

Conflict Intensity and Nascent Entrepreneurship: Evidence from Iraq

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Abstract

This study examines how conflict intensity shapes nascent entrepreneurial transitions in Iraq. Combining ACLED regional conflict data with individual-level evidence from the 2018 World Values Survey, we find that higher conflict exposure is associated with a lower probability of taking concrete steps toward business formation. Decomposition analysis suggests that part of this association operates through reduced risk-taking propensity, while generalized trust and emotional worry play no meaningful mediating role. We also find heterogeneous effects: financially stable individuals respond more strongly to conflict than financially constrained individuals. Overall, conflict discourages entrepreneurship, especially opportunity-driven entry, by imposing a psychological tax on risk-taking.

Keywords: Business formation, Conflicts, Nascent Entrepreneurial Transitions, Iraq, War, WVS
JEL Classifications: D74, L26, O53

ملخص

تدرس هذه الدراسة تأثير شدة النزاع على التحولات الناشئة نحو ريادة الأعمال في العراق. وبالدماج بين بيانات النزاعات الإقليمية الصادرة عن مشروع ACLED وأدلة على المستوى الفردي من مسح القيم العالمية لعام 2018، تظهر النتائج أن التعرض المستمر للنزاعات يرتبط بانخفاض احتمالية اتخاذ خطوات فعلية لتأسيس الأعمال التجارية. ويشير تحليل التفكيك (Decomposition Analysis) إلى أن جزءاً من هذا الأثر يعود إلى تراجع القابلية للمخاطرة، في حين لا تلعب الثقة العامة أو القلق العاطفي أي دور وسيط ملموس. كما تكشف الدراسة عن أثراً غير متجانس؛ إذ يستجيب الأفراد المستقرون مالياً للنزاعات بدرجة أكبر مقارنة بالأفراد ذوي الموارد المحدودة. وبشكل عام، يسهم النزاع في إحباط نشاط ريادة الأعمال—ولا سيما المبادرات القائمة على اقتناص الفرص—من خلال فرض ضغوط نفسية تحد من القدرة على تحمل المخاطر.

1. Introduction

Armed conflicts are increasingly recognized as pervasive, destabilizing environmental shocks that fundamentally reshape national economies (Salvi et al., 2025). While a substantial body of research has quantified the macro-level costs of such conflicts on gross domestic product (GDP) (Abadie & Gardeazabal, 2003) and foreign investment (Witte et al., 2017), the micro-level cognitive processes through which conflict suppresses economic dynamism remain a critical “blind spot” in scholarship (Audretsch et al., 2023). This study examines the impact of conflict frequency and conflict-related fatalities on active nascent entrepreneurial transitions (NET), defined as taking tangible steps toward business formation, among citizens across different regions of Iraq. Following the “third wave” of contextualization (Welter et al., 2019), prior research often relies on entrepreneurial intentions as predictors of planned behavior in environments where market action is rare, high-risk, or difficult to observe (Krueger et al., 2000). Building on this approach, we focus on observable steps toward business formation, which capture a behavioral stage closer to realized entrepreneurial activity than stated intentions alone.

Most existing research on entrepreneurial intentions in the Middle East and North Africa (MENA) regions focuses on non-conflict-affected countries (Aljuwaiber, 2021). Our study contributes to the MENA entrepreneurship literature by focusing on Iraq, a conflict-affected and under-studied context. Rather than merely filling a geographical gap, we employ a “problematization” approach (Sandberg & Alvesson, 2010) to challenge the assumption that conflicts have a uniform deterrent effect on intentionality. We propose that conflicts act as a “cognitive filter” that disproportionately discourages those with the most to lose, while potentially compelling others into necessity-driven paths (Naudé et al., 2024; Brück et al., 2011).

Examining this topic in the context of Iraq is particularly important given the high youth unemployment rate, which reached 32% in 2024, ranking 17th out of 182 countries (World Bank, 2025), and the crucial role that new business formation can play in addressing this challenge. Iraq represents a “danger zone” where extreme institutional voids and physical insecurity create a unique laboratory for testing the resilience of entrepreneurial cognitions (Bullough et al., 2014; Desai, 2011). In addition, understanding the drivers of NET (and entrepreneurial behavior more broadly) is especially relevant in conflict-affected settings, where entrepreneurship can generate income, foster social development, and enhance social cohesion (Dimitriadis, 2021; Premaratna & Yoosuf, 2017; Kopren & Westlund, 2021).

Our study focuses on Iraq as the context of analysis for three main reasons. First, the country has experienced multiple wars and periods of civil unrest, particularly over the past four decades.⁴ Second,

⁴ Conflict is measured using data from the Armed Conflict Location and Event Data (ACLED), which records the number of conflict events and conflict-related fatalities at the regional level. Further details on the construction of these measures are

new business registration in Iraq is strikingly low, with a new business density (new registrations per 1,000 people ages 15-64) of only 0.11, far below the averages observed in fragile and conflict-affected states (0.4) and the Arab world (0.75) (World Bank, 2025). Third, large-sample empirical research examining the challenges, barriers, and determinants of entrepreneurship in Iraq remains extremely limited. Moreover, the existing studies are largely descriptive or conceptual in nature (e.g., Desai, 2011; Mohammadali & Abdulkhaliq, 2019)⁵.

We seek to address the following research questions: How does regional conflict intensity (distinguishing between frequency and severity) influence the formation of individual NET, and through which cognitive mechanisms does this deterrent effect operate? Furthermore, how is this relationship moderated by an individual's socio-economic status?

Entrepreneurial intentions provide an early indicator of potential market entry and investment behavior, capturing latent economic activity before formal business creation occurs. In fragile or conflict-affected contexts, analyzing these intentions helps identify how risk, resource constraints, and institutional quality influence entrepreneurial responses, offering insights into the dynamics of economic resilience and regional development. However, our focus on NET allows us to move beyond intentions by capturing observable behavioral responses.

Using a sample of 937 respondents from nine regions in Iraq, collected through the 2018 wave of the World Values Survey (WVS), and applying Probit regression analysis, we find that the likelihood of taking steps toward starting a business is significantly lower in regions with higher conflict intensity.

Our empirical approach links two strands of research. First, it connects to studies showing that exposure to conflict shapes traits relevant for entrepreneurial behavior, including risk-taking, social networks, and trust (Hirschmann et al., 2026). Second, it builds on work that identifies these traits as important drivers of entrepreneurial intentions. By bringing these perspectives together (Zaleskiewicz et al., 2020; Xie, 2021), we examine how conflict-induced changes in individual characteristics, particularly risk-taking propensity, may suppress the desirability and feasibility of business entry.

Our findings offer three major contributions. First, we show that the “frequency” of conflict events creates a more significant cognitive barrier than the absolute number of “fatalities”, suggesting that chronic instability is more paralyzing than acute shocks. Second, we identify a heterogeneous response based on financial stability: financially stable individuals show a sharper decline in NET, whereas the NET of the vulnerable remain inelastic, likely driven by a “survival mandate” (Kwong et al., 2019). Third, we provide evidence consistent with a psychological mechanism behind these effects. Using the

provided in the Data section. For a detailed timeline of Iraq's wars and civil conflicts, see <https://www.bbc.com/news/world-middle-east-14546763>

⁵ Table A1 in the Appendix provides a summary of the limited number of studies examining the challenges, barriers, and determinants of entrepreneurship in Iraq.

Karlson-Holm-Breen (KHB) decomposition analysis, we find that the negative impact of conflict is partially mediated by the erosion of individual risk-taking propensity. In contrast, generalized trust and emotional worry do not appear to play a meaningful mediating role, consistent with persistent floor and ceiling effects in the Iraqi context. These insights suggest that conflicts do not merely reduce the quantity of entrepreneurship but degrade its quality by filtering out opportunity-driven ventures.

The remainder of the paper is organized as follows. Section 2 develops our theoretical framework, integrating Institutional Theory with the Theory of Planned Behavior to derive hypotheses regarding the direct impact of conflict events, the mediating role of risk appetite (proxied by individuals' willingness to assume high personal risk), and the heterogeneous effect of socio-economic status. Section 3 describes the data, the operationalization of active nascent transitions, and our estimation methods. Section 4 presents the main empirical results, explores the psychological mechanisms of mediation, and reports robustness checks and heterogeneity tests. Section 5 concludes the article and discusses the policy implications for post-conflict reconstruction.

2. Conceptual framework and hypotheses development

2.1. Psychological and social determinants of entrepreneurship

Given the inherent risks of entrepreneurship, scholars have explored various factors that shape how entrepreneurs make decisions under uncertainty. We focus here on three key drivers that are most relevant to our research question.

2.1.1. Entrepreneurial traits and risk-taking

One of the most popular approaches that examine the determinants of risk-taking suggests that differences in the propensity to take risk are mostly driven by differences in people's attitudes toward risk. In particular, some individuals like risks more than others (Weber, 2001). In this context, a research strand – the so-called “trait approach” – argues that entrepreneurs possess some intrinsic features explaining their risky actions (Xie, 2021). Key among the latter features is the risk-taking attitude that distinguishes entrepreneurs from the rest (Gasse, 1982). Empirical work has examined the validity of this hypothesis and, although there is no consensus in literature, many have concluded that entrepreneurs have a higher propensity to take risks than non-entrepreneurs (Chitimiea et al., 2020)⁶. For instance, Cramer et al. (2002) found that the entrepreneurs' attitude towards risk is an important factor in the conduct of entrepreneurial activity. The results of Ahunov and Yusupov (2017) suggested that people with higher tolerance for risk are more likely to be self-employed by choice than by necessity. Block et al. (2015) found that entrepreneurs motivated by innovation and creativity are more at risk than those mostly driven by necessity. The study of Caliendo et al. (2009) showed that there is a greater likelihood for individuals with lower risk aversion to become self-employed. More recently,

⁶ Findings of meta-analyses that compare risk-attitudes among entrepreneurs and managers are inconclusive (Zaleskiewicz et al., 2020).

Chanda and Unel (2021) demonstrated that the propensity to take risk increases the chances of being an entrepreneur.

In sum, there is some evidence supporting the view that entrepreneurs' endeavors might be owing to their peculiar attitude toward risk, namely a higher propensity to take risks.

2.1.2. Networks and trust as drivers of entrepreneurship

Networks refer to the extent to which individuals are socially connected, and the interconnection of institutions that would facilitate the initiation of new businesses and processes (Stam & van de Ven, 2021). Johannisson (1990, 1995) posited that networks are essential for the establishment, survival, and successful development of new ventures. Deep and dense networks would foster entrepreneurship by facilitating information circulation and easing an efficient allocation of factors of production (Malecki, 1997). Moreover, according to Lajqi and Krasniqi (2017), social network and social learning encourage the recognition and exploitation of entrepreneurial opportunities. Hence networks are a key attribute of a flourishing entrepreneurial activity (Feld, 2012).

Furthermore, well-developed and established social networks are associated with greater levels of trust. Indeed, social networks provide the framework allowing repeated interactions among individuals and facilitating cooperative behavior which, ultimately, fuel trust (Granovetter, 1985; Coleman, 1988). Moreover, the more individuals consider that others are trustworthy, the more likely they are to take risks, notably with strangers (Guiso et al., 2006). In the same vein, through their "social identity model of risk", Cruwys et al. (2021) showed that vivid interactions within a social group consolidate trustworthiness among individuals and lower risk perception, which leads to more risky behavior. As noted earlier, entrepreneurial activity is inherently risky; thus, by strengthening trust and encouraging more risky conduct, networks would stimulate entrepreneurship.

In short, dense and highly connected social networks should help individuals to express their entrepreneurial skills and creativity, as they enable a better identification and exploitation of opportunities, and enhance trust.

2.1.3. Affective drivers of entrepreneurial behavior

There is a growing body of literature providing evidence of the predominant role of emotions in shaping how individuals perceive risk and act under uncertainty (e.g., Tipu, 2015; Zaleskiewicz et al., 2020; Muminovic & Efendic, 2023; Ugur & Doganay, 2024).

Various explanations were proposed to understand entrepreneurs' peculiar risk perception; for example, their focus mostly on the benefits of business scenarios rather than their threats, their generally optimistic interpretation of reality, and their misplaced sense of control and overconfidence (Zaleskiewicz et al., 2020). The latter are illustrations of a "positive bias" that seems to be a salient

characteristic of the way entrepreneurs assess risk. Recent research suggests that such a bias is likely to result from emotional processes rather than exclusively rational thinking. Indeed, there is mounting evidence that emotions are a major determinant of entrepreneurial risk perception (e.g., Lerner & Keltner, 2001; Loewenstein et al., 2001; Gilad & Kliger, 2008; Fehr, 2009; Podoynitsyna et al., 2012; Ralph et al., 2018). Specifically, positive emotions tend to reduce the degree of the perceived risk, whereas unpleasant sentiments seem to be associated with an elevation of the degree of the latter risk. Unfavorable emotions can therefore trigger a more cautious attitude and a more conservative behavior, both of which can lead to opportunity rejection (Tipu, 2015). In the same vein, it was shown that emotions of fear are associated with a low risk-taking attitude (Lerner & Keltner, 2001).

Emotions, past experiences, and memories are intertwined. For instance, Moncada et al. (2015) highlighted the repercussions of experiences on memories and, consequently, on decision-making. Similarly, Wang and Poutziouris (2010) established that entrepreneurs' affective response patterns vary with experience. Interestingly, past experiences seem to be particularly important when it comes to people's financial decisions (Malmendier & Nagel, 2011). In this regard, the “mental imagery” model developed by Zaleskiewicz et al. (2020) can be insightful to account for the choices made by entrepreneurs. Their model holds that when individuals are making a choice under uncertainty, they are guided by their visualization of the future outcomes of their decision. The latter visualization – mental imagery – is based on memories of past experiences and is emotionally charged. Zaleskiewicz et al. (2020) concluded that when the mental images associated with a choice to be made are positive – driven by pleasant memories and uplifting emotions – entrepreneurs tend to accept risky options.

In conclusion, research suggests that favorable memories and positive affect tend to shape optimistic expectations under uncertainty among entrepreneurs. This can explain their risky choices. Having examined three key drivers of entrepreneurial activity, we now explore how the latter drivers are impacted by conflicts.

2.2. Conflicts and entrepreneurial activity

2.2.1. Conflicts and risk-taking

Most of the studies that have scrutinized the relationship between negative experiences/shocks and risk-taking have concluded that such experiences tend to make people more risk-averse⁷. Research conducted on Afghanistan revealed that conflicts render people more risk-averse through their recalling of fearful events (Callen et al., 2014). Similar findings were reported in other conflict-affected countries and regions. For example, Kim and Lee (2014) showed that people who witnessed the Korean War in their early years are more risk-averse than others. Likewise, an increase in the rate of casualties during the Mexican war on drugs was found to be associated with more risk-aversion among the population (Brown et al., 2019). Further, the 2007/8 post-election crisis period in Kenya was

⁷ Some papers have, however, reported different findings; this is for instance the case of Ugur and Doganay (2024) who show that exposure to war is associated with higher risk-taking.

associated with a significant increase in the proportion of subjects with extreme risk-aversion (Jakiela & Ozier, 2019). Analogously, Bellucci et al. (2020) found that exposure to World War II during childhood is related to more conservative financial risk-attitude. In the same vein, in their study of the impact of the Bosnia-Herzegovina conflict, Muminovic and Efendic (2023) showed that exposure to war is associated with risk-aversion. In addition, severe experiences, like losing a child or being physically attacked, are associated with lower likelihood of holding stocks (Buccioli & Zarri, 2015).

Remarkably, results suggest that the impact of the shock on the risk attitude is proportional to the severity of the adverse event. Chief Executive Officers who have experienced consequences of severe natural disasters had a more conservative way of leading firms than their counterparts who did not suffer from extreme natural disasters (Bernile et al., 2017). Along the same line, Muminovic and Efendic (2023) showed that people residing in the municipalities with the largest war fatalities expressed the greatest risk-aversion. The strand of research examining the relationship between experiences and memory can help explain the latter findings: adverse events that are easily accessible in the memory, as well as highly shocking and salient events are associated with increased risk aversion (Kusev et al., 2009).

2.2.2. Conflicts and trust

Most of the empirical literature examining the relationship between war and trust among populations of war-affected regions has highlighted the detrimental effect of conflicts on trust⁸. In their empirical analysis on Tajikistan, Cassar et al. (2013) demonstrated that war exposure can destroy local trust even a decade after the end of the conflict. In a similar line, in their examination of the 2002-2005 inter-ethnic conflict in Uganda, Rohner et al. (2013) highlighted a causal relationship between the conflict and the decline in generalized trust. Likewise, war was also found to undermine social trust in Kosovo (Kijewski & Freitag, 2016). The authors explained this finding by arguing that war embodies the enmity and unhelpfulness of others. Analogously, Conzo and Salustri (2019) showed that exposure to violence during the early years of life reduces trust and social engagement. Similar results were found when examining the crisis that occurred in 2007-2008 after the Kenyan elections: that period was accompanied with a significant drop in generalized trust, as the number of persons who believed that most people can be trusted was cut by half (Jakiela & Ozier, 2019). A corresponding conclusion was reached when studying Pakistan: the exposure to conflict significantly reduced out-of-group trust (Ali et al., 2020). More recently, Muminovic and Efendic (2023) demonstrated that war is associated with higher distrust in people. Interestingly, their findings also suggest that regions where conflicts were the most pronounced were associated with the highest degree of distrust. This result echoes the conclusions of Rohner et al. (2013): the most significant drop in trust was noted in regions with the largest number of fatalities. Another remarkable finding of the study of Rohner et al. (2013) is the following: the more substantial decline in generalized trust was registered in the most ethnically diverse regions.

⁸ Some authors have, however, found that conflicts are associated with increased levels of trust. This is mostly explained by the finding that conflicts tend to increase in-groups trust at the expense of generalized trust (Becchetti et al., 2013; Ali et al., 2020).

2.2.3. Conflicts and emotions

Wars are notoriously known to have profound and, often, indelible marks on the human psyche and affect. Indeed, populations are potentially subject to many traumatic events that proliferate during conflicts: assassinations, torture, kidnapping, and political terror, to name a few (Steel et al., 2009). The magnitude of such events is usually associated with an emergence/resurgence of mental disorders among conflict-affected populations. Several studies have pinpointed the predominance of Post-Traumatic Stress Disorder (PTSD) and depression across war-impacted populations (Steel et al., 2009; El-Khoury, 2019; Charlson et al., 2019; Ng et al., 2020). In their meta-analysis of surveys of populations of conflict-impacted areas and refugees, Steel et al. (2009) reported the prevalence of PTSD and depression owing mostly to torture and cumulative exposure to traumatic events. The occurrence of PTSD and depression was also a salient feature of the surveyed persons residing in regions of southern Lebanon, after the 2006 war with Israel (El-Khoury, 2019). Similarly, in their review of studies examining PTSD in sub-Saharan Africa, Ng et al. (2020) found that conflict-exposed regions had a PTSD prevalence rate that is nearly 4 times as high as the one in conflict-unexposed regions. In addition to PTSD and depression, a wide array of mental disorders affects populations of conflict-exposed regions covering anxiety, bipolar disorder and schizophrenia (Charlson et al., 2019), as well as fear, self-imposed social withdrawal, and re-emergence of intrusive memories (Kerbage et al., 2024).

The above studies point to the long-lasting emotional and psychological burden that wars inflict on conflict-affected populations. As seen earlier, emotions and memories are central to the way individuals appraise risk and make choices under uncertainty.

2.3. Hypotheses development

2.3.1. The direct effect of conflict

Conflicts create an environment of extreme institutional voids and physical danger. Following the Theory of Planned Behavior (Ajzen, 1991), individuals form intentions based on the perceived desirability and feasibility of an action. In conflict zones, the “negative mental imagery” (Zaleskiewicz et al., 2020) of violence increases the perceived risk and lowers the expected returns on investment, making entrepreneurship less feasible.

H1: *Nascent entrepreneurial transitions (NET) among individuals are significantly lower in regions with higher levels of conflicts and conflict-related fatalities.*

2.3.2. The heterogeneity analysis

The impact of conflict is unlikely to be uniform across the population. We argue that an individual’s financial stability acts as a critical moderator. For financially stable individuals, entrepreneurship is

typically "opportunity-driven"; they have the luxury to wait for stability and are thus highly sensitive to security shocks. In contrast, financially vulnerable individuals are often "necessity-driven" (Naudé et al., 2024). For them, the mandate for survival outweighs the deterrent effect of violence, making their NET inelastic to conflict.

H2: *Conflict exposure is negatively associated with NET among opportunity-driven individuals, while this association is weak or absent among necessity-driven individuals.*

2.3.3. The mediating role of risk appetite

We propose that conflict exposure does not only affect NET directly through market disruption but also indirectly by altering the psychological traits of the population. Entrepreneurship inherently requires a high propensity for risk-taking. Chronic exposure to violence functions as a "cognitive filter" that erodes individual risk tolerance and agency (Callen et al., 2014). As individuals recall fearful events, their "willingness to risk" diminishes, which in turn suppresses their NET to initiate new ventures.

H3: *The negative relationship between regional conflict intensity and NET is partially mediated by individual risk-taking propensity.*

3. Data and methodology

3.1. Data

We combine two datasets for this study. Data on the actual number of conflicts and conflict-related fatalities are sourced from Armed Conflict Location and Event Data (ACLED, 2025). The ACLED data are widely regarded as reliable and have been used in entrepreneurship research (e.g., Salvi et al., 2025). Regional-level measures of NET are drawn from the most recent wave of the WVS⁹ conducted in Iraq in June 2018 (Haerpfer et al., 2022). We use this wave of WVS because it is the only one that contains a specific question on business start-up intentions. The WVS data provide a valuable source for analyzing the Iraqi context, as other major cross-country datasets on entrepreneurial activity, such as the Global Entrepreneurship Monitor (GEM), do not cover Iraq. In addition, WVS data have been used in prior studies on Iraq (e.g., Farzanegan & Gholipour, 2024), including research specifically related to self-employment (e.g., Safari et al., 2026).

The International Institute for Administration and Social Survey (IIACSS) implemented the seventh wave of the WVS in Iraq. The target population comprised residents aged 18 and above, with a sample

⁹ It should be noted that the WVS is considered highly reliable and has been extensively utilized by researchers in the social sciences (e.g., Gholipour et al., 2022; Farzanegan & Gholipour, 2024).

size of 1,200 adults. The survey employed a nationally representative area probability sample using a design that incorporated stratification and clustering. Interviews were conducted face-to-face in respondents' homes. For analytical purposes, the design ensured valid representation across Iraq's four main geographic regions: Baghdad, the western governorates, the southern governorates, and the Kurdish governorates in the north. These divisions facilitated comparisons across key ethnic and religious groups based on representative samples in each region. Data were collected from the following governorates: Al Anbar, Al Basrah, Erbil (Hewlêr), Babil, Baghdad, Dhi Qar, Kirkuk, Ninawa, and Sulaymaniyah (Slemanî), located in the west, southeast, north, center, center, south, northeast, northwest, and northeast, respectively¹⁰.

3.2. Dependent variable

The dependent variable is active nascent entrepreneurial transitions (NET). We define this as a phase where individuals move from a non-entrepreneurial state into nascent entrepreneurship, as demonstrated by concrete actions taken with the objective of establishing a new venture. Understanding business venture formation processes is crucial, as the transition from intention to tangible action is the most reliable predictor of planned behavior, particularly in initiating an actual business (Krueger et al., 2000; Neneh & Dzomonda, 2024).

In Wave 7 of the WVS (Middle East Regional Module), respondents were asked: *"Do you own a business or have taken tangible steps to start a business during the past twelve months (either by yourself or with others)?"* The response options were: (1) I already have an established business, (2) I have taken steps to establish a new business and (3) I have not taken any steps to establish a business. We construct a binary variable coded as 1 if the respondent selected option 2 (taken steps to start a business) and 0 if they selected options 1 or 3. We include established business owners (Option 1) in the baseline (zero) category because the survey question specifically focuses on activity "during the past twelve months." Theoretically, an established owner who has not taken steps to initiate a new venture in this period is considered entrepreneurially quiescent for the current transition phase. By including these individuals, our model provides a conservative test of the deterrent effect of conflict by comparing active nascent starters against a regional baseline that includes the most entrepreneurially capable and experienced individuals. This approach avoids the selection bias inherent in excluding established successes from the regional population. In our final estimation sample (n = 937), 177 respondents (18.89%) reported having taken steps to establish a new business, while 760 (81.11%) indicated either that they already own an established business (164) or have not taken any steps toward starting a business (596).

¹⁰ For details on the sample design, see <https://www.worldvaluessurvey.org/WVSDocumentationWV7.jsp> (WVS Wave 7 (2017-2022), Iraq 2018).

To ensure the results are not driven by the composition of the baseline, we also provide a secondary analysis excluding respondents with an established business (option 1) as a robustness check (see Section 4.2), focusing only on those who either intend to start a business or do not. Table 1 presents a detailed overview of the variables used in the analysis, along with their descriptive statistics.

3.3. Explanatory variable of interest

The main explanatory variable is the actual number of conflicts and conflict-related fatalities in Iraqi regions. Data on these variables are obtained from ACLED (2025). ACLED is an independent, impartial global monitor that collects, analyses, and maps data on conflict and protest. ACLED records individual events of political violence and protest based on systematic monitoring of local and international media, non-governmental organizations (NGOs) reports, and other public sources. Each event is coded by date, location, actors, event type, and reported fatalities, with conservative rules applied when reports provide uncertain numbers. These coding standards allow us to use consistent, comparable counts of conflict events and associated fatalities across Iraqi regions.

We calculate the total number of conflicts and conflict-related fatalities for each region over the six months (January to June 2018) preceding the WVS survey in June 2018. The average number of conflicts was approximately 144, ranging from a minimum of 19 to a maximum of 298. The average number of conflict-related fatalities was about 209, with values ranging from 1 to 560. As robustness checks, we also compute these totals for the one-month and three-month periods prior to the survey.

3.4. Control variables

The entrepreneurship literature identifies several determinants of NET (entrepreneurial intentions more broadly), ranging from individuals' socio-economic characteristics, behavioral traits, organizational factors, and cultural values to broader macroeconomic and political conditions (e.g., Davidsson, 1995; Liñán & Chen, 2009; Lee et al., 2011; Krueger et al., 2000; Douglas et al., 2025)¹¹. Based on the above literature and the availability of relevant factors in the WVS, we include controls for other potential covariates in our Probit regressions including respondents' gender, age, marital status, income level, education level, perception of corruption, religiosity, perception of the social status of entrepreneurs, father's employment status, autonomy index, perceived freedom of choice (control over life), trust in others, and the size of the town where they reside.

¹¹ For a comprehensive review of the determinants of entrepreneurial intentions, see Schlaegel and Koenig (2014) and Fayolle and Liñán (2014).

Table 1. Variable description and descriptive statistics

Variable	Description	Frequency (%)	Mean	Std. Dev.	Min	Max
Nascent entrepreneurial transitions (NET)	(option 2) I have taken steps to establish a new business: 1 (option 1) I already have an established business & (option 3) I have not taken any steps to establish a business: 0 We construct a binary variable coded as 1 if the respondent selected option 2 (taken steps to start a business) and 0 if they selected options 1 or 3.	177 (18.89 %) 760 (81.11%)				
Conflict events, January-June 2018	Total number of conflicts over six months (January to June 2018) in each region		144.08	93.89	19	298
Conflict fatalities, January-June 2018	Total number of fatalities over six months (January to June 2018) in each region		209.12	201.31	1	560
Gender	Respondents' gender 0 (Female) 1 (Male)	438 (46.74%) 499 (53.26%)				
Age	Respondents' age		37.02	13.57	18	65
Marital status	1 (Married) 0 (Other)	865 (72.08%) 335 (27.92%)				
Income	Perception of household income categories: The WVS asked respondents to indicate, on a scale from 1 (lowest income group) to 10 (highest income group), the category that best represents their household. Income includes wages, salaries, pensions, and other sources of income. For analysis, we grouped responses into three categories: Low-income (1–3), Middle-income (4–7), and High-income (8–10).	Low-income: 279 (29.78%) Middle-income: 581 (62.01%) High-income: 77 (8.22%)				
Education	Highest educational level Responses were grouped into three categories: Early Education: 0, 1, 2 (Early childhood education, Primary education, Lower secondary education) Secondary Education: 3, 4 (Upper secondary education, post-secondary non-tertiary education) Tertiary Education: 5, 6, 7, 8 (Short-cycle tertiary education, Bachelor or equivalent, Master or equivalent, Doctoral or equivalent)	Early Education: 499 (53.26%) Secondary Education: 202 (21.56%) Tertiary Education: 236 (25.19%)				
Corruption perception	In the survey, respondents were asked to express their views on corruption using a scale from 1 (“there is no corruption in my country”) to 10 (“there is abundant corruption in my country”).		8.73	1.74	1	10
Religiosity	The survey included a question: “Independently of whether you go to church or not, would you say you are []?” with three response options (a religious person, not a religious person, and an atheist. For analysis, we coded “a religious person” as 1 and both “not a religious person” and “an atheist” as 0.	1: 708 (75.56%) 0: 229 (24.44%)				

Table 1. Variable description and descriptive statistics (continued)

Variable	Description	Frequency (%)	Mean	Std. Dev.	Min	Max
Societal attitude toward entrepreneurs	The survey included the question: “In general, do you have a favorable or an unfavorable opinion of those who start and run their own businesses?” Respondents could choose from four options: (1) Very favorable, (2) Fairly favorable, (3) Fairly unfavorable, and (4) Very unfavorable. For ease of interpretation in regression analyses, we recoded the variable so that 1 corresponds to “Very unfavorable”, 2 to “Fairly unfavorable”, 3 to “Fairly favorable” and 4 to “Very favorable.”		3.50	0.71	1	4
Father’s employment	We created a dummy variable that takes the value 1 if the respondent’s father was employed when the respondent was 14 years old, and 0 otherwise (Never had a job).	0: 258 (27.53%) 1: 679 (72.47%)				
Autonomy index	The autonomy index measures individuals’ preference for independence, determination, and perseverance. It ranges from -2 (Obedience/Religious Faith) to +2 (Determination, perseverance/Independence), with higher values indicating a stronger preference for these traits ¹² .		-.833	1.010	-2	2
Control over life	The question is phrased as follows: “Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means “none at all” and 10 means “a great deal” to indicate how much freedom of choice and control you feel you have over the way your life turns out.”		6.838	2.288	1	10
Trust other people	The question is phrased as follows: “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?” Need to be very careful: 0 Most people can be trusted: 1	0: 818 (87.30%) 1: 119 (12.70%)				
Settlement size	Under 5,000 5,000-20,000 20,000-100,000 100,000-500,000 Over 500,000	42 (4.48%) 186 (19.85%) 25 (2.67%) 141 (15.05%) 543 (57.95%)				

Note: The reported descriptive statistics are based on the sample used in the first estimation (Column 1) of Table 2, which includes 937 observations.

¹² For details on the index methodology, see <https://www.worldvaluessurvey.org/WVSCContents.jsp?CMSID=autonomous&CMSID=autonomous>

3.5. Estimation method

Since the dependent variable in our study (NET) is binary, taking values of 0 and 1, we apply Probit regression with robust standard errors to examine the links between the explanatory variables and NET. A Probit regression models the probability of a binary outcome using the cumulative distribution function of the standard normal distribution¹³. We specify the Probit model as follows:

$$\text{Prob}(\text{NET}_i=1 \mid X_i) = \Phi(\beta_0 + \beta_1 \text{WAR} + \dots + \beta_k X_k) \quad (1)$$

$\Phi(\cdot)$ = standard normal cumulative distribution function, NET is a binary dependent variable (0 or 1), WAR represents various measures of conflicts and fatalities, X represents the control variables, $\beta_0, \beta_1, \dots, \beta_k$ are coefficients to estimate. After estimating Probit models, we compute the average marginal effects for all variables. These represent the average change in the probability of the outcome for a one-unit increase in a predictor variable, *holding others constant*.

4. Results

4.1. Main results and robustness

Table 2 reports the estimation results using three alternative measures of the number of conflict events across Iraqi regions as the main explanatory variables. Columns 1–3 include the total number of conflict events during three periods: January–June 2018, April–June 2018, and June 2018, respectively. Across the three different measures of conflict events, we find that higher conflict intensity (measured by conflict events) significantly reduces individuals' NET in Iraqi regions. More specifically, a one-unit increase in the logarithm of conflict events is associated with a 3.5 percentage point decrease in the probability that an individual takes concrete steps to start a business (i.e., enters nascent entrepreneurship), holding other variables constant (Column 1 of Table 2). This supports our first hypothesis (H1) that NET is lower in areas with more conflicts. This finding is in line with literature suggesting that conflicts create a 'fear factor' that heightens risk aversion (e.g., Muminovic & Efendic, 2023), diminishes the social trust required for entrepreneurial activities (Rohner et al., 2013; Ali et al., 2020) and shapes pessimistic expectations owing to negative emotions and memories.

Regarding the control variables, our results show that male respondents exhibit higher NET than female respondents. The NET is significantly lower among individuals with only early education (early childhood, primary, or lower secondary education) compared to those with higher levels of education, consistent with earlier evidence (e.g., Gholipour & Masron, 2012). We also find that greater religiosity

¹³ We also conduct robustness checks using logit regression with robust standard errors and ordinary least squares (OLS) regression with robust standard errors. In both cases, the negative and statistically significant relationship between both conflict events and conflict-related fatalities, on the one hand, and entrepreneurial intentions, on the other hand, remains consistent.

is negatively associated with NET¹⁴, whereas a higher autonomy index is positively related to NET¹⁵. On the other hand, although most coefficients show the expected signs, the remaining explanatory variables do not exhibit statistically significant relationships with individuals' NET (Columns 1-3 of Table 2).

Table 2. Results of Probit regressions: Conflict events

Dependent variable: Nascent Entrepreneurial Transitions (NET)			
Explanatory variables	(1)	(2)	(3)
Log (Conflict events, January-June 2018)	-.035** (.015)		
Log (Conflict events, April-June 2018)		-.029** (.013)	
Log (Conflict events, June 2018)			-.031** (.013)
Male	.044* (.026)	.045* (.026)	.045* (.026)
Log (Age)	-.048 (.037)	-.048 (.037)	-.048 (.037)
Married	.033 (.030)	.033 (.029)	.032 (.029)
Income			
Middle-income	-.021 (.028)	-.022 (.028)	-.022 (.028)
High-income	-.014 (.051)	-.015 (.050)	-.013 (.051)
Education			
Secondary education	.066** (.033)	.067** (.033)	.067** (.033)
Tertiary education	.052* (.031)	.054* (.031)	.055* (.031)
Corruption perception	-.006 (.006)	-.006 (.006)	-.006 (.006)
Religiosity	-.098*** (.028)	-.100*** (.028)	-.099*** (.028)
Society attitude toward entrepreneurs	.003 (.018)	.003 (.018)	.004 (.018)
Father's employment	.005 (.029)	.007 (.029)	.008 (.029)
Autonomy index	.035*** (.012)	.035*** (.012)	.036*** (.012)
Control over life	.003 (.005)	.003 (.005)	.003 (.005)
Trust other people	-.007 (.036)	-.007 (.036)	-.008 (.036)
Settlement size			
5,000-20,000	-.065 (.069)	-.071 (.070)	-.077 (.071)
20,000-100,000	-.097 (.093)	-.099 (.095)	-.102 (.096)
100,000-500,000	-.092 (.070)	-.090 (.071)	-.091 (.072)
Over 500,000	-.0008 (.067)	-.009 (.067)	-.0174 (.068)
Number of observations	937	937	937
Wald chi2	63.34	62.67	62.98
Prob > chi2	0.000	0.000	0.000

Notes: Average marginal coefficients are reported. Robust standard errors are in parentheses. *, ** and *** are significant at 10%, 5%, and 1% levels, respectively.

¹⁴ This is consistent with the findings of the meta-analysis by Lehmann and Weiße (2025), which reports a negative association between entrepreneurial outcomes and monotheistic religious contexts (e.g., Islam), prevalent in Iraq.

¹⁵ This result aligns with recent empirical evidence in the literature (e.g., Al-Mamary & Alshallaqi, 2022).

Next, we re-estimate the models using an alternative measurement of the dependent variable based on conflict-related fatalities across three periods: January–June 2018, April–June 2018, and June 2018. The results are reported in Table 3. Consistent with our findings in Table 2, individuals' NET is significantly lower in regions with a higher number of conflict-related fatalities (Columns 1-3 of Table 3). The coefficients for the conflict-related fatalities variables are negative and statistically significant at the 5% level. On average, a one-unit increase in the number of conflict-related fatalities is associated with a 1.2 percentage point decrease in the probability of individuals' NET (Column 1 of Table 3). Interestingly, the coefficient for conflict-related fatalities is smaller than that for conflict events, suggesting that individuals' NET in Iraq is more sensitive to the frequency of conflicts than to the number of fatalities. Moreover, results shown in Table 3 corroborate the findings displayed in Table 2 in terms of the control variables with a significant impact on the NET.

Table 3. Results of Probit regressions: Conflict-related fatalities

Dependent variable: Nascent Entrepreneurial Transitions (NET)			
Explanatory variables	(1)	(2)	(3)
Log (Conflict fatalities, January-June 2018)	-.012** (.005)		
Log (Conflict fatalities, April-June 2018)		-.012** (.005)	
Log (Conflict fatalities, June 2018)			-.015** (.007)
Male	.043* (.026)	.043* (.026)	.043* (.026)
Log (Age)	-.051 (.037)	-.050 (.037)	-.050 (.037)
Married	.035 (.029)	.035 (.029)	.035 (.029)
Income			
Middle-income	-.019 (.028)	-.019 (.028)	-.019 (.028)
High-income	-.013 (.050)	-.015 (.050)	-.015 (.050)
Education			
Secondary education	.066** (.032)	.066** (.032)	.068** (.032)
Tertiary education	.055* (.031)	.056* (.031)	.058* (.031)
Corruption perception	-.004 (.006)	-.004 (.006)	-.004 (.006)
Religiosity	-.092*** (.028)	-.094*** (.028)	-.091*** (.028)
Society attitude toward entrepreneurs	.002 (.018)	.002 (.018)	.001 (.018)
Father's employment	.011 (.028)	.012 (.028)	.013 (.028)
Autonomy index	.036*** (.012)	.036*** (.012)	.037*** (.012)
Control over life	.003 (.005)	.002 (.005)	.002 (.005)
Trust other people	-.012 (.036)	-.012 (.036)	-.012 (.036)

Table 3. Results of Probit regressions: Conflict-related fatalities (continued)

Dependent variable: Nascent Entrepreneurial Transitions (NET)			
Explanatory variables	(1)	(2)	(3)
Settlement size			
5,000-20,000	-.071 (.071)	-.072 (.071)	-.070 (.071)
20,000-100,000	-.107 (.095)	-.107 (.095)	-.104 (.095)
100,000-500,000	-.094 (.072)	-.093 (.072)	-.096 (.072)
Over 500,000	-.016 (.068)	-.018 (.068)	-.012 (.068)
Number of observations	937	937	937
Wald chi2	63.90	62.75	62.55
Prob > chi2	0.000	0.000	0.000

Notes: Average marginal coefficients are reported. Robust standard errors are in parentheses. *, ** and *** are significant at 10%, 5%, and 1% levels, respectively.

4.2. Alternative sample specification

As a first robustness check, we exclude respondents who already own a business from the sample and re-estimate the models presented in Tables 2 and 3. In other words, we retain only those respondents who have either taken steps to establish a business or have not taken any steps toward doing so. Consequently, the number of observations decreases from 937 to 773. This adjustment addresses the concern that individuals who already own a business may be less inclined to start another one in an environment characterized by high political and economic uncertainty. The results of these estimations are shown in Panels A (conflict events) and B (conflict-related fatalities) of Table 4. Even after excluding potential outliers and accounting for smaller sample sizes, the coefficients for both conflict events and conflict-related fatalities remain negative and statistically significant across most specifications.

Table 4. Results of Probit regressions: Alternative sample specification

Panel A. Conflict events			
Dependent variable: Nascent Entrepreneurial Transitions (NET)			
Explanatory variables	(1)	(2)	(3)
Log (Conflict events, January-June 2018)	-.029* (.017)		
Log (Conflict events, April-June 2018)		-.026* (.015)	
Log (Conflict events, June 2018)			-.030** (.015)
Control variables	Included	Included	Included
Number of observations	773	773	773
Wald chi2	74.20	73.90	74.54
Prob > chi2	0.000	0.000	0.000

Table 4. Results of Probit regressions: Alternative sample specification (continued)

Panel B. Conflict-related fatalities			
	(1)	(2)	(3)
Log (Conflict fatalities, January-June 2018)	-.012** (.005)		
Log (Conflict fatalities, April-June 2018)		-.011* (.006)	
Log (Conflict fatalities, June 2018)			-.013 (.008)
Control variables	Included	Included	Included
Number of observations	773	773	773
Wald chi2	74.81	73.92	74.01
Prob > chi2	0.000	0.000	0.000

Notes: Average marginal coefficients are reported. Robust standard errors are in parentheses. * and ** are significant at 10% and 5% levels, respectively.

4.3. Heterogeneity and mechanism analysis

4.3.1. Heterogeneity: necessity vs opportunity (H2)

In countries affected by war, many individuals may be compelled to start businesses due to a lack of alternative employment opportunities (Wennekers et al., 2005). Their entrepreneurial intentions often differ from those motivated by the pursuit of new business opportunities (Bullough et al., 2014). Therefore, we divide the full sample into two groups: (1) respondents who reported that, in the last 12 months, they and their families often or sometimes went without a cash income (“necessity group”); and (2) respondents who reported that, in the last 12 months, they and their families rarely or never went without a cash income¹⁶.

We re-estimate the models presented in Tables 2 and 3 separately for each group. The results for the necessity group are shown in Panels A and B of Table 5. Panel A reports results where conflict events are the independent variable, while Panel B presents results where conflict-related fatalities serve as the independent variable. Across all six estimations, we find no significant relationship between conflict events, conflict-related fatalities, and the NET among the necessity group. This suggests that respondents in vulnerable circumstances are not particularly sensitive to the number of conflicts and fatalities when deciding to start a business.

Next, we estimate the same models for respondents who reported not going without cash income during the 12 months preceding the survey (“opportunity entrepreneurship”). The results are presented in Table 6. Consistent with our full sample analysis, all six estimations reveal a robust negative association between conflict-related variables and NET. In other words, the number of conflict events and fatalities appear to be important determinants of NET among individuals seeking business opportunities.

¹⁶ The WVS question states: ‘In the last 12 months, how often have you or your family gone without a cash income?’ Respondents can choose from the following options: Often, Sometimes, Rarely, and Never.

Financially stable individuals tend to reduce their NET more sharply during times of conflict compared to financially vulnerable individuals. This difference arises because those with financial stability have greater resources and alternative options, allowing them to avoid or delay risky ventures when uncertainty increases. In contrast, financially vulnerable individuals often lack such flexibility and may feel compelled to pursue entrepreneurship despite heightened risks, driven by necessity rather than choice.

These findings support H2, which posits that exposure to conflict is negatively associated with entrepreneurial entry among opportunity-driven individuals, whereas this relationship is weak or absent among necessity-driven individuals.

Table 5. Results of Probit regressions: Necessity entrepreneurship

Panel A. Conflict events			
Dependent variable: Nascent Entrepreneurial Transitions (NET)			
Explanatory variables	(1)	(2)	(3)
Log (Conflict events, January-June 2018)	-.011 (.022)		
Log (Conflict events, April-June 2018)		-.007 (.020)	
Log (Conflict events, June 2018)			-.008 (.021)
Control variables	Included	Included	Included
Number of observations	385	385	385
Wald chi2	39.45	39.04	39.10
Prob > chi2	0.002	0.002	0.002
Panel B. Conflict-related fatalities			
	(1)	(2)	(3)
Log (Conflict fatalities, January-June 2018)	-.008 (.007)		
Log (Conflict fatalities, April-June 2018)		-.009 (.008)	
Log (Conflict fatalities, June 2018)			-.015 (.010)
Control variables	Included	Included	Included
Number of observations	385	385	385
Wald chi2	40.72	40.34	41.39
Prob > chi2	0.002	0.001	0.001

Notes: Average marginal coefficients are reported. Robust standard errors are in parentheses.

Table 6. Results of Probit regressions: Opportunity entrepreneurship

Panel A. Conflict events			
Dependent variable: Nascent Entrepreneurial Transitions (NET)			
Explanatory variables	(1)	(2)	(3)
Log (Conflict events, January-June 2018)	-.055*** (.020)		
Log (Conflict events, April-June 2018)		-.046*** (.018)	
Log (Conflict events, June 2018)			-.046*** (.017)
Control variables	Included	Included	Included
Number of observations	547	547	547
Wald chi2	46.47	46.12	45.55
Prob > chi2	0.000	0.000	0.000
Panel B. Conflict-related fatalities			
	(1)	(2)	(3)
Log (Conflict fatalities, January-June 2018)	-.018** (.007)		
Log (Conflict fatalities, April-June 2018)		-.018** (.008)	
Log (Conflict fatalities, June 2018)			-.020* (.010)
Control variables	Included	Included	Included
Number of observations	547	547	547
Wald chi2	45.66	44.84	43.46
Prob > chi2	0.000	0.000	0.001

Notes: Average marginal coefficients are reported. Robust standard errors are in parentheses. *, ** and *** are significant at 10%, 5%, and 1% levels, respectively.

4.3.2. Mechanism analysis (H3)

Mechanism analysis: The mediating role of willingness to assume high personal risk

While our primary analysis establishes a robust negative relationship between regional conflict intensity and NET, a critical question remains: through what cognitive channels does conflict suppress economic dynamism? Prior research suggests that exposure to violence fundamentally reshapes individual traits relevant to entrepreneurial behavior, particularly risk tolerance (Callen et al., 2014; Muminovic & Efendic, 2023).

To explore this mechanism, we examine the mediating role of individuals' risk appetite (proxied by individuals' willingness to assume high personal risk). We operationalize risk-taking propensity using a proxy from the WVS (Q151), which asks: "Of course, we all hope that there will not be another war, but if it were to come to that, would you be willing to fight for your country?" Responses were binary-coded, where 1 represents a willingness to fight and 0 otherwise. In our sample, approximately 80.2% of respondents expressed a willingness to fight, while 19.8% did not.

Theoretically, in a high-adversity context like Iraq, "willingness to fight" serves as a domain-specific proxy for risk tolerance. In environments where physical insecurity and institutional voids are pervasive, the willingness to take a significant personal risk, such as participating in national defense, is indicative of the underlying courage and resilience necessary to risk capital in a volatile market. We

argue that chronic conflict acts as a "cognitive filter," eroding this propensity and thereby discouraging entrepreneurial entry.

Testing mediation in non-linear models like Probit is statistically complex because coefficients are not directly comparable across nested models due to scaling issues. To overcome this, we employ the KHB decomposition method (Kohler et al., 2011). This method ensures that the "Total," "Direct," and "Indirect" (mediated) effects are measured on the same scale, allowing for a precise estimation of the mediation ratio. We estimate both latent coefficients and Average Partial Effects (APEs) to quantify the magnitude of this effect.

We use model 1 in Table 2 for our mediation investigation. We included socio-economic and demographic controls as concomitants in the KHB decomposition. This ensures that the estimated mediation effect of risk attitude is not confounded by these background factors and, more importantly, it allows for a mathematically valid comparison of Probit coefficients across nested models by neutralizing the rescaling problem inherent in non-linear estimations.

The KHB decomposition results provide empirical support for the mediating role of risk appetite (Table 7). Using the latent coefficient model, we find that the total negative effect of conflict events on NET ($\beta = -0.151, p = 0.014$) is partially explained by changes in risk propensity. The indirect effect via risk appetite is statistically significant ($\beta = -0.021, p = 0.079$), suggesting that the negative association between conflict and entrepreneurship may partly operate through lower individual risk tolerance. This result provides support for H3.

To provide a more intuitive interpretation, we examine the APEs. A one-unit increase in the log of regional conflict events reduces the probability of a NET by 3.8 percentage points ($p = 0.013$). After accounting for the risk mechanism, the direct effect remains significant at 3.3 percentage points. Crucially, the risk mechanism accounts for approximately 13.4% of the total deterrent effect of conflict.

These findings suggest that the economic consequences of conflict in Iraq may extend beyond physical infrastructure damage and market disruption, potentially imposing a significant "psychological tax" on the population. By eroding the risk-taking spirit of potential entrepreneurs, chronic violence degrades the quality of the entrepreneurial ecosystem, filtering out individuals who might otherwise have the agency to create new ventures. This highlights that post-conflict reconstruction requires not only economic stabilization but also psychological and social interventions to restore the resilience and risk tolerance of the Iraqi citizenry.

Table 7. KHB decomposition analysis: The mediating role of risk appetite (willingness to fight) on the conflict-entrepreneurship relationship

Dependent variable: Nascent Entrepreneurial Transitions (NET)						
	Coefficient	Robust std. err.	z	P>z	[95% conf. interval]	
Log (Conflict events, January-June 2018)						
Reduced	-0.152	0.062	-2.47	0.014	-0.272	-0.031
Full	-0.131	0.063	-2.08	0.037	-0.255	-0.008
Diff	-0.021	0.012	-1.76	0.079	-0.043	0.002

Note: This table presents the Karlson-Holm-Breen (KHB) decomposition. The mediator is individual risk appetite, proxied by the willingness to fight for one's country. Concomitants include the full set of socio-economic and demographic controls used in Table 2.

To further validate our mechanism analysis, we tested an alternative proxy for risk-taking: the individual's willingness to join strikes (question (Q212¹⁷) in the WVS). Unlike our primary proxy (willingness to fight), joining strikes represents a form of collective political risk. The KHB results for this alternative proxy (available on request) show an insignificant indirect effect (Diff = -0.005, $p = 0.383$), accounting for only 4.2% of the total effect. This suggests that the entrepreneurial deterrent effect of conflict is specifically mediated through personal, visceral risk tolerance, captured by the willingness to defend one's country, rather than general political or labor-related activism. This strengthens our conclusion that conflict imposes a specific 'psychological tax' on the individual risk-taking propensity required for venture creation.

Mechanism analysis: The role of trust

Beyond individuals' risk appetite, we investigated the mediating role of generalized social trust (Q57 in the WVS), a mechanism frequently cited in the conflict literature as a prerequisite for economic exchange and business formation (Rohner et al., 2013; Ali et al., 2020). Theoretically, conflict may suppress entrepreneurship by undermining the social cohesion and mutual trust required to engage in market transactions with strangers. However, our KHB decomposition results (available on request) show that generalized trust does not significantly mediate the relationship between conflict intensity and NET in the Iraqi regions ($Diff = -0.0003, p = 0.848$), accounting for a negligible 0.25% of the total effect.

This lack of mediation can be explained by a "floor effect" in the Iraqi social landscape. Descriptive analysis of our full data reveals that generalized trust is already strikingly low: only 11.24% of respondents believe that most people can be trusted, while 88.76% advocate for extreme caution. This suggests that decades of historical instability and institutional fragility in Iraq have already depressed generalized social trust to a near-absolute minimum. Consequently, the marginal increase in regional conflict events during our study period (early 2018) did not further shift these trust levels in a way that significantly impacted the decision to start a business. This finding suggests that while social trust is essential for a flourishing economy, the immediate "danger zone" deterrent effect of conflict on NET

¹⁷ The question was phrased as follows: "Now I'd like you to look at this card. I'm going to read out some forms of political action that people can take, and I'd like you to tell me, for each one, whether you have done any of these things, whether you might do it, or whether you would never under any circumstances do it." One item was Q212: Joining strikes. The response options were "Have done," "Might do," and "Would never do."

operates more through the internal, visceral depletion of individual risk tolerance rather than through changes in already-depleted social perceptions. This reinforces our primary conclusion that restoring individual psychological resilience and risk-taking spirit is a more sensitive and immediate priority for post-conflict entrepreneurial recovery in Iraq.

Mechanism analysis: The role of emotional response to war

We further explored emotional responses to war as a potential mediator using a variable from the WVS (Q146) which asks: “*To what degree are you worried about a war involving my country?*”. Measured on a four-point scale from 'Not at all worried' to 'Very worried,' this variable captures the respondent's baseline state of anxiety regarding national security threats. Descriptively, our data reveals an intense psychological burden across the Iraqi population: 84.6% of respondents reported being either 'Worried' (27.1%) or 'Very worried' (57.6%) about a future war, with only a negligible 4.5% claiming to be not at all worried.

Despite the theoretical link between fear and economic inhibition, the KHB results show no significant mediation through this channel ($p = 0.918$). This lack of significance is likely due to a 'ceiling effect' in the Iraqi emotional landscape; because nearly the entire population is already at or near the maximum level of national anxiety regardless of their specific regional exposure to recent conflict, this variable lacks the necessary variance to explain the regional differences in NET. This suggests that while general fear is a pervasive and tragic constant in Iraq, it is the depletion of individual risk-taking propensity, which represents an active form of behavioral agency, rather than the passive emotional state of 'worry' that serves as the specific cognitive barrier between conflict exposure and the decision to initiate a new business venture.

5. Conclusion

This study examines the relationship between conflict intensity and NET in Iraq, a country that has endured decades of geopolitical instability and internal strife. By combining regional-level conflict data from the ACLED with individual-level responses from the WVS, we provide evidence on how conflict shapes economic behavior at the micro level in fragile settings.

Our empirical analysis shows that conflict intensity is a significant deterrent to NET. We find that individuals residing in regions with higher frequencies of conflict events and conflict-related fatalities are less likely to take steps toward starting a business. Notably, our results indicate that NET is more sensitive to the frequency of conflict events than to the absolute number of fatalities. This suggests that the persistent presence of instability and uncertainty may weigh more heavily on the cognitive decision-making process of potential entrepreneurs than the severity of violence alone.

A central contribution of this study is the empirical identification of a micro-level cognitive channel consistent with a risk-based mechanism. Using KHB decomposition analysis, we find that individual risk appetite (proxied by the willingness to fight for one's country) acts as a partial mediator, accounting for approximately 13.5% of the total deterrent effect of conflict. In contrast, generalized social trust and emotional worry about war do not emerge as meaningful mediators, consistent with floor and ceiling effects in the Iraqi context, where baseline levels of distrust and anxiety are already high. These results suggest that conflict primarily affects entrepreneurial behavior by eroding individual risk-taking propensity rather than by altering broader social perceptions or emotional states.

We also document heterogeneous responses across socio-economic groups. Financially vulnerable individuals, likely engaged in necessity-driven entrepreneurship, appear largely unresponsive to changes in conflict intensity. By contrast, financially stable individuals, those more likely to undertake opportunity-driven ventures, show a pronounced decline in NET in response to conflict. This pattern suggests that conflict disproportionately discourages higher-quality, opportunity-driven entrepreneurial activity. Furthermore, our analysis of control variables highlights that education and a sense of autonomy are positive drivers of NET, while higher levels of religiosity are associated with lower NET.

In summary, conflict in Iraq acts as a constraint on future economic development by discouraging entrepreneurial entry, particularly among individuals best positioned to undertake innovative activities. Post-conflict recovery therefore requires not only physical reconstruction but also improvements in security conditions that restore individuals' willingness to take risks. Policy responses should combine economic support measures with interventions aimed at strengthening individual capabilities and reducing uncertainty, as emphasized in the literature on entrepreneurship in fragile and conflict-affected settings (Speakman & Rysova, 2015).

Future research could build on this study by incorporating qualitative evidence, such as in-depth interviews with individuals exposed to different forms of conflict, to better understand the behavioral mechanisms underlying entrepreneurial decisions. Extending the analysis to other conflict-affected countries would also help assess the external validity of the findings.

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Table A1. Summary of studies on the challenges, barriers, and determinants of entrepreneurship in Iraq

Authors	Topic	Method	Main challenges, barriers, and determinants
Mohammadali & Abdulkhaliq (2019)	Overview the prospects and challenges of entrepreneurship in Iraq's Kurdistan region	Review paper	Anti-motivational factors (e.g., fear of losing personal capital, lack of access to finance) Legal Barriers (e.g., lack of banking infrastructure, bankruptcy laws and regulations) Business environment challenges (e.g., Lack of commercial, specialized infrastructure and skills)
Desai (2011)	Entrepreneurship in two Iraqi cities	Exploratory paper	Weak institutions and state dominance Corruption and bureaucratic complexity Lack of competitive business culture Post-conflict environment and insecurity Weak infrastructure and market systems Large informal sector and limited firm growth
Kanabi & Tasie (2020)	Entrepreneurship development and business climate in northern Iraq	Review paper	Political instabilities Lack of capital funding Lack of infrastructure Barriers to entry and the red tape
Salih et al. (2024)	Socio-cultural factors on entrepreneurial failure in Soran city	Structured interviews with 10 entrepreneurs	Societal values and norms Gender roles Family background Educational background
Sattar et al. (2021)	Factors influencing Iraqi women's entrepreneurship intention	Survey	Access to finance