Islamist terrorism and the status of women

Daniel Meierrieks [a,*], Laura Renner [b]

[a] *WZB Berlin Social Science Center, Reichpietschufer 50, 10785, Berlin, Germany*
[b] *University of Freiburg, Department of Economics, Wilhelmstr. 1b, 79089, Freiburg, Germany*

ARTICLE INFO

ABSTRACT

We investigate the effect of Islamist terrorist activity on women's legal position in society, using data for 171 countries between 1970 and 2016. To identify causal effects, we exploit the prevalence of Islamist terrorism in neighboring countries as an exogenous source of variation, arguing that regional terrorism affects local terrorism through contagion effects. We show that increased activity by Islamist terrorist groups is linked to lower legal status of women. By contrast, we find that neither Islam per se nor other types of terrorism have comparable effects. This reinforces the notion that Islamist terrorism is singularly interested and effective in weakening women's rights. Our results are consistent with a rational-economic model of terrorism, where Islamist terrorists purposefully use violence to maximize political utility, while governments make concessions that constrain the role of women because the costs of compliance are lower than the harm from continued Islamist terrorism.

1. Introduction

Terrorism is commonly defined as the "premeditated use or threat to use violence against noncombatants by individuals or sub-national groups to obtain a political objective through the intimidation of a large audience beyond that of the immediate victims" (Gaibulloev and Sandler, 2019: 278). This definition implies that terrorists use violence to induce government compliance with respect to their political objectives. Such concessions are expected to materialize when "a besieged government views the anticipated costs of future terrorist actions as greater than the costs of conceding to terrorist demands" (Sandler and Enders, 2008: 17).

Empirical research concerning the strategic effectiveness of terrorism is, however, mixed.[1] In a survey, Gaibulloev and Sandler (2019: 321) conclude that "the question of terrorist groups' effectiveness [in extracting concessions] is by no means settled". Indeed, some authors contend that terrorism can be an effective means to obtain political goals (e.g., Pape, 2003; Gould and Klor, 2010; Gaibulloev and Sandler, 2014). As the most prominent example, Pape (2003) studies the universe of suicide terrorism between 1980 and 2001, finding that suicide terrorism can be effective in coercing liberal democracies to make significant territorial concessions. For instance, he argues that in the 1980s, *Hezbollah* was successful in achieving its objective of ending the U.S. intervention in Lebanon and aiding *Hezbollah's* own territorial ambitions by attacking U.S. targets, thus imposing political, military and human costs that were too high for the U.S. to bear (Pape, 2003: 354). Then again, others find that terrorism does not successfully induce government compliance

---

* Corresponding author.
E-mail addresses: daniel.meierrieks@wzb.eu (D. Meierrieks), laura.renner@vwl.uni-freiburg.de (L. Renner).

[1] *Strategic effectiveness* refers to the extent to which terrorists can translate their coercive power into attaining desired political objectives (Abrahms, 2006: 46). It is different from *combat effectiveness*, which describes the level of economic or political damage inflicted by terrorist activity (Abrahms, 2006: 46).

after all (e.g., Abrahms, 2006, 2011, 2012; Cronin, 2006; Fortna, 2015). For example, Abrahms (2011) examines 125 campaigns by violent non-state actors, finding that terrorist campaigns against civilian targets are ineffective at inducing government concessions.

In this paper, we contribute to the empirical literature on the strategic effectiveness of terrorism by investigating how *women's legal position in society* is affected by *Islamist terrorism*.[2] We hypothesize that Islamist militants use terrorism to curtail *female empowerment*.[3] In detail, we argue that Islamist terrorists behave according to a rational-economic model of terrorism in which violence maximizes utility (from gaining political concessions) and is thus employed strategically and purposefully to achieve political objectives (e.g., Landes, 1978; Sandler et al., 1983; Frey and Luechinger, 2003; Sandler and Enders, 2004). Islamist militants seek to return to an ostensibly unadulterated form of Islam and the rule of God's laws (*sharia*) and to establish a form of Islamic governance and society consistent with the purported will of God (e.g., Tibi, 1998; Lewis, 2003; Esposito, 2006; Roy, 2006; Hansen and Kainz, 2007; Toth, 2013). Besides many other aspects of social, economic and political life (e.g., concerning jurisprudence, the economic system, good governance and the treatment of sexual minorities and apostates), this also involves ultra-traditionalist perceptions of women and conceptions about women's role in society.[4] Accordingly, Islamist militants reject modern and ostensibly "un-Islamic" notions of women's rights, female empowerment, feminism, sexual liberation and gender equality. Thus, achieving female subordination is expected to create utility for Islamist militants, yielding various spiritual rewards (redemption, salvation from evil, heavenly luxuries, etc.). Violence is a tool to achieve this objective and generate this very utility. Ultimately, concessions that weaken women's societal position will materialize when governments besieged by Islamist terrorism view the economic and political costs of Islamist terrorism as greater than the costs of concessions.

Evaluating the strategic effectiveness of terrorism means assessing whether and to what extent Islamist terrorists are successful in extracting concessions in the form of a weaker position of women in society. We therefore examine the relationship between Islamist terrorism and the status of women for a sample of 171 countries between 1970 and 2016. We add to the literature on the effectiveness of terrorism by focusing on a hitherto *unappreciated goal of terrorism*: the curtailing of women's position in society. Furthermore, we use an instrumental-variable approach to establish a *causal effect* of Islamist terrorism on female empowerment, given potential concerns about reverse causation and feedback. To allow for causal identification, we exploit the prevalence of Islamist terrorism in neighboring countries as an exogenous source of variation in a country's likelihood of experiencing Islamist terrorism. The associated instrumental variable is relevant because terrorism tends to be influenced by terrorist activity in proximate countries, e.g., due to cooperation between militant groups, cross-border learning and imitation behavior as well as franchising by major Islamist terrorist organizations. Our exclusion restriction requires that there are no regional trends besides regional Islamist terrorist activity that similarly spread within the same world region and affect local Islamist terrorism. We probe the validity of our instrumental-variable approach by controlling for a host of regional economic, political and demographic shocks as well as by resorting to the plausibly exogenous framework of Conley et al. (2012) that allows us to investigate and relax the exclusion restriction. We show that our instrumental-variable estimates are robust to including various regional trends and plausible violations of the exclusion restrictions, mitigating concerns about identification threats. Finally, we contrast the effect of Islamist terrorism with the impact of other forms of ideology terrorism (left-wing or nationalist-separatist terrorism), investigating how *ideology* shapes the goal structures and strategic effectiveness of terrorism. In so doing, we add to the small literature on the role of ideology in the causes and consequences of terrorism (e.g., Piazza, 2009; Kis-Katos et al., 2014; Carson and Suppenbach, 2018; Meierrieks et al., 2021).

To preview our empirical findings, we find—consistent with our expectations—robust evidence that increased activity by Islamist terrorist groups is linked to lower levels of women's empowerment. Crucially, we always control for a country's Muslim population share; we consistently find that this share does not affect empowerment. Thus, our study also adds to the discussion concerning the perceived illiberalism of Islam, especially with regards to gender equality (e.g., Donno and Russett, 2004; Gutmann and Voigt, 2015; Gouda and Potrafke, 2016). Our findings strongly suggest that this illiberalism is a function of violent Islamist fundamentalism (indicated by the presence of Islamist terrorist groups) rather than the pervasiveness of Islam per se (indicated by the Muslim population share). We also find that left-wing and nationalist-separatist terrorism do not affect national levels of women's empowerment and rights, which reinforces the notion that the adverse effect of terrorism on the position of women in society is specific to Islamist terrorism. Finally, we show that the adverse effect of Islamist terrorism does not depend on whether a country is weak or strong in economic-military terms; by contrast, we find that Islamist terrorism does reduce women's empowerment in countries in which political deliberation is low and the concentration of political power is high. This is indicative of potential mechanisms of how Islamist terrorism undermines the status of women: Concessions appear to be a consequence of political feasibility (i.e., the ability to implement weaker women's rights) rather than economic-military vulnerability.

The rest of this paper is organized as follows. In Section 2, we develop our main hypothesis in more detail. We introduce the data and methodology to study the nexus between Islamist terrorism and the role of women in society in Section 3. We present our empirical findings in Section 4. Section 5 concludes.

---

[2] Throughout this contribution, we use terms such as "Islamist terrorism" and "Islamist militancy" interchangeably. Ideological movements associated with Islamist terrorism include Takfirism, Salafism, Wahhabism, Qutbism and other types of violent Islamist (neo-)fundamentalism. We do not consider *non-violent* Islamist activity: While violent and non-violent Islamism have similar political goals, they differ in their means, with the former using violence and the latter engaging in the political process (e.g., Esposito, 2006).

[3] In the following, we use the term "women's empowerment" to mean the degree of autonomy and self-determination of women shaped by laws and regulations (World Bank, 2021).

[4] However, Islamic scripture and teachings also permit non-traditionalist, e.g., modern-liberal and even feminist, interpretations. For a broader discussion of the role of women and gender in Islam, see, e.g., Ahmed (1993) and Barlas (2002).

2. Literature discussion and main hypothesis

2.1. Islamist terrorism and women's status in society

The Rational-Economic Model of Terrorism. To understand how terrorism might translate into political concessions, we resort to a rational-economic model of terrorism. We assume that terrorists are *rational actors*. Rationality implies that terrorists use violence strategically and purposefully to achieve their political objectives. It also implies a *terrorist calculus*, where the utility from terrorism is weighed against the utility from non-violence (e.g., from participation in the political and economic life), given certain constraints (e. g., counterterrorism measures). According to this calculus, terrorism is chosen when the gains from terrorism are comparatively more attractive. Here, terrorism primarily generates utility when (some of) the terrorists' goals are achieved through government concessions.[5]

Female Subordination as a Political Objective. Islamist militants seek to establish a social order in which politics and the state submit to Islam, while Islam itself is purged from purported non-Islamic influences (e.g., Tibi, 1998; Lewis, 2003; Esposito, 2006; Roy, 2006; Hansen and Kainz, 2007; Toth, 2013). This also involves the rejection of modern ideas of women's empowerment (gender equality, emancipation, feminism, sexual liberation etc.).[6] Rather, Islamist militants seek to curtail the role of women in society to conform to their ultra-traditionalist conceptions. For instance, Sayyid Qutb,[7] one of the key figures in modern militant Islamism, envisioned a social hierarchy where "it is divinely ordained that man be the head of the family and its provider and woman the progenitor and creator, [so that] it becomes necessary that she be subjugated to her husband and her family duties to the exclusion of all else, [...] condemning women to stasis, subjugation and regression" (Shehadeh, 2000: 53). Carrying out the purported will of God by establishing such a social order is expected to yield utility for Islamist extremists. For instance, they may enjoy feelings of salvation and divine grace; additionally, there is the prospect of heavenly luxuries and the paradisiac afterlife (e.g., Juergensmeyer, 2006).

Government Concessions. Political concessions are made by governments the terrorists oppose. Our previous discussion has made clear that Islamist terrorists should be amenable to concessions in the form of female subordination on ideological grounds. Consequently, governments have reason to expect that providing such concessions can curb the (future) costs of terrorism. Concerning these costs, several empirical studies suggest that terrorism can have adverse health effects (e.g., by hurting physical and mental wellbeing) and impair economic activity (e.g., by threatening trade and investment) especially when economies are less diversified and affected by severe terrorist activity (e.g., Frey et al., 2009; Meierrieks and Gries, 2013; Arce, 2019; for overviews, see Sandler and Enders, 2008; Gaibulloev and Sandler, 2019). Furthermore, there is evidence that Islamist terrorism tends to be more dangerous in producing casualties than other forms of terrorism (e.g., Piazza, 2009; Carson and Suppenbach, 2018). For instance, appeals to martyrdom may provide moral sanction for violence, making lethal Islamist terrorist attacks more likely (e.g., Juergensmeyer, 2006; Piazza, 2009; Carson and Suppenbach, 2018). This means that the (expected) costs of Islamist terrorism may be especially high.

The costs of terrorism, in turn, are relevant to the political survival of besieged governments. For instance, the electorate may hold the government accountable for its failure to provide security and macroeconomic stability (e.g., Gassebner et al., 2008; Williams et al., 2013; Park and Bali, 2017). Making concessions to curtail Islamist terrorism is consequently also rational for politicians who want to maximize their chances of political survival.

Ultimately, an embattled government is expected to grant concessions if the present and anticipated future human, social, economic and political costs of terrorism are greater than the costs of providing some form of accommodation. Here, the costs associated with reducing women's empowerment may be relatively low for two reasons. First, a reduction in female empowerment is a *limited policy change*. That is, politicians will usually stay in power even after making associated concessions, with the direct impact of such concessions on their personal careers and fortunes being small.[8] Second, women's political and economic clout will usually be lower than the influence of men even before women's rights are (further) curtailed (e.g., Doepke et al., 2012). Therefore, opposition to female subordination—and thus, threats to politicians' careers and fortunes—is expected to be smaller from the outset. Furthermore, by restricting women's position in society, future opposition and backlash to this concessionary policy change may be self-limiting.

2.2. Main hypothesis

Applying the rational-economic model of terrorism, we argue that Islamist terrorists purposefully use violence to achieve a weaker

---

[5] Besides political gains, terrorism may yield further incidental benefits that directly aid the terrorist group's survival. For instance, terrorism may produce media attention, consequently benefitting terrorist mobilization.

[6] Note that changes to the social order envisioned by Islamist terrorism do not only concern the role of women. Rather, they are potentially all-encompassing, e.g., also concerning the political, judicial and economic system as well as the treatment of sexual minorities, non-believers, apostates and other religious groups.

[7] Qutb (1906–1966) was an Egyptian author and fundamentalist Islamist theorist. His work directly inspired, amongst many others, Osama bin Laden and the 9/11 attacks (e.g., Zimmerman, 2004). Concerning its reach, Tibi (1998: 56) argues that Qutb's works "[...] can be compared, in terms of spread and influence, with the Communist Manifesto". Qutb's impact on Islamist militancy is discussed in Tibi (1998), Zimmerman (2004) and Toth (2013).

[8] Maximalist policy changes would include the establishment of an Islamic state and the destruction of the existing government (e.g., Abrahms, 2006). Clearly, such a regime change would directly threaten the politicians' income, power, political rents and even lives, making bargaining and concessions almost impossible.

role of women in society. This goal is an important element of a broader push to purify Islam and establish a system of Islamic governance and law based on the Islamists' vision of primordial Islam. Consequently, achieving this political goal yields a variety of spiritual rewards for Islamist militants. Confronted with economic, political and social costs the credible threat of terrorism (as indicated by the presence of Islamist terrorist groups) implies, (rational) governments may ultimately give in to terrorist demands in hopes of limiting the future costs of terrorism (e.g., by reducing terrorist mobilization when concessions are provided). This leads to the following hypothesis:

Islamist terrorist activity results in a weaker economic and legal position of women in society.

2.3. Illustrative example: the 1979 capture of the Grand Mosque at Mecca

In November 1979, several hundred Islamist militants seized the Grand Mosque at Mecca, the "center of the Muslim universe" (Trofimov, 2007: 10). Inter alia, these militants were driven by a chiliastic desire to institute an Islamist theocracy and purge Islam from perceived modern misperceptions and Western influence (e.g., Dekmejian, 1994; Trofimov, 2007). The Saudi military only regained control over the holy sites after a two-week siege that cost the lives of over 200 security forces and Islamist militants.

While the immediate government response to the terrorist attack was military, the Saudi Arabian monarchy hereafter also implemented policy measures to accommodate its Islamist challengers. As put by Dekmejian (1994: 628): "In view of the radicalism of the [Islamist] challenge, the monarchy sought to prove that it was more fundamentalist than its detractors by imposing stricter enforcement of the religious laws [...]". New policy measures undercut female empowerment, e.g., by disincentivizing female labor force participation, reducing scholarships for women, encouraging and enforcing gender separation (e.g., by preventing mixed swimming) and reducing the visibility of women in the public, e.g., by prohibiting female singers on television (e.g., Dekmejian, 1994; Wright, 2001).

In sum, the events surrounding the 1979 capture of the Grand Mosque at Mecca include Islamist militants that push for "true" Islamic governance through the strategic use of violence and a government that responds to the terrorists' demands by offering concessions also in the form of a curbed economic-legal position of women in society to prevent further attacks and ensure the government's political survival. Consequently, we believe the 1979 siege and its political aftermaths are illustrative examples of the relationship between Islamist terrorism and female empowerment along the theoretical lines outlined above. While potentially less overt, we expect governments in other countries to similarly respond to Islamist terrorism.

2.4. Counter-arguments

Although our previous discussion suggests that a weaker economic and legal status of women due to Islamist terrorism is plausible, there are several reasons why governments may rather choose alternative responses (e.g., military or police action). This means that a *null-result* is possible, where our subsequent empirical analysis would yield no evidence that Islamist terrorism succeeds in depressing the position of women in society. This would correspond to empirical studies finding that terrorism is not overly successful in extracting government concessions (e.g., Abrahms, 2006, 2011, 2012; Cronin, 2006; Fortna, 2015).

For one, voters may dislike that terrorists are rewarded for their actions, especially when civilians are targeted. Instead, these voters

Table 1
Summary statistics.

Variable	Mean	Std. Deviation	Minimum	Maximum
Women, Business and the Law (WBL) Index	0.588	0.184	0.175	1
WBL Sub-Component: Mobility	0.810	0.267	0	1
WBL Sub-Component: Workplace	0.406	0.327	0	1
WBL Sub-Component: Pay	0.455	0.302	0	1
WBL Sub-Component: Marriage	0.591	0.295	0	1
WBL Sub-Component: Parenthood	0.356	0.297	0	1
WBL Sub-Component: Entrepreneurship	0.708	0.222	0	1
WBL Sub-Component: Assets	0.745	0.279	0	1
WBL Sub-Component: Pensions	0.634	0.269	0	1
No. of Islamist Terrorist Groups	0.449	1.731	0	27
No. of All Terrorist Groups	1.709	4.443	0	67
No. of Left-Wing Terrorist Groups	0.370	0.933	0	10
No. of Nationalist-Separatist Terrorist Groups	0.776	2.660	0	42
GDP per Capita (in 10,000 US$)	1.057	1.605	0.016	11.623
Democracy	0.564	0.403	0	1
Traditionalist Government	0.508	0.343	0	1.5
Globalization Index	0.514	0.173	0.143	0.913
Muslim Population Share	0.248	0.356	0	0.997
Women Freedom of Domestic Movement	0.818	1.217	−4.118	2.521
Property Rights for Women	0.960	1.207	−2.977	2.858
Distribution of Political Power by Gender	0.574	1.165	−2.840	3.522
Gender Equality Respect for Civil Liberties	0.823	1.184	−2.866	3.264
Women Political Empowerment	0.643	0.214	0.105	0.966

Note: The number of observations (N*T) is 6362 for all variables as per the baseline specification with control variables.

may support political parties that favor more antagonistic approaches towards terrorism. Indeed, there is evidence that terrorism can strengthen more hawkish political parties (e.g., Kibris, 2011). Governments may not give in to terrorist demands to avoid such backlash that potentially threatens their own political survival.

Furthermore, yielding to terrorist demands may lead to additional future demands (e.g., Sandler et al., 1983; Lapan and Sandler, 1988; Brandt and Sandler, 2009; Brandt et al., 2016), making concessions less attractive for governments. For instance, Brandt et al. (2016) show that kidnappings that end in negotiation success for terrorist groups encourage more future kidnappings. Moreover, the "perverse incentives" created by government concessions may motivate the emergence of *new* terrorist groups with additional political demands (e.g., Frey and Luechinger, 2003: 245).

Finally, terrorists themselves may not be overly receptive to government concessions. Abrahms (2008) argues that individuals participate in terrorist organizations because they seek social utility (e.g., in the form of solidarity with other members) rather than to maximize political utility. When terrorists are social solidarity maximizers, they will be less responsive to political concessions, especially when accepting these concessions means breaking social ties formed within a terrorist group (Abrahms, 2008).

3. Data and methodology

To test our hypothesis that Islamist terrorism leads to a weaker position of women in society, we use data from a panel of 171 countries between 1970 and 2016. A list of countries is provided in the appendix. The summary statistics are reported in Table 1.

3.1. Women's status in society

To measure women's societal status, we utilize the *Women, Business and the Law Index* (*WBLI*) developed by the World Bank (2021). This index is the (unweighted) sum of eight individual sub-indices that account for laws and regulations concerning the following policy fields.

1. **Mobility.** Constraints on women's freedom of movement, e.g., movement inside and outside their home country.
2. **Workplace.** Laws affecting women's decisions to work, e.g., concerning sexual harassment at the workplace.
3. **Pay.** Laws and regulations affecting women's pay, e.g., equal remuneration.
4. **Marriage.** Legal constraints related to marriage, e.g., divorce laws or legislation on domestic violence.
5. **Parenthood.** Laws affecting women's work after having children, e.g., the availability of maternity leave or protection against the dismissal of pregnant employees.
6. **Entrepreneurship.** Constraints on women's businesses, e.g., women's access to credit and ability to sign contracts or register businesses.
7. **Assets.** Gender differences in property rights and inheritance.
8. **Pension.** Laws affecting the size of a woman's pension.

To generate the sub-indices and composite WBLI, questionnaire data provided by expert respondents with country-specific knowledge of family, labor and criminal law are evaluated (for a discussion of the methodology, see World Bank, 2021). In sum, the composite index reflects laws and regulations that restrict women's economic opportunities and thus affect women's empowerment, e.g., with respect to their eventual participation in the labor force (World Bank, 2021). Higher values of the WBLI indicate fewer constraints for women. Fig. 1 shows the development of the WBLI between 1970 and 2016. On average, there is a clear trend towards higher levels of female empowerment.

3.2. Islamist terrorist activity

Data on Islamist terrorist activity comes from the *Extended Data on Terrorist Groups* (*EDTG*) by Hou et al. (2020). Building on and expanding earlier datasets, the EDTG contains information on the years of activity and countries of operation of 760 terrorist groups between 1970 and 2016. The EDTG assigns each terrorist group one primary ideology; the sources to determine a group's ideology are discussed in more detail in Hou et al. (2020) and the EDTG codebook. The EDTG differentiates between religious, left-wing, right-wing, nationalist-separatist and other ideologies. This allows us to limit our analysis to Islamist terrorist groups. We do so by dropping all groups that have non-religious orientations and all religious groups that are non-Islamist. For instance, non-Islamist religious terrorist groups include the Jewish *Kach* in Israel, the *Uganda Democratic Christian Army* and the new religious movement *Aum Shinrikyo* that was active in Japan and other countries. At the same time, focusing on Islamist terrorism means that terrorist groups that operate in Muslim countries but do not have an Islamist agenda (such as the separatist *Balochistan Liberation Army* in Pakistan) are also not considered.

From the EDTG we extract our main explanatory variable, the *number of active Islamist terrorist groups* per country-year observation. According to the EDTG, a terrorist group becomes active in the year of its formal founding or the first year in which it carries out a terrorist attack (Hou et al., 2020: 204). The group is no longer considered to be active when the group is either militarily defeated,
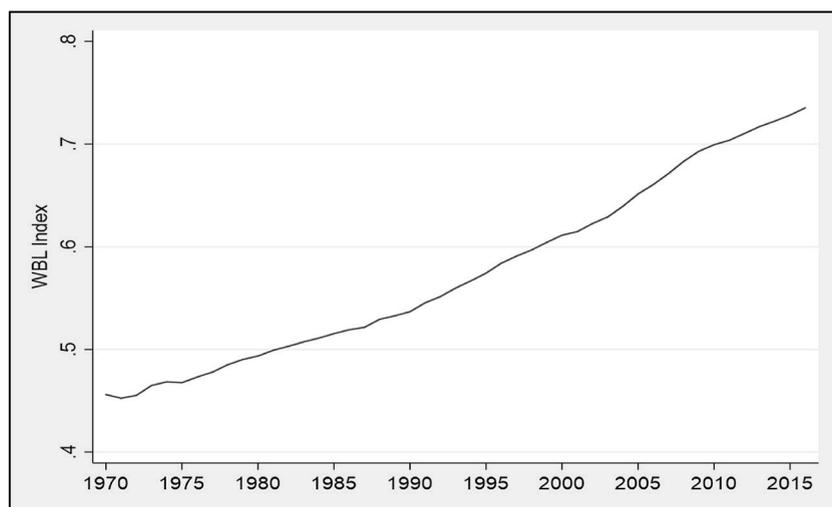
Fig. 1. Global mean level of the WBLI, 1970–2016.

experiences substantial organizational changes (e.g., by evolving into a political party), achieves all of its political goals or becomes inactive, where inactivity means that it does not carry out new terrorist attacks for five consecutive years (Hou et al., 2020: 205). When an Islamist terrorist group is active in more than one country, its activity is considered equally for each country that sees terrorist activity by this group.[9] Finally, to reduce the influence of outliers, we apply the inverse hyperbolic sine transformation to the count of active terrorist groups. This transformation approximates the log transformation, but is defined for zero-valued observations (e.g., Burbidge et al., 1988).[10] Thus, it also allows us to consider country-year pairs with no activity by Islamist terrorist groups.

In sum, our main explanatory variable allows us to proxy the credible threat of Islamist terrorism. In other words, as along as a group is active, there ought to be some form of violent threat (e.g., terrorist attacks that produce casualties) associated with its activity that could result in political concessions. According to the EDTG, between 1970 and 2016, almost 60 countries saw activity by one or more Islamist terrorist groups. Fig. 2 shows the global patterns of Islamist militancy over the period of observations. There is a clear trend towards more Islamist terrorist groups being active simultaneously, with noticeable increases after 1990 (end of the Cold War) and after 2003 (U.S.-led invasion of Iraq). This pattern is consistent with the notion of a wave of religious-Islamist terrorism that replaced the older wave of left-wing terrorism after the end of the Cold War (e.g., Gaibulloev and Sandler, 2019; Hou et al., 2020).

3.3. Empirical model

To estimate the relationship between female empowerment and Islamist terrorism, we consider a two-way fixed-effects regression model of the following form:

$$WBLI_{it} = \beta_1 * terror\_islam_{it-1} + \beta_2 * X_{it-1} + \alpha_i + \lambda_t + v_{it} \tag{1}$$

WBLI refers to the *Women, Business and the Law Index* measuring women's status in country i at year t, while *terror_islam* refers to the *number of Islamist terrorist groups* active in country i in the previous year.[11] Besides the error term (v), we always include country-fixed effects (α) to control for the role of time-invariant factors that may affect women's position in society or the patterns of Islamist terrorism (e.g., geographical location, colonial rule or cultural heritage). Likewise, year-fixed effects (λ) account for the influence of trends and events that may have affected the patterns of women's empowerment or Islamist terrorism across the globe. For instance, the Soviet invasion of Afghanistan and the Islamic Revolution in Iran (both in 1979) not only affected the patterns of terrorism in both countries but also reverberated in other countries, globally contributing to Islamist mobilization and terrorism (e.g., Shughart, 2006). Finally, we include a set of control variables (X) described below.

---

[9] For instance, according to the EDTG the group *Lashkar-e-Taiba* was active in India and Pakistan between 1989 and 2016. In our analysis, their activity is thus counted for both India and Pakistan during the 1989–2016 period.

[10] For a variable y, this transformation is equal to $\log\left(y + (y^2 + 1)^{\frac{1}{2}}\right)$.

[11] The lag structure, where Islamist terrorism affects women's status in the following year, is chosen in accordance with various model selection criteria (e.g., the AIC and BIC) that recommend a one-year lag. At the same time, a swift response to terrorism—as it is implied by this lag structure—is also sound on theoretical grounds, given that we argue that governments provide concessions to stop the economic and political pain from terrorism.
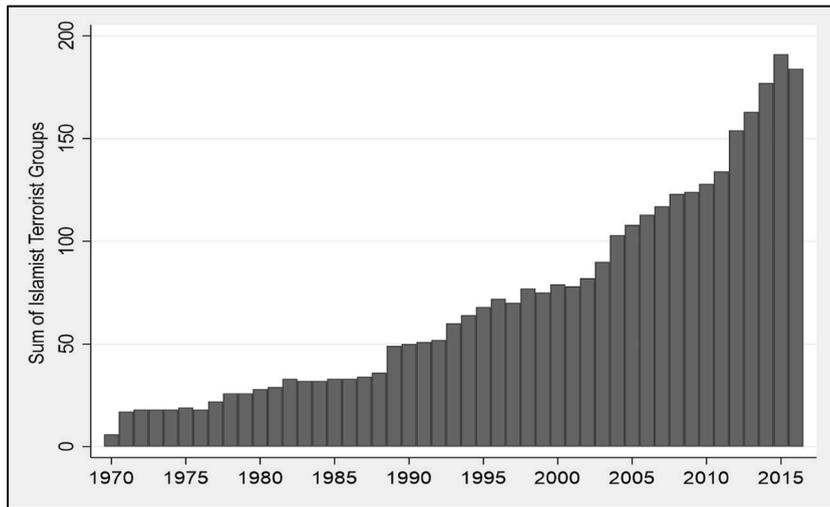
Fig. 2. Global sum of active Islamist terrorist groups, 1970–2016.

3.4. Controls

To avoid detecting only spurious effects of Islamist terrorist activity on the WBLI, we control for a set of confounders that may matter to both Islamist terrorism and the status of women. The choice of these confounders follows from the literature on the determinants of terrorism (e.g., Gassebner and Luechinger, 2011; Krieger and Meierrieks, 2011; Gaibulloev and Sandler, 2019) and women's rights (e.g., Doepke et al., 2012; Gutmann and Voigt, 2015; Jayachandran, 2015; Gouda and Potrafke, 2016).

As baseline controls, we consider (1) *per capita income* to indicate a country's level of economic development, with the data coming from the *World Development Indicators* (*WDI*) of the World Bank (2019); (2) *democratic institutions*, using a (continuous) democracy index developed by Krieger and Gründler (2016),[12]; (3) *traditionalist governments* that have a religious, restorative or conservative orientation, using data on government ideology from the *Varieties of Democracy Project* (*VDEM*) of Coppedge et al. (2021); and (4) a country's exposure to *globalization* employing an index from Gygli et al. (2019) that accounts for international economic, political and social integration (e.g., in the form of trade and participation in international organizations). Finally, we also control for a country's *Muslim population share* using updated data from the *World Religion Project* of Maoz and Henderson (2013). It is especially important to control for the pervasiveness of Islam to study whether a weaker position of women in society is a function of Islam per se (as indicated by the Muslim population share) or violent Islamist fundamentalism (as indicated by the presence of Islamist terrorist groups).

3.5. Instrumental-variable approach

Using the OLS-estimator to estimate Equation (1) may lead to biased estimates due to *endogeneity*. Endogeneity may be caused by measurement error, omitted variables and simultaneity. With respect to the latter, simultaneity implies that Islamist terrorism may not only affect women's legal and economic rights, but that the very status of women may also matter to Islamist terrorist activity. The nature of this latter effect is a priori unclear. For one, more gender equality may trigger additional Islamist terrorism opposing this purportedly un-Islamic development. In this case, OLS-estimates of the effect of Islamist militancy on the WBLI from Equation (1) would be upward biased. Conversely, the same estimates would be downward biased if a stronger position of women in society leads to less Islamist terrorism. For instance, female empowerment may reduce the persuasiveness of Islamist rhetoric and thus aggravate terrorist mobilization (e.g., Hudson and Hodgson, 2022). Indeed, several studies find that a lack of female empowerment can exacerbate state fragility, violent conflict and terrorism (e.g., Harris and Milton, 2016; Saiya et al., 2017; Dahlum and Wig, 2020; Hudson et al., 2020; for an overview, see McDermott, 2020).

To accommodate endogeneity concerns, we employ an instrumental variable approach. Our two-stage regression model has the following form:

$$terror\_islam_{it} = \beta_{11} * regional\_terror\_islam_{it} + \beta_{21} * X_{it-1} + \alpha_i + \lambda_t + v_{it} \tag{2a}$$

$$WBLI_{it} = \beta_{21} * \widehat{terror\_islam}_{it-1} + \beta_{22} * X_{it-1} + \alpha_i + \lambda_t + \mu_{it} \tag{2b}$$

In the first stage (Equation (2a)), we regress our terrorism variable on the baseline controls, country fixed- and year-fixed effects

---

[12] This index is constructed through machine learning techniques, making it less susceptible to methodological issues that plague alternative democracy measures (Krieger and Gründler, 2016: 104).

and our instrumental variable (IV), *regional_terror_islam*. In the second stage (Equation (2b)), we use the fitted values of our terrorism variable from the first-stage regression ($\widehat{terror\_islam}$) to estimate its effect on the WBLI, remedying endogeneity concerns.

Our instrumental variable, *regional_terror_islam*, is defined as *Islamist terrorism in neighboring countries*. It is equal to the mean (inverse hyperbolic sine transformed) number of Islamist terrorist groups active in the world region where the country of interest *i* is located, net of the Islamist terrorist activity in country *i* itself. We consider the following twenty world regions: Australia and New Zealand; the Caribbean; Central America; Central Asia; Eastern Africa; Eastern Asia; Eastern Europe; Melanesia; Middle Africa; Northern Africa; Northern America; Northern Europe; South America; South-Eastern Asia; Southern Asia; Southern Europe; Western Africa; Western Asia; and Western Europe.

Instrument Relevance. We expect our IV to be a relevant instrument due to the *contagion effects* in terrorism (e.g., Midlarsky et al., 1980; Braithwaite and Li, 2007; Nacos, 2009; Cliff and First, 2013). This implies that terrorist activity in country *i* is influenced by terrorist activity in proximate countries due to cross-border cooperation between terrorist groups (e.g., in the form of exchanging information or trading weapons) as well as learning and imitation behavior, e.g., as militants copy techniques employed by successful groups in nearby countries. Furthermore, major Islamist terrorist organizations have resorted to franchising. Parent terrorist groups (especially *Al-Qaeda* and the *Islamic State*) have encouraged the establishment of proximate local affiliates that are rather loosely connected to the parent group but share its ideological goals. In sum, contagion effects imply that Islamist terrorist activity in neighboring countries should positively predict local Islamist terrorist activity.

For the IV-estimates to be sound, this latter association ought to be sufficiently strong. Below, we report a test-statistic of instrument weakness (the Kleibergen-Paap first-stage *F*-statistic). As a rule of thumb, if this statistic exceeds the critical value of $F = 10$, the instrument is considered sufficiently strong. However, this rule of thumb has received some criticism for being anti-conservative, meaning that instruments may be weak even if $F > 10$ (Lee et al., 2022). Thus, we also report results for the Anderson-Rubin test (Anderson and Rubin, 1949) that is robust to arbitrarily weak instruments (Lee et al., 2022). A rejection of the Anderson-Rubin test null hypothesis indicates that the coefficient of the endogenous regressor in the structural equation equals zero, which would point to the soundness of the IV-estimates.

Exclusion Restriction. There are two main threats to our identification strategy. First, other changes may spuriously correlate with both the instrument and female empowerment over time. We account for this possibility by including year fixed-effects. Second, and more importantly, in addition to contagion effects of terrorism (which we use for identification), there may be other economic, political or demographic shocks that are also correlated within a region. These might simultaneously influence the emergence of Islamist terrorism and the patterns of women empowerment in the country of interest *i*. For example, a substantial economic downturn in countries within the same world region as country *i* may encourage Islamist militancy in response to economic deprivation that results from adverse spillover effects or affect women economic participation, e.g., as female labor force participation in country *i* is constrained to counter increases in male unemployment due to the same spillover effects. To rule out such effects that could invalidate the exclusion restriction, below we run additional specifications that include a host of time-variant covariates accounting for economic, political and demographic shocks. Furthermore, we rely on the plausibly exogenous framework of Conley et al. (2012) that is further developed by Kippersluis and Rietveld (2018). As described below in more detail, this method allows us to directly examine how plausible violations of the exclusion restriction matter to causal inference. The idea is that allowing for violations of the exclusion restriction and still finding that Islamist terrorism matters to the status of women would raise further confidence in our instrumental-variable approach.

4. Empirical results

4.1. Main results

Our baseline regression results are reported in Table 2. The parsimonious two-way fixed-effects regression results show that increased Islamist terrorist activity is associated with lower levels of the WBLI. This result also holds when we add our baseline controls.[13] Similarly, the IV-estimates reported in Table 2 indicate that a stronger presence of Islamist terrorist groups results in a lower WBLI. The IV-diagnostics imply that these estimates are trustworthy for four reasons. First, the instrumental variable has the expected effect on the instrumented variable, with neighboring Islamist terrorism positively predicting Islamist terrorism in the country of interest; as argued above, this effect may be due to, e.g., imitation, network or franchising effects. Second, the employed instrument is also sufficiently strong, as indicated by first-stage *F*-statistics passing the conventional threshold of $F = 10$ that would signal instrument weakness. Third, the results of the Anderson-Rubin test, which is robust to arbitrarily weak instruments, also indicate that the employed instrument is sufficiently powerful. Finally, the Anderson-Rubin confidence intervals (Anderson and Rubin, 1949), which are likewise robust to arbitrarily weak instruments, are in line with the confidence intervals from the IV-regression. Thus, we can conclude that increased Islamist terrorist activity results in lower WBLI levels with sufficiently high levels of statistical precision.

In sum, the IV-estimates mirror their fixed-effects OLS counterparts in that increased Islamist terrorist activity is linked to lower levels of the WBLI, providing support for our main hypothesis. While effects are—as expected—less precisely estimated in the IV-

---

[13] Note that the results for the controls matter to us mainly with respect to how their inclusion affects the stability of the estimated effect of Islamist terrorism on the WBLI. Due to a lack of an identification strategy, the estimated associations between the various controls and the outcome cannot be given a causal interpretation, while estimated effect sizes are likewise not informative (e.g., Keele et al., 2020).

Table 2
Baseline regression results.

	(1a)	(1 b)	(2a)	(2 b)	(3a)	(3 b)
Islamist Terrorist Group $_{t-1}$	−0.044	−0.159	−0.039	−0.127	−0.036	−0.126
	(0.008)***	(0.039)***	(0.008)***	(0.035)***	(0.008)***	(0.036)***
Per Capita Income $_{t-1}$			0.028	0.023	0.027	0.023
			(0.005)***	(0.005)***	(0.005)***	(0.005)***
Democracy $_{t-1}$			0.041	0.041	0.041	0.040
			(0.014)***	(0.015)***	(0.014)***	(0.015)***
Traditionalist Government $_{t-1}$			−0.007	−0.007	−0.006	−0.006
			(0.016)	(0.017)	(0.016)	(0.017)
Muslim Population Share $_{t-1}$			0.049	0.049	0.054	0.050
			(0.087)	(0.090)	(0.085)	(0.089)
Globalization Index $_{t-1}$			0.384	0.426	0.378	0.425
			(0.082)***	(0.101)***	(0.081)***	(0.102)***
Other Types of Terrorism $_{t-1}$					−0.013	−0.002
					(0.008)	(0.008)
First-Stage Regression Results						
Regional Islamist Activity		0.462		0.554		0.528
		(0.100)***		(0.127)***		(0.122)***
Per Capita Income				0.006		0.009
				(0.024)		(0.023)
Democracy				0.048		0.047
				(0.063)		(0.064)
Traditionalist Government				0.030		0.021
				(0.072)		(0.070)
Muslim Population Share				0.060		0.031
				(0.430)		(0.429)
Globalization Index				−0.180		−0.124
				(0.563)		(0.575)
Other Types of Terrorism						0.066
						(0.041)
Number of Observations	7105	7105	6344	6344	6344	6344
First-Stage F-Statistic		21.17		19.08		18.67
Anderson-Rubin F-Test (Pr.>F)		(0.00)***		(0.00)***		(0.00)***
Anderson-Rubin 90% Confidence Interval		[-0.232; −0.111]		[-0.192; −0.091]		[-0.192; −0.091]

Notes: Fixed-effects effects OLS (1a, 2a and 3a) and instrumental-variable fixed-effects (1b, 2b and 3b) estimates reported. Instrumental variable for *Islamist terrorist group* is the mean number of Islamist terrorist groups in world region. Country-fixed effects and year-fixed effects are always included. Cluster-robust standard errors in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

setting, they are also larger than the corresponding OLS-estimates. This suggests that the OLS-estimates are downward biased. For instance, this may be a consequence of stronger women's empowerment potentially reducing the social acceptance of Islamist thought and thus curtailing Islamist mobilization. In terms of effect sizes, our baseline IV-estimates imply that a 50% increase in Islamist terrorism (e.g., seeing three instead of two active Islamist groups per country-year observation) leads to a 0.07 point decrease in the WBLI (approximately four-tenth of a standard deviation).

Concerning the results for the controls, we find them to be largely in line with our expectations and the literature. Higher levels of the WBLI correlate with higher per capita income levels, stronger democratic institutions and exposure to globalization. There is no statistically significant association between the political dominance of traditionalist governments and the WBLI. Finally, we find no obvious relationship between a country's Muslim population share and the WBLI. Taken together with our finding of an adverse effect of Islamist militancy on the same index, this suggests that it is violent Islamist fundamentalism (i.e., the presence of Islamist terrorist groups) rather than Islam per se (as indicated by the Muslim population share) that undermines women's position in society.

Lastly, one may find it problematic to disregard other types of terrorism in our analysis. Thus, in Table 2 we also report a first important robustness check, where we amend our baseline model with a variable accounting for the (inverse hyperbolic sine transformed) number of active terrorist groups with non-Islamist ideologies (including nationalist-separatist, left-wing, right-wing, Christian, Jewish and eco terrorist groups) per country-year observation. We find that Islamist terrorism continues to adversely affect the WBLI, while the relationship between the WBLI and non-Islamist terrorism is not statistically significant.[14] This finding suggests that it is possible to disentangle the impact of the Islamist terrorism on the WBLI from that of other types of terrorism. Indeed, as part of our empirical extensions below we study the relationship between various types of ideology terrorism and female subordination in more detail, coming to a similar conclusion.

---

[14] In the appendix (Supplementary Table 2), we present additional estimates where non-Islamist terrorism is instrumented by the mean number of non-Islamist terrorist groups active in its respective world region, accounting for potential feedback and other sources of endogeneity in the relationship between non-Islamist terrorism and the WBLI. Here, we also find that non-Islamist terrorism does not affect the status of women in society, while Islamist terrorism continues to do so.

4.2. Robustness and sensitivity checks

4.2.1. Robustness of instrumental-variable approach

As discussed above, a threat to the validity of our IV-approach is the presence of influential correlated regional trends other than regional trends in Islamist terrorism (our instrumental variable). The presence of such trends can lead to a violation of our exclusion restriction if they spread across countries, creating additional spillover effects. For instance, a wave of democratic reforms in neighboring countries may affect the politics of Islamist militancy (e.g., as militant groups re-evaluate military approaches vis-à-vis political engagement), while at the same time encouraging female empowerment.

To address these concerns, we consider two alternative ways to construct our instrumental variable. Rather than differentiating between Islamist terrorism in twenty world regions, we use ten world regions (Eastern Europe and Central Asia; Latin America; the Middle East and Northern Africa; sub-Saharan Africa; Western Europe and Northern America; East Asia; South-East Asia; South Asia; the Pacific; and the Caribbean) or seven (East Asia and the Pacific; Eastern Europe; Western Europe; the former Soviet Union; Sub-Saharan Africa; the Americas; Northern Africa and the Middle East) instead. We see this as a way to minimize the threat that our instrumental variable accidently captures correlated regional trends, where our main empirical result would be due to idiosyncrasies related to the construction of our baseline instrumental variable.

Furthermore, we include time-varying covariates accounting for economic, political and demographic shocks in countries located in the same part of the world as country *i*, i.e., in those countries that matter to the construction of our instrumental variable. Formally, these variables are defined as the mean levels of democracy, traditionalist government, per capita income, globalization, economic growth, oil rents, civil warfare, the male youth burden and the WBLI itself in countries in the same world region as the country of interest *i*. Supplementary Table 1 provides additional information on these variables.

Our findings reported in Table 3 can be summarized as follows. First, using differently constructed instrumental variables yields very similar results to those employing our baseline instrumental variable. Second, controlling for a variety of (time-variant) economic, political and demographic shocks in neighboring countries does not affect the impact of Islamist terrorist activity on local women empowerment with respect to statistical significance, effect size and soundness of the IV-diagnostics. Third, effect sizes are similar to those reported above. For instance, controlling for all shocks in proximate countries, our results imply that a 50% increase in Islamist terrorism leads to a 0.06 point decrease in the WBLI (approximately one-third of a standard deviation). In sum, these robustness checks raise confidence in the validity of our IV-approach, mitigating concerns about the influence of correlated regional trends that would allow for causal pathways besides the contagion effects of regional Islamist terrorism we use for identification.

4.2.2. Plausibly exogenous framework

Even though we cannot directly test for it, we can probe the plausibility of the exclusion restriction—that Islamist terrorism in proximate countries only affects the legal status of women via local Islamist terrorism—by relying on the *plausibly exogenous framework* introduced by Conley et al. (2012). The main idea of this method is to relax the assumption of perfect instrument exogeneity. It involves the following variant of our previously introduced two-step IV-model:

$$terror\_islam_{it} = \beta_{11} * regional\_terror\_islam_{it} + \beta_{21} * X_{it-1} + \propto_i + \lambda_t + v_{it} \tag{3a}$$

$$WBLI_{it} = \beta_{21} * \widehat{terror\_islam}_{it-1} + \gamma * regional\_teror\_islam_{it} + \beta_{22} * X_{it-1} + \propto_i + \lambda_t + \mu_{it} \tag{3b}$$

We now allow our instrument, *regional_terror_islam*, to enter the second-stage regression (3b) with a coefficient *γ*. This implies that Islamist terrorism in proximate countries directly affects women's status in country *i*. For instance, regional Islamist terrorism may produce local negative economic effects that could incentivize legal economic restrictions on women. As another example, Islamist terrorism in proximate countries may change security perceptions in country *i*, making citizens of this country believe that women should stay at home for safety reasons.

Allowing for a direct effect of proximate Islamist terrorism on the WBLI means that the exclusion restriction is violated.[15] By considering various values of *γ*, we can investigate how violations of the exclusion restriction matter to our IV-estimates (Conley et al., 2012; Kippersluis and Rietveld, 2018). In Fig. 3, we present a confidence band associated with the effect of Islamist terrorism on female subordination for various values of *γ*. As the lower bound of *γ*, we choose a value that is close to the reduced-form estimate concerning the effect of the instrument on women's status; as shown in Table 4 (Panel A), we find that higher levels of Islamist terrorism in proximate countries correlate with a weaker status of women in the country of interest. As an upper bound, we select *γ* = 0.02, which would imply that more regional Islamist terrorism is associated with less female subordination in the country of interest.

There are three empirical conclusions that can be drawn from Fig. 3. First, when the direct effect of Islamist terrorism in proximate countries on women's status is positive (i.e., when *γ* > 0), the lower bound effect of local Islamist terrorism on local female subordination becomes stronger. However, a positive direct effect of regional Islamist terrorism seems unlikely, given the potentially large set of negative spillover effects (e.g., with respect to cross-border cooperation between Islamist militants). Second, as long as *γ* is larger than approximately −0.05, the confidence interval associated with the effect of local Islamist terrorism on the WBLI does not include zero. Third, if *γ* < −0.05, the associated error band includes zero. Taken together, this suggests that *γ* has to reach a value in excess of two-thirds of the size of the reduced-form estimate for the coverage area to include zero. This, in turn, suggests that our IV-estimates

---

[15] By contrast, in case of perfect instrument exogeneity, *γ* would be equal to zero and the exclusion restriction would hold.

Table 3
Robustness of IV-Approach.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Islamist Terrorist Group $_{t-1}$	−0.123 (0.035)***	−0.128 (0.036)***	−0.129 (0.035)***	−0.124 (0.034)***	−0.132 (0.039)***	−0.131 (0.036)***	−0.113 (0.047)**
Per Capita Income $_{t-1}$	0.023 (0.005)***	0.023 (0.005)***	0.022 (0.005)***	0.010 (0.006)*	0.020 (0.005)***	0.019 (0.005)***	0.007 (0.006)
Democracy $_{t-1}$	0.041 (0.015)***	0.040 (0.015)***	0.043 (0.017)***	0.049 (0.015)***	0.043 (0.015)***	0.040 (0.015)***	0.047 (0.016)***
Traditionalist Government $_{t-1}$	−0.007 (0.017)	−0.007 (0.017)	−0.009 (0.017)	−0.005 (0.017)	−0.009 (0.018)	−0.004 (0.018)	−0.006 (0.018)
Muslim Population Share $_{t-1}$	0.049 (0.089)	0.049 (0.090)	0.039 (0.095)	0.049 (0.095)	0.100 (0.103)	0.091 (0.104)	0.042 (0.108)
Globalization Index $_{t-1}$	0.424 (0.101)***	0.426 (0.103)***	0.418 (0.102)***	0.307 (0.113)***	0.424 (0.110)***	0.375 (0.110)***	0.304 (0.123)**
Mean Democracy $_{t-1}$			−0.025 (0.034)				0.002 (0.035)
Mean Traditionalist Government $_{t-1}$			0.061 (0.057)				0.017 (0.059)
Mean Per Capita Income $_{t-1}$				0.031 (0.012)***			0.028 (0.015)*
Mean Globalization $_{t-1}$				0.339 (0.161)**			0.250 (0.217)
Mean Economic Growth $_{t-1}$					−0.000 (0.001)		−0.001 (0.001)
Mean Oil Rents $_{t-1}$					−0.001 (0.001)		−0.001 (0.001)
Mean Civil War $_{t-1}$						−0.010 (0.020)	−0.019 (0.020)
Mean Male Youth Burden $_{t-1}$						−0.003 (0.003)	0.002 (0.003)
Mean WBLI $_{t-1}$							0.167 (0.195)
Number of Observations	6344	6344	6344	6344	5987	6094	5748
First-Stage F-Statistic	20.44	21.78	18.83	19.31	17.88	18.83	14.50
Anderson-Rubin F-Test (Pr.>F)	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***

Notes: Instrumental-variable fixed-effects estimates reported. Instrumental variable for various Islamist terrorist group variables is the mean number of Islamist terrorist groups in twenty world region; in specification (1) we instead use ten world regions, in specification (2) we use seven world regions (see the main text for additional information). Country-fixed effects and year-fixed effects are always included. *Mean* refers to mean level of the respective variable over the respective world region in which a country of interest is located. Cluster-robust standard errors in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.
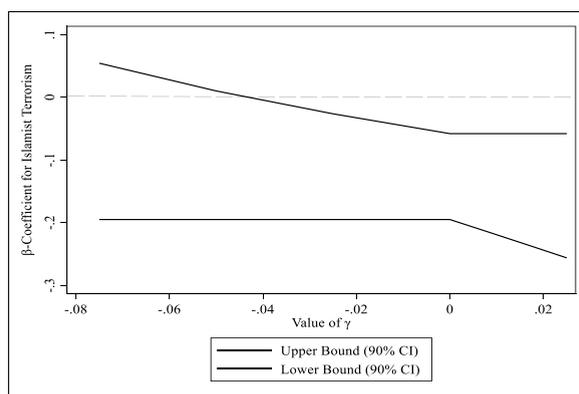

Fig. 3. Confidence bands from plausibly exogenous framework.

appear to be robust to substantial degrees of instrument invalidity.

The plausibly exogenous framework, however, remains mute about which values of γ are ultimately plausible; indeed, our analysis shows that there are values for γ for which there is a non-effect of Islamist terrorism on the WBLI. To find plausible values, we thus consider the so-called *zero first-stage* following Kippersluis and Rietveld (2018). That is, we consider a sample of countries that did not experience Islamist terrorism during our period of observation. Considering these countries serves two purposes. First, if regional Islamist terrorism only affects the WBLI via local Islamist terrorism, then there should be no statistically significant association

Table 4
Plausibly exogenous framework.

	(1)	(2)	(3)
Zero first-stage group (Number of Observations)	4382	1143	1592
Remaining sample (Number of observations)	1962	1962	1962
Panel A: Effect of Islamist Terrorism in World Region on WBLI (Reduced Form)			
Full Sample	−0.070	−0.070	−0.070
	(0.013)***	(0.013)***	(0.013)***
Zero first-stage group	−0.029	−0.042	−0.025
	(0.022)	(0.027)	(0.027)
Remaining sample	−0.079	−0.079	−0.079
	(0.026)***	(0.026)***	(0.026)***
Panel B: Effect of Islamist Terrorism on WBLI for Full Sample (95% Confidence Interval)			
2SLS regression	[-0.192; −0.091]	[-0.192; −0.091]	[-0.192; −0.091]
Plausibly exogenous regression	[-0.140; −0.062]	[-0.140; −0.062]	[-0.140; −0.069]
Value of γ for plausibly exogenous regression	−0.029	−0.042	−0.025
Further Controls	Yes	Yes	Yes

Notes: OLS-estimates (Panels A) IV-estimates (Panel B) reported. Country-fixed effects and year-fixed effects are always included. *Controls* are per capita income, democracy, traditionalist government, the Muslim population share and the globalization index. *Full sample* refers to the respective baseline sample; these results are reported for comparison. *Zero first-stage sample* refers to countries that never experience Islamist terrorist activity over the period of observation (Model 1), that never experience Islamist terrorist activity over the period of observation and have a Muslim population share above 10% (Model 2) or that never experience Islamist terrorist activity over the period of observation and are autocratic (Model 3). Cluster-robust standard errors in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

between proximate Islamist terrorism and the WBLI for countries that do not experience local Islamist terrorism.[16] Second, when we estimate the effect of Islamist terrorism in proximate countries on the WBLI for the zero first-stage, the regression coefficient associated with regional Islamist terrorism can be used as a plausible input for γ. Kippersluis and Rietveld (2018) call this extension to the approach of Conley et al. (2012) the *beyond plausibly exogenous framework*.

We present our findings in Table 4. In Panel A, we show regional Islamist terrorism does not share a statistically significant relationship with the WBLI for the zero first-stage group of countries. In contrast, higher levels of regional Islamist terrorism are associated with a weaker status of women for those countries that also experience local Islamist terrorism. These findings are in line with our assumption that proximate Islamist terrorism affects the WBLI only through Islamist terrorist activity in that country. Furthermore, as shown in Panel B, allowing for respective (plausible) violations of the exclusion restriction as they follow from the zero first-stage group, we still find that higher levels of Islamist terrorism result in lower WBLI levels.

Using the full sample of countries that do not experience Islamist terrorism over the period of observation may raise concerns about selection. Thus, in Table 4 we also report further zero first-stage estimates where we consider two smaller zero first-stage group of countries that consist of (1) countries that never experience Islamist terrorist activity over the period of observation and have a Muslim population share above 10% and (2) countries that never experience Islamist terrorist activity over the period of observation and are autocratic. Here, the idea is that these zero first-stage country groups are closer to those countries that actually see Islamist terrorism and can thus be better compared to them. As shown in Table 4 (Panel A), for these additional country groups we still find that regional Islamist terrorism does not affect the WBLI in the country of interest. What is more, using the associated reduced-form estimates as inputs for γ, we again find that the respective violations of the exclusion restriction are not sufficiently high for the 90% confidence interval associated with local Islamist terrorism to include zero (Panel B).

In sum, the findings from the plausibly exogenous framework of Conley et al. (2012), the zero first-stage estimates and the beyond plausibly exogenous framework of Kippersluis and Rietveld (2018) are supportive of our identification strategy. They work as important sensitivity checks that strengthen the causal interpretation of our findings without, however, conclusively proving causation.

4.2.3. Alternative operationalizations of Islamist terrorist activity

Next, we consider whether the operationalization of Islamist terrorism matters to our empirical analysis. Recall that our usual measure of Islamist terrorism is the inverse hyperbolic sine transformation of the annual number of active Islamist terrorist groups. We now consider five alternative measurements. First, we use the untransformed number of Islamist terrorist groups per year. This is to study whether our estimates are affected by a specific transformation of the data. Second, we employ a binary measure of Islamist militancy, equal to unity when at least one Islamist terrorist group is active in a country-year. This ought to reduce the influence of scale effects. Third, we use the per capita number of active Islamist terrorist groups per country-year observations. For instance, Jetter and Stadelmann (2019) argue that terrorism in per capita terms may be more reflective of the individual terrorism threat perception and thus the political efficacy of terrorism. Fourth, we also use the inverse hyperbolic sine transformation of the per capita number of

---

[16] To see this, consider that the reduced-form relationship between regional Islamist terrorism and the WBLI captures both γ and β_{21}, with the latter referring to the effect of regional Islamist terrorism on the WBLI via local Islamist terrorism from Equation (3b). However, when in the zero first-stage case a country never sees terrorism over the period of observation, then the reduced-form estimate associated with regional Islamist terrorism only captures γ.

Islamist terrorist groups. Finally, some terrorist groups have been active in multiple countries; before, we assigned these groups equally to all affected countries. Instead, we now allocate their activity to only one "main country", meaning that the remaining countries will report no Islamist terrorist activity by these groups. These "main countries" correspond to groups' operational, ideological or organizational centers and are identified using various supplementary sources.[17] For instance, according to the EDTG, *Al-Qaeda in Iraq* has been active in Iraq and Jordan. For our robustness check, activity by *Al-Qaeda in Iraq* is only attributed to Iraq but not Jordan.

We report our empirical results using the alternative operationalizations of our main explanatory variable in Table 5. We find that Islamist terrorist activity remains a negative and robust predictor of the WBLI. Importantly, while the first-stage *F*-statistics point to a potential weak-instrument problem in some cases, the results of the Anderson-Rubin test, which is robust to arbitrarily weak instruments, indicate that the employed instruments are sufficiently powerful after all. Here, the associated Anderson-Rubin confidence sets also never include zero. We are thus confident that the IV-estimates reported in Table 5 are sound and again point to an adverse effect of Islamist activity on women's legal position in society. Thus, our main results do not appear to be due to a specific operationalization of our main explanatory variable.

4.2.4. Further robustness checks

In the supplementary appendix, we provide additional robustness checks. In Supplementary Table 2, we show that various changes to our baseline model (e.g., using alternative measure for economic development, democracy and government ideology) are immaterial to our main empirical finding. Next, we consider whether (some of) our baseline controls may be bad controls, i.e., we account for the possibility that they may also be affected by Islamist terrorism (e.g., Angrist and Pischke, 2009). For instance, one may argue that per capita income and democracy are potentially bad controls because Islamist militancy could also determine economic and political development. In Supplementary Table 3, we show that dropping potentially suspect controls does not affect our main empirical conclusion. In Supplementary Table 4, we add further demographic, socio-economic and politico-institutional variables as well as a lagged dependent variable to our baseline model. Here, we also consider a specification that includes country-specific time trends to more flexibly account for global phenomena such as the Soviet invasion of Afghanistan, the end of the Cold War and the U.S.-led invasion of Iraq that may have affected different countries in different ways. Again, adding the various controls and trends does not change our main empirical finding. Finally, we study whether specific subsets of countries are responsible for our results (Supplementary Table 5). For instance, we drop all countries in the Middle East and Northern Africa (which tend to be hotbeds of both violent Islamism and exhibit weak women's rights) from our sample. Using various sub-samples, we continue to find that Islamist terrorism reduces female empowerment, suggesting that no specific sub-sample drives our findings. In Supplementary Table 5 we also drop all countries in which Islamist terrorist groups operate that have *territorial goals* rather than social-revolutionary goals according to the EDTG.[18] While Islamist groups with territorial goals are only active in a handful of countries, one may expect them to be less interested in and thus less responsive to policy concessions that concern the role of women in society compared to Islamist groups with social-revolutionary ambitions. We find that the effect of Islamist terrorism on female subordination is somewhat stronger when countries in which territorial groups operate are not considered. This may—plausibly, but very tentatively—suggest that Islamist terrorism with social-revolutionary goals is more amenable to related concessions.[19]

4.3. Individual components of the WBLI

The WBLI consists of eight sub-indices reflecting women's economic and legal position in society concerning their mobility, treatment at the workplace, pay, marriage, parenthood, entrepreneurship, assets and pensions (World Bank, 2021). Next, we assess how Islamist terrorism affects the constitutive elements of the WBLI.

As reported in Table 6, a stronger presence of Islamist terrorist groups is linked to all eight constituent elements of the WBLI in statistically meaningful ways, where Islamist militancy adversely affects female empowerment. For instance, we find that Islamist terrorist activity also results in laws and regulations discouraging female entrepreneurship. The results reported in Table 6 thus further strengthen our main findings of an adverse effect of Islamist terrorism on female empowerment. As before, we usually find that the Muslim population share does not predict differences in the constituent elements of the WBLI. Here, the only exception concerns the role of this share in female mobility, where we find that a larger Muslim population share is associated with laws and regulations that restrict female mobility.

4.4. Alternative measurement of women's empowerment

The WBLI focuses on the legal status of women, which we find meaningful as laws and regulations are within the reach of governments and can be changed as a concessionary response to terrorism. Still, as another robustness check, we draw additional

---

[17] This includes reports by the U.S. State Department, the *South Asia Terrorism Portal* and the *Terrorism Research & Analysis Consortium*. These data sources are also discussed in the codebook of Hou et al. (2020).

[18] One example of such a group is the *Moro Islamic Liberation Front* that fights to create an independent Muslim nation in the southern Philippines (Hou et al., 2020).

[19] Given that Islamist groups are only active in few countries, we cannot systematically study the differential effects of Islamist terrorism with territorial and social-revolutionary goals on female subordination in our empirical setting. However, we invite future research to examine (e.g., in form of case studies) the relationship between Islamist terrorists' goals and their responsiveness to policy concessions in more detail.

Table 5

Alternative operationalizations of Islamist terrorist activity.

Operationalization of Terrorism →	(1)	(2)	(3)	(4)	(5)
	No IHS Transformation	Binary	Groups Per Capita	Groups Per Capita (IHS)	Groups Assigned to One Home Country Only
Islamist Terrorist Group $_{t-1}$	−0.038	−0.281	−0.015	−0.093	−0.049
	(0.014)***	(0.076)***	(0.006)***	(0.027)***	(0.020)**
Per Capita Income $_{t-1}$	0.022	0.026	0.024	0.027	0.021
	(0.005)***	(0.005)***	(0.006)***	(0.006)***	(0.006)***
Democracy $_{t-1}$	0.045	0.037	0.043	0.040	0.049
	(0.016)***	(0.015)**	(0.018)**	(0.015)***	(0.016)***
Traditionalist Government $_{t-1}$	−0.009	−0.008	0.025	−0.004	−0.007
	(0.018)	(0.017)	(0.037)	(0.019)	(0.019)
Muslim Population Share $_{t-1}$	0.014	0.074	0.057	0.081	−0.023
	(0.098)	(0.107)	(0.099)	(0.104)	(0.101)
Globalization Index $_{t-1}$	0.344	0.472	0.368	0.459	0.303
	(0.106)***	(0.100)***	(0.133)***	(0.108)***	(0.112)***
Number of Observations	6344	6344	6344	6344	6344
First-Stage F-Statistic	7.50	23.70	7.42	16.69	6.07
Anderson-Rubin F-Test (Pr.>F)	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Anderson-Rubin 90% Confidence Interval	[−0.071; −0.030]	[−0.434; −0.172]	[−0.030; −0.010]	[−0.152; −0.071]	[−0.131; −0.030]

Notes: Instrumental-variable fixed-effects reported. Instrumental variable for various Islamist terrorist group variables is the mean number of Islamist terrorist groups in world region. Country-fixed effects and year-fixed effects are always included. Cluster-robust standard errors in parentheses. *$p <$ 0.1, **$p < 0.05$, ***$p < 0.01$.

Table 6

Islamist terrorism and components of WBLI.

WBL Component (Dependent Variable) →	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Mobility	Workplace	Pay	Marriage	Parenthood	Entrepreneurship	Assets	Pensions
Islamist Terrorist Group $_{t-1}$	−0.050	−0.179	−0.111	−0.159	−0.132	−0.197	−0.092	−0.095
	(0.025)*	(0.075)**	(0.053)**	(0.050)***	(0.050)***	(0.055)***	(0.047)*	(0.051)*
Per Capita Income $_{t-1}$	0.009	0.061	0.038	0.027	0.061	0.010	−0.006	−0.014
	(0.007)	(0.014)***	(0.013)***	(0.011)***	(0.012)***	(0.010)	(0.010)	(0.018)
Democracy $_{t-1}$	0.025	0.086	0.064	0.037	0.008	0.075	0.065	−0.036
	(0.015)	(0.031)***	(0.032)**	(0.022)*	(0.024)	(0.036)**	(0.024)***	(0.027)
Traditionalist Government $_{t-1}$	−0.019	0.011	0.009	−0.042	−0.002	−0.043	0.005	0.028
	(0.018)	(0.040)	(0.036)	(0.028)	(0.034)	(0.034)	(0.029)	(0.032)
Muslim Population Share $_{t-1}$	−0.300	0.261	−0.266	−0.227	−0.095	0.261	0.317	0.443
	(0.086)***	(0.381)	(0.223)	(0.140)	(0.198)	(0.182)	(0.254)	(0.292)
Globalization Index $_{t-1}$	0.173	0.948	0.317	0.600	0.529	0.486	0.250	0.104
	(0.079)**	(0.212)***	(0.198)	(0.142)***	(0.171)***	(0.219)**	(0.149)*	(0.165)
Number of Observations	6344	6344	6344	6344	6344	6344	6344	6344
First-Stage F-Statistic	19.08	19.08	19.08	19.08	19.08	19.08	19.08	19.08
Anderson-Rubin F-Test (Pr.>F)	(0.04)**	(0.01)**	(0.02)**	(0.00)***	(0.00)***	(0.00)***	(0.03)**	(0.06)*

Notes: Instrumental-variable fixed-effects estimates reported. Instrumental variable for Islamist terrorist group is the mean number of Islamist terrorist groups in world region. Country-fixed effects and year-fixed effects are always included. Cluster-robust standard errors in parentheses. *$p <$ 0.1, **$p < 0.05$, ***$p < 0.01$.

indicators of female empowerment from the VDEM dataset. Importantly, this dataset also accounts, in addition to laws and regulations, for norms, traditions and practices. Norms and practices could, in turn, also plausibly respond to (Islamist) terrorism. For instance, the government could influence (e.g., through public education) the "unwritten rules" of society with respect to the status of women to accommodate Islamist demands. In detail, we consider five indicators measuring (1) women's freedom of domestic movement, (2) women's right to property, (3) the distribution of political power by gender, (4) gender equality in the respect for civil liberties and (5) women political empowerment. For all indicators, larger values correspond to a more favorable and equitable position of women in society. The summary statistics for all indicators are reported in Table 1, while additional information on them is given in Coppedge et al. (2021).

The results are largely in line with earlier findings and can be found in Supplementary Table 6. Increased Islamist terrorist activity tends to result in a weaker legal and economic position of women, while also tending to curtail women's political empowerment. At the

same time, there is no evidence that the Muslim population share has a statistically meaningful relationship with the five additional VDEM indicators. This is also consistent with earlier results.

4.5. Other types of ideology terrorism and women's empowerment

Approximately 25% of terrorist activity reported by the EDTG is due to Islamist terrorism, while the remaining 75% is due to groups with other ideological inclinations. At the same time, some countries are afflicted by Islamist and non-Islamist terrorism at the same time. For instance, India simultaneously saw terrorist activity by Islamist groups (e.g., the *Students' Islamic Movement of India*), left-wing organizations (e.g., the *Maoist Communist Center*) and nationalist-separatist groups (e.g., the *National Liberation Front of Tripura*) for most of the period of observation according to the EDTG.

Thus, we ask whether the effect of terrorism on women's position in society is specific to Islamist terrorism or also pertains to other forms of terrorism. To test this proposition, we draw additional data from the EDTG measuring the presence of *left-wing* and *nationalist* terrorist groups; as above, these variables are transformed applying the inverse hyperbolic sine transformation. Left-wing groups have anarchist, communist/socialist or environmental leanings and account for approximately 25% of all activity reported by the EDTG. Nationalist groups have either separatist or anti-separatist orientations; roughly 47% of the terrorist activity documented by the EDTG is due to this type of terrorism.[20] As endogeneity concerns may also pertain to left-wing and nationalist-separatist terrorism, we construct two additional instrumental variables analogous to our usual IV-approach for these types of terrorism that are equal to the number of active left-wing or nationalist terrorist groups operating in the same world region, respectively.

We first estimate the effect of the *total* (inverse hyperbolic sine transformed) number of Islamist, left-wing and nationalist terrorist groups on the WBLI. As shown in Table 7, we find that more total terrorist activity results in lower levels of this index.[21] However, when we differentiate between the impact of Islamist, left-wing and nationalist terrorist groups, we find that only Islamist terrorism exerts a statistically significant and adverse effect on women's empowerment. These findings suggest that the negative effect of total terrorism on the WBLI is driven by Islamist terrorism and that Islamist terrorism is singularly effective in reducing women's position in society. At the same time, it indicates that female subordination is a consequence of Islamist violence and not violence in general. Indeed, this latter finding suggests that ideology shapes both the political objectives and strategic effectiveness of terrorism. While Islamist terrorism aims at weaker women's empowerment for theological-spiritual reasons, the same is not true for left-wing terrorism (which tends to have egalitarian and emancipatory goals) and nationalist violence (which shares no obvious relationship with women's empowerment). Thus, it is highly intuitive that only Islamist terrorist groups extract concessionary policy change in the form of lower levels of the WBLI, as these concessions will affect their calculus of political utility maximization.

4.6. Heterogeneity and exploration of mechanisms

So far, we have provided robust evidence that Islamist terrorism adversely affects women's status. Finally, we want to study whether the effect of terrorism on female subordination may be heterogeneous, i.e., depending on certain country-specific conditions. At the same time, studying *heterogeneity* may also help us uncover relevant *mechanisms* underlying the nexus between Islamist terrorism and the status of women.

We focus on two sources of heterogeneity. First, differences in *economic and military vulnerability* may matter. Countries that are more vulnerable may be more likely to provide policy concessions to reduce (future) economic or military pain from terrorism. As a measure of economic vulnerability, we use a country's *rate of economic growth*, while military vulnerability as indicated by its *military spending* as a share of GDP. Both variables come from the WDI. Countries are considered to be economically (militarily) vulnerable when their country-level average economic growth rate (military spending) is below the sample mean; otherwise, we consider them to be comparatively resilient.

Second, we examine differences in *political feasibility*. Countries in which governments have fewer political constraints may be less scrupulous about giving in to terrorist demands, e.g., because they are less likely to face political backlash from (female) voters. To capture differences in political feasibility, we use a *political deliberation* index (which indicates how political elites communicate public policy to the public, whether they acknowledge and respect counter-arguments and how wide the range of policy consultation is) and an index of *concentration of political power* (which captures how systematically power is concentrated, e.g., with respect to legislative and judicial oversight of the executive). These variables come from the VDEM dataset. Countries are considered to be more flexible in terms of granting concessions when their country-specific average level of political deliberation (power concentration) is below (above) the respective sample mean; otherwise, we consider them to be comparatively inflexible.

We report our findings in Table 8. There are two main findings. First, regardless of whether countries are relatively strong or weak in economic or military terms, Islamist terrorism adversely affects the WBLI in a similar manner.[22] Second, we find that Islamist

---

[20] Terrorism motivated by right-wing causes, religions other than Islam (e.g., Christianity and Judaism) or further idiosyncratic ideologies accounts for fewer than 5% of the terrorist activity reported in the EDTG. We consequently do not consider these groups, given the small number of cases (which prevent us from employing our usual instrumental-variable approach) and missing ideological coherence.

[21] The corresponding instrument for the total number of active terrorist groups is the mean number of Islamist, left-wing and nationalist in neighboring countries.

[22] We come the same conclusion when we measure economic health (military strength) by life expectancy or child mortality (military personnel or per capita military spending).

Table 7
Different types of ideology terrorism.

	(1)	(2)	(3)	(4)
All Terrorist Groups $_{t-1}$	−0.079			
	(0.021)***			
Islamist Terrorist Group $_{t-1}$		−0.116	−0.116	−0.112
		(0.042)***	(0.038)***	(0.042)***
Left-Wing Terrorist Group $_{t-1}$		−0.020		−0.013
		(0.042)		(0.045)
Nationalist Terrorist Group $_{t-1}$			−0.020	−0.014
			(0.043)	(0.046)
Per Capita Income $_{t-1}$	0.021	0.024	0.021	0.023
	(0.005)***	(0.005)***	(0.006)***	(0.006)***
Democracy $_{t-1}$	0.041	0.041	0.040	0.040
	(0.014)***	(0.015)***	(0.015)***	(0.015)***
Traditionalist Government $_{t-1}$	0.001	−0.004	−0.007	−0.005
	(0.017)	(0.019)	(0.017)	(0.019)
Muslim Population Share $_{t-1}$	0.101	0.052	0.052	0.053
	(0.087)	(0.089)	(0.087)	(0.087)
Globalization Index $_{t-1}$	0.363	0.419	0.417	0.415
	(0.081)***	(0.102)***	(0.098)***	(0.099)***
Number of Observations	6344	6344	6344	6344
First-Stage F-Statistic	28.04	10.08; 9.11	10.66; 15.44	7.12; 6.30; 11.86
Anderson-Rubin F-Test (Pr.>F)	(0.00)***	(0.00)***	(0.00)***	(0.00)***

Notes: Instrumental-variable fixed-effects estimates reported. Instrumental variable for various terrorist group variables is the mean number of Islamist and left-wing or nationalist-separatist terrorist groups in world region, respectively. First F-Statistic refers to the first-stage regression explaining Islamist terrorist activity when more than one F-statistics is reported. Country-fixed effects and year-fixed effects are always included. Cluster-robust standard errors in parentheses. *p < 0.1, **p < 0.05, ***p < 0.01.

terrorism only exerts a statistically significant and negative effect on the WBLI in countries that exhibit comparatively low levels of political deliberation and high levels of concentration of political power.

Our findings are indicative of potential mechanism concerning how Islamist terrorism undermines the status of women. Concessions seem to be a consequence of political feasibility rather than economic-military vulnerability. In other words, while terrorism produces economic and social pain for all affected countries, only comparatively authoritarian regimes are able to provide concessions in the form of weaker women's rights as a means to potentially stop this pain.[23] By contrast, less authoritarian countries appear to lack this possibility, not least because women are more likely to participate in political deliberation and public policy in these countries.

At the same time, we acknowledge that while our results are suggestive of heterogeneity and specific mechanisms, our empirical approach has two major limitations. First, splitting the sample with respect to the means of the moderators could be considered arbitrary. Second, and more importantly, we treat the various sources of heterogeneity as constant, even though they are likely endogenous to terrorism. For instance, one may speculate that terrorism could spur the concentration of political power. Thus, more research is needed to further study heterogeneity in and the mechanisms of the relationship between Islamist terrorism and women's status.

5. Conclusion

Resorting to the rational-economic model of terrorism, we argue that Islamist terrorists purposefully use violence to achieve a weaker economic-legal position of women in society. They do so because they consider modern notions of female empowerment to be corruptive and to stand in the way of a virtuous system of "true" Islamic governance based on the Islamists' vision of prelapsarian Islam. Achieving female subordination through the use of violence is consequently expected to yield political utility and spiritual rewards for Islamist militants. Related concessions that constrain the status of women in society are ultimately made by besieged governments when costs of compliance are lower than the political and economic harm due to Islamist terrorism.

Studying the effect of Islamist terrorism on women empowerment for 171 countries between 1970 and 2016, we show that increased activity by Islamist terrorist groups is linked to lower levels of female economic-legal empowerment. At the same time, we consistently find that a country's Muslim population share does not matter to women's empowerment. Thus, our findings suggest that illiberalism concerning the status of women is a function of violent Islamist fundamentalism rather than the prevalence of Islam per se. Furthermore, we show that left-wing and nationalist-separatist terrorist groups do not affect female empowerment, which reinforces the notion that the adverse effect of terrorism—by coercing government compliance—on the position of women in society is specific to Islamist terrorism. Finally, studying heterogeneity in the relationship between Islamist terrorism and female subordination, we find that differences in political feasibility rather than economic-military vulnerability explain why some countries are especially likely to

---

[23] Indeed, when we differentiate between relatively democratic and autocratic countries, we find that Islamist terrorism only reduces the WBLI in comparatively non-democratic countries.

Table 8

Heterogeneity and mechanisms.

Moderator →	(1)	(2)	(3)	(4)
	Economic Growth	Military Spending	Political Deliberation	Power Concentration
Interpretation when Moderator = 0 →	Slow Growth	Low Spending	Little Deliberation	Low Concentration
Islamist Terrorist Group $_{t-1}$	−0.162	−0.135	−0.148	−0.132
(Moderator = 0)	(0.071)**	(0.077)*	(0.039)***	(0.083)
Islamist Terrorist Group $_{t-1}$	−0.121	−0.127	−0.075	−0.125
(Moderator = 1)	(0.035)***	(0.035)***	(0.047)	(0.029)***
Per Capita Income $_{t-1}$	0.023	0.023	0.021	0.023
	(0.005)***	(0.005)***	(0.005)***	(0.005)***
Democracy $_{t-1}$	0.041	0.044	0.043	0.040
	(0.015)***	(0.015)***	(0.015)***	(0.015)***
Traditionalist Government $_{t-1}$	−0.010	−0.009	−0.007	−0.007
	(0.018)	(0.019)	(0.017)	(0.017)
Muslim Population Share $_{t-1}$	0.040	0.038	0.055	0.048
	(0.089)	(0.095)	(0.091)	(0.091)
Globalization Index $_{t-1}$	0.436	0.396	0.385	0.430
	(0.102)***	(0.104)***	(0.106)***	(0.106)***
Number of Observations	6344	6045	6344	6344
First-Stage F-Statistic	9.50; 11.84	11.20; 12.18	14.79; 5.85	4.09; 16.63
Anderson-Rubin F-Test (Pr.>F)	(0.00)***	(0.00)***	(0.00)***	(0.00)***

Notes: Instrumental-variable fixed-effects estimates reported. Instrumental variables for Islamist terrorist group variables are the mean number of Islamist terrorist groups in world region and the mean number of Islamist terrorist groups in world region interacted with the state of the moderator variable. First-stage statistic refers to the uninteracted instrumental variable (i.e., when moderator = 0). Country-fixed effects and year-fixed effects are always included. Cluster-robust standard errors in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

provide concessions.

Our empirical results add to the ongoing discussion on the strategic effectiveness of terrorism, showing that Islamist terrorism "works" in achieving its political objective of marginalizing women. We hope that our study inspires future research on the effectiveness of terrorism that could focus on other policy outcomes while considering the ideological inclinations and political objectives of terrorist organizations. For instance, future research may study whether there are differences in the strategic effectiveness of left-wing and other types of ideology terrorism with respect to inducing redistributive economic policies.

At the same time, we acknowledge that our analysis only indicates that terrorism "works" with regard to a limited political objective (lower levels of women's empowerment) for which bargaining and government concessions are plausible. We make no claims that terrorism can be similarly effective in achieving maximalist goals. Moreover, we do not evaluate whether these limited policy concessions "work" for the government to ensure the government's political survival or reduce future terrorist activity. In fact, we are skeptical in this regard. For instance, recent studies by Saiya et al. (2017) and Hudson and Hodgson (2022) suggest that female disempowerment encourages terrorist activity in its own right. Furthermore, weaker women's right may discourage human capital accumulation, public investment and economic growth (e.g., Doepke et al., 2012), raising further doubts about the long-run political and economic expediency of reducing women's rights in response to Islamist terrorism.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ejpoleco.2023.102364.

References

Abrahms, M., 2006. Why terrorism does not work. Int. Secur. 31, 42–78.

Abrahms, M., 2008. What terrorists really want: terrorist motives and counterterrorism strategy. Int. Secur. 32, 78–105.

Abrahms, M., 2011. Does terrorism really work? Evolution in the conventional wisdom since 9/11. Defence Peace Econ. 22, 583–594.

Abrahms, M., 2012. The political effectiveness of terrorism revisited. Comp. Polit. Stud. 45, 366–393.

Ahmed, L., 1993. Women and Gender in Islam: Historical Roots of a Modern Debate. Yale University Press, New Haven.

Anderson, T.W., Rubin, H., 1949. Estimation of the parameters of a single equation in a complete system of stochastic equations. Ann. Math. Stat. 20, 46–63.

Angrist, J., Pischke, J.-S., 2009. Mostly Harmless Econometrics: an Empiricists Guide. Princeton University Press, Princeton.

Arce, D.G., 2019. On the human consequences of terrorism. Publ. Choice 178, 371–396.

Barlas, A., 2002. Believing Women in Islam: Unreading Patriarchal Interpretations of the Qur'an. University of Texas Press, Austin.

Braithwaite, A., Li, Q., 2007. Transnational terrorism hot spots: identification and impact evaluation. Conflict Manag. Peace Sci. 24, 281–296.

Brandt, P.T., Sandler, T., 2009. Hostage taking: understanding terrorism event dynamics. J. Pol. Model. 31, 758–778.

Brandt, P.T., George, J., Sandler, T., 2016. Why concessions should not be made to terrorist kidnappers. Eur. J. Polit. Econ. 44, 41–52.

Burbidge, J.B., Magee, L., Robb, A.L., 1988. Alternative transformations to handle extreme values of the dependent variable. J. Am. Stat. Assoc. 83, 123–127.

Carson, J.V., Suppenbach, M., 2018. The global Jihadist movement: the most lethal ideology? Homicide Stud. 22, 8–44.

Cliff, C., First, A., 2013. Testing for contagion/diffusion of terrorism in state dyads. Stud. Conflict Terrorism 36, 292–314.

Conley, T.G., Hansen, C.B., Rossi, P.E., 2012. Plausibly exogenous. Rev. Econ. Stat. 94, 260–272.

Coppedge, M., Gerring, J., Knutsen, C.H., Lindberg, S.I., Skaaning, S.-E., Teorell, J., Altman, D., Bernhard, M., Fish, M.S., Cornell, A., Dahlum, S., Gjerløw, H., Glynn, A., Hicken, A., Krusell, J., Lührmann, A., Marquardt, K.L., McMann, K., Mechkova, V., Medzihorsky, J., Olin, M., Paxton, P., Pemstein, D., Pernes, J., von Römer, J., Seim, B., Sigman, R., Staton, J., Stepanova, N., Sundström, A., Tzelgov, E., Wang, Y., Wig, T., Wilson, S., Ziblatt, D., 2021. V-Dem Dataset V11.1. Available at: https://www.v-dem.net/en/data/data/v-dem-dataset-v111/.

Cronin, A.K., 2006. How al-Qaida ends: the decline and demise of terrorist groups. Int. Secur. 31, 7–48.

Dahlum, S., Wig, T., 2020. Peace above the glass ceiling: the historical relationship between female political empowerment and civil conflict. Int. Stud. Q. 64, 879–893.

Dekmejian, R.H., 1994. The rise of political Islamism in Saudi Arabia. Middle East J. 48, 627–643.

Donno, D., Russett, B., 2004. Islam, authoritarianism, and female empowerment: what are the linkages? World Polit. 56, 582–607.

Doepke, M., Tertilt, M., Voena, A., 2012. The economics and politics of women's rights. Annual Review of Economics 4, 339–372.

Esposito, J.L., 2006. Terrorism and the rise of political Islam. In: Richardson, L. (Ed.), The Roots of Terrorism. Routledge, New York, pp. 145–158.

Fortna, V.P., 2015. Do terrorists win? Rebels' use of terrorism and civil war outcomes. Int. Organ. 69, 519–556.

Frey, B.S., Luechinger, S., 2003. How to fight terrorism: alternatives to deterrence. Defence Peace Econ. 14, 237–249.

Frey, B.S., Luechinger, S., Stutzer, A., 2009. The life satisfaction approach to valuing public goods: the case of terrorism. Publ. Choice 138, 317–345.

Gaibulloev, K., Sandler, T., 2014. An empirical analysis of alternative ways that terrorist groups end. Publ. Choice 160, 25–44.

Gaibulloev, K., Sandler, T., 2019. What we have learned about terrorism since 9/11. J. Econ. Lit. 57, 275–328.

Gassebner, M., Jong-A-Pin, R., Mierau, J.O., 2008. Terrorism and electoral accountability: one strike. you're out! Economics Letters 100, 126–129.

Gassebner, M., Luechinger, S., 2011. Lock, stock, and barrel: a comprehensive assessment of the determinants of terror. Publ. Choice 149, 235–261.

Gouda, M., Potrafke, N., 2016. Gender equality in Muslim-majority countries. Econ. Syst. 40, 683–698.

Gould, E.D., Klor, E.F., 2010. Does terrorism work? Q. J. Econ. 125, 1459–1510.

Gutmann, J., Voigt, S., 2015. The rule of law and constitutionalism in Muslim countries. Publ. Choice 162, 351–380.

Gygli, S., Haelg, F., Potrafke, N., Sturm, J.-E., 2019. The KOF globalisation index – revisited. Rev. Int. Org. 14, 543–574.

Harris, C., Milton, D.J., 2016. Is standing for women a stand against terrorism? Exploring the connection between women's rights and terrorism. J. Hum. Right. 15, 60–78.

Hansen, H., Kainz, P., 2007. Radical islamism and totalitarian ideology: a comparison of Sayyid Qutb's islamism with marxism and national socialism. Total. Mov. Political Relig. 8, 55–76.

Hou, D., Gaibulloev, K., Sandler, T., 2020. Introducing extended data on terrorist groups (EDTG), 1970 to 2016. J. Conflict Resolut. 64, 199–225.

Hudson, V.M., Bowen, D.L., Nielsen, P.L., 2020. The First Political Order: How Sex Shapes Governance and National Security Worldwide. Columbia University Press, New York.

Hudson, V.M., Hodgson, K.B., 2022. Sex and terror: is the subordination of women associated with the use of terror? Terrorism Polit. Violence 34, 605–632.

Jayachandran, S., 2015. The roots of gender inequality in developing countries. Annual Rev. Eco. 7, 63–88.

Jetter, M., Stadelmann, D., 2019. Terror per capita. South. Econ. J. 86, 286–304.

Juergensmeyer, M., 2006. Religion as a cause of terrorism. In: Richardson, L. (Ed.), The Roots of Terrorism. Routledge, New York, pp. 133–144.

Keele, L., Stevenson, R.T., Elwert, F., 2020. The causal interpretation of estimated associations in regression models. Polit. Sci. Res. Methods 8, 1–13.

Kibris, A., 2011. Funerals and elections: the effects of terrorism on voting behavior in Turkey. J. Conflict Resolut. 55, 220–247.

Kippersluis, H. van, Rietveld, C.A., 2018. Beyond plausibly exogenous. Econom. J. 21, 316–331.

Kis-Katos, K., Liebert, H., Schulze, G.G., 2014. On the heterogeneity of terror. Eur. Econ. Rev. 68, 116–136.

Krieger, T., Gründler, K., 2016. Democracy and growth: evidence from a machine learning indicator. Eur. J. Polit. Econ. 45, 85–107.

Krieger, T., Meierrieks, D., 2011. What causes terrorism? Publ. Choice 147, 3–27.

Landes, W.M., 1978. An economic study of U.S. aircraft hijacking, 1961-1976. J. Law Econ. 21, 1–31.

Lapan, H.E., Sandler, T., 1988. To bargain or not to bargain: that is the question. Am. Econ. Rev. 78, 16–21.

Lee, D.S., McCrary, J., Moreira, M.J., Porter, J., 2022. Valid t-ratio inference for IV. Am. Econ. Rev. 112, 3260–3290.

Lewis, B., 2003. The Crisis of Islam: Holy War and Unholy Terror. Random House, New York.

Maoz, Z., Henderson, E.A., 2013. The world religion dataset, 1945-2010: logic, estimates, and trends. Int. Interact. 39, 265–291.

McDermott, R., 2020. The role of gender in political violence. Curr. Opin. Behav. Sci. 34, 1–5.

Meierrieks, D., Gries, T., 2013. Causality between terrorism and economic growth. J. Peace Res. 50, 91–104.

Meierrieks, D., Krieger, T., Klotzbücher, V., 2021. Class warfare: political exclusion of the poor and the roots of social-revolutionary terrorism, 1860-1950. Defence Peace Econ. 32, 681–697.

Midlarsky, M.I., Crenshaw, M., Yoshida, F., 1980. Why violence spreads: the contagion of international terrorism. Int. Stud. Q. 24, 262–298.

Nacos, B.L., 2009. Revisiting the contagion hypothesis: terrorism, news coverage, and copycat attacks. Perspect. Terrorism 3, 3–13.

Park, J., Bali, V., 2017. International terrorism and the political survival of leaders. J. Conflict Resolut. 61, 1343–1370.

Pape, R.A., 2003. The strategic logic of suicide terrorism. Am. Polit. Sci. Rev. 97, 243–361.

Piazza, J.A., 2009. Is Islamist terrorism more dangerous? An empirical study of group ideology, organization, and goal structure. Terrorism Polit. Violence 21, 62–88.

Roy, O., 2006. Terrorism and deculturation. In: Richardson, L. (Ed.), The Roots of Terrorism. Routledge, New York, pp. 158–170.

Saiya, N., Zaihra, T., Fidler, J., 2017. Testing the Hillary Doctrine: women's rights and anti-American terrorism. Polit. Res. Q. 70, 421–432.

Sandler, T., Enders, W., 2004. An economic perspective on transnational terrorism. Eur. J. Polit. Econ. 20, 301–316.

Sandler, T., Enders, W., 2008. Economic consequences of terrorism in developed and developing countries: an overview. In: Keefer, P., Loayza, N. (Eds.), Terrorism, Economic Development, and Political Openness. Cambridge University Press, New York, pp. 17–47.

Sandler, T., Tschirhart, J.T., Cauley, J., 1983. A theoretical analysis of transnational terrorism. Am. Polit. Sci. Rev. 77, 36–54.

Shehadeh, L.R., 2000. Women in the discourse of Sayyid Qutb. Arab Stud. Q. 22, 45–55.

Shughart, W.F., 2006. An analytical history of terrorism, 1945-2000. Publ. Choice 128, 7–39.

Tibi, B., 1998. The Challenge of Fundamentalism: Political Islam and the New World Disorder. University of California Press, Berkeley.

Toth, J., 2013. Sayyid Qutb: the Life and Legacy of a Radical Islamic Intellectual. Oxford University Press, Oxford.

Trofimov, Y., 2007. The Siege of Mecca: the Forgotten Uprising in Islam's Holiest Shrine and the Birth of Al Qaeda. Doubleday, New York.

Williams, L.K., Koch, M.T., Smith, J.M., 2013. The political consequences of terrorism: terror events, casualties, and government duration. Int. Stud. Q. 14, 343–361.

World Bank, 2019. World Development Indicators. The World Bank, Washington, D.C.

World Bank, 2021. Women, Business and the Law. The World Bank, Washington, D.C.

Wright, R., 2001. Sacred Rage: the Wrath of Militant Islam. Touchstone, New York.

Zimmerman, J.C., 2004. Sayyid Qutb's influence of the 11 september attacks. Terrorism Polit. Violence 16, 222–252.