

Property Rights and Post-Conflict Recovery: Theory and Evidence from IDP Return Movements in Iraq

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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

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., Alrababa'h et al., 2020; Beber, Roessler and Scacco, 2021). In this paper, 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).

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.¹

First, property rights shape individuals' economic well-being (e.g. Galiani and Scharrotsky, 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

¹Property rights have other dimensions but we focus on these two, while acknowledging there may be other ways that property rights and return are linked.

property rights institutions engage in *political discrimination*, 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 throughout 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).

2 Conceptual Framework

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 settle-

ment 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). The policy community also 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 (Lyll, 2021).

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.

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 Schargrotsky, 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 Schargrotsky, 2010; Berry, 2009), we shift the focus to the question of how property rights function in the post-conflict period (Hartman, 2018). In this paper, we explore how property rights affect a key *post*-conflict process: the return of displaced population groups to their homes after violence.²

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 Schargrotsky, 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.

²A critical question that is beyond the scope of this paper is how governance during conflict shapes other post-conflict outcomes, such as community cohesion, described in Kao and Revkin (2020) on these processes in Iraq.

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.³ 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.

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.

Observable implication 1: Uncertain property rights institutions create variation in an individual's expected economic return from real property assets reducing property rights security and decreasing return after conflict.

Observable implication 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.

³Groups might be defined in terms of individual characteristics such as gender, ethnolinguistic group, or even ties to imagined historical communities (such as indigenous, first-comer status).

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 Islamic State (IS) by now constitutes the worst displacement wave in the country with over 15% of the entire population being displaced (IOM, 2018).⁴ 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.

3.1 Uncertainty in Iraq's current property rights system

Property rights in Iraq today are recognized in a range of complex formal and informal institutions.⁵ *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 Iraq 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

⁴For further information on the dynamics of conflict, displacement and return, please see appendix A.

⁵For further details on the history of Iraq's property rights system see appendix B.

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 Arabization policies implemented under the Baathist regime led to many cancelled agricultural and long-term lease agreements. The International Organization of Migration (IOM) stepped in and, working with the United Nations in Iraq (UNAMI), between 2009-2011 sought to resolve these issues (IOM, 2016). This effort was only partially successful. The most sensitive areas affected by Arabization 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 evidentiary 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 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 issues are therefore often dealt with through other mechanisms, including less formal and community-based processes.

3.2 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 Arabization 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 for-

mally 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 Arabization 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 restitute and compensate claims, has largely failed to resolved land and property ownership disputes resulting from the Arabization campaign. Additionally, land ownership is highly politicized in the disputed territories between the Iraqi and Kurdish authorities (Baumann, 2019, 19).⁶

In attempts to reverse the Arabization 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 Arabization (Jahn, 2018). Overall, this weakened the enjoyment of property rights for Sunni Arabs and increased their land-based grievances in recent years (Baumann, 2019, 107-108).

The outbreak of the civil war against 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, IS actively resettled Sunni Arabs into former minority areas, hand-

⁶In 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).

ing 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 current property rights system in Iraq is characterized by varying levels of group-level discrimination in accessing and proving ownership over housing and land.

3.3 *The Yazidis in Iraq: Uncertain and discriminatory property rights*

Specifically relevant to this study 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 sizable Sunni Arab, Kurds, Turkmen and Christian minorities.

Under the Baathists Arabisation campaign in the 1970s, hundred of thousands of Yazidi were forcibly deported from there 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 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. The following sections outline the empirical strategy in detail.

4.1 Survey data from IDPs and returnees

A humanitarian organization⁷ conducted the two surveys we analyze in this paper. 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.⁸ 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 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 1 displays the displacement and

⁷The humanitarian organization wishes to remain anonymous.

⁸The 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.

return patterns in our sample in Iraq. Overall, the respondents mostly originate from Anbar and Ninewa.

The second survey focuses on a sample of IDPs and returnees originally from the Sinjar area of Iraq (denoted with a red cross in Figure 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.⁹

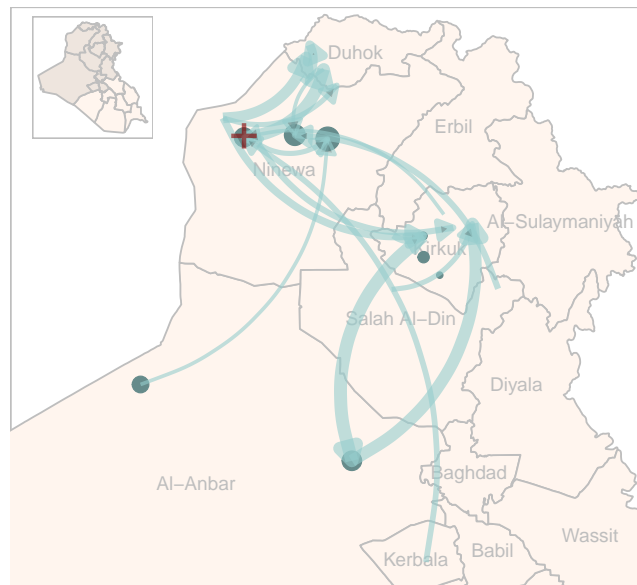


Figure 1: Displacement patterns: Small map displays general sample area. In the main map, arrows link the origin sub-district to the current location for IDPs and returnees. Movements within the same sub-district are displayed as spheres. Sphere diameters and arrow sizes denote IDPs/returnees numbers. Red cross marks Sinjar.

⁹Details on the sampling frame can be found in the appendix C.

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.

4.2.1 *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.¹⁰ 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 regression 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.

¹⁰We demonstrate results for coarsened exact matching, full, genetic and nearest neighbor matching in the appendix.

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.

4.3 Conjoint experiment: Importance of HLP rights for return decisions

We complement the observational matching analysis with two survey experiments on 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 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).

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

Attribute	Level 1	Level 2
Security	Occasionally some insecurity in the returnee’s 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.

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 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 presented with one of four scenario about hypothetical returnees and are asked whether they believe this returnee 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.¹¹

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 potential 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.

¹¹See appendix for the full vignettes.

5 Findings

5.1 *Establishing the link between property rights security and actual returns*

Table 2 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.¹² 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.¹³ We also conduct robustness checks with a range of matching algorithms (i.e. CEM, full matching, genetic matching, nearest neighbor 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 own-

¹²For simple OLS regressions without matching, see Table A4 in appendix.

¹³See full matching statistics in the Appendix G.

Table 2: OLS regression for the effect of HLP rights on returns after exact matching. Models 1-4 have been matched using the respective HLP right in the OLS formula. Model 5 is matched on ownership of property. All models are OLS regressions with robust standard errors clustered at the current sub-district level.

	Dependent variable: Has returned				
	Model 1	Model 2	Model 3	Model 4	Model 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 ²	0.24	0.40	0.31	0.21	0.46
Adj. R ²	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

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Note: Num. obs. depends on the respective HLP indicator used for matching.

ership 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.

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 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.

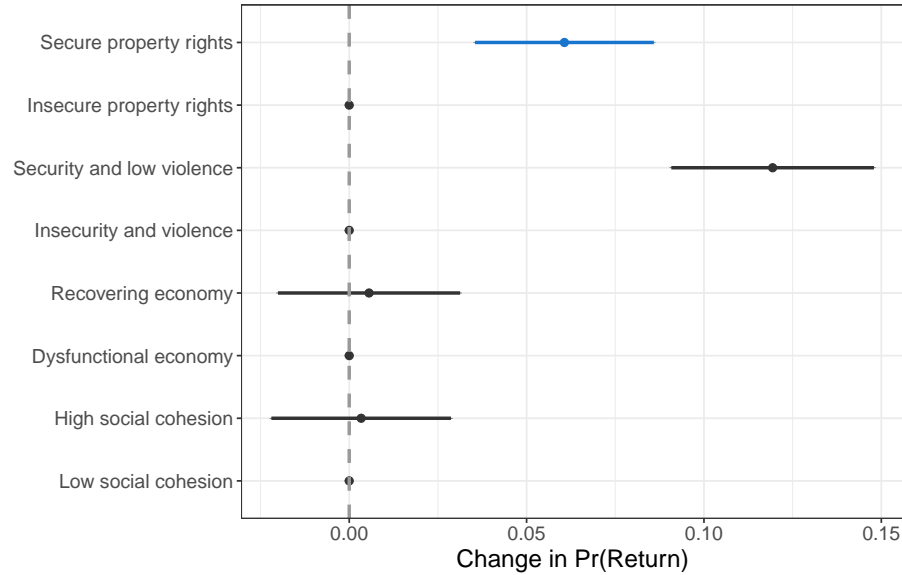


Figure 2: Conjoint analysis: effect of attributes on decision to return with housing, land and property rights as the main variable of interest highlighted in color.

We explore if respondents who report above the median property rights security in our sample perceive the importance of secure property rights differently. Figure 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 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.

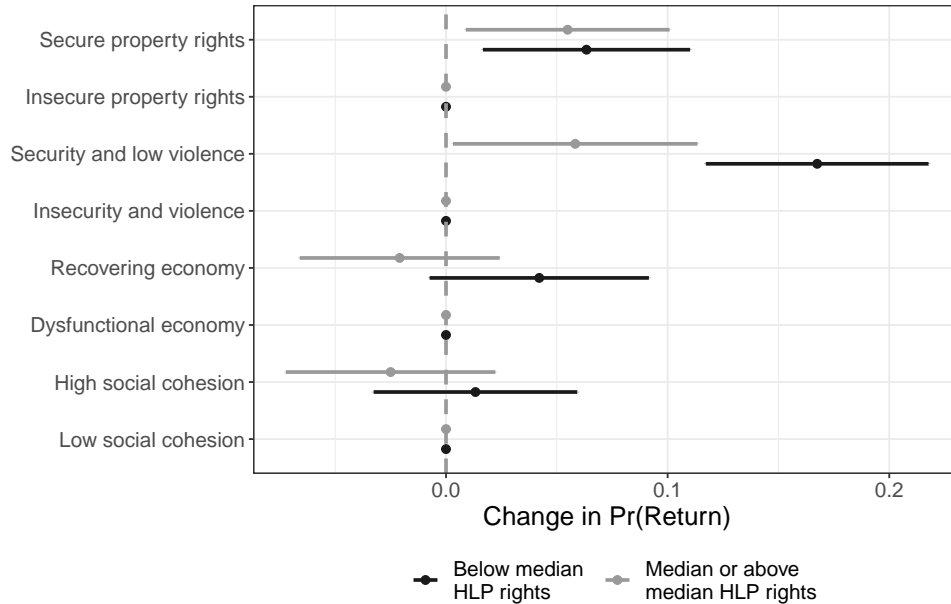


Figure 3: Conjoint analysis: heterogeneous effects of access to property rights on return decisions. The plot splits the sample into those having above median access to housing, land and property rights and those below median access.

We also provide results for heterogeneous treatment effects depending on the respondent’s ethno-religious group in Figure 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 population groups - those facing weak property rights, high food insecurity ¹⁴ and group-

¹⁴See appendix for heterogeneous treatment effects depending on food security.

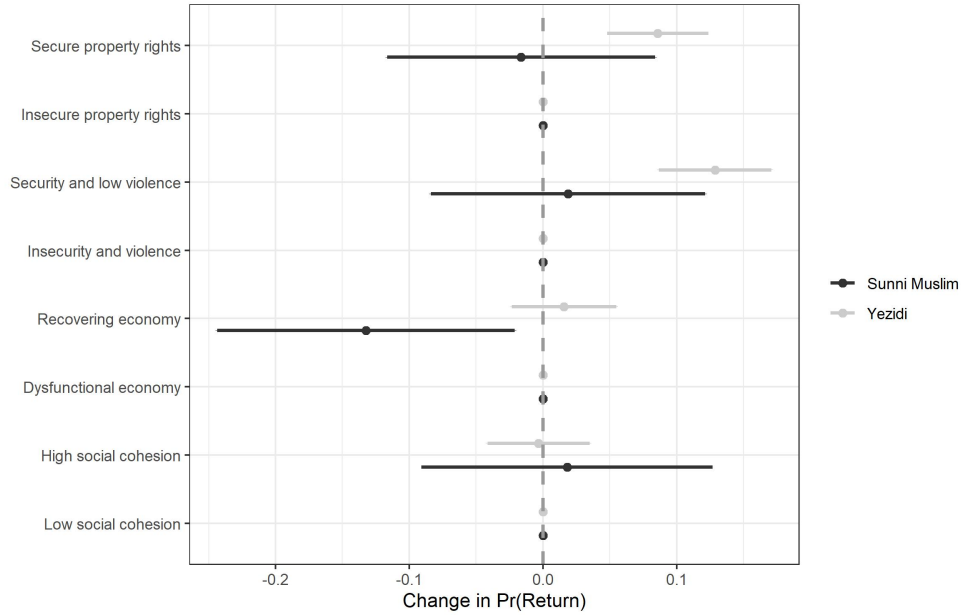


Figure 4: Conjoint analysis: heterogeneous effects of ethnicity/religious group on return decisions. The plot splits the sample into Sunni Muslim and Yazidi respondents.

based discrimination - are the most concerned about physical security. But, on average, all population groups consistently care about property rights security in return decisions.

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 A2 displays the OLS results from our vignette experiment. Model 1 is fitted using an indicator that collapses discrimination and uncertainty into one dimension. 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.

Table 3: Vignette experiment: effect of discrimination and uncertainty on perceived return probability

	<i>Dependent variable:</i>		
	Return likelihood (5-point scale)		
	(1)	(2)	(3)
<i>Combined effect of discrimination and uncertainty (Ref: Neither)</i>			
High discrimination AND uncertainty	-0.211** (0.082)		
High discrimination OR uncertainty	-0.161** (0.073)		
<i>Individual effect of discrimination or uncertainty (Ref: Low uncertainty/discrimination)</i>			
High uncertainty		-0.083 (0.057)	
High discrimination			-0.118** (0.057)
Constant	1.924*** (0.061)	1.828*** (0.041)	1.849*** (0.042)
Observations	1,473	1,473	1,473
R ²	0.005	0.001	0.003
Adjusted R ²	0.004	0.001	0.002
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01		

6 Replication of findings across Iraq

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 study’s 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).¹⁵ 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 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 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 correlated 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 survey¹⁶, as well as robustness checks with different matching strategies¹⁷, 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.

¹⁵All 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.

¹⁶See Appendix Figure A3

¹⁷See Appendix Figure A4

	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
R ²	0.64	0.04
Adj. R ²	0.55	0.04
Num. obs.	17976	889
RMSE	0.26	0.42
N Clusters	48	

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 4: Replication of matching results with IOM panel data and Sinjar survey: Panel models with household-level and time fixed effects, including robust standard errors clustered at the origin district. Unit of analysis is the IDP household over 4 panel rounds.

7 Conclusions 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 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 un-

equal 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.

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Supplemental information for *Property Rights and Post-Conflict Recovery: Theory and Evidence from IDP Return Movements in Iraq*

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A Dynamics of conflict, displacement and return during the fight against the Islamic State

The civil war from 2014 to 2017 against the Islamic State (IS) by now constitutes the worst displacement wave in the country with over 15% of the entire population being displaced (IOM, 2018). When the IS 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 armed conflict (IOM, 2018) and occurred mostly within Anbar, but IDPs soon started to move to more central areas of Iraq, reaching Ninewa and Salah al-Din. As the Islamic State moved frontlines 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 unmixing 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).

B Background on Iraq's property rights system

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.¹⁸ 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 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 Arabization 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. Arabization programs particularly targeted Kurds living in and around Kirkuk for expropriation (Baumann, 2019).

C 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 subdistricts 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 organiza-

¹⁸Courts 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.

tion 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 sizable 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 A1.

Table A1: 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 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 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

D Full text for the vignette experiment

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 A2: Vignette survey experiment: dimensions of property rights

E 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:

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

where i indicates the respondent, k indicates the round, and j indicates the scenario. In our setting, $i \in \{1, 2, \dots, 1,474\}$, $k \in \{1, 2\}$, 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 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.

F Descriptive findings on returns and property rights in the wider Iraq sample

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 A3. 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 A1 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

Table A3: 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

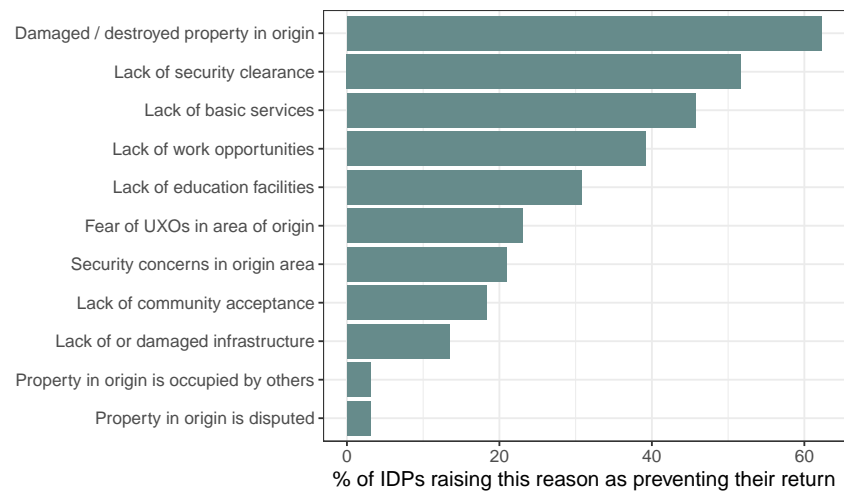


Figure A1: Descriptive reasons why IDPs have not returned to their place of origin in Iraq.

where disputes over property boundaries, agricultural land, and ownership 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 A2).

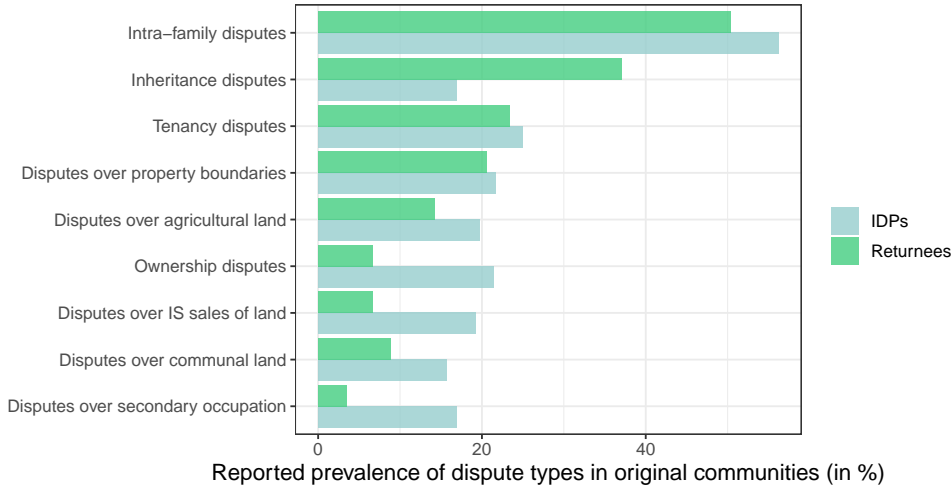


Figure A2: Descriptive prevalence of the most common community disputes in the communities of origin for IDPs and returnees.

G Additional numeric results and full models in the paper

Table A5 provides balance statistics pre- and post-matching. Table A4 provides results from OLS regressions without matching. Figure A4 displays the dependency of the results on the chosen matching algorithm. Figure A3 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 (triangled 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 A5.

Figure A5 provides an analysis that focuses on the distinction between IDPs, returnees

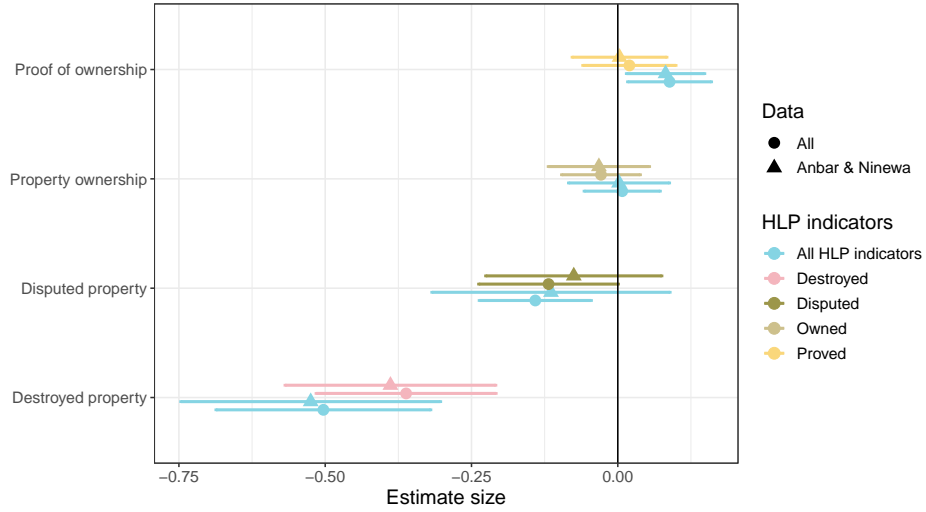


Figure A3: Coefficient plots for Models 1-5 using exact matching on the full data set and a subset of data from Anbar and Ninewa.

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

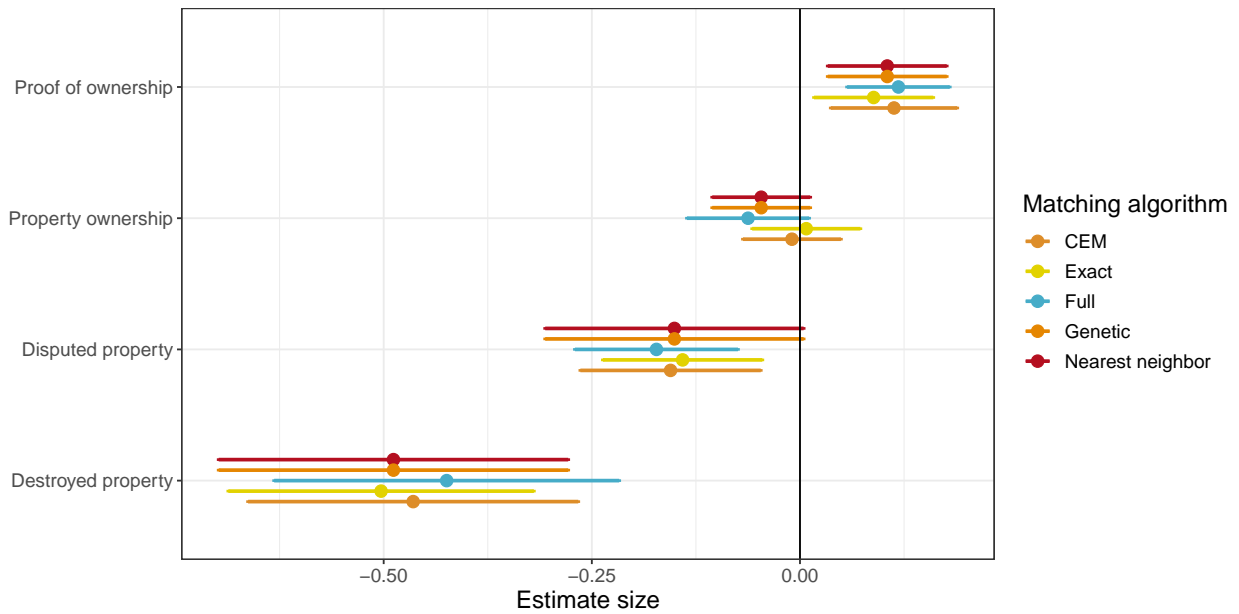


Figure A4: Coefficient plots for model 5 (all HLP rights are used to predict returns but the data is matched on ownership of property) for different matching algorithms.

Table A4: 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 ²	0.264	0.435	0.273	0.262	0.452
Adjusted R ²	0.259	0.430	0.268	0.257	0.447

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

Table A5: Balance statistics before and after Exact Matching (Ownership of property)

	Mean (control)	Mean (treat)	Diff	L1	Min	25%	50%	75%	Max
Pre-matching statistics									
Latitude at origin	35.252	35.486	0.234	0.000	-0.075	0.857	0.000	0.000	0.219
Longitude at origin	42.661	42.655	-0.005	0.000	0.000	0.000	0.000	0.000	0.752
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
Post-matching statistics									
Latitude at origin	35.319	35.568	-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

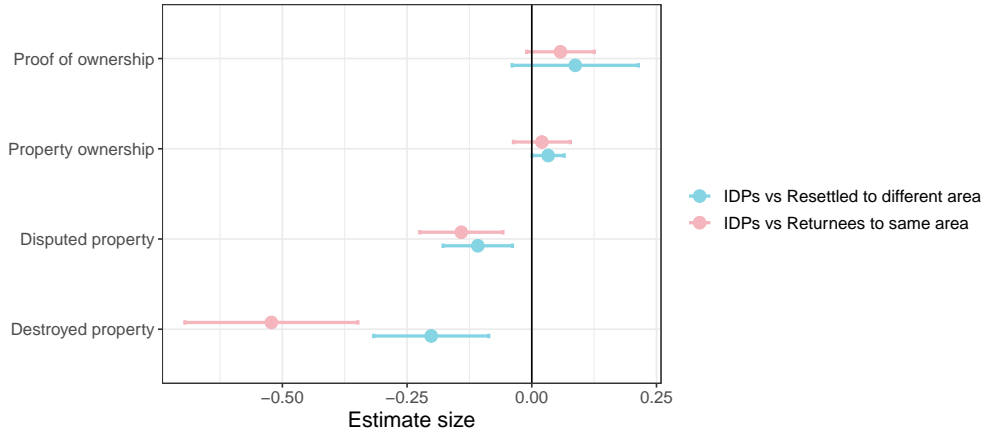


Figure A5: Coefficient plots for Model 5 using exact matching to compare IDPs with returnees to the same location and those resettled to a new location.

G.1 Additional heterogeneous treatment effect for the conjoint experiment

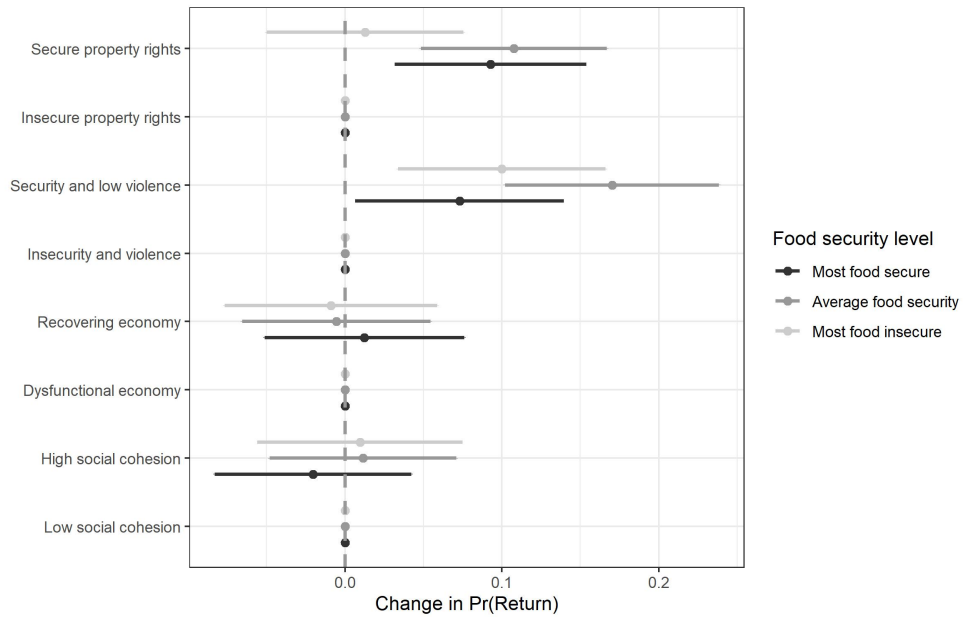


Figure A6: Heterogeneous treatment effects for the conjoint experiment: by food security levels

G.2 Additional findings from the vignette experiment

Table A6: Effect of experimental treatment 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** (0.076)			-0.140* (0.084)		
High discrimination or uncertainty	-0.192*** (0.067)			-0.107 (0.074)		
High uncertainty		-0.076 (0.053)			-0.134** (0.058)	
High discrimination			-0.102* (0.053)			0.001 (0.059)
Constant	1.462*** (0.056)	1.351*** (0.037)	1.367*** (0.038)	1.376*** (0.062)	1.352*** (0.042)	1.284*** (0.043)
Observations	1,467	1,467	1,467	1,465	1,465	1,465
R ²	0.006	0.001	0.003	0.002	0.004	0.00000
Adjusted R ²	0.005	0.001	0.002	0.001	0.003	-0.001
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01					