discrimination → Uncertainty ↓	High discrimination	Low discrimination
High uncertainty	<p>SCENARIO 1: Haider and his family had to flee from their home in Sinjar but they want to return to the house that already belonged to the family over decades. <i>During their flight, Adham has lost the tapu for his family's house. However, this document to prove ownership for the house was never issued in the family's name because registration has been denied to people of specific religious beliefs and ethnic identities.</i>, The family has heard from friends having returned that their house is slightly damaged but could still be used. <i>However, procedures to request compensation for damaged property are processed very slowly by the government. An armed militia has confiscated their house during the violence as they have done for many of his family's relatives.</i></p>	<p>SCENARIO 2: Adham and his family had to flee from their home in Sinjar but they want to return to the house that already belonged to the family over decades. <i>During their flight, Adham has lost the tapu for his family's house. The document to prove ownership over the house was issued in the name of Adham, the head of the family.</i> The family has heard from friends having returned that their house is slightly damaged but could still be used. <i>However, procedures to request compensation for damaged property are processed very slowly by the government. Another family has temporarily moved into their house because it was one of the least destroyed houses in the street.</i></p>
Low uncertainty	<p>SCENARIO 3: Ahsan and his family had to flee from their home in Sinjar but they want to return to the house that already belonged to the family over decades, <i>Ahsan kept the family's tapu for their house close throughout their whole flight. However, this document to prove ownership for the house was never issued in the family's name because registration has been denied to people of specific religious beliefs and ethnic identities.</i> They have heard from family that their house is still inhabitable but a bit damaged. <i>They are hopeful because friends have told them that the government processes requests for compensation relatively quickly. An armed militia has confiscated their house during the violence as they have done for many of his family's relatives.</i></p>	<p>SCENARIO 4: Amar and his family had to flee from their home in Sinjar but they want to return to the house that already belonged to the family over decades. <i>Amar kept the family's tapu for their house close throughout their whole flight. The document to prove ownership over the house was issued in the name of Amar, the head of the family.</i> They have heard from family that their house is still inhabitable but a bit damaged. <i>They are hopeful because friends have told them that the government processes requests for compensation relatively quickly. Another family has temporarily moved into their house because it was one of the least destroyed houses in the street.</i></p>

Table 4.2: Vignette survey experiment: dimensions of property rights

tial returnee's **property documentation could not be issued in the family's name** (vs it could be issued in the family's name). We use this prime because Kurdish, Shabak and Yazidi minorities in Iraq have in the past faced obstacles to register their houses without an Arabic name.

We hypothesize that respondents will be more likely to respond that families with certain and equal access to property rights return while group-based discrimination and uncertain property rights will reduce the perceived ability to return. Due to the random assignment of the scenarios, we can simply use OLS regressions to identify if discrimination and uncertainty explain the perceived likelihood of a return.

## 4.5 Findings

### 4.5.1 Establishing the link between property rights security and actual returns

Table 4.3 reports the overall results from matching individuals with secured property rights with individuals from the same areas in Iraq that suffer from insecure property rights. Note that in this first analysis we do not distinguish from between economic uncertainty versus political discrimination, a question we turn to below. The table reports results using exact matching and subsequent OLS regressions with robust standard errors clustered at their current location.<sup>13</sup> Models 1 to 4 report univariate regressions that are matched on the respective property rights indicator. Our main focus is on the multivariate Model 5 which includes all indicators for property rights security. The data is matched based on whether individuals own property or not.

We find that ownership of property itself does not affect whether individuals decide to return home or not after conflict. However, destruction of property or existing disputes over property reduce returns as we find significant negative coefficients. In turn, having documentation to prove ownership - a signal of secure property rights - can increase return rates as theoretically expected.

The matching on their habitual residence before the conflict evens out crucial differences between those who do not have property and those who do.<sup>14</sup> We also conduct robustness checks with a range of matching algorithms (i.e. CEM, full matching,

<sup>13</sup>For simple OLS regressions without matching, see Table C.4 in the appendix.

<sup>14</sup>See full matching statistics in appendix C.4.

Table 4.3: OLS regression for HLP rights on returns after exact matching. Models 1-4 are matched using the respective HLP indicator in the formula. Model 5 is matched on property ownership. Robust standard errors clustered at the sub-district level.

	Dependent variable: Has returned				
	(1)	(2)	(3)	(4)	(5)
Ownership of property in origin	-0.03 (0.03)				0.01 (0.03)
Destroyed property in origin		-0.36* (0.07)			-0.50* (0.09)
Disputed property in origin			-0.12 (0.06)		-0.14* (0.05)
Proof of ownership in origin				0.02 (0.04)	0.09* (0.03)
Controls	Y	Y	Y	Y	Y
R <sup>2</sup>	0.24	0.40	0.31	0.21	0.46
Adj. R <sup>2</sup>	0.24	0.39	0.30	0.21	0.46
Num. obs.	889	857	846	879	889
RMSE	0.43	0.39	0.41	0.44	0.37
N Clusters	24	24	24	24	24

\*p<0.05. Num.obs. depends on the respective HLP indicator used for matching.

genetic matching, nearest neighbour matching). We consistently find that destroyed property has a negative effect on return rates while having written documents that support property ownership increase return rates.

To increase confidence in our general findings, we explored further subset analyses. We limit our analysis only to returnees and IDPs from Anbar and Ninewa as the most heavily affected conflict areas - and still find that ownership is positively associated with returns while property destruction reduces returns. We also differentiate between returned and resettled IDPs, finding that both movements are partially explained by property rights but that destruction tends to lead to more resettlement than returns. All robustness checks and matching statistics can be found in the appendix.

Overall, we conclude that property rights security plausibly correlates with higher

return rates for the Iraqi participants in this survey data collection. It is important to note, however, that matching only addresses differences in observable variables and we cannot be fully certain that we identify the causal effect of property rights on return rates. Because of unobservable factors biasing our results, the findings should be understood as associational evidence.

#### **4.5.2 Demonstrating the importance of property rights security in return decision**

Next we turn to the results of the conjoint experiment from the second survey in Sinjar. Figure 4.2 provides the main result from the conjoint experiment. The plot shows the coefficient size (dots) and confidence intervals (lines) for how survey participants evaluate the importance of each attribute (and its reference category) on return decisions.

As expected from the wider literature on return decisions, we find that security is the most important driver of return choices. The analysis also shows support for the hypothesis that secure property rights matter. When a hypothetical returnee has more secure property rights, i.e. a scenario in which a displaced person has access to documentation and compensation mechanisms, it increases the probability of a return by 0.06 (i.e. 6 percentage points increase in the probability to return).

The analysis shows that other factors typically identified in the literature, such as a recovering economy and social networks, do not seem to play as big role in return decision-making in our sample. Overall, respondents from Sinjar report that when making a decision to return, a hypothetical IDP would make that decision predominantly based on physical security and the security of their property rights.

We explore if respondents who report above the median property rights security in our sample perceive the importance of secure property rights differently. Figure 4.3 displays heterogeneous effects by the actual property security of the respondents. We find that - on average - those with below and above median property rights security both emphasise property rights as an important factor in making decisions to return. The main differences emerge with regards to physical security. Participants who report weaker property rights security significantly weight physical security as more important in return decisions than those with more secure property rights. This

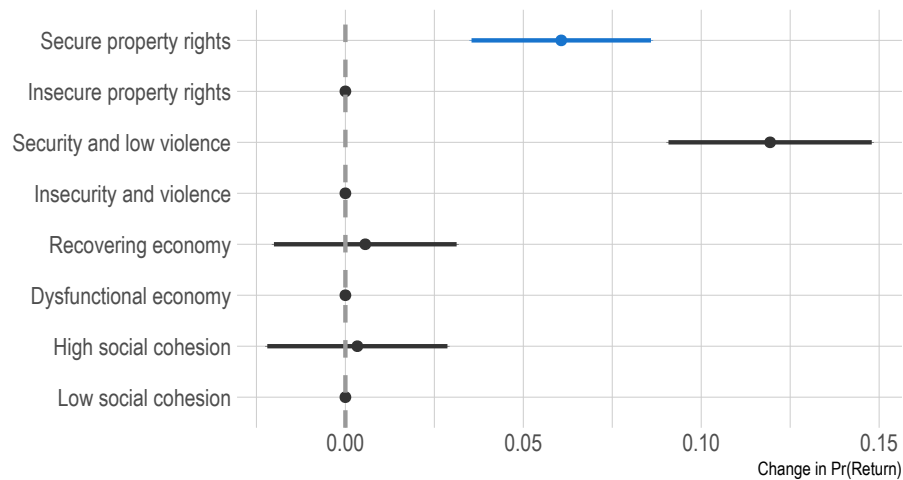


Figure 4.2: Conjoint analysis: Effect of attributes on decision to return with housing, land and property rights as main variable of interest highlighted in color

effect is driven by a small group of Yazidi respondents that have only owned property without any written documentation, had to sell their property to afford living in displacement or face secondary occupation of their property and have unsuccessfully applied for compensation. The finding suggests that those having permanently and irreversibly lost their property are particularly vulnerable: Because of their vulnerability of no longer having property as safety net, they very strongly focus on security aspects in their choice of locations to live in and prioritise safety above all else.

We also provide results for heterogeneous treatment effects depending on the respondent's ethno-religious group in Figure 4.4 as our sample includes Yazidi and Sunni Muslims from Sinjar. We find that Yazidi respondents on average tend to report that secure property rights matter more than Sunni Muslims respondents. They also report that physical security is an important condition for return. Although these results are more speculative (in part due to the sample size for Sunni Muslims), we do not find any clear evidence that Sunni Muslims would return to Sinjar if their property rights were more secure, or even if physical security improved. These findings provide initial evidence that the relatively more secure property rights of Sunnis compared to Yazidis in the pre-conflict period (as described in the previous section) have reversed, with implications for future returns.

Overall, the evidence from these subgroup analyses is that the most vulnerable

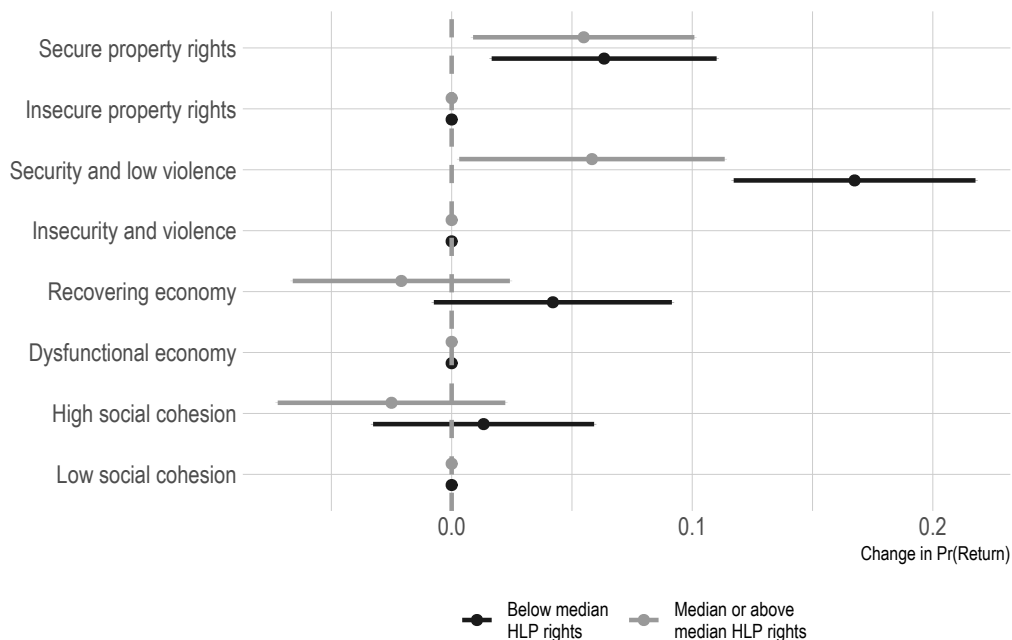


Figure 4.3: Cojoint analysis: heterogeneous effects of access to property rights on return decisions. The plot splits the sample into those having above median access to housing, land and property rights and those below median access.

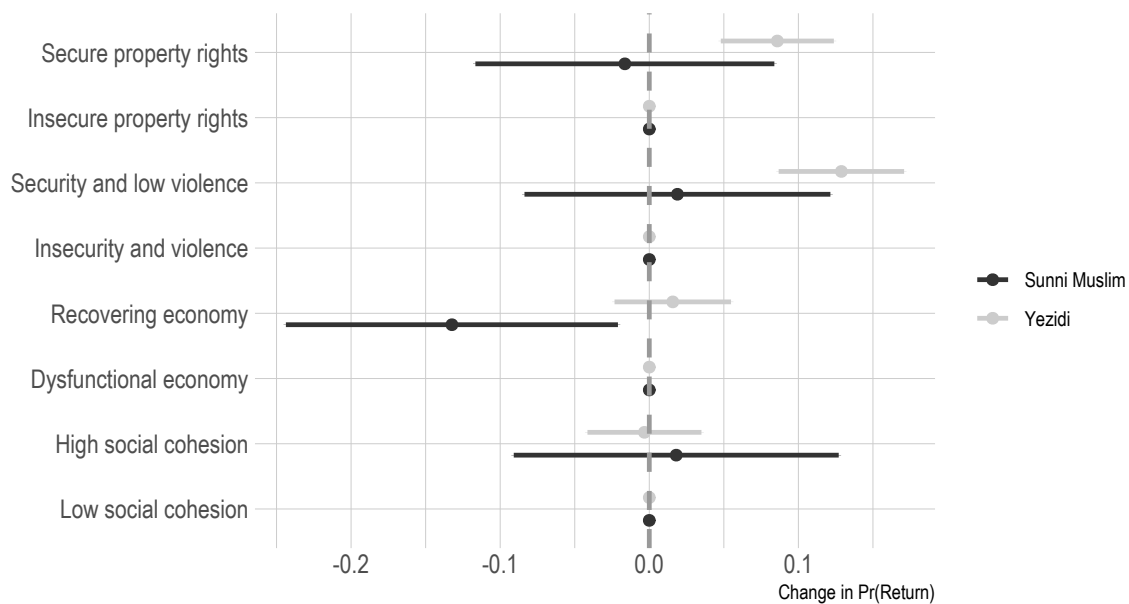


Figure 4.4: Cojoint analysis: heterogeneous effects of ethnicity/ religious group on return decisions. The plot splits the sample into Sunni Muslim and Yazidi respondents.

population groups - those facing weak property rights, high food insecurity<sup>15</sup> and group-based discrimination - are the most concerned about physical security. But, on average, all population groups consistently care about property rights security in return decisions.

### 4.5.3 Exploring economic uncertainty and political discrimination as mechanisms

With the vignette experiment, we want to explore which of the identified mechanisms - economic uncertainty and/or political discrimination in access to property rights - shape returns. Table 4.2 displays the OLS results from our vignette experiment. Model 1 is fitted using an indicator that collapses discrimination and uncertainty into one dimension.

Table 4.4: Vignette experiment: HLP discrimination/uncertainty and returns

	<i>Dependent variable:</i>		
	Return likelihood (5-point scale)		
	(1)	(2)	(3)
High discrimination and uncertainty	-0.211** (0.082)		
Either high discrimination or uncertainty	-0.161** (0.073)		
High uncertainty		-0.083 (0.057)	
High discrimination			-0.118** (0.057)
Observations	1,473	1,473	1,473
R <sup>2</sup>	0.005	0.001	0.003
Adjusted R <sup>2</sup>	0.004	0.001	0.002

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

<sup>15</sup>See appendix C.6 for heterogeneous treatment effects depending on food security.

Model 1 regresses the perceived likelihood that the family in the scenario will return on whether either discrimination or uncertainty or both are present in the scenario. We find that scenarios that describe high discrimination and uncertainty, on average, lead to a decrease in the perceived return likelihood of -0.211 compared to a scenario without discrimination or uncertainty. But even having either discrimination or uncertainty already significantly reduces the perceived return likelihood by -0.161.

Models 2 and 3 disentangle this effect more clearly by focusing merely on whether the scenario primes respondents with high uncertainty or not (Model 2) or with high discrimination or not (Model 3). We find that only high discrimination reduces the perceived likelihood of a return significantly, providing some initial findings that political discrimination in access to property rights is particularly driving displaced persons' return decisions.

## **4.6 Replication of findings across Iraq**

Our evidence from two surveys shows that - although physical security remains paramount in return decisions - property rights security plays a crucial role in Iraq. Our observational analysis shows that property rights insecurity reduces actual returns. The conjoint experiment shows that in decisions about hypothetical returns, property rights matters even when other factors such as security, social networks and economic opportunities are taken into account. The vignette experiment suggests that insecure property rights characterized by both economic uncertainty and in particular political discrimination reduce the likelihood that respondents perceive that IDPs will return to their place of previous residence. The implication is that stakeholders seeking to promote post-conflict stability must consider how unequal access to critical local institutions could slow return, or perpetuate conflict and harden post-conflict inequalities.

The finding that property rights security matters adds an important and often overlooked factor to the growing literature on return decisions after forced displacement that focuses more heavily on security and the absence of violence (Ghosn et al., 2021; Joireman, 2017; Tuathail and O'Loughlin, 2009). Our results from the conjoint experiment confirm that security is the prerequisite for returns while demonstrating that further research on returns is needed - as we cannot confirm other studies' findings



that local networks and economic recovery matter in our Sinjar context. By highlighting that in particular political discrimination can lead to differential returns, our study also speaks to recent work on potential side-effects for return communities (e.g. Blair and Wright, 2021).

Our evidence is based on two survey experiments - which may suffer from low external validity - and an associational regression analysis - which may not fully address selection bias given the non-representative sample. Although we use a matching strategy to address these latter concerns, the data for this assessment was collected in a humanitarian context in Northern Iraq. The needs of vulnerable populations and access and safety for humanitarian organizations shape the data we can analyze. While this data comes from the part of Iraq that was *most* affected by the fight against IS, we cannot exclude that property rights security unfolds differently in other contexts - within Iraq or in other countries.

To provide evidence that our results hold within Iraq, we fully replicate our matching analysis using publicly available representative panel data from the International Organization for Migration and the Georgetown University from more southern and eastern areas of Iraq (IOM, 2021).<sup>16</sup> The panel covers households that were surveyed in five rounds from March 2016 to January 2020, tracking their movements and identifying whether and when the households have returned.

We create binary indicators for the ownership, the destruction, the possibility to access<sup>17</sup> and the available documentation for property in the origin. Leveraging the panel structure of the data, we fit two-way fixed effect models to estimate if property rights explain the actual return of IDP households over time. Table 4.5 displays our panel analysis with household-level and time fixed effects (four data rounds), reporting robust standard errors clustered at the level of the district of origin. The table also displays observational results when we use a property rights security index from the Sinjar sample to explain actual returns of Yazidis and Sunni Muslims.

Consistent with our main analysis, the replication shows that property ownership and access to property increase returns while property destruction in the origin is associated with slower returns. We also find that property documentation is corre-

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<sup>16</sup>All views and perspectives based on data from *Access to Durable Solutions Among IDPs in Iraq* do not reflect the positions of IOM or Georgetown University.

<sup>17</sup>Note that our original analysis focuses on disputes over property. Given a different questionnaire in the IOM survey, we here focus on access (i.e. can IDPs access their property in the origin or is the access blocked due to secondary occupation, militia presence, etc.).

Table 4.5: Replication of results with IOM panel data. First model is a panel model with individual-level and time fixed effects, including robust standard errors clustered at the origin district. Second model is an OLS regression of actual returns on an HLP index for the Sinjar sample.

	Return (IOM panel)	Return (Sinjar survey)
Property ownership	0.10* (0.03)	
Property destruction	-0.04* (0.01)	
Property access	0.18* (0.03)	
Property documentation	0.03* (0.01)	
HLP index		0.10* (0.02)
Fixed effects	Two-way	No
Robust clustered SEs	Yes	No
Adj. R <sup>2</sup>	0.55	0.04
Num. obs.	17976	889
N Clusters	48	

\*p<0.05

lated with returns. In Sinjar, the patterns are similar: IDPs return more slowly and less completely when they have insecure property rights. Overall, this replication, our subgroup analyses of Anbar and Ninewa data from the first survey<sup>18</sup>, as well as robustness checks with different matching strategies<sup>19</sup>, increases our confidence that our main findings not only apply to the specific area in Iraq where the humanitarian partner had access, but are likely representative for all return movements within Iraq.

## 4.7 Conclusion and policy relevance

We provide several pieces of evidence that secure housing, land and property rights play a vital role in population returns after violence. In particular, individuals are

<sup>18</sup>See Figure C.4 in the appendix.

<sup>19</sup>See Figure C.3 in the appendix.

more likely to return to their place of previous residence if they possess written documentation of their rights and if property is not disputed or damaged. We find evidence that property rights security, and particular if an individual faces economic uncertainty or political discrimination is a factor in shaping return decision-making. Our findings contribute to the academic literature on the social, political and legal inequalities that explain variation in population movements during and after conflict. This focus complements previous studies on the economic drivers of decisions to move.

The politics of property rights security raises concerns about how institutional variation leads to social engineering following conflict. Limiting access to secure property rights may be a fundamental way that state and non-state actors can shape the religious, ethnic and linguistic composition of populations within a given geographic area in the post-conflict period. This links back to research showing that policy-induced returns can increase communal violence in exposed communities (Blair and Wright, 2021). Further research into the link between property rights, discrimination, returns and post-conflict outcomes in different contexts is crucial.

Even in the absence of explicit population engineering, unequally distributed rights may contribute to unequal return and recovery from conflict. This has the potential to accelerate inequalities in the post-conflict society, to create challenges for transitional justice (Unruh and Abdul-Jalil, 2021) and to reinforce existing social and political differences in power and access. In Iraq, the evidence suggests that displaced populations indeed consider the relative security of their housing, land and property rights when making return decisions.

This research also aims to inform policy decisions in displacement situations. If unequal property rights reinforce social inequalities in conflict-prone societies and impede the equal return of different social groups to their homes, humanitarian aid programs need to invest more into dispute resolution capacities and an equal access for IDPs, returnees, and host communities to property and its documentation. IDP registration data may more routinely need to include questions on HLP rights to assist prediction models of who returns and which IDP profiles are more likely to face protracted displacement.



# Chapter 5

## Conclusion

This thesis centres around the question of how internally displaced persons navigate their contested environment during armed conflict and in the post-conflict period. I ask central questions in forced migration and conflict research about when civilians make the decision to flee, how armed actors respond to these population movements in their territories, and how civilians make the decision to return home after displacement. I theoretically refine previous theories and answer the research questions in novel ways with new evidence and data. This concluding chapter summarises the key findings in each chapter and highlights limitations. I end with a discussion of the policy relevance of my findings and potential avenues for future research.

### 5.1 Summary of findings

Chapter 2 examines how different patterns of violence determine the choice to flee at the individual level. The chapter argues that individuals' decisions to flee are dependent on facets of violence and the degree to which violence increases threat perceptions. We find that intense and indiscriminate violence happening in close proximity and likely to happen repeatedly increases the chances that individuals flee. We also find that individuals with social networks abroad are more indifferent towards observed levels of violence and are more inclined to consider fleeing. These findings are generated with an online conjoint experiment in the eastern parts of Turkey. The experimental individual-level findings complement observational evidence on human mobility (e.g., Braithwaite, Cox and Ghosn, 2021).

For example, we find that government violence is more likely to lead to refugee

movements while non-state and rebel violence leads to more internal displacement. This empirical finding is important because it confirms Steele (2019)'s *theoretical* argument that the less constrained nature of government violence will drive individuals abroad to seek protection and Turkoglu (2022)'s cross-sectional observational regression analysis showing that rebel violence induces more IDPs. Overall, this finding helps to understand which type of population movements we should expect in light of different patterns of violence.

Having analysed decisions to flee, the thesis then turns to reactions to displacement in chapter 3. More specifically, I investigate how armed actors respond to civilians moving in their zones of territorial control. I argue for a need to revise theories of civilian victimisation by conceptualising local populations as dynamic rather than static. In doing so, we can learn that strategic territorial rulers and challengers - that try to maximise territorial control in civil wars - have incentives to respond violently to population relocations that threaten the balance between warring parties.

Territorial rulers use violence against dynamic populations if displaced persons that do not support local rule move into their territories. In reverse, territorial challengers try to undermine the intensive control of the opponent if they observe waning influence in light of incoming IDP supporters of the ruler. I conduct a fine-grained sub-national regression analysis of grid cells in the Iraqi displacement crisis from 2014 to 2018 to disentangle these dynamics.

On a theoretical level this study shows how displacement could lead to the spread of one-sided violence in the form of violent reactions by armed actors to displacement movements (e.g. Salehyan and Gleditsch, 2006). Beyond the literature on local conflict contagion, the study mostly contributes to theories of civilian victimisation and generalises them for dynamic populations (e.g., Kalyvas, 2006). This dynamic parameter sheds light on different strategies to control civilians for territorial rulers and challengers and helps to identify a spoiling mechanism as war strategy of territorial challengers.

Speaking to the literature on post-conflict recovery, the last chapter concentrates on the question of when displaced populations return after violence. In particular, chapter 4 highlights that individuals are more likely to return to their place of previous residence if they possess written documentation of their rights and if property is not disputed or damaged. We find evidence that property rights security in the

form of economic certainty and political equality shapes return decision-making. The chapter uses multi-faceted evidence to establish the link between housing, land and property rights security and population returns in the post-conflict environment. A spatial matching of IDPs and returnees that originate from the same areas but enjoy different levels of property rights security in northern Iraq reveals that actual returnees are more likely to have stronger property rights. This is complimented with a rich qualitative discussion of economic and political aspects of HLP rights in post-ISIL Iraq and two survey experiments with a predominantly Yazidi population around Sinjar. The additional survey-based data highlights that property rights security - in some settings - is an even more important factor to consider for population returns than economic recovery.

## **5.2 Limitations**

My findings are limited by theoretical and methodological concerns.

*Theoretical consistency and relevance:* A first discussion should center around the question if the analytical contribution in this thesis sufficiently adds to the scientific discourse on forced migration and conflict studies. One positive contribution by the three distinct chapters is that they all combine elements of micro-level conflict research with substantial research on forced migration that is often more qualitative and draws less direct links between the root cause of migration that is violence and the resulting displacement patterns and protection challenges.

Chapter 2 on flight decisions takes seriously insights from conflict research that civil war violence varies across contexts and analyses whether this variation results in variation in displacement. While these nuances are important, many of the theoretical arguments in this chapter have been raised by other scholars (e.g. Steele, 2018). The chapter is hence best understood as an individual-level and experimental test of a combination of hypotheses from the literature rather than a full theoretical departure from existing studies on flight decisions.

In contrast, chapter 3 more distinctively revises and adjusts theories of civilian victimization. The reality in civil wars is that a large proportion of the population start to move through the conflict zone, leading to sorting but also depopulation of certain areas. In a novel and important contribution to Kalyvas (2006)'s pioneering conceptu-

alisation of violence against civilians, I emphasise that these population movements are not specifically accounted for in our current understanding of where civilians are at risk of one-sided violence. Understanding local populations as dynamic element that changes levels of control provides important new theoretical insights.

Finally, chapter 4 engages in a discussion of how housing, land and property rights affect return decisions. The literature on return decisions by IDPs but also other people on the move is not yet theoretically very advanced and often focuses on few but important issues such as security or economic recovery. This chapter demonstrates that other factors still need exploration to understand when populations return from displacement.

*Causal inference and reverse causation:* The next crucial discussion is whether the findings in this thesis can be considered causally identified or represent spurious correlations. In particular chapter 3, with the localised regression analysis, cannot be considered as causally identified. While I make clear in the chapter that I focus on associational evidence, this chapter struggles in particular with reverse causation. Violence causes displacement and displacement may also cause violence. Because I am not exploiting some external variation, such as shocks to displacement patterns, I cannot be sure that I have isolated a clear effect of patterns of support amongst IDPs on violent reactions by armed actor.

With the use of survey experimental treatments and matching, chapters 2 and 4 provide more certainty regarding the causal links between violence and fleeing, and HLP rights and return. In particular in chapter 4, the multi-faceted evidence that includes a detailed case discussion, a matching analysis, two survey experiments and a replication with external data, provides a robust causal link between HLP security and population returns in the context of Iraq.

*External validity and scope conditions:* However, particularly findings from survey experiments often suffer from low external validity. Findings identified in narrow information treatments with small samples may not apply more broadly. In the context of the two survey experiments with the Yazidi IDPs and returnees around Sinjar, we have tried to mitigate these concerns by conducting a replication of the experimental findings with data from the whole of Iraq from another organization. In chapter 2, we have replicated parts of the findings with observational data from Turkoglu (2022) to increase confidence in the generalisability of our results.



Nevertheless - and more broadly speaking - all evidence in this dissertation stems from displacement situations in the Middle East. Recent displacement and conflict in Iraq and Turkey may be significantly different from dynamics in the Democratic Republic of the Congo, Myanmar or Colombia. While all these countries experience significant displacement, the patterns of violence, the strength of local governments and non-state actors, and the institutions to govern civilians vary considerably. For example, the findings from chapter 3 on ruler and challenger violence and the findings from chapter 2 on flight decisions in light of different perpetrators of violence may not travel beyond territorial and conventional civil wars.

*Internal validity and measurement:* A discussion of limitation should also mention the measurement strategies and internal validity of the findings in this thesis. On the one hand, I am confident that I am contributing fine-grained and novel data on the dynamics of violence and displacement in all three chapters. For example, the dataset developed for chapter 3 provides monthly accounts of territorial control in Iraq during the Islamic State insurgency - a resource that could be relevant to many conflict researchers. Chapter 4 is based on data from a vulnerable and hard-to-reach population and may hence provide unique and important insights.

On the other hand, the findings in chapter 2 are based on an online experiment that simplifies complex situations into a short decision on the screen. More realistic flight decisions are made under higher stress and financial hardship. Additionally, what we examine here are intentions to flee rather than actual behavior. In chapter 3, I use sectarian group identities to proxy perceived war loyalties. While I do this in the knowledge that no better data is available, I cannot be sure that my measurement of local support for the ruler amongst IDPs is actually well represented by sectarian compositions. I also had to rely on various imputation steps and machine learning to create a time-series cross-sectional dataset. In chapter 4, the survey experimental treatments that aim to distinguish between economic uncertainty and political discrimination may not be understood as such by the respondents or may be cognitively too strongly associated with security more broadly than with property rights.

Table 5.1: Overview of hypotheses and empirical results in this thesis

	Hypothesis	Result	Details
	<b>How do patterns of violence affect flight decisions?</b>		
H 2.1.	Civilians are more likely to flee if violence occurs repeatedly and intensifies compared to the first occurrences of violence.	(+)	Threat of repetition more important than frequency.
H 2.2.	Civilians are more likely to flee if violence occurs in their areas rather than in distant areas of their country.	+	
H 2.3.	Civilians are more likely to flee if hit by indiscriminate violence rather than by targeted attacks.	+	
H 2.4.	The perpetrator of violence has an impact on civilians' likelihood to flee.	+	State violence leads to more external, rebel violence to more internal displacement.
H 2.5.	Civilians with more social connections outside of their country respond less to violence compared to civilians with fewer connections.	+	Suggest higher mobility for those with social networks.
	<b>How do armed actors respond to forced displacement?</b>		
H 3.1.	With an increasing IDP entry of non-supporters of a local ruler, one-sided violence by the territorial ruler increases.	+	
H 3.2.	With an increasing IDP entry of supporters of a local ruler, one-sided violence by the territorial challengers increases.	(+)	Violence against IDPs does not necessarily increase.
	<b>How do HLP rights affect IDP return movements?</b>		
H 4.1.	Uncertain property rights institutions create variation in an individuals' expected economic return from real property assets reducing property rights security and decreasing return after conflict.	(+)	Less clearly linked to reduced return than discrimination.
H 4.2.	Discriminatory property rights institutions create variation in an individual's ability to make and protect claims over real property based on their membership in a specific group reducing property rights security and decreasing return after conflict.	+	

## 5.3 Policy implications

How do the findings of this thesis inform policy solutions that improve the conditions of forcibly displaced persons during conflict and in the post-conflict environment?

Chapter 2 improves our understanding of flight decisions. With more nuanced information on how different patterns of violence lead to more or less displacement, policy-makers could improve their predictive models of displacement patterns. For example, if more state-based violence leads to more refugee movements and rebel violence to more internal displacement, this could be helpful information to improve humanitarian planning and preparedness. Additionally, the chapter highlights that social networks are crucial to reduce the pressure under which vulnerable populations have to make decisions. Investments into social cohesion and cross-border contacts could benefit from further insights into the role of internal and external networks in flight decisions.

Chapter 3 explains an often occurring phenomena in forced displacement situations: IDPs get stuck in vicious cycles of repeated displacement and violence because they are targeted in their shelters and displacement locations. These cyclic displacement movements are a problem for humanitarians trying to reach mobile populations. Further research could investigate if certain shelter provisions, for example under humanitarian protection, could help to reduce the incentives of territorial challengers and rulers to attack IDPs in their refuges.

Chapter 4 shows that unequally distributed property rights may contribute to unequal return and recovery from conflict; and may reinforce social inequalities in conflict-prone societies (Unruh and Abdul-Jalil, 2021). This finding suggests that humanitarian and development programs should invest more into dispute resolution capacities and equal access to property and its documentation for refugees, IDPs, returnees, and host communities. Registrations of IDPs in shelter locations may more routinely need to include questions on their properties and rights to assist predictive models of who will likely return and who may face protracted displacement.

Overall, future research on the translation of our experimental findings on flight decisions into predictive models of displacement patterns, on the conditions under which IDPs can remain safe in their displacement locations and on the design of interventions to help to secure property rights for people on the move seem crucial.



# Appendix A

## Appendix for Chapter 2

### A.1 Descriptive statistics and sample comparison

This section presents descriptive statistics of our survey sample. In general, one can see that our sample faces the typical problems of online surveys as our population is younger than the Turkish average, the questions are answered by a high proportion of single university students and we have a high proportion of unemployed respondents in our data.

Table A.1: Descriptive statistics of Turkish survey sample

	Mean	SD	Min	Max	Missing
Male	0.498	0.5	0	1	17 (1.68%)
Age	27.958	9.448	18	98	18 (1.78%)
Urban residence	0.667	0.472	0	1	96 (9.5%)
University degree	0.596	0.491	0	1	20 (1.98%)
Religious	0.245	0.431	0	1	70 (6.92%)
Household size	4.622	1.995	1	16	19 (1.88%)
Unemployment	0.587	0.493	0	1	128 (12.66%)
Kurdish ethnicity	0.373	0.484	0	1	54 (5.34%)

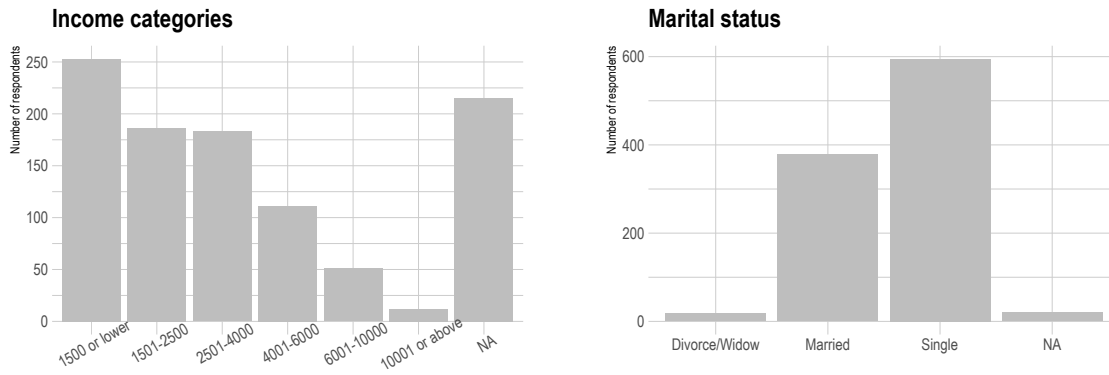


Figure A.1: Distribution of income and marital status in survey population

## A.2 Diagnostics for carry over and profile order

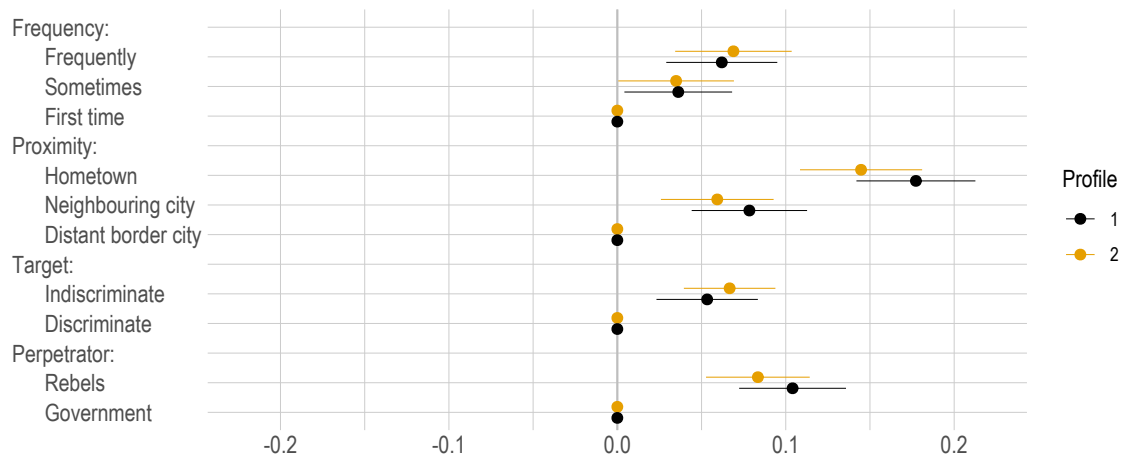


Figure A.2: Profile order effects: Estimates of violence attributes on the probability that respondents choose a scenario to flee depending on whether the profile shows up first or second.

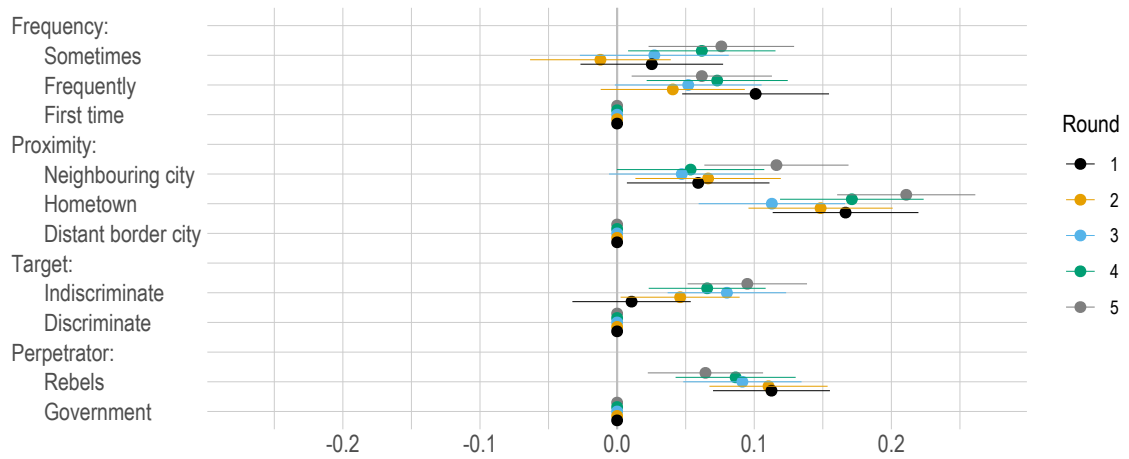


Figure A.3: Carry over effects: Estimates of violence attributes on the probability that respondents choose a scenario to flee depending on the conjoint round.

### A.3 Additional models and robustness checks

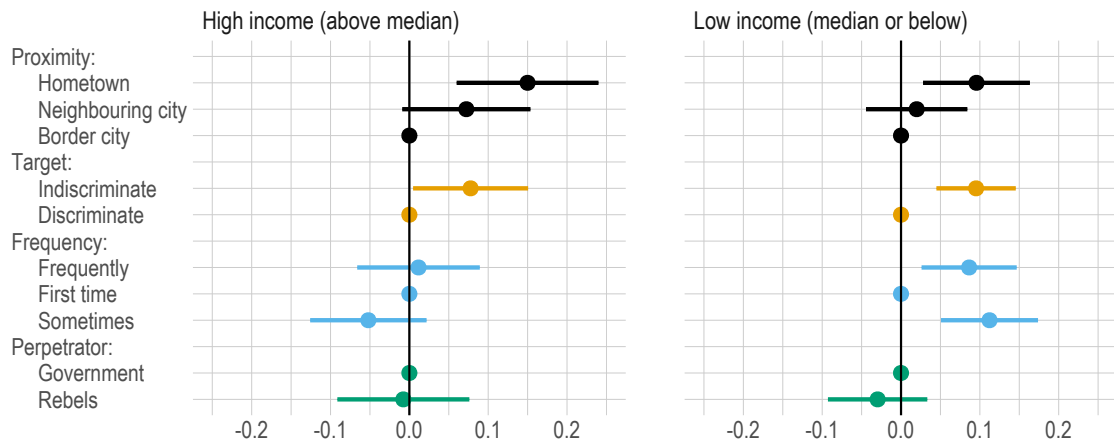


Figure A.4: Heterogeneous effects of violence attributes on the probability to flee abroad by respondent's income. Dots refer to AMCEs and horizontal lines to 95% confidence intervals clustered by respondents.

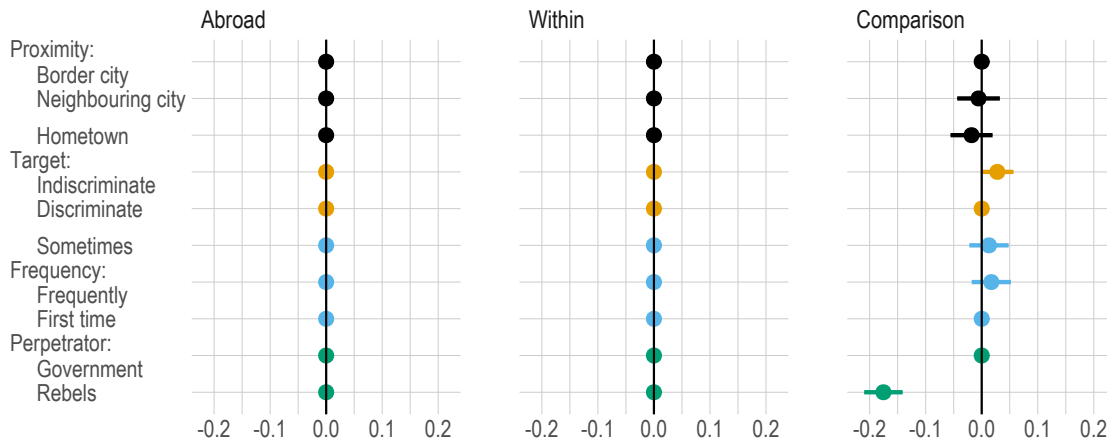


Figure A.5: Replication of Figure 2.4 with recoded dependent variables. For fleeing abroad, scenarios in which respondents flee abroad are coded as 1 and stay or flee are 0. For fleeing internally, flee internally is coded as 1 and staying or fleeing abroad as 0.

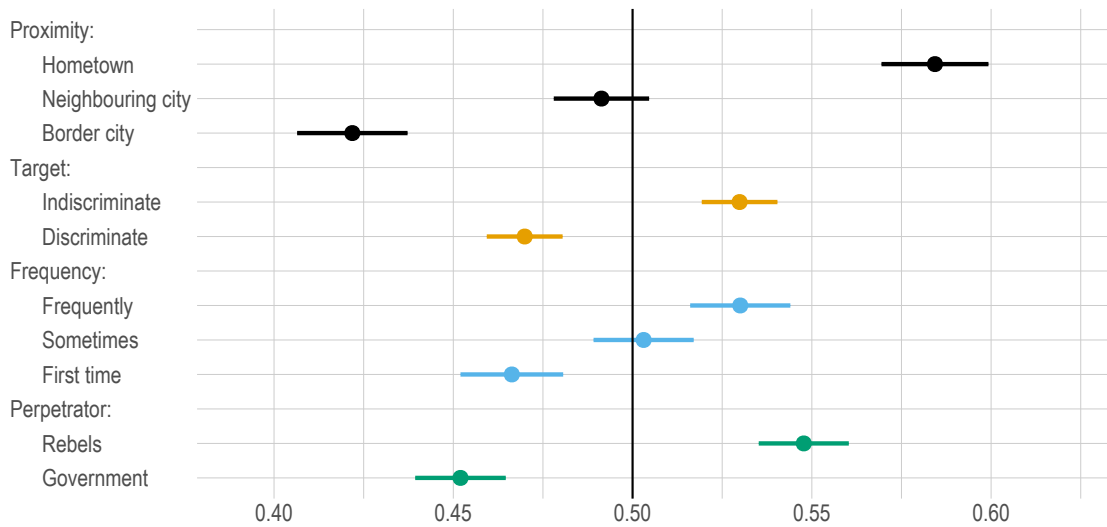


Figure A.6: Effects of violence attributes on the probability that respondents choose a scenario to flee. Replication of Figure 2.3 with marginal means.



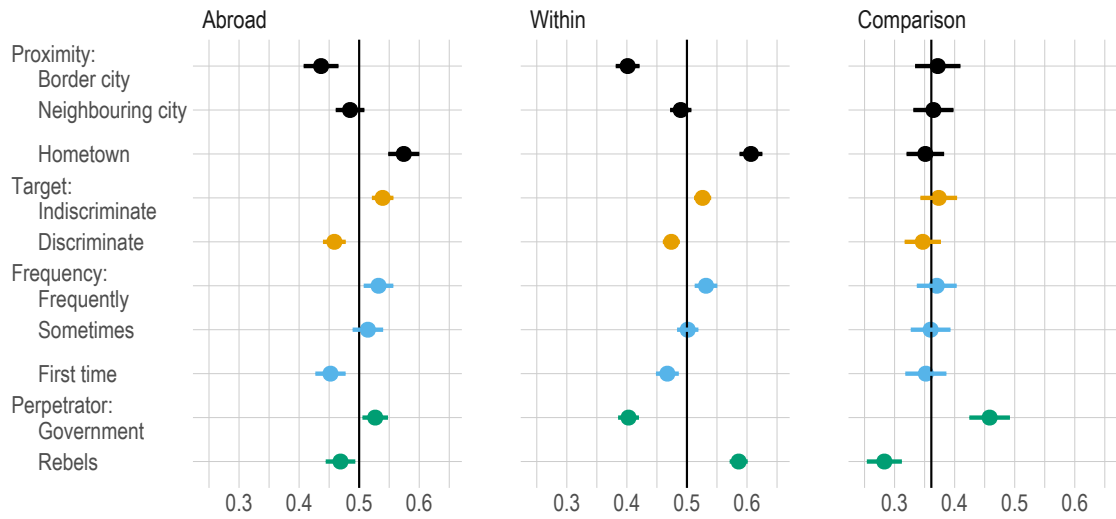


Figure A.7: Effects of violence attributes on the probability that respondents choose a scenario to flee abroad, within the country, and their comparison. Replication of Figure 2.4 with marginal means instead of AMCEs.

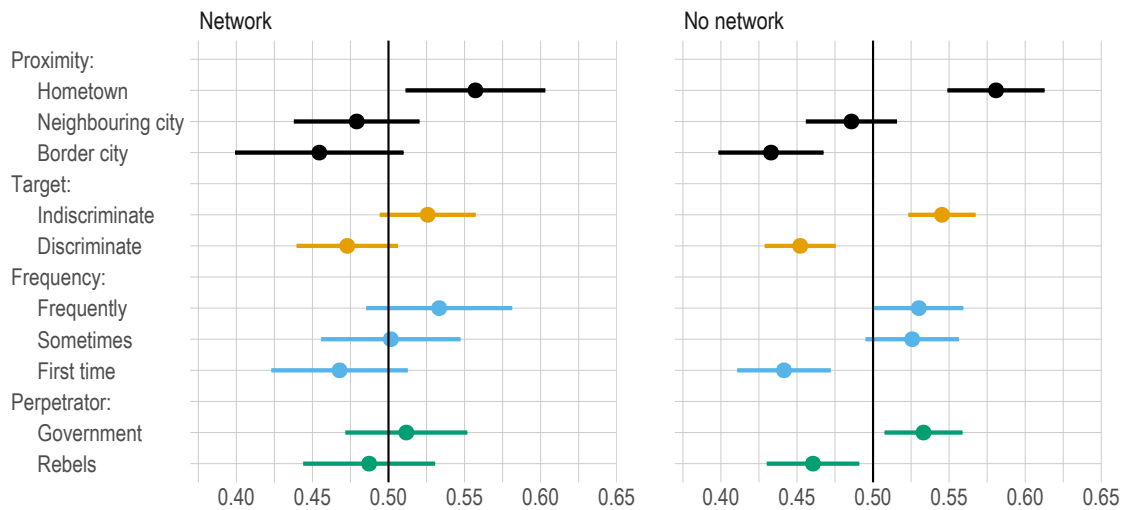


Figure A.8: Effects of violence attributes on the probability that respondents choose a scenario to flee for the group of respondents with and without social networks. Replication of Figure 2.5 with marginal means instead of AMCEs.

## A.4 Destination and network countries in sample

We asked respondents in which country their social network reside and to which country they would flee if they have to. In Figure A.9, we plotted the top 10 destination preferences and the top 10 countries of their social networks. Germany is the dominant country in both categories, which is not surprising given the historical relations and worker agreement between Germany and Turkey. More than 45% of respondents have a relative or friend that they are in touch with in Germany and around 25% of respondent would flee to Germany if they leave their home. While many people have networks in France and the Netherlands, not many people would like to migrate to these countries. Additionally, although respondents do not have social networks in Norway or Canada, these countries are popular flight destinations. The overall overlap of destination preferences and network countries confirms other studies that have previously stressed the importance of social networks and co-ethnics in flight destinations (Mossaad et al., 2020; Neumayer, 2004; Rügger and Bohnet, 2018).

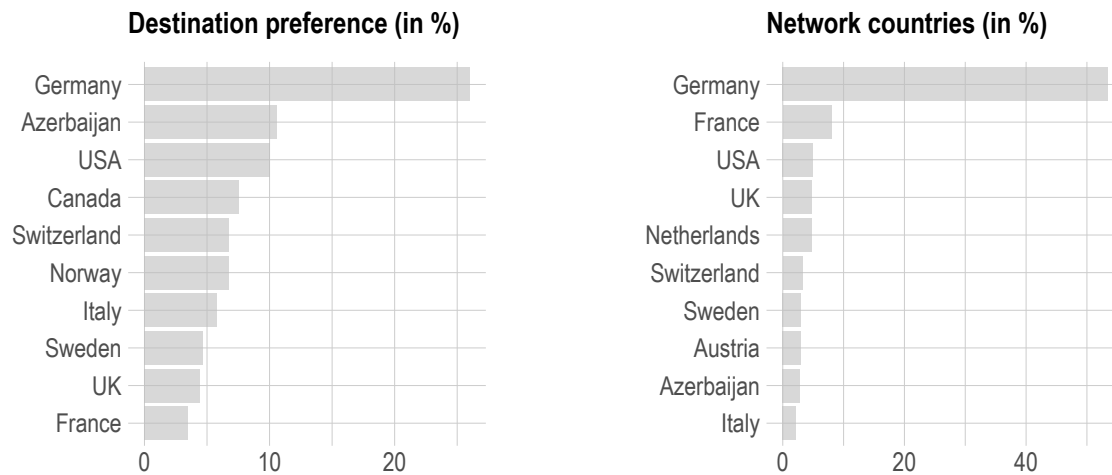


Figure A.9: Top 10 destination countries that sample would go to and top 10 network countries to which respondents have connections.

## A.5 Pre-analysis plan

When to go? - A conjoint experiment on social networks, violence and forced migration decisions in Eastern and Southeastern Turkey

*Pre-Analysis Plan - June 4, 2020*  
*Oguzhan Turkoglu\**      *Sigrid Weber†*

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**Abstract:** How do patterns of violence shape individual decisions to flee? Do well-connected individuals with networks abroad to turn to in times of crisis make different flight decisions when faced with violence than individuals with fewer opportunities to seek support elsewhere? This research project investigates how violence—as major push factor—shapes the decision to flee or stay and if opportunities—such as social networks—affect how individuals respond to violence and make their decision to leave their homes. We suggest a conjoint experiment in the Eastern and Southeastern parts of Turkey that have experienced fighting for decades to understand in which violent scenarios individuals would rather flee than staying at home. We also explore if well-connected individuals with relatives and friends in other areas of Turkey or abroad to help make different decisions to flee than individuals that have no such option. The study contributes to the growing literature on forced migration patterns and civilian agency in times of political violence.

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### 1 Introduction

More and more people have to decide whether they flee from armed conflict and violence and where to seek shelter. Political scientists increasingly try to understand the emerging forced migration patterns and how they affect political dynamics - such as voting, post-conflict stability, or immigration policies. However, our theoretical understanding of when people decide to flee and where they go remains limited. To understand the consequences of forced migration, we first have to get better at understanding human mobility.

A common heuristic to understand human decisions to flee is to analyse push factors - reasons that motivate people to leave their homes - and pull factors - opportunities to leave home and move elsewhere. In this study, we suggest to analyse individuals' micro-level decisions to flee and choose destinations with a conjoint experiment in the Eastern and Southeastern parts of Turkey that have experienced fighting for decades. First, we aim to understand how violence as a major push factor shapes when and why individuals decide to stay in their habitual residence or to flee within their home country or to another country. Do individuals make their decisions to migrate based on the intensity and proximity of violence, and based on patterns of perpetration and targeting? Second, we want to understand if social networks across borders and within the country—as a proxy for human capital and the possibility to easily move to another area—mitigates the importance of violence as a push factor for people on the move.

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This pre-analysis plan first describes how past research has conceptualised individuals' migration decisions in violent contexts. We then theoretically discuss how patterns of violence shape decisions to stay or seek shelter elsewhere and how violence might be less of a driving force for migration decisions in the case of individuals that have easy access to social networks in other regions and countries. Finally, we propose a conjoint experiment to identify individual preferences to flee in the context of violence and we discuss potential heterogeneous treatment effects based on respondents' social migration networks.

This empirical research design allows us to understand which features of violence lead to the outflow of refugees and the movement of IDPs during times of violence. We contribute to the literature on civilian agency during times of violence by exploring how choices to flee are driven by the fear of violence as well as by migration networks.

## **2 Violence and social networks - understanding the decision to flee in conflicts**

Increasingly, research tries to understand where people flee to during armed conflicts (e.g., Turkoglu and Chadeaux, 2019; Giménez-Gómez, Walle and Zergawu, 2019; Moore and Shellman, 2006; Weiner, 1996; Kunz, 1973; Steele, 2019). This growing literature predominantly conducts country-level studies to understand global forced migration patterns. Refugees seem to move towards economically prosperous countries with lenient immigration policies (McAuliffe and Jayasuriya, 2016). In addition, geographical proximity, ethnic linkages (Rüegger and Bohnet, 2015), pre-existing migrant communities (Neumayer, 2004), and colonial ties (Moore and Shellman, 2007) explain how refugees choose their destinations when armed conflict forces them to leave.

While these country-level studies identify predictors for global refugee patterns, these studies leave the question unanswered *when* individuals flee in the first place. Is violence the main driving force for IDPs and refugees to leave their homes or do social networks mitigate the push effect of violence as they provide the opportunity to move elsewhere more easily?

With individual-level data in Nepal, Adhikari (2013) shows that violence, economic opportunity, physical infrastructure, and social networks all have an impact on an individual's decision to flee or stay at home. These factors are also reflected in other observational studies on forced migration decisions such as Engel and Ibáñez (2007)'s study in Colombia. Schon (2019) conducted interviews with Syrians in Turkey to understand their choices to leave their country. The author finds that a combination of motivation - or witnessing violence early on in the conflict - and opportunity - money, and connections to flee - explain earlier exit from Syria

during the civil war.

However, neither Adhikari (2013)'s nor Schon (2019)'s research can precisely explain when motivations are high enough for civilians to leave their well-known environment and move away. We aim to get a more clearly identified understanding of individuals' motivation to leave their homes behind by studying in-depth how violent patterns shape migration decisions. We know that violence and displacement are interlinked phenomena as more violence in a country increases the number of people that are forcefully displaced (Melander, Öberg and Hall, 2009; Moore and Shellman, 2004; Davenport, Moore and Poe, 2003; Schmeidl, 1997). Nevertheless, it is crucial that we learn when and how violence motivates individuals to take action and flee.

In particular, we should get a better understanding of the relative importance of violence as driving displacement forces in comparison to social ties that allow easy relocation. Overall, we want to provide an empirical answer to the question of how violence—as the main driver, push factor, and motivation for forced migration—shapes individuals' calculation to stay at home or flee towards safer areas. We also want to understand if well-connected individuals react differently to violence in comparison to less-central individuals in networks of migration.

## 2.1 Hypotheses

We understand violence as the main push effect for forced migration. Our first hypothesis on the effect of violent patterns on migration decisions directly builds upon Steele (2019)'s conceptual framework. She argues that displaced civilians consider which actors perpetrate violence and choose a safe destination depending on where the perpetrator has the capacity to strike again. Accordingly, civilians are more likely to try crossing international borders if the state conducts attacks. This is because only another government may have the ability to restrain government violence. In contrast, non-state actors as perpetrators of civilian victimization are more likely to be constrained by the state, making it more feasible for non-combatants to stay within national borders. This theoretical argument shows that the perpetrator of violence may play an important role in an individual's decision to flee or stay. On the one hand, government violence may encourage flight abroad. On the other hand, rebel violence may encourage flight within their own country. Overall, it remains to be assessed whether and how the government or rebel violence affects the overall decision to leave home. We, therefore, do not pre-register a specific directionality but only assume that:

*H1: The perpetrator of violence has an impact on civilians' likelihood to flee.*

Our second set of hypotheses is based on more mechanical assumptions. We assume that non-combatants

would be more likely to leave their homes and flee if violence becomes a repeated feature of their everyday life. As they increasingly feel threatened, they may find the courage to seek safety elsewhere. The intensity and frequency of violence should affect civilians' decision to flee regardless of whether they decide to relocate internally or transnationally.

*H2: Civilians are more likely to flee if violence occurs repeatedly and intensifies compared to the first occurrences of violence.*

In a similar vein, we expect that civilians are more likely to make the decision to flee if violence has already reached their areas rather than taking place in other regions of the country. If violence is close, the motivation to flee should generally be higher. In addition, flight decisions become messier and less rational if armed actors operate in the same area, might order civilians to leave or threaten immediate violence. Overall, we, therefore, assume that the proximity of violence increases civilian tendencies to flee.

*H3: Civilians are more likely to flee if violence occurs in their areas rather than in distant areas of their country.*

Eventually, we are interested in how the type of violence shapes decisions to flee. Armed actors can attack civilians indiscriminately, for example in airstrikes and shelling, or they can target specific groups and non-loyal civilians. We assume that seemingly random and indiscriminate violence increases an individual's propensity to leave their homes and flee. In the case of targeted violence by rebels or the government, individuals may choose to actively cooperate with the armed actor, to share local information, and to comply with armed actors' rules. This may be a rational survival strategy to avoid attacks. However, in the case of indiscriminate violence, such a strategy seems less dominant as individuals may not perceive that compliance can protect them from assault. Fabbe, Hazlett and Sinmazdemir (2017) for example has shown that barrel bombs—as a type of indiscriminate violence—increased Syrians' perception of threat imposed by the government, and might have increased their willingness to escape the conflict by exiting the country towards Turkey.

*H4: Civilians are more likely to flee if hit by indiscriminate violence rather than in the case of targeted attacks.*

In these sections we have outlined how different features of violence may push individuals to leave their homes and flee. However, we also pre-register the assumption that well-connected individuals - that is persons that have connections to other areas of a country or to potential host countries, that hold social capital, and that know people that would assist and host them - are less likely to respond to different features of violence. Why should social embeddedness affect how individuals respond to violence and choose to flee?

Multiple observational studies suggest that opportunities to migrate make it easier to flee and that richer and well-connected individuals are hence over-represented in early refugee and IDP flows (e.g., Schon, 2019). This suggests that they do not only respond to patterns of violence but that they have a much lower threshold to flee than individuals who lack social connections to safer areas. Less connected individuals are more likely to see fleeing as the last resort and flee depending on features of violence. We, therefore, assume that:

*H5: Civilians with more social connections within and outside of their country respond less to violence compared to civilians with fewer connections.*

### 3 Research Design

We plan to assess the outlined hypotheses in a conjoint experiment with respondents in the Eastern and Southeastern parts of Turkey that have experienced fighting for decades. The following sections outline the sample selection, ethical considerations, and the setup of our survey experiment.

#### 3.1 Case selection & sampling procedure

Data will be collected by a survey company based in Turkey in an online survey. The sample will be around 900 people. We sample areas in Eastern and Southeastern Turkey because of the region's past exposure to violent incidents. In our survey experiment, we will ask hypothetical questions about violent scenarios and how they shape decisions to migrate. This is an abstract choice task and we require a survey population that has seen some exposure to political violence and forced migration to achieve plausibility. At the same time, evaluating violent scenarios should not be triggering for survey participants and we want to avoid active conflict exposure. With the Syrian civil war in its neighbourhood, and the linkages to friends and relatives abroad, many respondents in the Eastern and Southeastern parts of Turkey will have some personal links to migration or conflict experience, being familiar with the challenges of relocation, without being directly endangered and being an immediate subject of an ongoing civil war.

#### 3.2 Conjoint experiment

We suggest a conjoint experiment to understand how violence shapes displacement decisions. Our experiment asks respondents to read two short scenarios and to choose the one in which they are more likely to stay or to flee. The attributes of the scenarios will vary along four dimensions: who the perpetrator of violence is, how intense and frequent the violence is, how close the violence is, and who the target of violence is. Each respondent will evaluate 5 scenario pairs. Table 1 summarises the attributes that will randomly vary, their two or three levels, and the hypothesized effect on the likelihood of fleeing.

Table 1: Attributes of violence for the conjoint experiment

Attributes	Level 1	Level 2	Level 3	Pr(Fleeing)
1. Perpetrator	Government	PKK		Government opposition > Armed
2. Intensity/frequency	Repeatedly in past month	Rarely before	First time	Repeatedly > Rarely > First time
3. Proximity	In your city	In a neighboring city	In a distant border city	Own city > Neighboring city > Border city
4. Target group/ Type	Indiscriminate (e.g., airstrikes)	Targeted against non-collaborators		Indiscriminate > Targeted

To evaluate respondents' choices, we implement a "forced choice" design because a dominant strategy of civilians seems to be to stay at their homes despite massive violence and we are interested in what features of violence could nevertheless act as a "push" factor. Below an example conjoint setup in which scenario 1 contains all attributes theoretically favouring a flight and scenario 2 contains all attributes theoretically suggesting staying at home.

**Example conjoint setup:**

You will read two hypothetical scenarios about ongoing violence in your country. Please read them carefully and indicate in which scenario you would be more likely to **flee** rather than to stay at home.

Scenario 1	Scenario 2
<i>The government attacked in your city with ground forces. In the attack, civilians who helped the other side died. These attacks have happened repeatedly in the past month.</i>	<i>PKK attacked in a distant border city with airstrikes and bombings. In the attack, civilians who were working on their farmland died. These attacks have happened for the first time.</i>

If you had to choose in which scenario you would **leave your home and flee**, which one would you choose?

Scenario 1  Scenario 2

If you would have to flee from this scenario, would you try to find shelter somewhere in the country you currently live in or move abroad?

I would relocate within the country  I would flee abroad



### 3.3 Heterogenous treatment effects along social migration networks

Our survey also asks respondents about their connectiveness within their own country and abroad. More specifically, we ask respondents about the number of contacts in their phone, if they have any relatives or friends living abroad or within a different area of Turkey, and if they have friends and relatives abroad or within Turkey that could host them for a while. We will aggregate these survey responses to an index of the connectiveness of respondents. Since we are interested in the question of whether more connected persons are less responsive to our information treatment, we then split the sample into these two groups and analyse the conjoint separately.

### 3.4 Empirical strategy

Following Hainmueller, Hopkins and Yamamoto (2014), we will estimate the probability that an individual flees in the forced choice design via:

$$\begin{aligned} \text{Flight}_{ijk} = & \gamma_0 + \gamma_1 \text{GovernmentViolence}_{ikj} + \gamma_2 \text{HighIntensity}_{ikj} + \\ & \gamma_3 \text{CloseProximity}_{ikj} + \gamma_4 \text{IndiscriminateTarget}_{ikj} + \epsilon_i \end{aligned} \quad (1)$$

where  $i$  indicates the respondent,  $k$  indicates the round, and  $j$  indicates the scenario. In our setting,  $i \in \{1, 2, \dots, 900\}$ ,  $k \in \{1, \dots, 5\}$ , and  $j \in \{1, 2\}$ . Each respondent  $i$  yields 10 observations: 5 rounds, and 2 choices per round. The unit of analysis is the hypothetical flight scenario, the outcome is a binary indicator for whether the respondent would flee, and the explanatory variables are the attributes of violence. Because each violence attribute is randomly assigned, the unbiased estimate of the average effect of each attribute on the likelihood that the respondent would choose to flee is given by the equation above. We will cluster standard errors at the respondent level. We will analyse the effect sizes for well-connected and less-connected individuals separately

### 3.5 Other heterogeneous treatment effects

In the survey, we will also ask respondents 1) whether they have migrated before, 2) whether they have previously discussed moving (somewhere else or abroad) with friends or relatives and 3) whether they have previously experienced violence. Individuals that have previously migrated or have actively discussed moving

away might be generally more willing to flee. We expect that the effect of our different attributes of violence on individuals with migration background is less pronounced. We also expect that individuals with high social capital are more likely to be indifferent towards our treatments and we will measure this in the survey experiment with either their educational background or professional background. When estimating heterogeneous treatment effects, we will add an interaction term for each attribute to the equation (see Table 3 for possible analyses of heterogeneity). These potential heterogeneous treatment effects will be explored without pre-registering assumptions about their directionality.

Table 3: Heterogeneous treatment effects

Possible additional heterogeneous treatment effects
Previous experience of migration
Has previously expressed high motivation to migrate
Educational background/ professional background
Previous exposure to violence

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# Appendix B

## Appendix for Chapter 3

### B.1 Violence and displacement in the Iraq civil war (2014-2017)

Political violence and forced displacement have been recurring phenomena in Iraq's history. In the past, the Iraqi state has strategically used the expulsion of civilians to punish non-compliant communities, to secure access to resources, to undermine political opposition and to gain state control (Fawcett and Tanner, 2002). In the fight against the Islamic State (IS), the Iraqi society has suffered from large-scale violence and displacement by extremist groups, militias, and state agents. The civil war 2014-2017 now constitutes the worst displacement crisis in Iraq's history with around 15% of the entire population being displaced (IOM, 2018). This section provides a summary of the dynamics of violence and displacement from 2014 to 2017. I first provide some background on the ethno-religious composition of Iraq and I summarise the main belligerents and the time line of the civil war. I then describe the dynamics of displacement and one-sided violence from 2014-2017.

#### B.1.1 The Iraqi civil war: belligerents and time line

The armed conflict between the Islamic State and the Iraqi government - here referred to as the Iraqi civil war - began in early 2014 and ended in December 2017. During the conflict, the jihadist militant group was able to conquest one third of the country, exploiting sectarian and tribal fault lines to make territorial gains in western and northern Iraq (Hassan, 2014).

Modern Iraq as known today is made up of the former Ottoman provinces Mosul, Baghdad and Basra. The Iraqi state, that gained independence from the Ottoman Empire and British colonial rule in 1932, encompasses several ethnic, sectarian, and national groups. While Sunni Arabs historically inhabit the north of Iraq, the majority of Iraqis are Shia Arabs that tend to live in the south. The Kurds of Iraq, that make up around 15-20% of the population (Cordesman, 2017), enjoy autonomy in the ‘Kurdistan Region of Iraq’ (KRI) around Erbil. The federal status of this entity with some 8 million inhabitants is secured in Iraq’s 2005 constitution. In addition, Turkmen, Armenian, Chaldean, Assyrian, Catholic, Orthodox, Jewish, Kakai and Yazidi minorities demand representation in the political system. Figure B.1 displays the main settlement areas of the largest ethnic groups in Iraq.

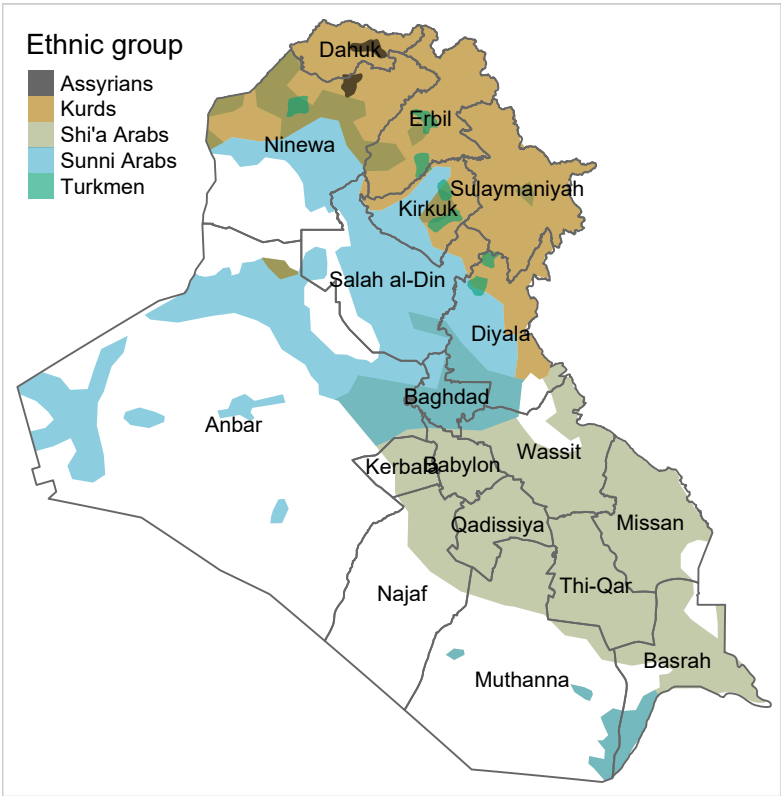


Figure B.1: Ethno-religious settlement areas in Iraq (source: GeoEPR)

The Hashemite Kingdom of Iraq (1921-1958) that followed Iraqi independence, the subsequent Iraqi republic (1958-1968), and the rule by the Arab Socialist Baath Party (1968-2003) initially consolidated power in the hands of Sunni Muslims. The first elections after the US-led invasion in 2003 brought change: a predominantly Shia govern-

ment now rules Iraq (Tripp, 2002). However, the invasion of Iraq also prompted the collapse of the Iraqi state and led to brutal waves of sectarian violence between Sunni and Shia Muslims. The 2006 bombing of the Al-Askari mosque in Samarra marked the start of this wave of sectarian violence, in which state control outside of Baghdad became more and more contested and tribal and sectarian ties continued to shape Iraqi politics (Boduszyński, 2016).

The overall security situation in Iraq deteriorated over time. In May 2013 as most violent month of this period, 963 civilians were killed and 2,191 were wounded (IOM, 2018, 6). Baghdad's relations with Iraqi Kurdistan and the Sunni areas collapsed and the central government lost de-facto control over half of the Iraqi territory, creating space for militias and extremist groups (Khedery, 2015). On 30 December 2013, Iraqi forces raided a camp in Ramadi, in Anbar, suspected of sheltering Sunni armed groups. The intense clashes between Sunnis and Shia following this event triggered the 2014-2017 civil war.

In the following months, the Islamic State of Iraq and the Levant (ISIL), that originally emerged as Sunni jihadist splinter group of al-Qaeda, quickly seized the majority of Anbar governorate. Local Sunni militia supported ISIL's campaign in the province, no longer trusting the central government in Baghdad (McCants, 2015, 125-126). Having particularly suffered from sectarian violence, many Sunni tribes joined ISIL in the hope for better and stable governance (Chulov, 2015), although some smaller tribal forces also resisted the jihadists (e.g. Tribal Mobilisation Forces). In June 2014, ISIL was successful in capturing Mosul as the second most populous city in the country (The Economist, 2014). Despite being outnumbered by government forces, ISIL was able to establish its rule in Mosul as the inhabitants vastly rejected Iraqi state authority (Ismael, 2015, 226). ISIL also captured large parts of Nineveh, Kirkuk, Diyala, and Tikrit. On 29 June, the extremist jihadist group announced the establishment of a caliphate under Abu Bakr al-Baghdadi and henceforth called itself Islamic State (Zelin, 2014).

The Islamic state not only faced resistance by the Iraqi Armed Forces that represented the Shia government in Iraq. The Kurdish Peshmerga also fought against IS. While around 35,000 Peshmerga fighters were formally incorporated into the state's forces (Beaumont, 2014), the majority of Kurdish fighters operated under the independent command of the Kurdish autonomous region of Iraq and represented Kurdish interests. The Popular Mobilisation Forces (PMF) as an umbrella organisation of more

than 50 Shia armed groups also joined the fight against IS (Gaston and Derzsi-Horváth, 2018; Di Giovanni, 2014). Many of these Shia militias are closely aligned with Iran and either newly emerged or remobilised following a 2014 *fatwa* by Grand Ayatollah Ali al-Sistani, Iraq's senior cleric. The PMF also incorporated other minority militias because various Turkmen Muslim, Assyrian Christian, Yazidi, Shabaki, and Armenian Christian forces aimed to secure their territories and to protect their sectarian support base (Gaston and Derzsi-Horváth, 2018; Gaston, 2017). Table B.1 gives an overview of the main armed factions and the ethno-religious affiliation of these groups in the Iraqi population.

Table B.1: Ethno-religious affiliation of armed actors in Iraq

Armed actor	Affiliation
Iraqi Armed Forces	Shia Muslims
Islamic State of Iraq and the Levant/ Islamic state	Sunni Muslims
Kurdish Security Forces/ Peshmerga	Kurds
Popular Mobilisation Forces (umbrella organisation of 50+ Shia militia; e.g. Mahdi Army, Hezbollah Brigades, Badr Organisation, Asa'ib Ahl al-Haqq)	Shia Muslims
Smaller armed groups and militias (partly allied with Shia militias):	
Sunni tribal forces (e.g. Tribal Mobilisation Force)	Sunni Muslims
Assyrian/ Armenian Christian forces (e.g. Ninewa Plains Protection Unit, Ninewa Plains Guard Forces, Dwekh Nawsha)	Christians
Yazidi forces (e.g. Sinjar Protection Forces)	Yazidis
Shabaki forces (e.g. 30th Brigade of the PMF)	Shabak
Turkmen Muslim forces (e.g. Brigades 16 and 52)	Turkmen

In August 2014, the Islamic State captured Sinjar, a predominantly Yazidi town in the north, and subjected minority communities in the area to torture, public executions, sexual slavery and forced conversion (HRW, 2014; Callimachi, 2015). In response to this genocide of Yazidis, the United States started targeted air strikes against IS in Iraq. With this backing, Kurdish ground force were able to reconquer territories in Sinjar and around Mosul in the remaining months of 2014.

In the following years, government troops, pro-Iranian Shia militias, and the Kurdish Peshmerga were able to further push back IS from Iraqi territory. The US-led air strike campaign by multiple states, American and Canadian troops on the ground



(Puzic, 2014), the rearmament of the Iraqi Security Forces (Alsodani and Knights, 2017), and military and logistical aid by Iran and Russia provided assistance in the fight against the Islamic State in 2015 and 2016. However, the recapturing of territory by a wide range of local, hybrid, and non-state security forces with conflicting agendas also led to a fragmentation of authority that now impedes Iraq's long-term stability under central state control (Gaston and Derzsi-Horváth, 2018).

In particular Iraqi Kurds drastically increased their military, territorial, and political importance during the civil war, gaining international attention for their successful anti-IS campaigns. On 25 September 2017, the KRI held an unofficial referendum in which the overwhelming majority voted for independence from the Iraqi government. Responding to this event, the Iraqi Armed forces launched a short offensive to recapture Kirkuk from the autonomous Kurdish government. To avoid the escalation of conflict with the central government, the KRI froze the referendum results and proposed a ceasefire. Masoud Barzani, the President of Iraqi Kurdistan, stepped down. His strategic push for independence during the civil war ended unsuccessfully with the loss of Kirkuk; and the Kurds subsequently held a weaker position than before the referendum (Kaplan, 2019).

During November 2017, Iraq captured the last strongholds of IS and on 9th December 2017 the Prime Minister Haider al-Abadi announced that IS was defeated. Nevertheless, IS continued to hold territory in the western desert of Iraq and waged low-scale insurgency campaigns against the government during 2018. Up to today, the need for reconciliation and community building remains a pressing concern in Iraq as most local communities are still strictly divided along sectarian, tribal and factional lines (OCHA, 2019).

## **B.1.2 Displacement dynamics in Iraq**

The current wave of displacement due to the rise of the Islamic State in late 2013 can be described as the fourth major wave of conflict-induced population movements in modern Iraq (IDMC, 2019b). Under Saddam Hussain forced displacement was used to implement the regime's Arabisation policy, targeting Kurdish but also Shia individuals and communities (Romano, 2005). The US-led invasion of Iraq in 2003 led to a second wave of displacement. This period of prolonged instability and violence after the

toppling of the Hussein regime displaced an estimated amount of one million Iraqis between 2003 and 2006 (IOM, 2018). Thirdly, the sectarian violence starting in 2006 created a large amount of displaced people within Iraq. Consequently, around 2.1 million people were already living as IDPs in various shelters across Iraq at the outset of the contest between ISIL and the Iraqi state (IDMC, 2019a). The civil war added to this number with overall about 6 million people becoming displaced since the beginning of 2014 (OCHA, 2019).

**Population movements within Iraq:** Population movements were particularly high at the beginning of the armed conflict because of the almost unrestrained territorial advances of ISIL in Anbar (IOM, 2018, 11). Displacement initially occurred mostly within Anbar but IDPs started moving to the north-central areas of Iraq - reaching Salah al-Din and Ninewa - when ISIL seized Mosul. During the Mosul crisis, a clear ethno-religious movement pattern emerged: While Christians and Yazidis moved towards Iraqi Kurdistan, Turkmen Shia from Mosul moved to southern Shia-majority territories. Turkmen Sunnis of the region moved towards Kirkuk and Salah al-Din. The capturing of Sinjar and the extreme violence against non-Sunni minority groups, in particular against Yazidi, forced a high number of IDPs to flee to neighbouring governorates.

Because the Islamic State moved the front lines further eastwards, eastern governorates experienced increases in IDP numbers. In the following months, the deteriorating security situation often forced families to seek shelter in areas that were not free of violence. The International Organisation for Migration also reported that a significant proportion of IDPs in the first year belonged to minority groups in Iraq and moved towards the KRI (IOM, 2018).

Movements in 2015 were shaped by attempts to combat ISIL in Diyala, Mosul and Tikrit. The capture of Ramadi as capital of Anbar governorate by IS in the beginning of April alone caused the displacement of over half a million Iraqis. The fall of Ramadi, as the most significant city to fall to IS since Mosul, shifted the focus of the Iraqi armed forces away from retaking the north and back to Anbar governorate. Displacement also occurred due to the advances of Peshmerga forces in the south of Kirkuk that caused around 60,000 new IDPs. This shows that some areas in Iraq experienced considerable high numbers of displacement although 2015 was the first year in which returns to deliberated areas were possible. At the end of 2015, 66% of all IDPs were

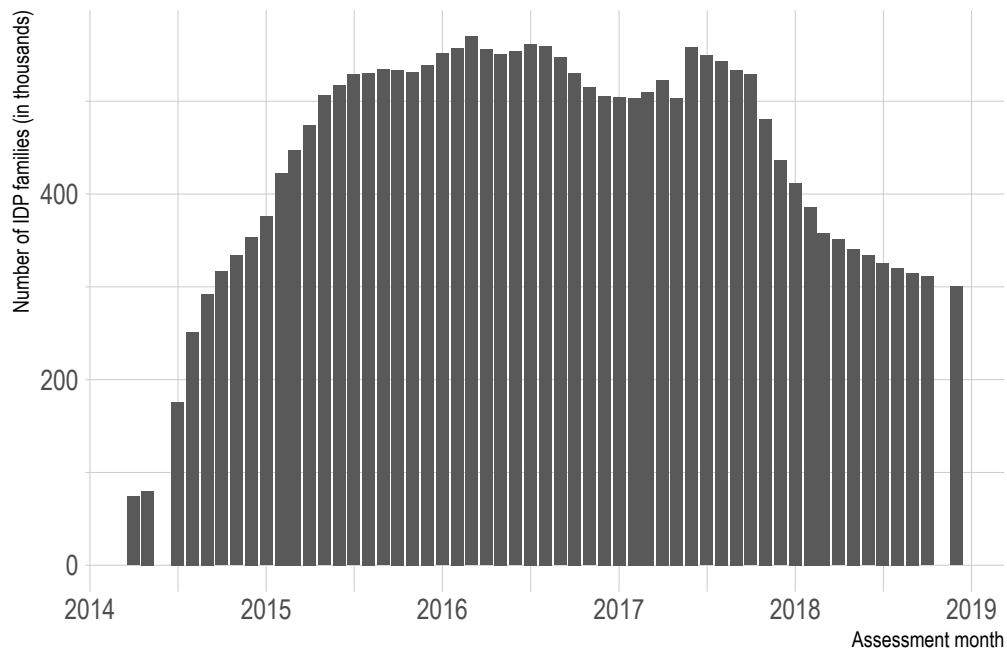


Figure B.2: Number of IDPs per month in Iraq (2014-2018)

settled in the north-central region of Iraq. 29% sought refuge in Iraqi Kurdistan due to the perceived stability of the region. Only 5% of IDPs moved to southern governorates (IOM, 2018).

In 2016, overall IDP numbers started to decrease due to the retaking of areas in Anbar (see Figure B.2). The major event causing new displacement in this year was the Mosul offensive by the government to retake the city. The campaign displaced around 300,000 Iraqis along the Mosul corridor, which constitutes about 15% of all IDPs in Iraq. In consequence, a high number of displaced individuals fled to Tikrit, Salah al-Din and Kirkuk. Furthermore, the Mosul offensive notably increased the share of IDPs in the population of Ninewa. Overall, the highest concentration of IDPs remained in the central and northern governorates (66%) but nearly a third of all IDPs were hosted in Iraqi Kurdistan. The Shia-majority governorates in the south remained comparably unaffected.

In 2017 and 2018, IDP numbers further decreased. Extensive new displacement occurred in Ninewa because of the government's efforts to retake the areas around Mosul. The handover of disputed areas from the Kurdish Peshmerga to the Iraqi Armed Forces also temporarily rose displacement figures in the end of October 2017. In total, however, return movements reduced the amount of displacement throughout Iraq.

Return movements have been faster for families that return to areas where they belong to the ethno-religious majority. For Turkmen, Yazidis, Christians, and Shabak Shias, return has been much slower as they seem to fear the changes in the ethno-religious composition of their places of origin (IOM, 2018).

Table B.2: Main periods of displacement during the Iraqi civil war (IOM, 2018)

Time period	Displacement patterns
January to May 2014	Displacement occurs in Anbar where fighting between ISIL and the government started. IDPs mostly move within Anbar or into Baghdad, Salah al-Din or Iraqi Kurdistan.
June to July 2014	Fighting spreads to Mosul and IDPs start fleeing from Ninewa and Salah al-Din to Kirkuk and Baghdad. Secondary displacement occurs. Turkmen minorities are forced to flee.
August 2014	Worst month of new displacement with around 740,000 new IDPs due to ISIL violence in Sinjar. IDPs, in particular Yazidis, flee to Dahuk and Ninewa. Erbil and Kerbala also experience an increase in IDPs.
September 2014 to March 2015	First net decrease in displaced populations due to the recapturing of territory by the state. Returns towards Diyala, Salah al-Din and Ninewa.
April 2015 to February 2016	Fall of Ramadi to IS increases outflow of IDPs from Anbar; movement towards Baghdad. Intra-governorate displacement in Kirkuk because of advancing Peshmerga forces.
March to mid-October 2016	Decrease in IDPs in Anbar, Baghdad, and Diyala. Displacement rises in Erbil, Kirkuk, Ninewa and Salah al-Din.
Mid-October 2016 to July 2017	Military operations to retake Mosul city causes large-scale new displacement. Increase of IDPs in Mosul corridor despite general increase in returns in other areas.
July to December 2017	Returns outnumber IDP numbers due to the retaking of Mosul and Telefar. Returns are encouraged through policy programs.
December 2017 to December 2018	Increase in returns but protracted displacement remains pressing issue on humanitarian agenda.

**Main drivers of displacement decisions:** Main drivers of displacement decisions were the progression of fighting between IS, the government, Shia militias and Kurdish troops. Because most IDPs aimed to stay close to their home to monitor return possibilities, IDP numbers were particularly high in the governorates Anbar and Ninewa

that have been heavily affected by fighting. Hoping for secure locations, IDPs moved to areas that were at least more stable than their habitual residence. Less important seemed the presence of formal camps that provide assistance to IDPs. 71% of IDPs in Iraq lived outside of formal camps (OCHA, 2019; IOM, 2018). In particular within the KRI and Ninewa, few IDPs could seek shelter in protected camps.

As already indicated, the population movements during the Iraqi civil war also followed clear sectarian patterns. Once displaced, IDPs in the civil war against the Islamic State overwhelmingly chose to move to areas where they would be part of the majority ethno-religious group, given that these areas also provided safety. Breaking down the population movements during the conflict by ethno-religious groups shows that the initial sectarian settlement patterns in Iraq became more consolidated over time. Sunni Arabs moved further north or into Kurdish territories. Shia moved towards the south, reinforcing Shia dominance in these areas. This overall movement pattern reversed the resettlement policies of Saddam Hussein's Arabisation strategy in which many Shia were transplanted into northern provinces (Thibos, 2014). However, this movement pattern also implies that Arab Sunni IDPs fleeing the rule of IS found themselves increasingly in Kurdish-held territory and had to come to terms with Kurdish authorities (Siddiqui, Guiu and Ameen Shwan, 2019). Minorities, in particular Christians and Yazidis, have gone to Kirkuk and Iraqi Kurdistan. The existence of these ethno-religious flight patterns resembles the previous three waves of displacement in Iraq. Forced displacement in Iraq's past and in its presence is characterised by the un-mixing of people (Chatty and Mansour, 2011, 53).

### **B.1.3 Dynamics of violence against civilians**

During the Iraqi civil war, civilians have suffered from widespread violence by all conflict actors. Many of these incidents of civilian casualties and war crimes can be traced back to underlying sectarian motives and strategic considerations. The Islamic State as most extreme case has used violence against civilians to exert control and instil fear. According to the UCDP Geo-referenced event dataset, IS has committed 96% of the events of one-sided violence against civilians between 2014 to 2018.<sup>1</sup> The armed group has strategically expelled religious minorities and Shia Muslims from their ter-

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<sup>1</sup>Data accessed on 19/06/2019.

ritories. The brutal expulsion of Yazidis from Sinjar, in which at least 2,000 individuals were executed and thousands abducted, is only one example for a strategy that aimed to create Sunni enclaves. Furthermore, the IS has also displaced civilians directly into zones of active fighting to shield their own jihadist fighters (Amnesty International, 2018). They executed opponents, recruited child soldiers, raped women and tortured civilians. In addition, suicide bombings in predominantly Shia Muslim areas have deliberately targeted civilians even after the civil war (EASO, 2019).

The Iraqi government has also used violence against civilians in the course of the displacement crisis. In the west Mosul campaign, the Iraqi security forces have launched a series of disproportionate attacks that killed many civilians (Amnesty International, 2018). There have also been incidents where government forces have been involved in collective punishments, unlawful killings, torture, and pre-trial detention. Amnesty International reports that thousands of men and boys were separated from their families by the government, the PMF, or Kurdish forces after fleeing IS-held territory. Many of these individuals were extra-judicially executed or they forcibly disappeared because of their origin from certain areas or neighbourhoods, their family relation to IS fighters, or for having had non-combat roles in the Islamic State (Amnesty International, 2018). The aligned Shia militias of the PMF were accused of committing serious human rights abuses and war crimes against Sunni civilian men in Baghdad and across Iraq (EASO, 2019).

Another sectarian strategy employed by conflict parties was to hinder access to their territories for incoming IDPs of other ethno-religious groups. In some government-controlled areas, such as in Baghdad, Sunni Arabs faced problems moving into Shia areas (Cordesman, 2017, 27). In Iraqi Kurdistan, IDPs required sponsorship or a specific ethno-religious profile to enter the region. Kurds, female-headed households, and women were exempted from the sponsorship requirement, but many other societal groups - in particular Sunni Arabs - were hindered in their access to the relatively stable region (DIS, 2016, 12-18).

Humanitarian actors also reported instances of deportation and violence against Arabs in the disputed areas of Iraq and within the KRI. Arabs that were accused of being IS members were arrested and camps raided to deport them out of the Kurdish areas (DIS, 2016). On 9 October 2016, Kurdish authorities in Kirkuk evicted between 3,000 and 4,000 residents of Qara Tapa village. Additionally, Peshmerga forces and

Kurdish security actors have targeted political and societal opposition in their controlled territories, including attacks against human rights advocates, journalists and protesting civil servants (EASO, 2019, 22).

Even after the official end of the conflict, violence against civilians occurred and population movements remained politicized. Humanitarian agencies reported that many militias as well as the government retaliate against Sunni Arabs with perceived affiliation to IS (OCHA, 2019; IOM, 2018; Amnesty International, 2018). Conflict actors remain present in camps and informal settlements, blocking certain IDPs from obtaining civil documents and restricting their freedom of movement. They also enter and search IDP areas to arbitrarily arrest individuals (OCHA, 2019). In addition, humanitarian actors have criticised the government for forced and premature returns such as in August 2018 when the Baghdad Operations Command evicted 45 IDP families of Al Jamea'a camp on short notice (UNHCR, 2018).

## **B.2 Comparison of event data collections in Iraq**

This section compares the Armed Conflict Location & Event Data Project (ACLED) (Raleigh et al., 2010), the Global Terrorism Database (GTD) (LaFree and Dugan, 2007), the Iraq Body Count (IBC) (IBC, 2010) and the Integrated Crisis Early Warning System (ICEWS) (Boschee et al., 2018) to the UCDP-GED data used in this research project. This comparison of event data for the case of Iraq may help to justify the selection of UCDP-GED for the main analysis in this project. Table B.3 gives an overview of the event counts and observational coverage of these data collections.

### **B.2.1 Definition of one-sided violence**

UCDP-GED defines event of *one-sided violence* as “the use of armed force by the government of a state or by a formally organized group against civilians” resulting in civilian deaths (Eck, Sollenberg and Wallensteen, 2004). ACLED defines *violence against civilians* as violent events where an organised armed group deliberately inflicts violence upon unarmed non-combatants” (ACLED, 2017). Conceptually, these definitions are similar. However, while UCDP-GED restricts events to incidents which result in a fatality, ACLED also includes non-fatal injuries of civilians (Eck, 2012, 127). Further-

Table B.3: Overview of event data collections (accessed: 04/06/2019)

Database	Time coverage	OSV counts	Battles	Geo-precision
ACLED	2016-2018	1,130	5,164	68.14% of OSV coded on town level.
UCDP-GED	2014-2018	519	2,542	93.26% of OSV coded on town level.
GTD	2014-2018	4,718*	-	92.49% of OSV coded on town level.
IBC	2014-2018	13,773*	-	No geo-location available.
ICEWS	2014-2018	-	16,531*	No precision level.

\* No strict definition of one-sided violence: GTD records terror attacks against civilians. IBC records all civilian deaths including collateral damage. ICEWS records violent interactions between various actors (CAMEO>145) but has no event category for deliberate civilian victimisation.

more, UCDP-GED records violence that can be attributed to a conflict party, while ACLED also contains events that could not be assigned to a known perpetrator. This may explain why ACLED counts more events of OSV than UCDP-GED in Iraq (see Table B.3). Both datasets exclude collateral damage from their definition of one-sided violence. Overall, ACLED provides a reasonable, yet less conservative, alternative to UCDP-GED. The definition of one-sided violence is less clear-cut in the other datasets discussed here. GTD does not strictly count events of one-sided violence but rather events of terrorism. Most importantly, the GTD does not include state-based terror but only terrorist violence against civilians by non-state actors. This bias makes it difficult to use GTD for this analysis. The Iraq Body Count (IBC) as an Iraq-specific count of civilian deaths since 2003 also follows no strict definition of one-sided violence as collateral damage is included in all civilian deaths. Finally, ICEWS, as machine-coded alternative, records interactions between socio-political actors, but does not specifically distinguish civilian victimisation either (Boschee et al., 2018).

## B.2.2 Time and space coverage

ACLED as the most similar event data collection to UCPD-GED is also based on media-reported events. For the Middle East, however, ACLED only starts in 2016 and cannot cover the emerging dynamics of violence and displacement in the initial years of the Iraqi civil war. The other data collections cover the full time period. All available data collections cover violent events for the complete geographical space of Iraq. Of



the datasets mentioned in this comparison, only the IBC is a country-specific data collection. However, the IBC does not provide the geo-location of reported incidents, which disqualifies the dataset for this sub-national analysis. ACLED, UCDP-GED, GTD, and ICEWS are global datasets that follow the same coding rules for all countries they are covering. Regarding the geo-precision of the datasets compared, the UCDP-GED provides the highest accuracy as about 93% of the data on one-sided violence are coded at the town level. ACLED and GTD record a higher uncertainty for the geo-coding of the reported events. While reporting the geo-location, ICEWS does not provide uncertainty estimates for the reported coordinates.

### **B.3 Original data on armed actor-IDP interactions**

To focus not only on general one-sided violence against ordinary citizens in Iraq but also on specific targeted attacks against IDPs, I collected an original dataset on armed actors' reactions to IDPs in Iraq from April 2014 to December 2017. The dataset contains 713 fine-grained geo-located reactions of armed actors to displaced populations and the unit of analysis is the individual non-violent or violent reaction. The data records who reacted to displaced population, whether this armed actor was the territorial ruler or challenger, whether a specific displaced group was targeted, whether the interaction occurred in a camp setting, how many displaced persons were affected and where the event took place. Although the results in the main paper only use the violent subset of recorded reactions, the dataset can be used to answer questions such as "where did the Iraqi conflict parties harm fleeing civilians?" or "which armed actor was the most welcoming towards displaced populations in Iraq?" on different spatially and temporally aggregated levels.

#### **B.3.1 Motivation**

For sub-national research on violence against civilians and conflict dynamics more broadly, it is common to use event-based datasets such as ACLED or UCDP-GED. However, those datasets come with certain caveats, such as imprecise geographical locations and media-reported bias. The following three main reasons motivated this data collection. First, this dataset concentrates on the question when armed actors induce

displacement, how they respond to already moving populations in the conflict zone and how they end displacement. This focus on populations moving during civil wars narrows down the dependent variable (violence against civilians) to those individuals and groups moving during a conflict. Second, UCDP-GED focuses on violence against civilians that lead to at least one fatality. Similar to other data collections, such as ACLED, this data collection focuses on fatal and non-fatal interactions to expand the scope. Third, the UCDP-GED is heavily biased towards violence against the Islamic State. The underlying news sources for the UCDP-GED data are pre-dominantly from Western media that had a heightened interest in hearing about Islamic State atrocities. Of course, the Islamic State is the main perpetrator of one-sided violence in this period in Iraq. Nevertheless, the International Community has pointed out that Shia militia, the Iraqi government, and the Kurdish Peshmerga have all been more or less involved in human rights violations against civilians. Those instances, however, are not reflected in the UCDP-GED data and my data collection covers more variation in actors.

### **B.3.2 Data collection strategy**

I coded news-reported events or events mentioned in humanitarian reports in which armed actors engage with IDPs in Iraq. The full list of sources is:

- ACLED (only events with the specific target group IDPs/refugees)
- LexisNexis with search term Iraq AND displace OR flee OR refugee OR IDP OR fled
- Human Rights Watch: 5 reports and 255 press releases
- Amnesty International: 792 research, news and commentaries
- Office of the High Commissioner for Human Rights + UN Assistance Mission for Iraq: 11 reports on the protection of civilians in Iraq / Reports on Human Rights in Iraq
- UN OCHA: 68 Press releases/ 34 Humanitarian Bulletins/Situation Reports
- UNHCR: 69 protection updates
- CCCM Camp management files

The resulting dataset is a daily dataset from April 2014 to December 2017. The unit of analysis is the interaction/reaction level. That means, a certain event (a certain

news article) can include multiple interactions between armed actors and displaced populations. I exclude reactions by international actors (e.g. humanitarians) from the data collection. My events are also restricted to events in Iraq and I omit events happening outside of the border of Iraq (for example in Syria). The data collection also excludes Improvised Explosive Devices that explode when fleeing civilians trap on them unless the underlying report makes clear that the devices were set up explicitly to target fleeing civilians. I also exclude the punishment of former ISIL members or army members that fled from the dataset as they should not be considered as IDPs/civilians.

### B.3.3 Codebook and variables

The table below provides the full codebook and variables in the dataset.

Table B.4: Codebook and variables for original data collection

Variable name	Content	Type
EVENT_ID	An ID identifying each event	string
INTERACTION_ID	An ID identifying a unique interaction per event	string
EVENT_DATE	The date the interaction has taken place	Date dd/mm/yyyy
YEAR	The year of the interaction	integer
TIME_PRECISION	How precise the information about the date is: 1 = exact date is known; 2 = week or 2-6 day range is known; 3 = only month or two-weeks range is known	integer
EVENT_TYPE	Type of the interaction: Acceptance, Assistance/Governance, Attack, Confinement/Detainment, Denial, Evacuation, Expulsion, Harassment, Movement management, Abandonment/non-governance, Punishment, Recruitment, Screening, Strategic hiding, Human shields	string(15)
ACTOR1	The name of the armed actor reacting to IDPs (unified across dataset)	string
ACTOR2	The displaced population group: IDPs, IDPs/Refugees, Refugees	string(3)
ACTOR1_STATUS	The status of actor 1 regarding territorial rule: Ruler, Challenger. If an allied armed actor is in territorial control, this is coded as ruler	string(2)
TAKEOVER	A binary indicator whether interaction happened during a territorial takeover (1) or not (0)	integer
CONTROL	The name of the armed actor in territorial control	string
CONTROL_CODE	The level of territorial control: 1 = Territory has just been taken over/is contested; 2 = Territory has recently been taken over; 3 = Territory is in control; 4 = Territorial ruler struggles to hold control	integer

Variable name	Content	Type
CONTROL_BEFORE	The territorial ruler before the interaction has taken place (i.e. relevant if during territorial takeovers). Same as CONTROL if no change is taking place	string
VIOLENT_BIN	A binary indicator whether interaction is violent (1) or not (0)	integer
SENTIMENT	An indicator whether the interaction is welcoming to displaced populations (1), neutral (0), or not welcoming (-1)	integer
MOVE_STATUS	An indication of the movement status of IDPs: At entry, At exit, In territory, En route	string(4)
TARGET_GROUP	A description of the movement pattern of civilians: Civilians trying to flee, Civilians forced to flee, Fleeing civilians, Displaced civilians, Civilians trying to return, Civilians forced to return, Returned civilians	string(7)
TARGET_SUBGROUP	An indicator which ethno-religious subgroup of the displaced population was targeted	string
TARGET_APPROXIMATED	A binary indicator whether the information about TARGET_SUBGROUP was inferred from outside sources/based on origin patterns (1) or was contained in the original source (0)	integer
ORIGIN	The origin location (unsystematic) of the IDP population	string
ORIGIN_APPROXIMATED	A binary indicator whether the information about ORIGIN was inferred from outside sources/based on subgroup patterns (1) or was contained in the original source (0)	integer
QUOTE	A quote from the original source for illustration	string
DESCRIPTION	The description of the interaction	string
CAMP_INVOLVED	A binary indicator whether the interaction took place in or near a camp (1) or not (0)	integer
IDP_FAMILIES	The number of IDP families affected by the interaction. If IDP numbers but not family numbers are given, the figure is divided by 5	numeric
IDP_NUMBERS	The number of IDPs affected by the interaction. If only the IDP family number is known, this is multiplied by 5	numeric
FATALITIES_IDP	The number of IDPs dying in the interaction	numeric
IDP_APPROXIMATED	A binary indicator whether the information about IDP numbers and deaths affected was inferred from other sources (1) or was contained in the original source (0)	integer
SCALE	A qualitative indicator whether media attention for this interaction was HIGH, MIDDLE or LOW	string(3)
DISPUTED_TERRITORY	A categorical indicator whether the area is part of the "Disputed Territory", under "Iraq federal control", or part of the "Kurdistan Region of Iraq"	string(3)
GID_ID	The PRIO-grid cell id (gid) in which the interaction took place	integer
ADMIN1	Name of the first order administrative division where the interaction took place	string
ADMIN2	Name of the second order administrative division where the interaction took place	string
ADMIN3	Name of the third order administrative division where the interaction took place	string
LOCATION	Name of the location where the interaction took place or the description of the geographical location	string

Variable name	Content	Type
LATITUDE	Latitude (in decimal degrees)	numeric
LONGITUDE	Longitude (in decimal degrees)	numeric
GEO_PRECISION	The precision with which the coordinates and location assigned to the interaction reflect the actual interaction location: 1 = exact location of event is known at least at the neighbourhood/village level; 2 = interaction location is known on the sub-district level (point in biggest town/sub-district center); 3 = interaction location is known on the district or governorate level only (point in district/governorate capital)	integer
SOURCE	Name of the source for the interaction (e.g. news agency)	string
SOURCE_SCALE	Indicator if the source is international, regional, national or sub-national	string
ACCESS_SOURCE	Name of the service through which source was accessed	string
ID_SOURCE	Additional information on the source such as the precise link to access the source, the unique identifier for the underlying dataset	string

### B.3.4 Descriptive statistics and data visualisations

This section gives a brief overview of the variables in the final dataset by visualising key trends. Figure B.3 provides the number of weekly and monthly interactions coded in the data over time, with clear peaks around key events of the Iraqi civil war, such as the Mosul offensive by the government to retake the city from the Islamic State. Figure B.5 outlines how many data entries were coded for each reaction category. The figure also provides an overview of the sentiment of reactions to IDPs. For the main paper, only armed actors' reactions to IDPs that were distinctively negative (i.e. violent) were used. Finally, Figure B.6 lists the actors coded in the dataset and their average sentiment towards IDPs. In this figure, the ISIL stands out as the most violent actor on average across all interactions with IDPs. Government forces as well as Peshmerga fighters, according to this data collections, provided substantial assistance to IDPs at times, explaining their positive sentiment towards IDPs on average. Figure B.4 provides the count of interactions broken down by challenger and ruler as well as sentiment of the interaction.

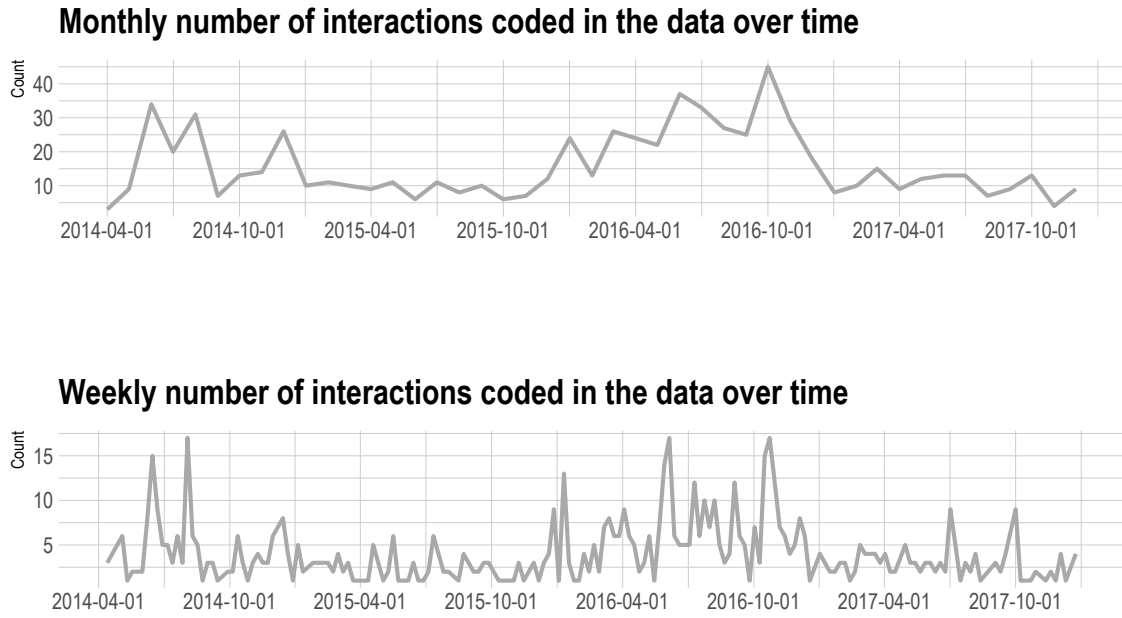


Figure B.3: Monthly and weekly number of interaction with IDPs over time

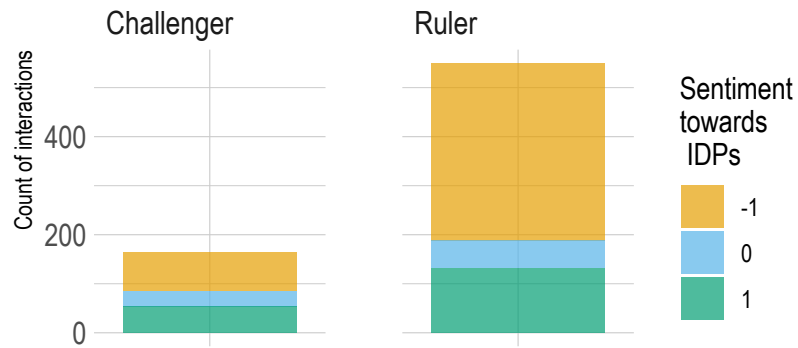


Figure B.4: Count of ruler and challenger interactions that are violent, neutral or non-violent in sentiment

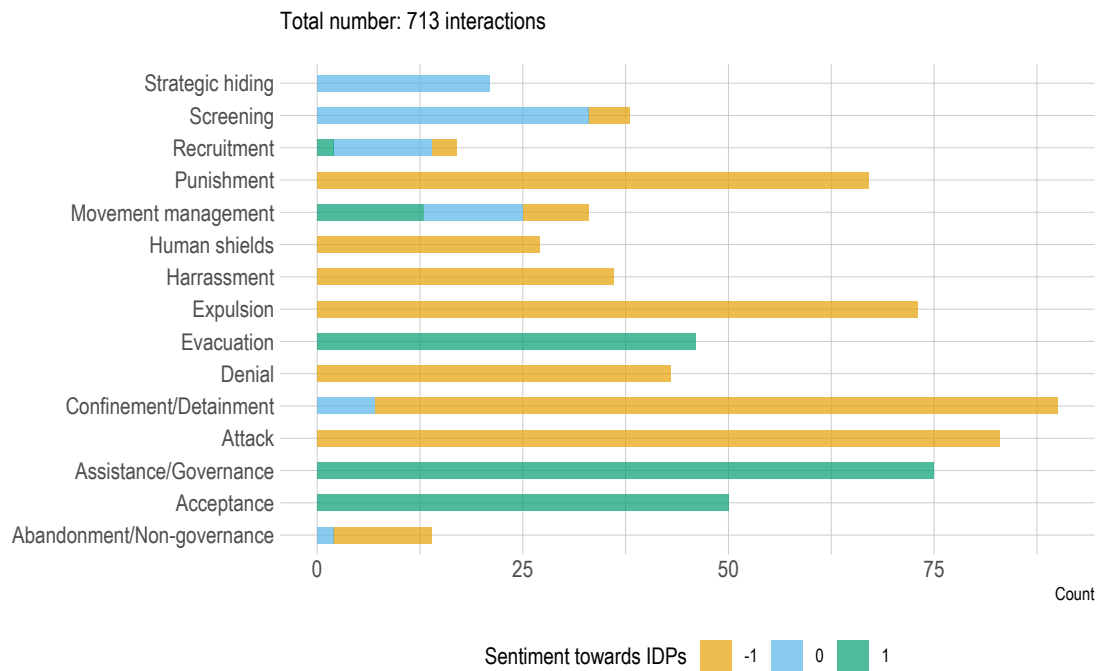


Figure B.5: Distribution of armed actor-IDP interactions by type of interaction and sentiment towards IDPs. Only reactions with negative sentiment were used in the main paper.

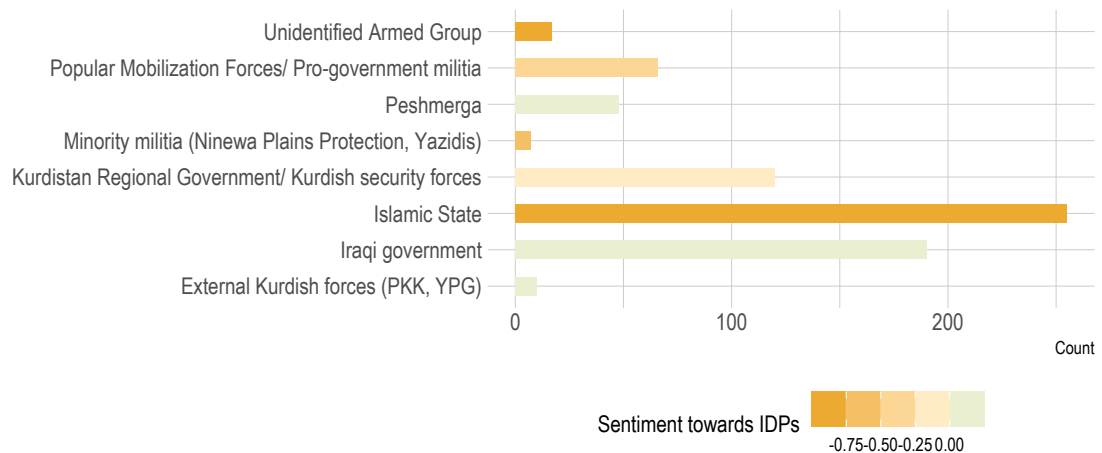


Figure B.6: Distribution of armed actor in the data collection as well as their proportion of interactions with IDPs and their average sentiment towards IDPs

## **B.4 Measuring territorial control in Iraq**

As described in the main body of the paper, I have hand-coded maps of territorial control in Iraq on the PRIO-GRID level for the observational period if available. In a second step, I have used this data to train a machine learning algorithm that classifies the zones of control for the remaining time periods where no map data was published. This section provides the technical details for this measurement strategy.

### **B.4.1 Manual coding of maps**

Various news sources have published maps on territorial control in Iraq. Most notably, the Institute for the Study of War (ISW) has published maps of Iraq on a regular basis. Other sources are the BBC, NYT, or Al Jazeera. I could identify maps for about 54.4% of my time period. Table B.5 provides an overview of the map sources and time coverage. To code the data, I first manually geo-referenced the maps in ArcGIS, mapping the picture to the projection I use for the PRIO GRID shapefile (crs= 4326). Then, I have coded the actor that solely controls a grid cell or the actor that holds the biggest proportion of the grid cell. I distinguished between the Islamic State, the Iraqi government, the Kurdish Peshmerga, Shia militias, and unpopulated/uncontrolled territory.

### **B.4.2 Machine Learning approach**

For the remaining months, in which I could not collect map data, I trained a classifier that predicts the categorical variable *control*. The features used for this classification task are listed in Table B.6. All features were turned into dummies and numeric variables. I have also scaled all variables by subtracting the mean and dividing by the standard deviation. To assess the performance of classifying zones of control, I have randomly selected 10 months of the hand-coded data as test set. The remaining 19 months are used to train 7 different machine learning algorithms and to tune parameters by means of 10-fold repeated cross-validation. Table B.7 allows to compare the classification accuracy across the different machine learning approaches when parameters were tuned. Bagging performed best in predicting territorial control in the held-back test data with an overall accuracy of 94.69%. Bagging, as special case of a random forest when all features are used to split the tree, performed better than



Table B.5: Sources for hand-coded map data

Time period	Source	Link
Jul-14	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-july-13-2014">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-july-13-2014</a>
Aug-14	Der Spiegel	<a href="https://www.spiegel.de/politik/deutschland/waffenlieferungen-fuer-irak-bundesregierung-gibt-gruenes-licht-a-987124.html">https://www.spiegel.de/politik/deutschland/waffenlieferungen-fuer-irak-bundesregierung-gibt-gruenes-licht-a-987124.html</a>
Sep-14	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-september-17-2014">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-september-17-2014</a>
Oct-14	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-october-5-2014">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-october-5-2014</a>
Nov-14	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-november-20-2014">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-november-20-2014</a>
Dec-14	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-december-19-2014">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-december-19-2014</a>
Jan-15	BBC	<a href="https://www.bbc.co.uk/news/world-middle-east-45547595">https://www.bbc.co.uk/news/world-middle-east-45547595</a>
Feb-15	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-february-2-2015">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-february-2-2015</a>
Mar-15	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-march-12-2015">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-march-12-2015</a>
Apr-15	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-april-3-2015">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-april-3-2015</a>
May-15	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-may-18-2015-0">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-may-18-2015-0</a>
Jul-15	ISW	<a href="http://www.understandingwar.org/backgroundunder/control-terrain-iraq-july-20-2015">http://www.understandingwar.org/backgroundunder/control-terrain-iraq-july-20-2015</a>
Sep-15	ISW	<a href="http://www.understandingwar.org/map/control-terrain-iraq-september-11-2015">http://www.understandingwar.org/map/control-terrain-iraq-september-11-2015</a>
Oct-15	ISW	<a href="http://www.understandingwar.org/map/iraq-control-terrain-map-october-30-2015">http://www.understandingwar.org/map/iraq-control-terrain-map-october-30-2015</a>
Nov-15	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-november-25-2015">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-november-25-2015</a>
Feb-16	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-february-9-2016">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-february-9-2016</a>
Apr-16	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-april-21-2016">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-april-21-2016</a>
May-16	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-may-23-2016">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-may-23-2016</a>
Jul-16	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-july-14-2016">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-july-14-2016</a>
Aug-16	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-august-25-2016">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-august-25-2016</a>
Oct-16	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-october-7-2016">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-october-7-2016</a>
Dec-16	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-december-15-2016">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-december-15-2016</a>
Mar-17	ISW	<a href="http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-march-9-2017">http://www.understandingwar.org/backgroundunder/iraq-control-terrain-map-march-9-2017</a>
May-17	ISW	<a href="http://www.understandingwar.org/backgroundunder/isis-sanctuary-may-10-2017">http://www.understandingwar.org/backgroundunder/isis-sanctuary-may-10-2017</a>
Jul-17	BBC	<a href="https://www.bbc.co.uk/news/world-middle-east-45547595">https://www.bbc.co.uk/news/world-middle-east-45547595</a>
Nov-17	Wilson Center	<a href="https://www.wilsoncenter.org/article/isis-after-the-caliphate-o">https://www.wilsoncenter.org/article/isis-after-the-caliphate-o</a>
Mar-18	BBC	<a href="https://www.bbc.co.uk/news/world-middle-east-27838034">https://www.bbc.co.uk/news/world-middle-east-27838034</a>
Oct-18	Al Jazeera	<a href="https://www.aljazeera.com/indepth/interactive/2016/08/iraq-war-map-controls-160830115440480.html">https://www.aljazeera.com/indepth/interactive/2016/08/iraq-war-map-controls-160830115440480.html</a>
Dec-18	EASO	<a href="https://www.easo.europa.eu/sites/default/files/publications/EASO-COI-Report-Iraq-Security-situation.pdf">https://www.easo.europa.eu/sites/default/files/publications/EASO-COI-Report-Iraq-Security-situation.pdf</a>

Naive Bayes, K-nearest neighbour, Linear Discriminant Analysis, Random trees, Random forests and Support Vector Machines and was therefore chosen as final algorithm to classify Iraqi zones of territorial control. The confusion matrix for bagging with 20 features is displayed in Table B.8. Figure B.7 plots the relative importance of each variable in the classification task. Substantially, this classification accuracy means that bagging classified 0.32 of 6 grid-cells in the test data wrong (or on average 1/3 grid cells per month). I then retrained the bagging algorithm for the full set of hand-coded data and classified the unknown months. Figure B.8 displays how many grid cells were held by which armed actor in the full dataset after classifying the data with bagging.

Table B.6: Machine learning features to classify zones of control in Iraq

<i>Feature name</i>	<i>Feature</i>
IDP families	Number of IDP families per grid-cell
Battles all	Number of battles
Battles dum	Dummy if battle took place
Border	Dummy if border region
Camp distance	Distance to nearest formal IDP camp
Mountains mean	Average area covered by mountains
Travel time mean	Average travel time to nearest urban center
Distance capital	Distance to Baghdad
Night lights	Average night-time lights emissions
Population	Total population as of 2010
Precipitation	Total amount of precipitation
Settlements	Number of settlements
Road distance	Distance to nearest major road
Ethnic group	Dummy variables for largest ethnic group: Sunni, Shia, Kurds
Group prop	Proportion of grid-cell occupied by largest ethnic group
Longitude	
Latitude	
Date	

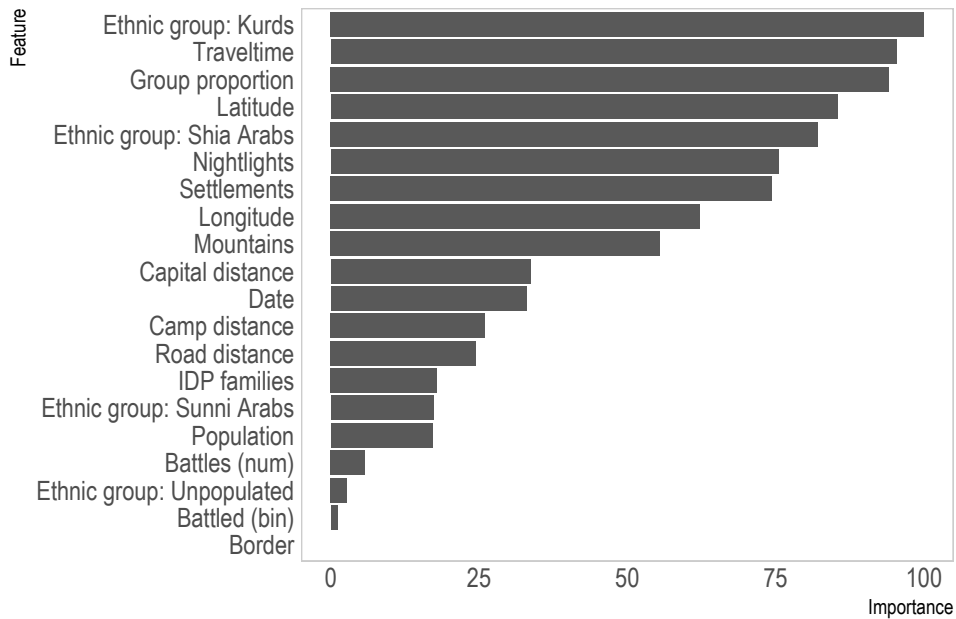


Figure B.7: Importance of features in bagging

Table B.7: Classification accuracy for held-back test set

Accuracy	Bayes	KNN	LDA	tree	bag	forest	svm
Iraqi government	65.135	93.661	78.922	95.087	96.197	96.038	95.880
Islamic State	51.799	66.187	28.777	48.201	70.504	69.784	63.309
Kurdish Peshmerga	94.595	94.595	94.865	95.135	95.135	95.405	87.568
Shia militia	33.858	85.827	61.417	85.827	96.063	91.339	91.339
Uncontrolled/ Unpopulated	92.710	96.112	84.933	96.719	97.205	97.327	96.841
Overall	78.421	92.488	79.713	92.057	94.689	94.402	92.344

Table B.8: Confusion matrix for Bagging (on held-back test set)

	Iraqi government	Islamic State	Kurdish Peshmerga	Shia militia	Uncontrolled/ Unpopulated
Iraqi government	96.197	1.268	0.000	0.000	2.536
Islamic State	12.230	70.504	2.158	0.000	15.108
Kurdish Peshmerga	2.432	2.432	95.135	0.000	0.000
Shia militia	0.000	0.000	0.000	96.063	3.937
Uncontrolled/ Unpopulated	1.094	1.337	0.243	0.122	97.205

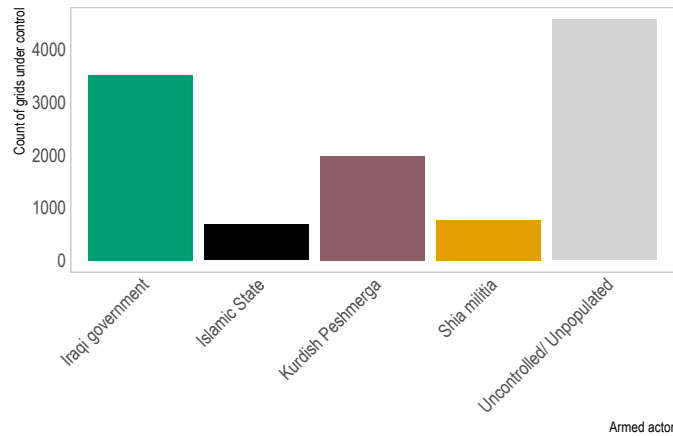


Figure B.8: Distribution of control in overall data

## B.5 Imputation of ethno-religious IDP patterns

This section summarises the imputation steps to obtain grid-cell level proportions of ethno-religious groups in the Iraqi IDP population. The IOM-DTM conducted three data collection rounds to record the ethnicity and religious identification of IDPs. On average, the IOM-DTM team assessed about 90.88% of the IDP shelters in each assessment round.<sup>2</sup> To impute values over the whole time period and for all IDP locations, I used the following procedure:

First, I linearly interpolated the proportions of each ethno-religious group in locations that have been assessed in at least two assessment rounds. Second, I carried values forward and backward for the time before August 2016 and after March 2018 (outside of the assessment rounds) for all locations that have been assessed at least once. After this linear interpolation, there remain locations that have not been assessed in any of the three rounds. In a third step, I therefore imputed the missing information on the proportion of ethno-religious groups within the local IDP population by using KNN imputation. Using the date, latitude, and longitude information, the KNN algorithm identifies the nearest neighbour to any location that has never been assessed and replaces the missing value with the nearest neighbour's ethnic composition. The number of neighbours  $k$  was set to 1 instead of using a weighted average over multiple neighbours because this value minimises the difference between im-

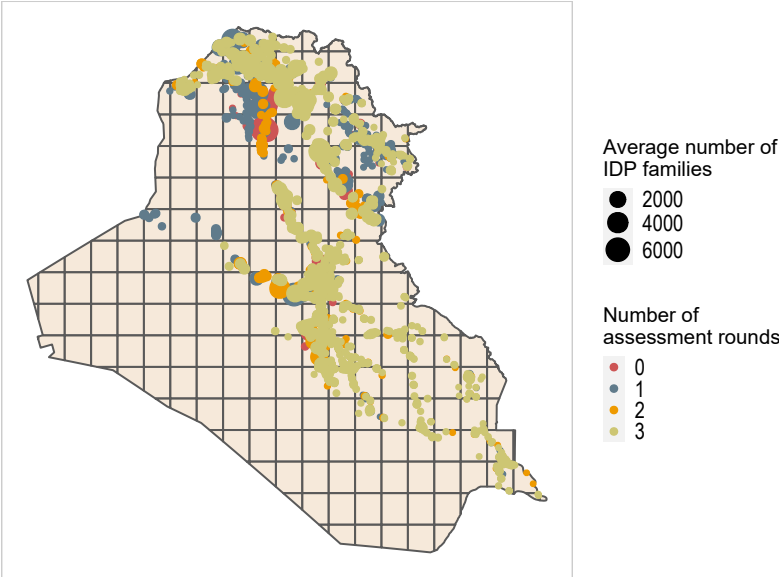
<sup>2</sup>The ethno-religious composition of IDPs was recorded in 89.7% of the locations in assessment round 1 (August 2016), in 98.2% of the locations in round 2 (April 2017), and in 84.7% of the location in round 3 (March 2018).

puted and actual proportions if data is held back (see details on validation below). Table B.9 summarises the step-wise imputation.

**Table B.9: Steps to impute ethno-religious IDP patterns in Iraq**

1. Linear interpolation between the three assessment rounds  
(if location is assessed at least twice)
2. Carry values backwards & forwards for time outside assessments  
that is before August 2016 and after March 2018  
(if location is assessed at least once)
3. Imputation for non-assessed locations using KNN  
(k=1; features: date, latitude, longitude)

Figure B.9 displays a map of the IDP locations in the last assessment round, visualising in colour how often the ethno-religious composition of a point location has been assessed. The size of the dots represents the mean number of IDP families in the recorded location.



**Figure B.9: IDP locations and assessment rounds**

To validate the number of neighbours  $k$ , I held back 300 existing data points on the ethno-religious composition of IDPs from the three IOM-DTM assessment rounds (3.15% of the existing ethno-religious data). I then imputed the values for a range of  $k$

(from 1 neighbour to 10 neighbours). The appropriate choice of the number of neighbours  $k$  is then the value that minimises the absolute difference between the actual and the imputed values. In this case, choosing  $k=1$  minimises the imputation error for all ethno-religious groups. Figure B.10 shows how  $k$  affects the imputation error for the different ethno-religious groups in the data and for the total IDP population, revealing that  $k=1$  minimises the difference between observed and imputed values for this dataset.

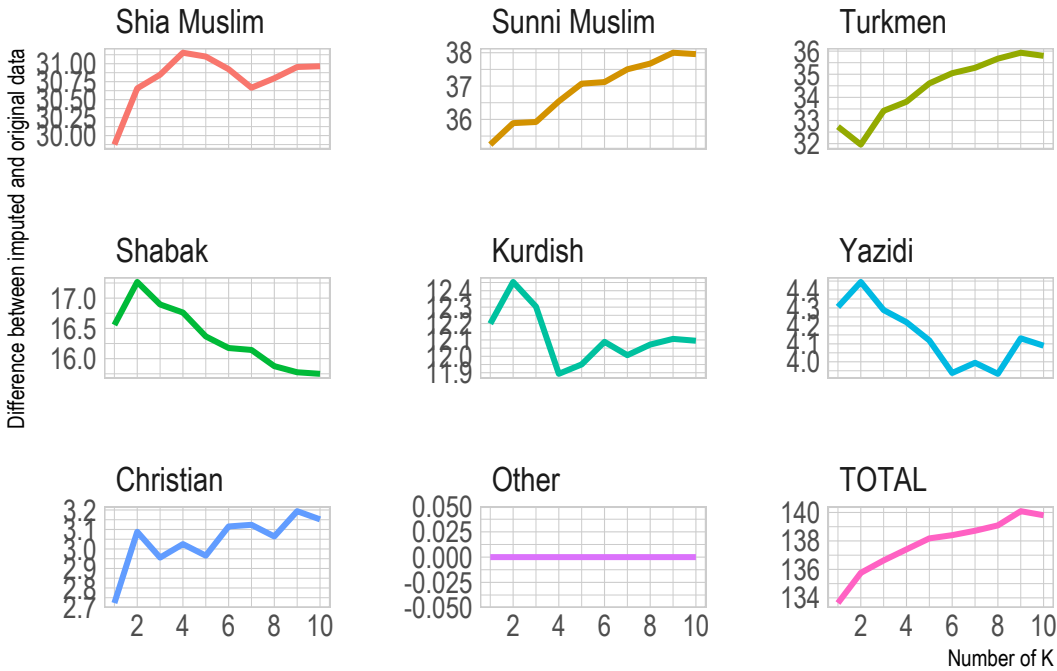


Figure B.10: Validation of  $k$  with held-back data

Figure B.11 displays a scatter plot of the actual and the imputed values of the held back test data. The graph also includes a linear regression line and the correlation between imputed and actual values, which is consistently high for the different ethno-religious groups.

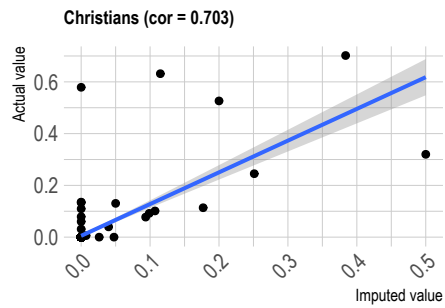
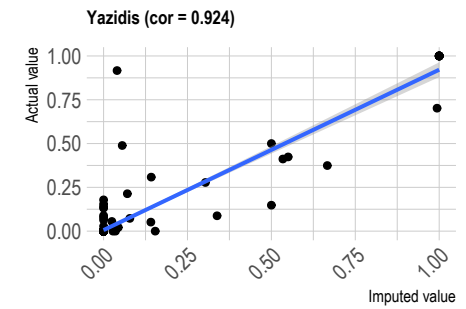
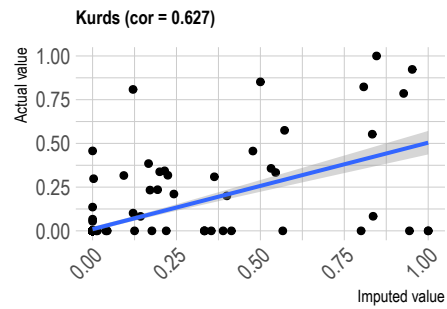
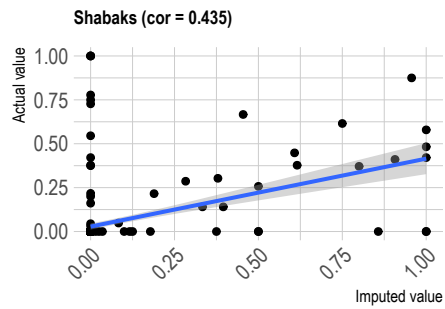
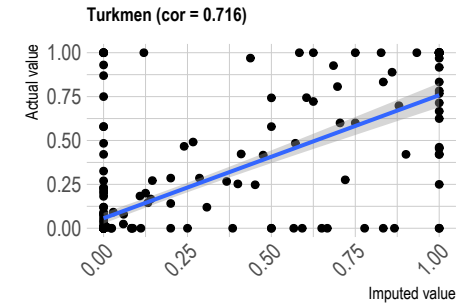
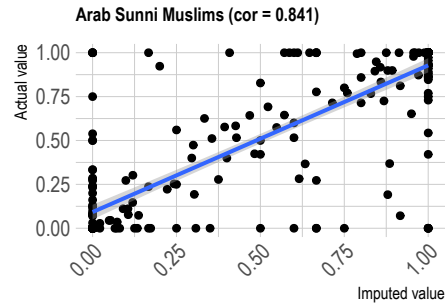
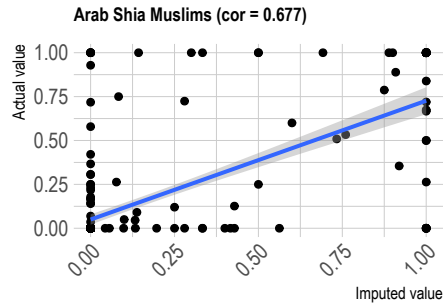


Figure B.11: Imputation quality per ethnic group

## B.6 Summary statistics

Table B.10: Summary statistics for numeric variables in the data

Variable	Mean	SD	Min	Max	Missing
Battles	0.000	1.000	-0.122	43.085	0
Border	0.388	0.487	0.000	1.000	0
Challenge one-sided violence (binary)	0.013	0.113	0.000	1.000	0
Challenger IDP victimization	0.006	0.095	0.000	3.000	2299
Challenger IDP victimization (binary)	0.005	0.071	0.000	1.000	2299
Challenger one-sided violence	0.029	0.405	0.000	20.000	0
Contestation	0.062	0.241	0.000	1.000	0
Distance to capital	0.000	1.000	-1.710	3.813	0
Formal camps	0.000	1.000	-0.161	13.534	0
IDP families	0.000	1.000	-0.295	12.715	0
IDP families (neighbourhood)	0.000	1.000	-0.529	6.793	0
IDP victimization	0.031	0.359	0.000	17.000	2299
IDP victimization (binary)	0.018	0.132	0.000	1.000	2299
Mountains	0.000	1.000	-0.425	2.877	0
Nightlights	0.000	1.000	-0.546	6.205	0
One-sided violence (binary)	0.018	0.133	0.000	1.000	0
One-sided violence (neighbourhood)	0.000	1.000	-0.224	15.481	0
One-sided violence (total)	0.041	0.489	0.000	20.000	0
Population	0.000	1.000	-0.457	10.680	0
Ruler IDP victimization	0.025	0.325	0.000	15.000	2299
Ruler IDP victimization (binary)	0.014	0.116	0.000	1.000	2299
Ruler one-sided violence	0.013	0.266	0.000	17.000	0
Ruler one-sided violence of ruler (binary)	0.005	0.073	0.000	1.000	0
Ruler support amongst IDPs	0.103	0.243	0.000	1.000	0
Travel time to capital	0.000	1.000	-1.320	3.586	0

## B.7 Selection into displacement

This section discusses what factors predict high IDP numbers and high ruler support in the IDP population in my data. This is helpful to understand selection into “my treatment”. For causal inference, IDP destinations are ideally random, i.e. IDPs do not



strategically flee towards areas in which their “preferred” armed actor is in control. However, we know from previous research that this is not the case and IDPs do move towards areas that are inhabited by their co-ethnics and that are controlled by the actors they support. Table B.11 shows that this is also the case for my data as IDPs are more likely to go to government-held areas than to areas held by the Islamic State, by the Peshmerga, or by Shia militia. The most dominant ethnic group living in a grid cell is also a significant predictor of higher IDP numbers: IDP numbers tend to be higher in Sunni and Kurdish areas. This is no surprise as these areas are the ones where the civil war took place. Previous battles, contest and one-sided violence also explain higher/lower IDP numbers.

At the same time, however, several other factors that are not political in nature explain where IDPs seek shelter in Iraq: IDPs tend to go to more populated areas with less mountainous terrain, they tend to go to areas with a better economy (approximated by night lights) and that are closer to roads and camps. All of these factors also explain the levels of ruler support we can find in my data (see models 2 and 3). These models should be interpreted with hesitation as I cannot distinguish between *incoming* and already *existing* IDPs in a given grid cell: I have no way to distinguish if IDPs are attracted to an area, have been displaced within this grid cell, or are trying to leave this particular area.

Overall, the selection into my treatment - into displacement - is driven by a mix of strategic and non-strategic incentives. I ran linear regressions to predict IDP numbers, ruler support, and the interaction of it. I did this once for all endogenous factors of a conflict (i.e. for territorial control, ethnic settlement patterns, battles, one-sided violence) that could be related to strategic self-selection and for exogenous factors (i.e. population, night lights, terrain, distance to capital, road distance) that appear non-strategic predictors. I then compare the adjusted R-square to see which models explain more variation (see Table B.12). Overall, the strategic factors seem to explain more variation for IDP numbers and IDP support for the ruler but both factors seem relevant. While this does not allow me a clear causal identification, this mixture of factor driving IDP flows and ruler support can be analyzed descriptively.

After all, the majority of IDPs in my data do not support the local ruler (10.29%) and do not seem to make a strategic choice into which territory they go. This is because the nature of forced displacement allows fleeing civilians only limited space to choose

Table B.11: Predictors of IDP numbers and patterns of ruler support (OLS)

	<i>Dependent variable:</i>		
	IDP families	IDP ruler support	IDP families x ruler support
	(1)	(2)	(3)
Controlled by Government	0.069* (0.023)	0.049* (0.007)	-0.059* (0.006)
Controlled by IS	-0.161* (0.034)	0.353* (0.011)	0.131* (0.009)
Controlled by Peshmerga	-0.377* (0.045)	0.136* (0.014)	0.067* (0.012)
Controlled by Shia militia	-0.266* (0.039)	0.018 (0.012)	-0.021* (0.011)
Previously controlled by Government	0.014 (0.019)	0.081* (0.006)	-0.010 (0.005)
Previously controlled by IS	0.213* (0.034)	0.030* (0.010)	0.018* (0.009)
Previously controlled by Peshmerga	-0.039 (0.034)	-0.048* (0.010)	0.022* (0.009)
Previously controlled by Shia militia	-0.025 (0.037)	0.044* (0.012)	-0.025* (0.010)
Dominant ethnic group: Kurds	0.535* (0.045)	-0.007 (0.014)	-0.063* (0.012)
Dominant ethnic group: Shia	-0.195* (0.025)	0.086* (0.008)	0.001 (0.007)
Dominant ethnic group: Sunni	-0.025 (0.021)	0.005 (0.006)	-0.021* (0.006)
Battles	-0.007 (0.008)	0.001 (0.002)	0.006* (0.002)
Battles in previous month	-0.036* (0.008)	-0.008* (0.002)	-0.012* (0.002)
One-sided violence	0.264* (0.017)	-0.023* (0.005)	-0.019* (0.005)
One-sided violence in previous month	-0.135* (0.016)	-0.015* (0.005)	-0.015* (0.004)
Contested in this month	-0.059* (0.028)	-0.068* (0.009)	0.005 (0.008)
Contested in previous month	0.045 (0.028)	-0.004 (0.009)	0.018* (0.008)
Population	0.153* (0.008)	-0.004 (0.003)	-0.010* (0.002)
Terrain ruggedness	-0.050* (0.011)	0.015* (0.004)	-0.002 (0.003)
Nightlights	0.129* (0.008)	0.037* (0.003)	-0.001 (0.002)
Distance to capital	0.009 (0.008)	0.013* (0.003)	-0.003 (0.002)
Distance to road network	0.035* (0.010)	-0.013* (0.003)	0.005* (0.003)
Border	-0.053* (0.017)	-0.081* (0.005)	0.013* (0.005)
Formal camps	0.232* (0.007)	0.001 (0.002)	0.060* (0.002)
IDP families in neighbourhood	0.477* (0.009)	-0.026* (0.003)	0.042* (0.002)
One-sided violence in neighbourhood	-0.069* (0.008)	0.009* (0.003)	0.024* (0.002)
Constant	0.040* (0.019)	0.034* (0.006)	0.025* (0.005)
Observations	11,494	11,494	11,494
R <sup>2</sup>	0.547	0.265	0.247
Adjusted R <sup>2</sup>	0.546	0.263	0.246
Residual Std. Error (df = 11467)	0.674	0.208	0.181
F Statistic (df = 26; 11467)	533.332*	159.011*	144.837*

Note:

Significance threshold: \* p < 0.05

Table B.12: Variation in displacement explained by strategic and non-strategic predictors (Adjusted R square)

	Strategic	Non-strategic
IDP families	0.456	0.361
IDP ruler support	0.233	0.107
IDP families x ruler support	0.182	0.136

their preferred destination. For example, if fighting in Anbar breaks out, most Iraqi IDPs can only move westwards because the Syrian border and the desert in the South do not allow for other directions. As a result, Sunnis from Anbar must move into territory controlled by Kurdish, Shia, and minority forces. This is common in my data.

## B.8 Additional robustness checks

### B.8.1 Lagged variables

Lagging my main independent variables could be one naive way to mitigate the problem that the causal direction that links my independent variables of interest (IDP numbers and patterns of support) and my dependent variable (one-sided violence) could plausibly be reversed. Lagging the IDP number and the support for the local ruler would imply that one-sided violence is explained by the displacement in the previous month and would hence minimize the problem that high numbers of IDPs in one month could be due to high levels of one-sided violence in that month rather than as a result of IDPs. When lagging my main independent variables, I find a negative interaction effect for all ruler violence against civilians and a positive interaction effect for all challenger violence against civilians (as expected by my theoretical argument). For violence against IDPs more specifically, I find no significant effects for challenger and ruler violence. However, in tendency, the non-significant positive interaction effect for ruler violence is very small and negligible while the positive effect of challenger violence is stronger. Table B.13 display zero-inflated negative binomial regressions with my main independent variables being lagged.

Table B.13: Zero-inflated negative binomial regressions with lagged variables

	Ruler OSV	Ruler IDP-OSV	Challenger OSV	Challenger IDP-OSV
	(1)	(2)	(3)	(4)
IDP families x ruler support	-0.371* (0.122)	0.084 (0.154)	0.415* (0.175)	0.261 (0.216)
Number of IDP families	0.004 (0.097)	0.154* (0.071)	0.204* (0.039)	0.041 (0.078)
IDP support for ruler	0.486 (0.431)	-0.740 (0.459)	-2.392* (0.702)	-0.241 (0.837)
Controls ?	Yes	Yes	Yes	Yes
Observations	11,286	8,987	11,286	8,987
Log Likelihood	-219.149	-540.945	-572.082	-230.447

Note:

Significance threshold: \* p < 0.05

## B.8.2 Fixed and random effects models

The control variables in the main models do not fully account for heterogeneity across grid cells. Some grid cells are unlikely to see one-sided violence and others are more likely to be contested, such as the grid cells containing Anbar region, Mosul or Baghdad. Table B.8.2 reports fixed and random effects linear regressions for the count of OSV by rulers (1+2) and by challengers (3+4). Models 5 and 6 display the results when I focus on one-sided violence against IDPs by the ruler and models 7 and 8 by the challenger.

	Ruler OSV		Challenger OSV		Ruler IDP-OSV		Challenger IDP-OSV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IDP families x ruler support	0.014 (0.035)	-0.012 (0.035)	-0.110 (0.097)	-0.114 (0.095)	0.049* (0.024)	0.025 (0.025)	0.004 (0.011)	-0.001 (0.014)
Number of IDP families	-0.064* (0.031)	-0.028* (0.011)	0.060* (0.027)	0.075* (0.029)	0.008 (0.027)	0.011 (0.017)	0.005 (0.008)	0.004 (0.004)
IDP support for ruler	-0.041 (0.045)	-0.032 (0.035)	-0.014 (0.021)	-0.022 (0.017)	0.028 (0.063)	0.004 (0.029)	0.004 (0.010)	-0.001 (0.004)
Controls ?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Model ?	Fixed	Random	Fixed	Random	Fixed	Random	Fixed	Random

Note:

Significance threshold: \* p < 0.05

# Appendix C

## Appendix for Chapter 4

### C.1 Details on the survey sampling for the Sinjar sample

The survey sampling was intended to be as representative as possible of the displaced from Sinjar. Without existing sampling frames and good data on the origin of displaced populations, the humanitarian organization identified the 5 sub-districts with the highest proportion of Yazidis amongst the Iraqi IDP population based on data from the Integrated Locations Assessment III by the IOM Displacement Tracking Matrix (IOM, 2020). They included these sub-districts in the sampling following the logic that IDP locations with many Yazidis suggest that they are from Sinjar because prior to displacement Yazidis were predominantly living in Sinjar. Within the sub-district, the humanitarian organization sent trained enumerators into the locations (villages, towns, etc.) with the highest number of IDPs and returnees and asked them to start a random walk to recruit respondents proportional to the amount of displaced Yazidis in the area. The humanitarian organization provided the enumerators with a target number of respondents per sub-district weighting sub-districts with many more Yazidi IDPs heavier than sub-districts with fewer Yazidis.

To add on this population-based sampling, the survey included two booster samples. First, in order to include IDPs and returnees, the humanitarian organization increased the number of respondents to sample within Sinjar to about 20% of the total sample to include more returned Yazidis. Secondly, they included a sample of about 150 Sunni Arabs that have found shelter in Mosul to reflect the return intentions and decisions of another central population group in Sinjar. Although the vast majority of IDPs fleeing Sinjar were Yazidis, a sizeable population of Sunni Arabs also left the area

and found themselves moving towards Mosul. The Sunni population from Sinjar that has found shelter in Mosul is of particular relevance to the humanitarian organization. This enables us to study group-level differences in access to housing, land and property between Yazidis and Sunni Muslims. The final list of sub-districts included in the sampling are Sindi, Al-Shamal, Markaz Al-Shikan, Markaz Sinjar, Markaz Zakho and Al-Mosul. Further details on the sampling frame can be found in Table C.1.

Table C.1: Sub-districts in the sampling frame, including the reasoning for sampling the area, the proportion of Yazidis hosted in this area in 2018, the target number of respondents and the suggested locations per subdistrict that served as starting point.

Sub-district	Why	% Yazidis	Target	Locations
Sindi	IDPs from Sinjar	39.27	300-400	Shariya, Qasr Yazddin, New Zinya, Khanke Qadima
Al-Shamal	IDPs from Sinjar	13.11	150	Sinuni center, Khana sor, Sardashty, Borek
Markaz Al-Shikhan	IDPs from Sinjar	8.75	75	Baadre, Shekhan, Mahad, Esiyan Village
Markaz Sinjar	Returnees to Sinjar/ IDPs from Sinjar	7.52	650-700	Rozh Halat, Hay Alshuhada, Hay Al Naser, Hay Azadi
Markaz Zakho	IDPs from Sinjar	6.28	75	Khrababka Sector, Bedar Sector, Rizgari, Diraboon
Al-Mosul	IDPs from Sinjar (Sunni!)	NA	150	Neighbourhoods in the South

## C.2 Regression specification for conjoint experiment

Following Hainmueller, Hopkins and Yamamoto (2014), we estimate the probability that respondents recommend a return in the forced choice design via:

$$\text{Return}_{ijk} = \gamma_0 + \gamma_1 \text{Violence}_{ijk} + \gamma_2 \text{SocialNetwork}_{ijk} + \gamma_3 \text{EconomicConstraints}_{ijk} + \gamma_4 \text{HLPRights}_{ijk} + \epsilon_i \quad (\text{C.1})$$

where  $i$  indicates the respondent,  $k$  indicates the round, and  $j$  indicates the scenario. In our setting,  $i \in \{1, 2, \dots, 1, 474\}$ ,  $k \in \{1, 2\}$ , and  $j \in \{1, 2\}$ . Each respondent  $i$  yields 4 observations: 2 rounds, and 2 choices per round. The unit of analysis is the hypothetical return scenario, the outcome is a binary indicator for whether the respondent would recommend a return, and the explanatory variables are the attributes describing the home town. Because each return attribute is randomly assigned, the unbiased estimate of the average effect of each attribute on the likelihood that the respondent would choose return is given by the equation above. We cluster standard errors at the respondent level.

### **C.3 Descriptive findings on returns and property rights in Iraq**

In our overall sample, 56.25% of the persons of concern have returned. This demonstrates that the timing of the survey is useful as returns are not completed yet but we also do not assess returns while security concerns are making returns entirely unrealistic. We report varying return rates per governorate in the Table C.2. In general, returns to Anbar, Baghdad, and Erbil (over 80%) are relatively high in our sample while returns to Ninewa and Kirkuk are still more limited (20.87-49.17%).

The survey also asks for descriptive reasons why IDPs have not yet returned to their habitual residence. Figure~C.1 reports these main reason in our sample and highlights that over 60% of IDPs report that damaged or destroyed property in the origin hinder their return. This is a first descriptive indication that an assessment of property rights and return rates is of high salience.

This is further confirmed by the fact that many IDPs and returnees in the sample highlight disputes over property, tenancy, and secondary occupation of property as salient types of disputes in their original communities: In Anbar, 31.3% of our survey respondents report that disputes over property boundaries are common and 22.45% of Anbari survey respondents report community disputes related to tenancies. Tenancy disputes are also very prevalent in the communities of origin in Ninewa with 22.65% of respondents reporting these disputes. The most affected governorate in our sample is Kirkuk where disputes over property boundaries, agricultural land, and own-

Table C.2: Return rate per governorate in unmatched data

	Return rate	Observations
Babil	100.00	1
Kerbala	100.00	12
Qadissiya	100.00	2
Sulaymaniyah	100.00	2
Wassit	100.00	1
Anbar	92.37	236
Baghdad	81.82	11
Erbil	80.00	5
Ninewa	49.17	543
Kirkuk	20.87	115
Dahuk	0.00	6
Diyala	0.00	1
Salah Al-Din	0.00	25
TOTAL	56.25	960

ership are reported by around 40% of our respondents. Notably is also that 26.96% of the respondents from Kirkuk report that their communities of origin struggle with disputes over sales of land by IS. In general, returnees consistently report less HLP disputes in their communities than IDPs (see Figure C.2).



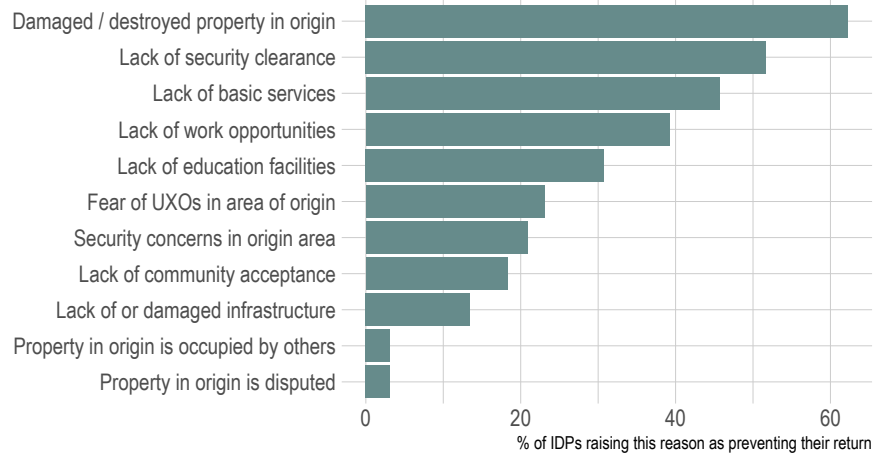


Figure C.1: Descriptive reasons why IDPs have not returned to their place of origin in Iraq

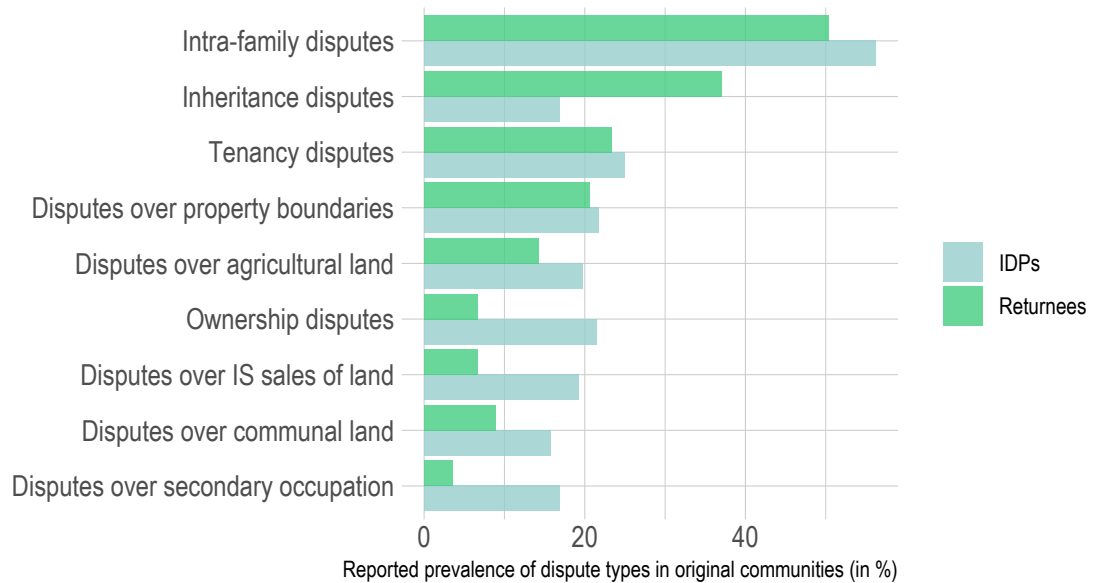


Figure C.2: Descriptive prevalence of the most common community disputes in the communities of origin for IDPs and returnees

## C.4 Matching statistics

Table C.3: Balance statistics before and after Exact Matching (matched on property ownership)

	Mean (control)	Mean (treat)	Diff	L1	Min	25%	50%	75%	Max
<b>Pre-matching</b>									
Latitude at origin	35.252	35.486	0.234	0.000	-0.075	0.857	0.000	0.000	0.219
Longitude at origin	42.660	42.655	-0.005	0.000	0.000	0.000	0.000	0.000	0.753
Gender	0.462	0.443	-0.019	0.019	0.000	0.000	0.000	0.000	0.000
Currently in camp	0.141	0.195	0.054	0.054	0.000	0.000	0.000	0.000	0.000
Displaced < 6 months	0.179	0.089	-0.091	0.091	0.000	0.000	0.000	0.000	0.000
Displaced 6 to 12 months	0.192	0.181	-0.011	0.011	0.000	0.000	0.000	0.000	0.000
Displaced > 12 months	0.629	0.730	0.102	0.102	0.000	0.000	0.000	0.000	0.000
<b>Post-matching</b>									
Latitude at origin	35.319	35.567	-0.248	0.000	0.000	-1.141	0.000	-0.021	0.000
Longitude at origin	42.577	42.536	0.041	0.000	0.000	0.000	0.359	0.000	0.000
Gender	0.457	0.452	0.005	0.005	0.000	0.000	0.000	0.000	0.000
Currently in camp	0.131	0.173	-0.042	0.042	0.000	0.000	0.000	0.000	0.000
Displaced < 6 months	0.174	0.095	0.079	0.079	0.000	0.000	0.000	0.000	0.000
Displaced 6 to 12 months	0.201	0.192	0.008	0.008	0.000	0.000	0.000	0.000	0.000
Displaced > 12 months	0.626	0.713	-0.087	0.087	0.000	0.000	0.000	0.000	0.000

## C.5 Additional results and full models

Table C.4 provides results from OLS regressions without matching. Figure C.3 displays the dependency of the results on the chosen matching algorithm. Figure C.4 displays coefficient plots for when we do not only focus on all data (circled point estimates) but also on a subset of the data from Anbar and Ninewa (triangle point estimates). The results suggest similar dynamics in Anbar and Ninewa as in the full data sample. Property rights seem to also play an important role in return decisions of populations - like IDPs in Anbar and Ninewa - that predominantly move because of security concerns. The policy implication is that - even in situations in which security concerns are paramount - supporting secure HLP rights can encourage returns.

Another subset analysis differentiating between returned and resettled IDPs can be found in Figure C.5. Figure C.5 provides an analysis that focuses on the distinction

between IDPs, returnees and resettled IDPs. This analysis demonstrates that in particular property destruction incentives resettlement rather than returns.

Table C.4: OLS regressions with controls (on unmatched data)

	<i>Dependent variable:</i>				
	Returned				
	(1)	(2)	(3)	(4)	(5)
Ownership of property in origin	-0.059* (0.028)				-0.017 (0.030)
Destroyed property in origin		-0.450* (0.026)			-0.459* (0.026)
Disputed property in origin			-0.209* (0.052)		-0.175* (0.047)
Proof of ownership in origin				0.031 (0.028)	0.104* (0.028)
Post-treatment controls	Y	Y	Y	Y	Y
Observations	960	960	960	960	960
R <sup>2</sup>	0.264	0.435	0.273	0.262	0.452
Adjusted R <sup>2</sup>	0.259	0.430	0.268	0.257	0.447

Note:

\*p<0.05; \*\*p<[0.\*\*]; \*\*\*p<[0.\*\*\*]

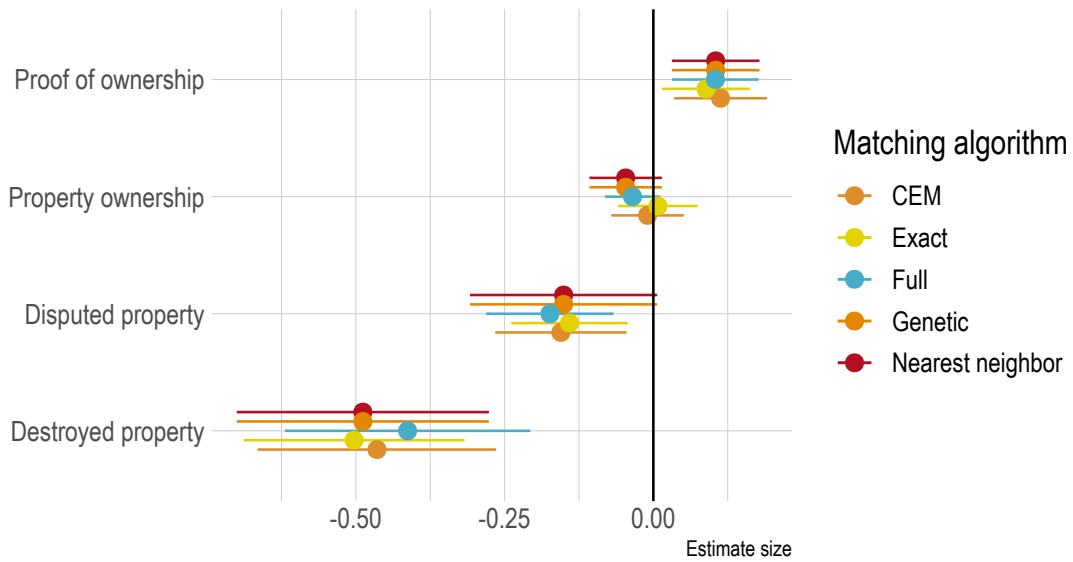


Figure C.3: Matching analysis with different algorithms

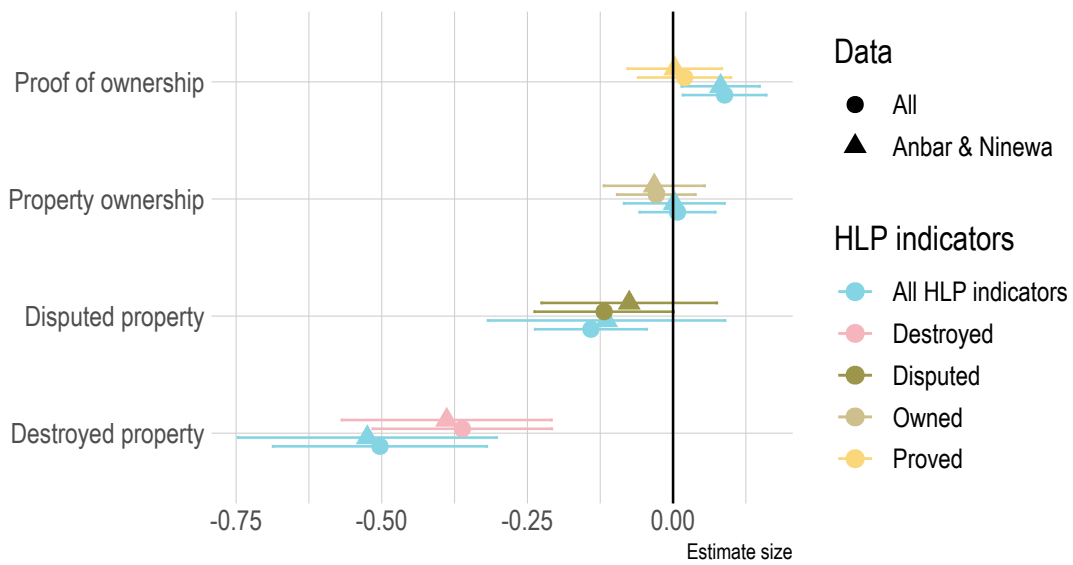


Figure C.4: Coefficient plots for Models 1-5 using exact matching on the full data set and a subset of data from Anbar and Ninewa

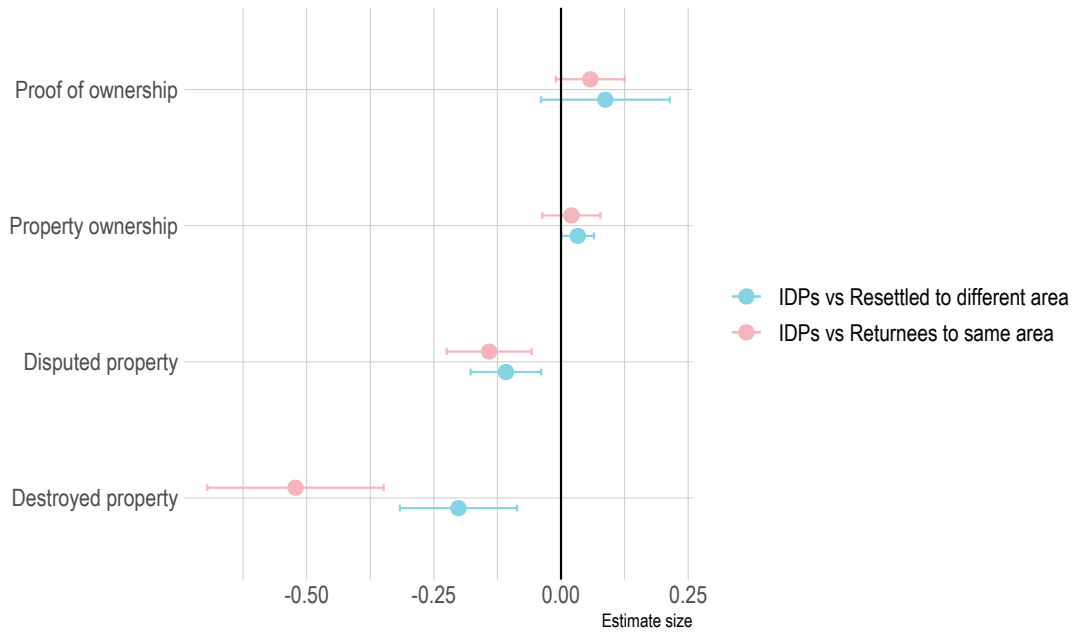


Figure C.5: Coefficient plots for Model 5 using exact matching to compare IDPs with returnees to the same location and those resettled to a new location

## C.6 Additional heterogeneous treatment effect for the conjoint experiment

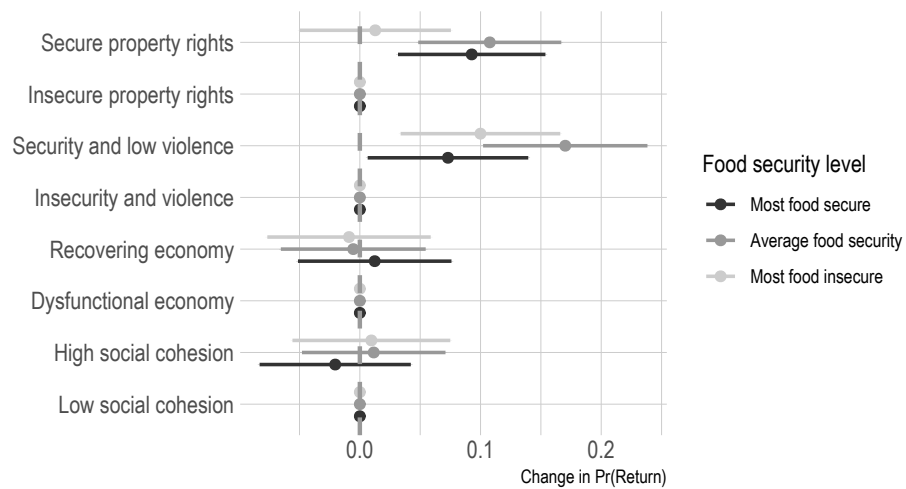


Figure C.6: Heterogeneous treatment effects for the conjoint experiment: by food security levels

## C.7 Additional findings from the vignette experiment

Table C.5 displays the effect of the vignette treatments (political discrimination and/or economic uncertainty) on the perceived ability to recover economically or politically/socially. Respondents were asked to evaluate if the hypothetical person is likely to recover economically and be able to make a living and whether the hypothetical person is likely to be able to express and shape opinions in their community after return.

Table C.5: Effect of experimental treatment (political discrimination and/or economic uncertainty) on ability to recover economically and politically/socially

	<i>Dependent variable:</i>					
	Economic recovery			Political and social recovery		
	(1)	(2)	(3)	(4)	(5)	(6)
High discrimination and uncertainty	-0.192*			-0.140		
	(0.076)			(0.084)		
Either high discrimination or uncertainty	-0.192*			-0.107		
	(0.067)			(0.074)		
High uncertainty		-0.076			-0.134*	
		(0.053)			(0.058)	
High discrimination			-0.102			0.001
			(0.053)			(0.059)
Constant	1.462*	1.351*	1.367*	1.376*	1.352*	1.284*
	(0.056)	(0.037)	(0.038)	(0.062)	(0.042)	(0.043)
Observations	1,467	1,467	1,467	1,465	1,465	1,465
R <sup>2</sup>	0.006	0.001	0.003	0.002	0.004	0.00000
Adjusted R <sup>2</sup>	0.005	0.001	0.002	0.001	0.003	-0.001

Note:

\*p<0.05; \*\*p<[0.\*\*]; \*\*\*p<[0.\*\*\*]

## C.8 Pre-analysis plan

### Property Rights and Post-Conflict Recovery: Evidence from IDP Return Movements in Iraq

#### Pre-Analysis Plan

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How do housing, land and property rights affect the return of displaced populations to their homes after conflicts? We pre-register a set of survey experiments that explore 1) whether property rights are a factor that shapes the return of displaced populations and 2) what aspects of property rights (uncertainty and discrimination) matter for return decisions. We aim to show that individuals with more secure and non-discriminatory property rights are more likely to return home after displacement than individuals lacking written documentation and facing other barriers to access to their housing and land, suggesting that property rights and a stable transition to peace are interlinked.

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#### Introduction

We explore how a critical governance institution shapes the transition from conflict to peace: property rights. Property rights, or the rules, norms, and practices that structure access, ownership and use of real property (Knight and Jack, 1992; North et al., 1990), are at the heart of governance in most societies. Property rights structure not only economic hierarchies, but also access to and legitimate use of power. As a result, variation in individuals' and communities' access to and enjoyment of their property rights is an important factor in understanding the trajectory of politics in periods of instability and conflict.

There are many ways that the type and quality of property rights institutions might shape post-conflict stability. Building on existing literature, we describe two general mechanisms: First, functioning property rights are hypothesized to be a necessary condition for economic development, which is in turn linked to stability (e.g Galiani and Schargrodsky, 2010; Berry, 2009; Goldstein and Udry, 2008). Second, although property rights are often described in economic terms, they are political institutions that shape ac-

cess to power within a specific geographic space. In many cases, property rights do not function the same way for all individuals or groups across different geographic spaces, even within a nation-state. Groups who enjoy more limited property rights in a specific space face higher levels of exclusion or vulnerability in the post-conflict society. When property rights institutions discriminate between social groups, these structural inequalities can shape not only the economic, but also the political trajectory of the post-conflict period.

To explore the relationship between property rights and post-conflict stability, we focus on population returns after conflict-induced displacement. We argue that uncertainty in property rights slows down population returns for those suffering from weaker property rights because property rights moderate access to economic assets. We also argue that discriminatory property rights, that grant some groups stronger access to their housing, land and property than others, lead to unequal and discriminatory population returns by moderating who has access to political and social power.

To explore this relationship between property rights and population returns, we use two survey experiments embedded in individual-level survey data collected by [HUMANITARIAN PARTNER] in 2021 from internally displaced persons (IDPs) and returnees inside of Iraq. Our survey focuses on Yazidi and Sunni Muslim IDPs that have fled from the area around Sinjar with the rise of the Islamic State in Iraq. We survey returnees and IDPs that have not yet returned to Sinjar to descriptively understand their economic and political situation, their return intentions and their property rights situation. The survey experiments elicit in an experimental way whether the actual return decisions of this survey population is shaped by property rights and whether in particular uncertainty or discrimination in property rights shape return decisions.



### Conceptual Framework and Hypotheses

We link uncertain and discriminatory property rights institutions to population returns after conflict through two broad mechanisms. First, we link individual's ability to engage with a functional property rights system - where an institution has the capacity to carry out their responsibilities in a systematic and predictable way - to relative levels of economic development (e.g. Galiani and Schargrodsky, 2010; Berry, 2009; Goldstein and Udry, 2008), which increases the probability of return. Property rights uncertainty can manifest in numerous ways, including delays or obstacles in the basic functions of property administration, such as claiming, transferring or making changes to a property (e.g. transfer property upon the death of a family member). When individuals face this uncertainty, resuming their economic activity is both riskier and costlier, deterring return.

Second, we also link discrimination within property rights institutions to return after conflict. Property rights have historically been designed to exclude most of the population in a given location from both economic and political power (Boone, 2007). Over time, norms and market-based reforms have created the conditions where property rights and a political voice have become - if not feasible demands - at least aspirations for many. Despite, or perhaps because of the increased demand for access to a minimum level of economic and political power, property rights institutions remain exclusive, in that they only grant selective access to power for members of specific social groups. Members of these groups may face *de jure* discrimination, where institutions explicitly limit their ability to enjoy property rights. They may also face *de facto* limits on property rights, including prejudice during administrative or legal processes, that makes equal enjoyment of their rights less likely or impossible. Individuals that do not enjoy the same access to property rights, or whose property rights are contested because of their membership in a particular group, face higher levels of exclusion or vulnerability in their place of origin, making them less likely to return. These mechanisms imply two observable implications:

***Observable implication 1:** Uncertain and discriminatory property rights institutions create variation in property rights security that helps to explain individual variation in return after conflict.*

***Observable implication 2:** Discriminatory property rights institutions create variation in property rights security that helps to explain group-level variation in return after conflict.*

#### **Case selection: property rights and return movements in Sinjar (Iraq)**

To test these general implications, we focus on the Iraq civil war between the Iraqi central government, Kurdish forces and the Islamic State from 2014-2017. In 2014, the Iraqi civil war caused the highest number of displaced persons worldwide, uprooting a large part of the Iraqi population due to the rapid territorial advances of the Islamic State. While the jihadist group was pushed back and defeated by a range of armed actors in Iraq, many IDPs in Iraq have still not returned to their habitual pre-war residence as of today, requiring humanitarian assistance and impeding economic, political and social recovery.

Iraq's property rights system today recognizes a range of complex formal and informal institutions, drawing on state law, community-based or customary institutions, as well as Islamic *Shari'a* law. The diverse origins for property rights, destroyed written records during the civil war and limited documentation increase uncertainty in the Iraqi property rights system. At the same time, long-standing discrimination against minorities' access to housing and land rights is common in Iraq's system and has been further amplified by the recent waves of violence. The varying levels of uncertainty and discrimination in property rights in Iraq hence provide the context for this study of return decisions.

More specifically, we focus on the population in and around Sinjar, in the northwest of Iraq. The Sinjar region is known to be the homeland of the Yazidis as Kurdish-speaking religious minority in Iraq (UN-HABITAT, 2020). Prior to the conflict in 2014, the area was predominantly inhabited by Yazidis with sizable Sunni Arab, Sunni and Shia Kurds,

Turkmen and Christian minorities. Since the 1970s, the Yazidis have been subjected to discriminatory policies due to the Ba'athist Arabisation campaign in Iraq's north. As part of this attempt to replace Iraqi minorities with Sunni Arabs, the regime repopulated and resettled Arabs from the south of Mosul and other areas into Sinjar district and deported Yazidi villagers in 1975 into "collective townships". Property was confiscated from Kurdish and Yazidi homes and auctioned to Arab citizens, villages were destroyed and inhabitants displaced. As a result, many inhabitants in Sinjar district still experience the lack of property certificates for their houses and plots as well as a complex collectivisation system for their property. In August 2014, the Islamic State captured the district and conducted massacres in Sinjar, forcibly displacing around 300,000 Yazidis, 8,000 Kurds and 30,000 Turkmen (UN-HABITAT, 2020) until the occupation ended in November 2015. Given this background of displacement, conflict exposure, and property rights discrimination and uncertainty, the area around Sinjar is of particular interest to study how property rights affect return movements. Sinjar district is characterised as one of the lowest return areas in Iraq: while 78% of Iraqis have returned home in October 2019, only 34% of the inhabitants in Sinjar have made the decision to return. One factor in this could be the fragile balance and co-habitation of different minorities in Iraq, that face different obstacles in their access to housing and land. To capture this diversity in access to property rights and returns, we focus on Yazidi respondents that have fled from Sinjar as well as Sunni Arabs from Sinjar that have fled to Mosul.

### **Empirical strategy**

To understand how property rights affect the decision to return after conflict, we propose two survey experiments and an observational regression analysis. The first experiment explores the degree to which HLP rights are, at all, a factor that shapes return decision-making. The second experiment explores whether uncertainty in property rights, versus discrimination, is more likely to shape people's perception about their ability to access

property rights in the post-conflict period. Finally, we complement these survey experiments with a descriptive observational analysis in which we use the actual property rights distribution in our sample to explain return decisions in a regression framework.

*Experiment One: The relative importance of HLP rights for return decisions*

We draw on a conjoint experiment to explore, all else being equal, the relative importance of four factors in shaping return decisions. We provide our survey respondents with two hypothetical scenarios, prompting the respondents that these are displaced individuals considering a return to their homes. We ask respondents to evaluate which respondent should rather return home in comparison to the alternative scenario (forced choice design). The randomly selected scenario pairs vary on the level of violence, the social network, economic constraints and HLP rights in the location of origin as displayed in Table 1. The respondents evaluate two rounds of scenario pairs, each time they are asked to decide who should return and to which armed actor they should turn if they find their house occupied by another family at their return.

Attribute	Level 1	Level 2
Violence	Fear that there is still occasionally some violence in the returnees hometown and presence of armed groups.	Improved security situation in the hometown and armed actors have left the area.
Social network	Family and friends have resettled to different parts of Iraq because of suspicion towards returnees in the hometown.	Family and friends have returned and were welcomed warmly.
Economic constraints	Lacking recovery of local shops and businesses and labor is short.	Reopening of restaurants and shops and businesses start hiring staff.
HLP rights	Many displaced people face obstacles accessing their houses and land at return and uncertainty whether documentation is sufficient to reclaim the owned house.	Ownership of written proof of ownership over the house and functioning compensation mechanisms for damage to house and land.

Table 1: Conjoint setup: Respondents are presented with two scenarios that vary on four attribute dimensions with two potential levels. Level 1 describes the prompts theoretically disfavoring a return. Level 2 lists the prompts theoretically favouring a return.

**Expectations:** In general, we expect that high levels of violence, a reduced social network,

and lacking economic recovery will deter respondents from recommending a return to the hypothetical home town. However, our main focus is on housing, land and property rights and we expect that housing, land and property rights shape decisions to return. This means we expect that our survey respondents will recommend returns to a stronger degree if the property rights system in the hypothetical town is functioning and does not suffer from high levels of uncertainty. We do not expect this effect to crowd out or be stronger than the other factors driving return decisions.

In addition, we expect that respondents with particularly weak property rights will weight property rights more heavily in return decision than other factors because they are more aware of the difficulties to return when housing and shelter rights remain uncertain. We also ask respondents to evaluate whether the returning IDP family should turn to formal or informal institutions to enforce their property rights if needed. We expect that scenarios in which property rights are described as being enforceable through restitution and compensation mechanism will push respondents to turn to more formal institutions to resolve property issues while dysfunctional compensation and restitution mechanism will push respondents to turn to more informal institutions.

Our expectations for the first survey experiment are summarised here:

- **H1:** Strong HLP rights make return more likely than weaker HLP rights
- **H2:** Respondents reporting weak property rights weight HLP rights more heavily for return decisions than respondents with stronger property rights.
- **H3:** Strong HLP rights with formal restitution and compensation mechanism make a turn to formal institutions rather than formal institutions more likely.

For this experiment, we do not have a strong prior about whether specific sub-groups will have different preferences (for example by ethnic group, or gender, or displacement status). We will conduct this exploratory analysis, and write up our descriptive findings, but we do not have specific hypotheses about this analysis.

**Estimation strategy:** Following Hainmueller, Hopkins and Yamamoto (2014), we estimate the probability that respondents recommend a return in the forced choice design via:

$$\text{Return}_{ijk} = \gamma_0 + \gamma_1 \text{Violence}_{ikj} + \gamma_2 \text{SocialNetwork}_{ikj} + \gamma_3 \text{EconomicConstraints}_{ikj} + \gamma_4 \text{HLRights}_{ikj} + \epsilon_i \quad (1)$$

where  $i$  indicates the respondent,  $k$  indicates the round, and  $j$  indicates the scenario. In our setting,  $i \in \{1, 2, \dots, 1,500\}$ ,  $k \in \{1, 2\}$ , and  $j \in \{1, 2\}$ . Each respondent  $i$  yields 4 observations: 2 rounds, and 2 choices per round. The unit of analysis is the hypothetical return scenario, the outcome is a binary indicator for whether the respondent would recommend a return, and the explanatory variables are the attributes describing the hometown. Because each return attribute is randomly assigned, the unbiased estimate of the average effect of each attribute on the likelihood that the respondent would choose return is given by the equation above. We cluster standard errors at the respondent level. When exploring heterogeneous treatment effects by different subgroups, we split the survey population (i.e. interacting each predictor with the heterogeneous treatment variable).

**Measurement:** The main outcome measure of interest (return) for H1 and H2 is measured as a binary indicator based on the question whether the person in the scenario should return or not. The property rights situation of the respondent, which is required for H2, is measured through a set of indicators capturing 1) whether the respondents owns property, 2) whether the respondent has written documentation of any form for this property, 3) whether the property is damaged, and 4) whether the property can be accessed. We construct an index of four components as well as a binary measure (above and below average) to investigate heterogeneous treatment effects. Finally, for H3, we will measure the outcome whether respondents would turn to a formal or informal institution to enforce property rights with a survey question listing a number of actors to turn to (including courts and the government but also informal tribal and religious leaders or armed

groups and militia). An overview of all measurements can be found in Table 3.

*Experiment Two: The importance of dimensions of HLP rights*

In the second experiment, we explore the ways that uncertainty and discrimination as important dimensions of HLP rights shape return decision-making in a vignette survey experiment. We randomly provide respondents with one of four different scenarios that vary according to the degree to which a hypothetical person’s property rights are either certain or uncertain or discriminated against or easily accessed. We then ask a range of questions about how likely the respondent thinks the person in the hypothetical scenario is to return, whether they think the person will easily recover economically and be able to shape political decision making in their community. The aim of this survey experiment is to disentangle to what extent both dimensions of property rights shape return decisions. Table 2 lists the four different scenarios of which respondents randomly are confronted with one of them.

Discrimination → Uncertainty ↓	High discrimination	Low discrimination
High uncertainty	SCENARIO 1: <i>Lost title deed during flight, title document not in family name due to group-based discrimination, procedures for property compensation are slow, armed militia occupy the houses of this social group.</i>	SCENARIO 2: <i>Lost title deed during flight, title document in the name of the family, procedures for property compensation are slow, property occupied by another family but not specifically targeted at this social group.</i>
Low uncertainty	SCENARIO 3: <i>Title deed still in family’s hands, title document not in family name due to group-based discrimination, procedures for property compensation are processed quickly, armed militia occupy the houses of this social group.</i>	SCENARIO 4: <i>Title deed still in family’s hands, title document in the name of the family, procedures for property compensation are processed quickly, property occupied by another family but not specifically targeted at this social group.</i>

Table 2: Vignette survey experiment: dimensions of property rights

**Expectations:** We hypothesize that respondents will be more likely to respond that fami-

lies with certainty and equal access to property rights will return while group-based discrimination and weak property rights due to a lack of documentation or slow compensation mechanisms will slow down the perceived ability to return. As we theoretically link uncertain property rights to slow economic recovery and discriminatory property rights to slow political and social recovery, we expect to find that respondents report lower confidence in the ability to recover economically if the hypothetical scenario stresses property uncertainty. Property rights discrimination, in turn, reduces the confidence of respondents to emphasize successful political and social recovery.

- **H4:** Certainty and equal access to property rights increase the perception that returns are feasible.
- **H5:** Uncertainty in HLP rights reduces the perceived ability to recover economically from displacement.
- **H6:** Discrimination in HLP rights reduces the perceived ability to recover socially/politically from displacement.

In the survey data, we also have access to information about the actual experience of both discrimination and certainty in property rights. We expect that those people who report weaker property rights because of discrimination are more likely to weigh discrimination as a barrier to return compared with those who have not experienced discrimination. Similarly, for those who have experienced relatively higher levels of uncertainty, we expect uncertainty to be a relatively more salient factor in shaping returns.

**Estimation strategy:** Due to the random assignment of the scenarios, the analysis of the vignette experiment will be based on mean comparisons across the four different treatment arms. We will first compare all four scenarios in regards to the question whether high levels of discrimination and uncertainty reduce respondent's confidence that a return is possible. Secondly, we will then compare whether the two scenarios with low



uncertainty have a higher confidence in the ability to return, to recover economically, and to recover socially/politically. Thirdly, we will compare whether the two scenarios with low discrimination result in higher confidence in the ability to return, to recover economically, and to recover socially/politically from displacement.

**Measurement:** The independent variables (discrimination and uncertainty) are measured binary and take the value 1 if discrimination or uncertainty is high and 0 if discrimination or uncertainty is low. We investigate the combined effect of both and the separate effects. The outcome measures are measured with follow-up questions. The question how likely the respondent thinks the family is to return follows a Likert scale (5-point scale). The questions how likely the respondent thinks the families will economically recover and have a political say in the community after displacement are also both measured with a Likert scale (5-point scale).

*Observational regression analysis: HLP rights and actual returns*

We complement these two survey experiments with an observational regression analysis in which we aim to explain actual returns to Sinjar with the access to housing, land, and property rights of the individual survey respondent.

**Expectations:** We expect that survey respondents with stronger housing, land and property rights are more likely to have returned in our sample than those suffering from weaker access to housing, land and property. We also expect that those emphasising pre-war discrimination in access to housing, land and property to return slower than those reporting fewer issues of discrimination in their origin location.

- **H7:** Stronger HLP rights increase actual returns
- **H8:** Stronger perceived pre-war discrimination in HLP access decrease actual returns

**Measurement and estimation:** In the observation regression analysis, we measure return as a binary variable whether respondents consider themselves as returnees (1) or not (0). We measure actual access to HLP rights in the same way as for H2: through a set of indicators capturing 1) whether the respondents owns property, 2) whether the respondent has written documentation of any form for this property, 3) whether the property is damaged, and 4) whether the property can be accessed. We construct an index of four components to predict actual returns. For H8, we measure perceived pre-war discrimination by asking respondents if they felt discriminated in accessing housing, land and property in their prewar and postwar location (binary indicator). We will use linear regressions to regress returns on HLP rights. Standard errors will be clustered by the sub-district of the current location.

#### *Overview of measurement strategies and key variables*

Table 3 lists all major measurements needed for the analysis (independent and dependent variables).

#### *Survey sample*

In cooperation with [HUMANITARIAN PARTNER], we sample around 1,500 Yazidi and Sunni Muslim respondents that have been displaced from their homes in and around Sinjar. We survey this population in December 2021 in the governorates Ninewa and Duhok (see Figure 1). Our sample includes returnees to Sinjar as well as IDPs still in displacement in Sinjar and the surrounding districts. While the exact survey population is determined by concerns in the field, the survey locations have been identified by a population-based prioritization: We aim to be as representative of the original IDP population fleeing away from Sinjar as possible. We have hence used the IOM Displacement Tracking Matrix to identify the 5 sub-district (third-order administrative units) in Iraq that have hosted the

Experiment	Hypothesis	Measurement
1	H1+H2	<b>Return decision:</b> Binary indicator whether respondents favor return (1) or not (0)
	H2+H7	<b>Strength of property rights (numeric):</b> 4-point index whether respondent owns property (1) or not (0), has written documentation (1) or not (0), property is damaged (0) or intact (1), property can be accessed (1) or not (0)
	H3	<b>Turn to formal/informal institution:</b> Binary indicator whether respondents would turn to a formal institution (government, Iraqi courts) or informal institution (tribal or religious leader, armed group or militia) for property issues
2	H4+5+6	<b>Discrimination in property rights:</b> Binary indicator whether scenario describes group-based occupation of property and name-based discrimination in written title documents (1) or non-group based occupation and ability to register property (0)
	H4+5+6	<b>Uncertainty in property rights:</b> Binary indicator whether scenario describes lost title deeds and slow property compensation mechanisms (1) or existing title documentation and quick property compensation mechanisms (0)
	H4	<b>Return likelihood:</b> 5-point Likert scale whether respondent believe the family will not return (1), probably return (2), not clear whether they return (3), will probably return (4) and will definitely return (5)
	H5	<b>Economic recovery:</b> 5-point Likert scale whether respondents believe it will be very difficult (1), somewhat difficult (2), neither difficult nor easy (3), easy (4), or very easy (5) to achieve economic security
	H6	<b>Political recovery:</b> 5-point Likert scale whether respondents believe it will be very difficult (1), somewhat difficult (2), neither difficult nor easy (3), easy (4), or very easy (5) to shape political decisions in the community
Obs	H7	<b>Return:</b> Binary indicator whether respondents consider themselves as returnees or still in displacement
	H8	<b>Perceived HLP discrimination:</b> Binary indicator whether respondents report discriminatory access HLP in pre- and post-war period

Table 3: Overview of measurements in both survey experiments

highest proportion of Yazidis in March 2018<sup>1</sup> (IOM, 2020).

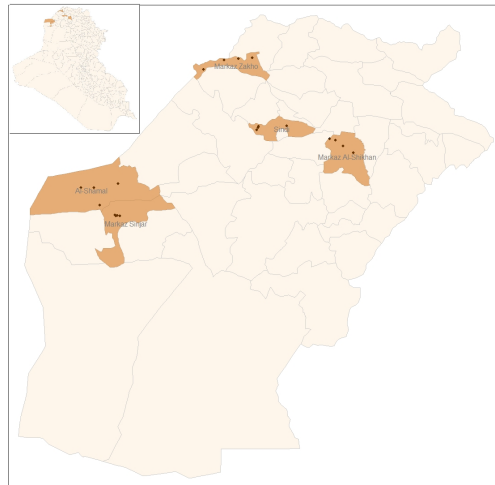


Figure 1: Sampled sub-districts and locations in Ninewa and Duhok governorates in Iraq

Within those sub-districts, we sent trained enumerators to the locations (i.e. villages, towns, and settlements) with the highest number of IDPs and to start their random sampling from those locations. In the sub-district level sampling strategy, we provide the enumerators with a target number of respondents per sub-district weighting sub-districts like Sindi, with many more Yazidi IDPs, heavier than sub-districts like Al-Shikhan with fewer Yazidis. Table 4 provides an overview of the sampled areas. Beyond the pure aim to proportionally sample IDP locations with more Yazidis and IDPs from Sinjar, we added two booster samples to our sampling. First, given that we want to capture IDPs and returnees in our study, we have increased the number of displaced persons to sample in the Markaz Sinjar, reflecting about 40% of our total sample. With this sample we aim to capture returned Yazidis. Secondly, we included a sample of about 150 Sunni Arabs

<sup>1</sup>This month reflects the closest available data breaking down the IDP population in Iraq by ethnicity since the full end of the conflict in the end of 2017

Sub-district	Why	% Yazidis	Target	Locations
Sindi	IDPs from Sinjar	39.27	300-400	Shariya, Qasr Yazddin, New Zinya, Khanke Qadima
Al-Shamal	IDPs from Sinjar	13.11	150	Sinuni center, Khana sor, Sardashty, Borek
Markaz Al-Shikhan	IDPs from Sinjar	8.75	75	Baadre, Shekhan, Mahad, Esiyan Village
Markaz Sinjar	Returnees to Sinjar/ IDPs from Sinjar	7.52	650-700	Rozh Halat, Hay Al-shuhada, Hay Al Naser, Hay Azadi
Markaz Zakho	IDPs from Sinjar	6.28	75	Khrababka Sector, Bedar Sector, Rizgari, Diraboon
Al-Mosul	IDPs from Sinjar (Sunni!)	NA	150	Neighbourhoods in the South

Table 4: List of sub-districts in the sampling frame, including the reasoning for sampling the area, the proportion of Yazidis hosted in this area in 2018, the target number of respondents and the suggested locations per subdistrict.

that have found shelter in Mosul in our sampling to reflect the return intentions and decisions of two central population groups in Sinjar. Although the vast majority of IDPs fleeing Sinjar were Yazidis, a sizable population of Sunni Arabs also left the area. Some of the displacement of Arabs took place when Sinjar was recaptured from ISIL, some of the displacement took place when ISIL initially captured the area. Many Sunni Arabs from Sinjar found themselves moving towards Mosul. The Sunni population from Sinjar that has found shelter in Mosul is of particular relevance to the humanitarian partner but also enables us to study group-level differences in access to housing, land and property between Yazidis and Sunni Muslims.<sup>2</sup>

#### *Ethical considerations*

The data was collected by a local humanitarian organization as part of their efforts to understand access to and use of property rights institutions for conflict affected communities

<sup>2</sup>The theoretical sampling strategy will be adjusted in the field and exact locations and respondent numbers will vary after the survey has been conducted.

in Sinjar (Iraq). Instead of conducting a separate data collection, we include our questions in a data collection to inform humanitarian planning and international advocacy. While this constrains our ability to fully control the sampling, this mode of data collection and collaboration aims to minimise the respondent's time and effort to respond to research that does not directly support solutions to their immediate humanitarian needs. The data collection was managed by the local humanitarian staff. Participants were informed in advance that their participation is entirely voluntary, their responses are anonymous, that they can end participation at any time and their decision to participate will not affect their access to services in any way.

#### *Controls and subset analyses*

Depending on the sample size and distribution of key covariates in our sample, we will explore heterogeneous treatment effects, report descriptive statistics and control certain variables in both survey experiments for the below list of variables.

- Displacement status (IDPs vs returnees) as they might differ in their property rights but also their perceptions of the importance of property rights for return decisions
- Ethno-religious group (Yazidi vs Sunni Muslim) as they might differ in levels of discrimination in their property rights but also their return decisions
- Shelter solutions for IDPs (whether respondents live in camps or not) as this might affect differential returns
- Exposure to pre- and post-conflict discrimination as this might affect the willingness to return
- Exposure to conflict and violence as this might affect the willingness to return
- Perceptions of social cohesion as this might affect the willingness to return
- Other socioeconomic variables

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