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Islamist Terrorism and the Role of Women

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# Islamist Terrorism and the Role of Women

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## Abstract

We investigate the effect of Islamist terrorist activity on women's economic, political and legal position in society, using data for 168 countries between 1970 and 2016. We provide robust evidence that increased activity by Islamist terrorist groups is associated with lower levels of women's empowerment and rights. Various instrumental-variable approaches yield the same conclusion, suggesting that the adverse effect of Islamist terrorism on women' rights is causal. Further emphasizing the role of violent Islamist fundamentalism, we find no evidence that Islam per se (as indicated by a country's Muslim population share) affects the position of women in society. Finally, we show that left-wing and nationalist-separatist terrorism do not affect women's rights, which reinforces the notion that Islamist terrorism is singularly interested and effective in achieving weaker women's rights. We argue that our findings are consistent with predictions of a strategic model of terrorism, where (1) Islamist terrorists use violence to curb women's rights because they consider modern notions of gender equality to be corruptive and (2) governments make concessions that constrain the role of women in society because the costs of compliance are lower than the political and economic harm that would result from further Islamist terrorist attacks.

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## 1. Introduction

The *strategic model of terrorism* posits that terrorism is an effective means to induce government compliance and achieve the terrorists' political objectives: governments make concessions to terrorists in response to violence because terrorism produces a variety of adverse effects (loss of human life, anxiety, economic harm, political instability etc.) that pressure the government to concede to terrorist demands to prevent future terrorist attacks (e.g., Abrahms, 2011; Gaibulloev and Sandler, 2019).[1]

In this paper, we apply the strategic model of terrorism to the case of *Islamist terrorism*[2] and its effect on *women's empowerment*[3]. We argue that Islamist militants use violence to curtail female empowerment. To Islamist terrorists, this is an attractive political objective because it yields both spiritual rewards (redemption, salvation from evil, heavenly luxuries etc.), conforming to their ideological predispositions. In particular, Islamist militants seek to return to an unadulterated, pure form of Islam and the rule of God's laws (*sharia*), establish a divine order of Islamic government, where politics and the state subordinate to Islam, and purify Islam from non-Islamic influences (e.g., Tibi, 1998; Lewis, 2003; Esposito, 2006; Roy, 2006; Hansen and Kainz, 2007). Consequently, Islamist militants reject modern notions of women's rights, female empowerment,

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[1] The strategic model of terrorism corresponds to the definition of terrorism as "the premeditated use or threat to use violence against noncombatants by individuals or subnational groups to obtain a political objective through the intimidation of a large audience beyond that of the immediate victims" (Gaibulloev and Sandler, 2019: 278).

[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. Note that in this paper 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., via political parties (e.g., Esposito, 2006).

[3] In the following, we use the term "women's empowerment" to mean a combination of (1) *de jure empowerment*, i.e., women's rights, and (2) *de facto empowerment*, i.e., constraints women face in the social, political and economic life.

feminism, sexual liberation and gender equality in favor of ultra-traditionalist conceptions.[4] For instance, Sayyid Qutb[5], 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).

Consistent with the strategic model of terrorism, we hypothesize that Islamist terrorists use violence to extract government concessions in the form of weaker women's rights; such concessions are ultimately obtained because Islamist terrorism imposes a too high human, economic and political toll on besieged governments. To test the hypothesis, we study a sample of 168 countries between 1970 and 2016. In so doing, we contribute to the literature on the *effectiveness of terrorism* as a means of achieving political goals. As discussed below in more detail, the evidence on the ability of terrorist groups to compel policy change is mixed. Some authors contend that terrorism is effective in obtaining concessions (e.g., Pape, 2003), while other scholars find that terrorism does not induce government compliance (e.g., Abrahms, 2012). Indeed, in a recent survey, Gaibulloev and Sandler (2019: 321) conclude that "the question of terrorist groups' effectiveness [in extracting concessions] is by no means settled". We add to the literature on the effectiveness of terrorism by (1) focusing on a hitherto *unappreciated goal of terrorism*: the curtailing of women's economic, political and legal position in society. Furthermore, we (2) use various instrumental-variable approaches to establish a *causal effect* of Islamist terrorism on female empowerment, given obvious concerns about reverse causation and feedback. Finally, we

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[4] Note, however, that 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., Mernissi (1991), Ahmed (1993) and Barlas (2002).

[5] 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 the emergence of Islamist militancy is discussed in more detail in Kepel (1985), Tibi (1998), Zimmerman (2004) and Toth (2013).

(3) also contrast the effect of Islamist terrorism on women's rights with the impact of other forms of ideology terrorism (left-wing or nationalist-separatist terrorism), further investigating how *ideology* shapes the goal structures and strategic effectiveness of terrorism.

To preview our empirical findings, we find—consistent with predictions of the strategic model of terrorism—that increased activity by Islamist terrorist groups is linked to lower levels of women's empowerment and rights. This results also holds when using various instrumental-variable approaches, suggesting that the effect of Islamist militancy on women' rights is causal. Furthermore, our main result is robust to a variety of sensitivity and robustness checks, including, e.g., sub-sample analyses that exclude the Middle East and Northern Africa, as well as different operationalizations of Islamist terrorism and women's rights. Crucially, we always control for a country's Muslim population share; we consistently find that this share does not affect women's rights. Thus, our study also adds to the discussion concerning the perceived illiberalism of Islam, especially with regards to gender equality (e.g., Donno and Russet, 2004; Gutmann and Voigt, 2015; Gouda and Potrafke, 2016). Here, our findings strongly suggests that this illiberalism is a function of violent Islamist fundamentalism (indicated by the presence of Islamist terrorist groups) rather than the prevalence of Islam per se (indicated by the Muslim population share). Finally, we 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.

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. Literature Discussion and Main Hypothesis
## 2.1 The Strategic Model of Terrorism
To understand how terrorism might translate into political concessions, we resort to the strategic model of terrorism. Consistent with earlier theoretical examinations of terrorism (e.g., Landes, 1978; Sandler et al., 1983; Frey and Luechinger, 2003; Sandler and Enders, 2004), for this model, 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 ordinary political and economic life), with terrorism being 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.[6]

We expect a government besieged by terrorism to also follow a rational calculus, weighing the costs of conceding to (some of) the terrorist demands against the costs of not conceding, with the latter implying further terrorist attacks (e.g., Sandler and Enders, 2008; Gaibulloev and Sandler, 2019). Indeed, the literature suggests that terrorism is costly, having adverse health effects (e.g., by hurting physical and mental wellbeing) and impairing economic activity (e.g., by threatening trade and investment). This is especially the case when economies are less diversified and affected by severe terrorist activity (e.g., Abadie and Gardeazabal, 2003, 2008; Frey et al., 2009; Meierrieks and Gries, 2013; Arce, 2019; for overviews, see Sandler and Enders, 2008; Gaibulloev and Sandler, 2019). Terrorism may consequently also threaten the political survival of besieged governments. For instance, the electorate may hold the government accountable for its failure to provide security and macroeconomic stability. Indeed, empirical studies indicate that terrorism may hurt the re-election chances of incumbent governments (e.g., Gassebner et al., 2008; Williams et al., 2013; Park and Bali, 2017).

Following a rational calculus, an embattled government is consequently expected to grant some 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 government does so primarily to ensure its own political survival.[7]

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[6] 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.

[7] For our analysis, it is sufficient to provide a theoretical reasoning as to why governments offer concessions in response to terrorism in the first place. However, there exist a number of theoretical approaches to study the interaction between terrorist groups and attacked governments more

Consistent with the strategic model, a number of studies indeed find that terrorism can be an effective means to extract government concessions and achieve (partial) terrorist success (e.g., Pape, 2003; Gould and Klor, 2010; Gaibulloev and Sandler, 2014). Here, Pape (2003) is the most prominent example. Studying the universe of suicide terrorism between 1980 and 2001, he finds 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 its own territorial ambitions by attacking U.S. targets and thus imposing political, military and human costs that were too high for the U.S. to bear (Pape, 2003: 354).

## 2.2 Islamist Terrorism and Women's Role in Society

Considering our research subject, why does Islamist militancy aim for concessions in the form of weaker women's empowerment? To answer this question, we have to start with the militant Islamist's assessment of the present-day situation of Muslim countries and global Muslim communities: they diagnose a decline of Muslim civilization and communities in economic, military, technological and cultural terms both relative to present-day non-Muslim states and communities and in comparison to the early Islamic expansion under Mohammad and the subsequent Islamic Golden Age (e.g., Hansen and Kainz, 2007). In and of itself, this diagnosis is not overly different from the assessment of many non-Islamist scholars (e.g., Lewis, 2003; Allawi, 2009).

However, while the latter scholars argue that the relative decline of Muslim countries and communities is rooted in, e.g., a lack of political, market and religious reforms, the reason for the same decline identified by Islamist militants is radically different: the prevalence of *jahiliyya* in the Islamic and non-Islamic world. Jahiliyya is a Qur'an term which can be translated as "ignorance", "paganism" or "barbarism" (Kepel, 1985: 44). Traditionally, jahiliyya only refers to the "days of ignorance" before the revelation of the Qur'an to Muhammad (i.e., before 609 CE). For the radical Islamists, however, jahiliyya is instead equal to the rejection of God's law and the rebellion against God's rule (Hansen and Kainz, 2007). Thus, for the radical Islamists jahiliyya is

extensively, e.g., by applying game theory (e.g., Sandler and Enders, 2004; Sandler and Siqueira, 2009).

a trans-historical concept that not only refers to the pre-Islamic past but also to modern-day "apostate" societies (e.g., Western states) as well as modern-day societies that proclaim themselves Muslim while not completely abiding to Islamic governance and law (Kepel, 1985). Ultimately, for them the "struggle between good (Islam) and evil (jahiliyya) is the driving force behind human history" (Hansen and Kainz, 2007: 58).

Consequently, for Islamist militants, the solution to the unfavorable state of Islamic communities does not lie in political, economic or religious reform, but in *purification*, i.e., in annihilating jahiliyya and instead establishing the "reign of God on earth" (Kepel, 1985: 55) by embracing Islamic governance and law associated with primordial Islam untainted by non-Islamic influences (e.g., Kepel, 1985; Hansen and Kainz, 2007; Toth, 2013). The method to achieve this is holy war (*jihad*) "in its totality, from the personal effort to contemplate the Book to combat arms-in-hand" (Kepel, 1985: 54). Here, violence is justified when directed against Westerners and other outsiders but also Muslims that are "infected" by jahiliyya (e.g., Tibi, 1998; Hansen and Kainz, 2007).

Concerning the subject of our study, it is obvious that modern ideas of women's empowerment and rights (gender equality, emancipation, feminism, sexual liberation etc.) are also associated with jahiliyya in the Islamists' mind. Therefore, violent Islamists are expected to aim for weaker women's rights as an important political objective as this corresponds to their millennialist worldview. Terrorist rationality implies that terrorism will be chosen when the gains from terrorism are comparatively attractive. Indeed, for Islamist militants, there are various benefits associated with resorting to terrorism. First, carrying out the purported will of God by combatting jahiliyya, Islamist extremists may enjoy feelings of salvation and divine grace; additionally, there is the prospect of heavenly luxuries and the paradisiac afterlife (e.g., Juergensmeyer, 2006). These spiritual rewards may be powerful incentives for Islamist militants. Second, curtailing women's rights is part of a broader fight to annihilate jahiliyya. As stressed above, the radical Islamists believe that the annihilation of jahiliyya is the solution to society's broader economic, political and social problems. Thus, there are potentially enormous (expected) benefits associated with moving society closer to its purportedly "ideal" state by weakening women's rights.[8]

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[8] Besides such rewards, curtailing female empowerment creates further welcome "side effects" for the mostly male Islamist terrorists (e.g., Hudson and Hodgson, 2020) by also reducing female

## 2.3. Government Concessions

The strategic model of terrorism emphasizes that concessions are ultimately made by governments the terrorists oppose. Our previous discussion has made clear that Islamist terrorists should be amenable to concessions in the form of weaker women's empowerment on ideological grounds; indeed, the strategic model implies that they use terrorism precisely to extract corresponding concessions. Consequently, governments have reason to expect that providing such concessions can indeed curb future terrorist activity.

In general, concessions will be made when their costs are lower than the costs of (future) terrorism. Considering the former, the costs associated of reducing women's empowerment may be rather low for governments for two reasons. First, a reduction in female empowerment is not a maximalist but *limited policy goal*. 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.[9] Second, the political and economic clout of women 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 weaker women's rights—and thus, threats to politicians' careers and fortunes—is expected to be smaller from the outset; furthermore, by restricting women's rights, future opposition and backlash to this concessionary policy change may be self-limiting.

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 and jihad as well as the equation of the terrorists' enemies with

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competition in labor and political markets. That is, there are further—rather mundane—benefits to weaker women's rights for male Islamist militants, their male descendants and supporters with similar political and economic interests (e.g., male clergy, businessmen, male politicians and patriarchs). For instance, the sub-ordination of women in the private sphere as a necessary condition for the emergence and survival of patrilineal clans (Hudson et al., 2015).

[9] By contrast, maximalist policy goals 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.

jahiliyya (i.e., with evil) may provide moral sanction for violence and aid the dehumanization of the terrorists' victims, 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 for governments, increasing the likelihood that governments are willing to make concessions to curtail terrorism.

## 2.4 Main Hypothesis

Applying the strategic model of terrorism, we argue that Islamist terrorists purposefully use violence to achieve weaker women's rights. Weaker women's rights are an important element of a broader push to purify Islam and establish a system of "true" Islamic governance and law based on the Islamists' vision of primordial Islam. Consequently, achieving this political objective yields a variety of spiritual rewards for Islamist militants (e.g., redemption, salvation etc.). Confronted with Islamist terrorist activity, governments may give in to terrorist demands by weakening women's empowerment and rights; there are political economy and security reasons (the limited scope of terrorist demands, the lethality of Islamist terrorism etc.) why the costs of related concessions may outweigh the costs of terrorism. Based on these lines of reasoning, we expect empirical support for the following hypothesis:

> *Islamist terrorist activity results in a weaker political, economic and legal position of women in society.*

## 2.5 Illustrative Example: the 1979 Capture of the Grand Mosque at Mecca

In November 1979, several hundred Islamist militants seized the Grand Mosque at Mecca (*Masjid al-Haram*), the "center of the Muslim universe" (Trofimov, 2007: 10).[10] Inter alia, these militants were driven by a chiliastic desire to institute an Islamist theocracy in order to purify 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. Furthermore, dozens of Islamist militants were later trialed and executed. However, while the immediate government response to the terrorist attack was military in nature, the Saudi Arabian monarchy also implemented policy

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[10] The Grand Mosque siege is described in great detail by Trofimov (2007).

measures to accommodate Islamist challengers. As put by Dekmejian (1994: 628): "In view of the radicalism of the [Islamists'] challenge, the monarchy sought to prove that it was more fundamentalist than its detractors by imposing stricter enforcement of the religious laws […]". Consequently, the new policy measures undercut female empowerment, e.g., by disincentivizing female labor force participation, reducing scholarships for women, more strongly 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).

That is, the events surrounding the 1979 capture of the Grand Mosque at Mecca include (1) Islamist militants that push for "true" Islamic governance through the strategic use of violence and (2) a government that responds to the terrorists' demands by offering concessions in the form of weaker women's rights and other religious accommodations to prevent further attacks and ensure the government's political survival. Consequently, we believe the 1979 siege and its political aftermaths to be an illustrative example of the general relationship between Islamist terrorism and female empowerment along the theoretical lines outlined above. That is, while likely less overt, we expect governments in other countries to respond to Islamist terrorism in a similar fashion.

## 2.6 Counter-Arguments

While our previous discussion suggests that a weaker political, economic and legal position of women in society as a consequence of Islamist terrorism is highly plausible, a number of empirical studies find that terrorism is not overly successful—or even counter-productive—in extracting government concessions, suggesting that the explanatory power of the strategic model of terrorism may be limited after all (e.g., Abrahms, 2006, 2011; 2012; Cronin, 2006; Fortna, 2015). For our empirical study, this means that a *null-result* is possible, where we would find—contrary to our main hypothesis—no evidence that Islamist terrorism succeeds in depressing the position of women in society. Indeed, there a number of political, strategic and behavioral reasons why governments may ultimately refrain from giving in to terrorist demands but rather choose alternative responses (e.g., military or police action).

First, voters may dislike that terrorists are rewarded for their actions, especially when civilians are targeted. Rather, these voters may throw their support behind political parties that favor more antagonistic approaches towards terrorism. Indeed, there is evidence that terrorism can strengthen

more hawkish (right-wing) political parties (e.g., Kibris, 2011). Consequently, governments may not give in to terrorist demands to avoid such backlash.

Second, strategic concerns may also limit the willingness to offer concessions. In particular, giving in 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). For instance, Brandt et al. (2016) show that kidnappings that end in negotiation success for terrorist groups encourage more kidnappings in the future. 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, only the more moderate factions within terrorist groups may be willing to renounce violence in exchange for concessions; more extreme factions, however, may not be satisfied and continue the fight. That is, while concessions may decrease overall terrorist mobilization, they may increase terrorist extremism. Bueno de Mesquita (2008) shows that such an increase in extremism may mean that the level of violence does not subside even after concessions have been made.

Third, an argument can be made that terrorists themselves may not be overly receptive to government concessions. For instance, Abrahms (2008) argues that individuals participate in terrorist organizations because they seek social utility (e.g., in the form of solidarity and communion with other members of a terrorist groups) 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 to break social ties formed within a terrorist group (Abrahms, 2008).

## 3. Data and Methodology

To test our main hypothesis, we use data from a panel of 168 countries between 1970 and 2016. A list of countries is provided in the appendix. The summary statistics are reported in Table 1.

—Table 1—

### 3.1 Women's Role in Society

To measure women's position in society, we draw several variables from the *Varieties of Democracy Project* (*VDEM*) (Coppedge et al., 2019). VDEM uses country and subject-based

expert opinion data to provide representative values of the various dimensions of women's empowerment and rights per country-year observation, applying item response theory and other forms of statistical scrutiny to minimize uncertainty and bias (VDEM, 2019).[11] In detail, we consider the following eight VDEM variables:

1. *Freedom of domestic movement for women*; indicates the extent to which women are able to move freely in public and establish permanent residency where they wish.
2. *Freedom of discussion for women*; measures the extent to which women are able to engage in discussions, particularly on political issues, in private and public without fear of harassment.
3. *Women property rights*; reflects the right of women to acquire, possess, inherit and sell private property, including land.
4. *Access to justice for women*; indicates whether women can bring cases before the courts without risk to personal safety and whether they have the rights to counsel, defense and appeal.
5. *Political power distributed by gender*; reflects the distribution of political power by gender.
6. *Access to public services distributed by gender*; measures whether access to basic public services (security, primary education, healthcare etc.) is distributed equally across genders.
7. *Access to state jobs distributed by gender*; indicates whether state jobs are equally open to qualified individuals regardless of gender.
8. *Gender equality in the respect for civil liberties*; measures whether women enjoy the same level of civil liberties (e.g., concerning property rights) as men.

The first four variables relate to women's de jure and de facto rights, while the second four variables measure women's station in comparison to that of men. Together, these indicators give us an overview of women's economic (property rights, access to state jobs, access to public services), political (freedom of movement and discussion, distribution of political power) and legal (access to justice, gender equality concerning civil liberties) position in society.

We use these indicators to create a *summary women's empowerment index* (henceforth *WEI*) by means of *principal component analysis*. Principal component analysis reduces the dimensionality

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[11] See https://www.v-dem.net/en for detailed explanation of the methodology.

of a dataset with a large number of interrelated variables, while retaining as much information and variation as possible (e.g., Jolliffe, 2002), creating a new set of variables (principal components) in the process. Applying principal component analysis to the eight VDEM indicators, the first principal component contains most of the variation present in the original variables and thus constitutes our WEI. As shown in the appendix (Supplementary Table 1), all eight indicators load positively on the first principal component, suggesting that higher values of the WEI correspond to a stronger economic, political and legal position of women in society. Concerning the quality of the analysis, over 70 percent of the underlying variance is accounted for by the first principal component, while the Kaiser-Meyer-Olkin measure of sampling adequacy associated with the principal component analysis is 0.90. Thus, both diagnostics indicate that the results of the analysis are highly satisfactory.

Figure 1 shows the development of the WEI between 1970 and 2016. On average, there is a clear trend towards higher levels of women's empowerment and rights. In particular, there is a noticeable increase in the WEI after 1990, corresponding to the liberalization of many non-Western countries after the end of the Cold War.
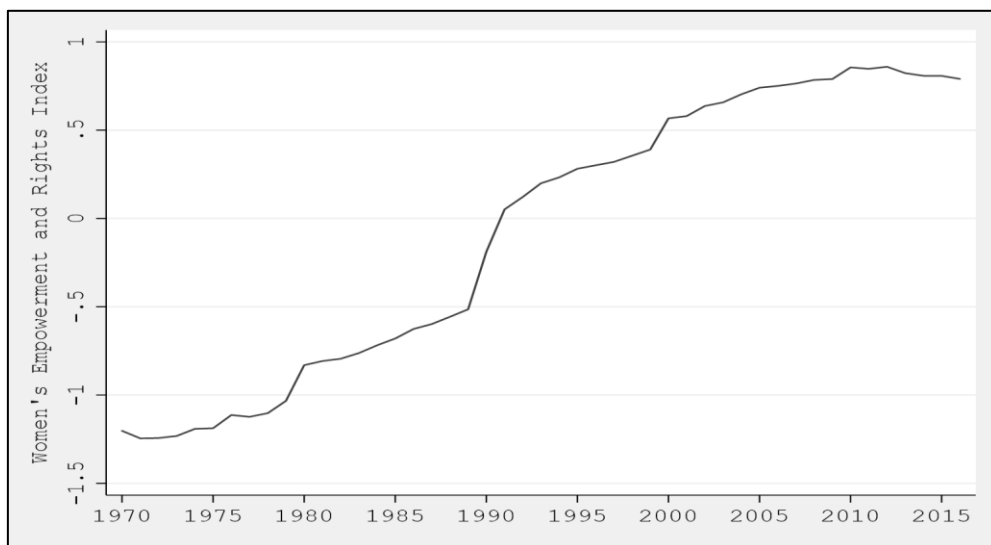


**Figure 1: Global Mean-Level of WEI, 1970-2016**

**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 760 terrorist groups active between 1970 and 2016. For each group, the EDTG provides

information on the group's years of activity and bases of operation. The EDTG also reports the main ideology of each terrorist group, differentiating between religious, left-wing, right-wing, nationalist-separatist and other ideologies. This allows us to limit our analysis to the activity of Islamist terrorist groups. We do so by dropping all groups that have non-religious orientations as well as all religious groups that are non-Islamist (examples include the Jewish *Kach* in Israel, the *Uganda Democratic Christian Army* and the new religious movement *Aum Shinrikyo* that was primarily active in Japan).

After filtering the EDTG data in this manner, we can extract our main explanatory variable, the *number of active Islamist terrorist groups* per country-year observation. 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.[12] According to the EDTG, between 1970 and 2016, almost 60 countries saw activity by one or more Islamist terrorist groups. Figure 2 shows the global patterns of Islamist militancy over our 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).

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[12] 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.
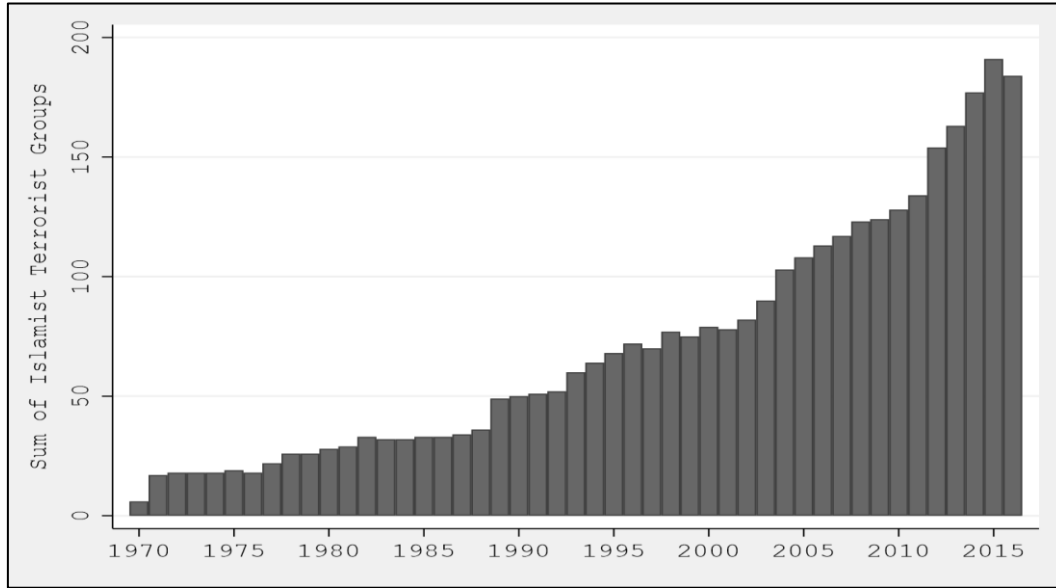
**Figure 2: Global Sum of Active Islamist Terrorist Groups, 1970-2016**

## 3.3 Empirical Approach

### 3.3.1 Fixed-Effects Model

To test our main hypothesis, we consider a two-way fixed-effects regression model of the following form:

$$WEI_{it} = \beta_1 * terror\_islam_{it-1} + \beta_, * X'_{it-1} + \propto_i + \lambda_t + v_{it} \quad (1)$$

*WEI* refers to our women's empowerment and rights index for country *i* at year *t*, while *terror_islam* refers to the number of Islamist terrorist groups active in country *i* in the previous year. Besides a well-behaved error term (*v*), the model also includes a vector of control variables (*X'*) described below. Furthermore, country-fixed effects (*η*) are always included to control for the role of time-invariant factors that may affect women's position in society (e.g., geographical location, colonial rule, cultural heritage, norms and traditions etc.). Year-fixed effects (*λ*) control for the influence of global trends and events that may have affected women's rights or Islamist terrorism. For instance, via the inclusion of year-fixed effects we can control for the impact of the Islamic Revolution in Iran (1979), the Western intervention in the Lebanese civil war (1982-1984) and the U.S.-led invasion of Iraq (2003) on global Islamist mobilization.

Equation (1) is estimated with OLS. Pre-tests indicate that regression residuals from Equation (1) are usually contaminated by heteroskedasticity, serial correlation and cross-sectional dependence.

Therefore, we use Driscoll-Kraay standard errors for statistical inference (Driscoll and Kraay, 1998), which are robust to very general forms of cross-sectional dependence as well as to heteroskedasticity and serial correlation.

### 3.3.2 Controls

To avoid detecting only spurious effects of Islamist terrorist activity on the WEI, we control for a set of confounders that may matter to both Islamist terrorism and the position of women in society. 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 our baseline controls we consider (1) a country's *level of economic development* by controlling for its child mortality rate[13] using data from the *World Development Indicators* (*WDI*) of the World Bank (2019); (2) the level of *democratic development* using a regime type variable from VDEM[14]; (3) government ideology using VDEM data, focusing on *traditionalist governments* that have a religious, restorative or conservative orientation; (4) *globalization* using an index from Gygli et al. (2019) that accounts for a country's level of international economic, political and social integration (e.g., in the form of trade, migration and participation in international organizations); (5) a country's *Muslim population share* using updated data from the *World Religion Project* of Maoz and Henderson (2013); and (6) a country's total *population size* (WDI data).

Furthermore, in some specifications we control for *oil rents* as a share of GDP (WDI data), *equal access to education* using an index from VDEM, the amount of *foreign development aid* a country receives as a share of local economic activity (WDI data) and the extent of *state failure* (e.g., due

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[13] We use this variable to maximize the number of observations. However, below we also use per capita income as an alternative indicator of economic development.

[14] The used indicator ranges from zero (closed autocracy) to three (liberal democracy). As a robustness check, below we also use an alternative measure of democratic development.

to coup d'états) a country experiences using a summary index from the *Political Instability Task Force*[15].

### 3.3.3 Instrumental-Variable Approach

Potentially, the OLS-estimates from Equation (1) are biased 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 a country's policy choices concerning women's empowerment and rights, but that the very position of women in society may also matter to Islamist terrorist activity. Here, 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, the estimates of the effect of Islamist militancy on the WEI 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, 2020). Indeed, a number of studies find that a lack of female empowerment can exacerbate state fragility, violent conflict and terrorism (e.g., Caprioli, 2005; Harris and Milton, 2015; Saiya et al., 2017; Dahlum and Wig, 2020; Hudson et al., 2020; for a recent overview, see McDermott, 2020).

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

$$terror\_islam_{it} = \beta_{11} * regional\_teror\_islam_{it} + \beta_{1\prime} * X'_{it-1} + \propto_i + \lambda_t + v_{it} \quad (2a)$$

$$WEI_{it} = \beta_{21} * \widehat{terror\_islam}_{it-1} + \beta_{2\prime} * X'_{it-1} + \propto_i + \lambda_t + \mu_{it} \quad (2b)$$

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

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[15] The data can be found here: http://www.systemicpeace.org/inscrdata.html.

Our instrumental variable, *regional_terror_islam*, is defined as *Islamist terrorism in neighboring countries*; it is the mean number of Islamist terrorist groups active in the region where the country of interest $i$ is located, net of the Islamist terrorist activity in country $i$ itself.[16] Below, we discuss why this instrument ought to be valid, i.e., sufficiently correlated with the endogenous explanatory variable (instrument relevance) but uncorrelated with the error term in the explanatory equation (instrument exogeneity).

*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. Reasons may be 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, where 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 ought to 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 instruments are considered sufficiently strong. However, this rule of thumb has received some criticism for being anti-conservative, meaning that instruments may be weak even if $F>10$ (e.g., Lee et al. 2020). Thus, we also report results for the Anderson-Rubin test (Anderson and Rubin, 1949) that is robust to arbitrarily weak instruments (Lee et al. 2020). Here, a rejection of the Anderson-Rubin test null hypothesis indicates that the coefficient of the endogenous regressor in the structural equation is equal to zero, meaning that the instrument is not weak.

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[16] The regions we consider are Eastern Europe and Central Asia; Latin America and the Caribbean; the Middle East and Northern Africa; Sub-Saharan Africa; Western Europe and Northern America; and Asia and the Pacific.

***Instrument Exogeneity***. The main threat to our identification strategy arises from the possibility that in addition to producing contagion effects (which we use for identification), terrorism in proximate countries may also hurt economic activity in these countries. These adverse economic effects may consequently spill over to the country of interest $i$, e.g., by reducing international demand for goods and services from or reducing foreign direct investment to country $i$. For instance, such adverse *economic spillover effects* could affect labor markets in country $i$, reducing labor demand and providing political incentives to curtail women's rights to manage unemployment and politico-economic stability. This would open additional causal pathways from proximate terrorism to local women's rights country $i$, threatening instrument exogeneity.

We respond to this concern in two ways. First, below we run model specifications where we directly control for economic spillover effects. Second, we refer to the existing literature on the economic effects of terrorism. This literature emphasizes that the impact of terrorism on economic growth, trade and foreign direct investment is modest, especially in large and diversified economies (for overviews of the empirical evidence, see Sandler and Enders, 2008; Gaibulloev and Sandler, 2019). Relying on the existing literature, we thus have good reason to believe that any adverse spillover effects due to terrorism ought to be negligible.

## 4. Empirical Results
### 4.1. Main Results
Our baseline regression results are reported in Table 2. The two-way fixed-effects regression results show that increased Islamist terrorist activity is associated with lower levels of our women's empowerment and rights index. This result also holds when we add further control variables to our model.

Similarly, the IV-estimates reported in Table 2 indicate that a stronger presence of Islamist terrorist groups results in lower WEI levels. Here, the IV-diagnostics indicate that the IV-estimates are trustworthy for three reasons, allowing for a causal interpretation of the IV-estimates. 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 (Supplementary Table 2); 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

comfortably 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.

In sum, the IV-estimates mirror their fixed-effects OLS counterparts in that increased Islamist terrorist activity is linked to lower levels of the WEI, providing support for our main hypothesis.[17] While effects are—as expected—less precisely estimated in the IV-setting, they are also larger than the corresponding OLS estimates. This suggests that the OLS estimates are downward biased. For instance, this may be because stronger women's empowerment reduces the social acceptance of Islamist thought and thus curtail Islamist mobilization.

**—Table 2—**

Concerning the results for the controls, we find them to be largely in line with our expectations. First, higher child mortality rates are associated with lower levels of our women's empowerment index, consistent with the stylized fact of a "close association between women's empowerment and economic development" (Doepke et al., 2012: 342). For instance, economic development may increase the demand for skilled labor and thus provide incentives for men to favor female empowerment. Consistent with this view, we also find that education equality is conducive to stronger women's empowerment. Second, democratic institutions are associated with higher levels of the WEI. For instance, this may be due to the fact that many democracies are rooted in liberal values (e.g., equality) that facilitate women's de jure and de facto rights. Third, women's rights are weaker when traditionalist governments are in power, presumably as these governments encourage more traditional gender roles. Fourth, exposure to globalization correlates with higher WEI levels. For instance, increased exposure to Western (liberal) values due to trade and foreign

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[17] As a first robustness check, we re-run our analysis by using three variants of our instrumental variable, e.g., by considering alternative ways to operationalize terrorist activity in neighboring countries. More information on these variants and their construction is provided in Supplementary Table 3. Importantly, the use of these IV-variants does not affect our main empirical conclusion: increased levels of Islamist terrorist activity lead to lower levels of the WEI (Supplementary Table 3). This makes it less likely that our main empirical result is due to idiosyncrasies related to the construction of our baseline IV.

direct investment may explain this correlation. Such exposure to Western ideas may also explain why development aid (which is often provided by Western countries) correlates with an improved position of women in society. Fifth, state failure is linked to lower levels of the WEI. For instance, failing states may lack the public infrastructure to enforce women's rights effectively. Importantly, when controlling for state failure, we still find that Islamist terrorism exerts an independent adverse effect on the WEI. This indicates that our main explanatory variable does not merely pick up the detrimental effect of political instability on the WEI. Sixth, there is no obvious correlation between population size, oil wealth and women's rights.

Finally, we also find no obvious relationship between a country's Muslim population share and the WEI. This suggests that it is violent Islamist fundamentalism (as indicated by the presence of Islamist terrorist groups) rather than Islam per se that undermines women's position in society. That is, our results disagree with previous analyses that point to a more general link between Islam and gender inequality (e.g., Donno and Russet, 2004; Gutmann and Voigt, 2015; Gouda and Potrafke, 2016).

Furthermore, in Models (5a) and (5b) of Table 2 we control for the mean-levels of trade openness and economic growth of other countries located in the same region as our country of interest to consider the influence of economic spillover effects due on local levels of the WEI. However, we do not find that these variables affect local women's empowerment and rights. At the same time, Islamist terrorist activity continues to result in lower WEI levels. In sum, these results suggest that economic spillover effects do not markedly affect our baseline estimates and identification strategy.

## 4.2 Robustness and Sensitivity Checks

Below, we present a variety of robustness and sensitivity checks to examine whether our results hold when we (1) include additional controls, (2) consider various sub-samples, (3) employ alternative operationalizations of Islamist terrorist activity and (4) consider alternative instrumental-variable approaches.

### 4.2.1 Additional Control Variables

As a first robustness check, we amend our baseline regression model with additional demographic, economic and politico-institutional variables. The operationalization and data sources of these

additional variables are reported in Supplementary Table 4. In detail, we consider the roles of other religions (indicated by the Christian, Hindu and Buddhist population shares), urbanization, economic growth, bureaucratic quality and corruption. We also replace child mortality with per capita income as an alternative indicator of economic development and substitute our democracy variable with an alternative democracy measure. Finally, we control for the mean-level of women's empowerment and rights in neighboring countries to further account for institutional spillover effects that may correlate with our instrumental variable and thus potentially affect our identification strategy.

As reported in the appendix (Supplementary Table 4), accounting for these additional covariates does not affect our main finding. In both the fixed-effects and instrumental-variable setting, we find that Islamist terrorism exerts a negative and statistically significant effect on the women's empowerment and rights index. The IV-diagnostics are always sound. Finally, the inclusion of the additional covariates yields the expected effects. For instance, we find that sound institutions (indicated by strong bureaucracies and low levels of corruption) are conducive to gender equality.

### 4.2.2 Sub-Sample Analysis

Next, we consider whether the impact of Islamist terrorism on the WEI is driven by specific sub-sets of countries. We therefore drop from our sample either (1) all countries in Northern America and Western Europe (which are characterized by especially strong women's rights), (2) all countries located in Latin America and the Caribbean (i.e., countries with almost no Islamist terrorist activity), (3) all countries in the Middle East and Northern Africa (which tend to be hotbeds of both violent Islamism and weak women's rights), (4) all countries in sub-Saharan Africa (which also see bouts of Islamist terrorism combined with rather weak women's rights), (5) all countries that have never experienced any Islamist terrorist activity over the observation period and (6) all countries in which the Muslim population share is smaller than 5%, where we hypothesize that Islamist militancy will only be politically efficacious in curtailing women's rights when there is a sufficiently large Muslim constituency[18].

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[18] We also test this hypothesis by amending our baseline model with an interaction between the number of Islamist terrorist groups and the Muslim population share. We do not find that a

As shown in Supplementary Table 5, restricting our sample in these ways does not affect our main finding. We find that stronger Islamist terrorist activity results in lower levels of the WEI in non-IV and IV-settings across all sub-samples. The IV-approach always yields satisfactory diagnostic results and produces findings that are larger (but less precisely estimated) than the OLS-estimates. These results are in line with our baseline results reported in Table 2, suggesting that no specific sub-sample drives our findings.

### 4.2.3 Alternative Operationalization of Islamist Terrorist Activity

Next, we consider four alternative measurements of Islamist terrorist activity. First, we employ a binary measure of Islamist militancy, which is equal to unity when there is at least one Islamist terrorist group active in a country-year. This is to reduce the influence of potential scale effects. Second, we use the *per capita* number of active Islamist terrorist groups per country-year observations. For instance, Jetter and Stadelmann (2019) note that terrorism in per capita terms may be more reflective of the individual terrorism threat perception and thus the political efficacy of terrorism. Third, we use an inverse hyperbolic transformation of the number of Islamist terrorist groups per country-year observation.[19] This transformation may help to reduce to influence of outliers. Finally, some terrorist groups have been active in multiple countries; before, we assigned the activity of these groups equally to all affected countries. However, as a robustness check, we instead assign 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 group's operational, ideological or organizational centers and are identified using various supplementary

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country's Muslim population share moderates the effect of Islamist terrorism on the WEI (results available upon request).

[19] For a variable *y*, this transformation is equal to $\log(y + (y^2 + 1)^{\frac{1}{2}})$. In contrast to the log-transformation, it is defined for cases when there are zero cases of Islamist terrorist group activity per country-year. As a further robustness check, we also log-transform the active number of Islamist terrorist groups (adding unity to account for zero observations). Employing this log-transformed variable, we also find that increased militant Islamist activity results in lower levels of the WEI (results available upon request).

sources.[20] 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 to Jordan.

We report our empirical results using the alternative operationalizations of our main explanatory variable in Table 3. In short, we find that Islamist terrorist activity remains a negative and robust predictor of the WEI. The IV-approach always yields satisfactory diagnostic results, suggesting that we estimate a causal and adverse effect of Islamist activity on women's economic, political and legal position in society.

**—Table 3—**

### 4.2.4 Alternative Instrumental Variables

Previously, we have discussed that our baseline IV-approach may not fulfill the exclusion restriction if Islamist terrorism in neighboring countries not only produces contagion but also economic spillover effects. While we have provided theoretical and empirical arguments as to why we believe such spillover effects are not likely to be influential, we nevertheless also consider sets of alternative instrumental variables to add to the robustness of our IV-estimates.

Here, we combine our baseline instrumental variable (proximate Islamist terrorism) with two additional instrumental variables indicating the *male youth burden* (defined as the percentage of the male population aged between 15 and 24) and *major weapon imports* (defined as the value of the import of major conventional weapons such as aircraft, armored vehicles and ships for military use). These variables are drawn from the WDI. Both a male youth burden (e.g., by leading to a labor market glut) and the arms trade (e.g., by affecting incentives for both governments and insurgents to resort to violence) may affect the emergence of terrorist conflict (e.g., Gassebner and Luechinger, 2011). Furthermore, we employ the instrumental-variable approach proposed by Lewbel (2012). Here, "identification comes from observing a vector of variables […] that are uncorrelated with the covariance of heteroscedastic errors" (Lewbel, 2012: 77). In other words,

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[20] 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).

this method allows identifying causal effects using internal (constructed) instruments exploiting the presence of heteroskedasticity in the residuals (Lewbel, 2012). We add these constructed instruments to our usual set of external instruments (neighboring Islamist terrorism, male youth burden, arms imports) to further facilitate causal identification in some specifications.

We report our alternative instrumental-variable regression results in Table 4. Our findings can be summarized as follows. First, regardless of which combination of instrumental variables we employ, we always find that a stronger presence of Islamist terrorist groups results in lower levels of the WEI. The results for the controls mirror our earlier findings. Second, the diagnostics associated with the various IV-approaches are always sound: the first-stage F-statistics are comfortably larger than 10; the Anderson-Rubin tests also point to instrument strength; the results of the Hansen test for instrument validity (concerning over-identification restrictions due to the use of more than one instrumental variable) suggests that the various instrument sets are indeed exogenous; and the first-stage regressions suggest—as expected—that neighboring Islamist terrorism and the male youth burden are positively to local Islamist terrorism, while arms imports are negatively related to it in statistically significant ways (Supplementary Table 6). In sum, the findings reported in Table 4 are consonant with a single interpretation of the data in that the estimates using different instruments do not differ appreciably.

**—Table 4—**

**4.3 Alternative Measures of Women's Empowerment**

**4.3.1 Alternative Summary Indices**

To further consider the robustness of our main finding, we employ two alternative summary measures of women's empowerment. First, we use the *Women Business and the Law Index* from the WDI. This index accounts for gender differences concerning, e.g., labor market entry as well as marriage, property and inheritance laws. Second, we employ the *CIRI Women's Rights Score* (Cingranelli et al., 2014, 2018). This index is defined as the mean of the CIRI sub-indices for women's economic rights (concerning, e.g., gender differences in pay, job security and

employment choices) and women's political rights (concerning, e.g., gender differences in the right to vote, to run for office and to join political parties).[21]

As shown in Table 5, using these alternative measures of women's empowerment, we again find that Islamist terrorist activity results in a weaker position of women in society. In sum, these results indicate that our main findings are not due to any specific measurement of the outcome variable.

**—Table 5—**

### 4.3.2 Individual Components of Women's Empowerment Index

The WEI is created using VDEM data for eight variables reflecting women's economic, political and legal position in society. Finally, we examine how Islamist terrorist activity affects these constitutive elements of the WEI.

As reported in Table 6, we find that the stronger presence of Islamist terrorist groups is also linked to lower levels of women's empowerment and rights when the individual WEI components are used. For instance, we find that increased Islamist militancy negatively correlates with women's property rights and access to state jobs in the OLS-setting. The IV-diagnostics are always satisfactory, allowing for causal interpretations. For example, our IV-estimates indicate that the presence of Islamist terrorist groups causes reduced access to judicial institutions for women. In general, the results reported in Table 6 further strengthen our main findings of an adverse effect of Islamist terrorism on female empowerment and rights.

**—Table 6—**

### 4.4 Effects of Other Types of Ideology Terrorism on 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. As a final empirical effort, we ask whether the effect of terrorism on women's position in society is distinct to Islamist terrorism or also pertains to other forms of ideology terrorism. To test this proposition, we draw

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[21] The CIRI dataset also includes a sub-index concerning women's social rights, which, however, is not available for many countries. Therefore, we only consider the sub-indices measuring women's economic and political rights.

additional data from the EDTG measuring the presence of *left-wing* and *nationalist* terrorist groups. 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.[22]

We first estimate the effect of the total number of terrorist groups (i.e., Islamist, left-wing and nationalist) on the WEI: as shown in Table 7, we find that more total terrorist activity results in lower levels of the WEI. 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 our women's empowerment index.

These findings suggest that the negative effect of total terrorism on the WEI is driven by Islamist terrorism and that Islamist terrorism is singularly effective in reducing women's position in society. Indeed, this latter finding suggests that ideology shapes both the political objectives and 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 be egalitarian and emancipatory) and nationalist violence (which shares no obvious relationship with women's rights). Thus, it is highly intuitive that only Islamist terrorism extracts concessionary policy change in the form of lower levels of the WEI.

**—Table 7—**

## 5. Conclusion

Resorting to the strategic model of terrorism, we argue that Islamist terrorists purposefully use violence to achieve weaker women's rights. They do so because they consider modern notions of female empowerment and gender equality to be evil and corruptive (jahiliyya) so they need to be purged from Islam, standing in the way of a virtuous system of "true" Islamic governance and law

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[22] Terrorism motivated by right-wing causes, religions other than Islam or further idiosyncratic ideologies accounts for fewer than 5% of the terrorist activity reported in the EDTG. We do not consider these groups, given the small number of cases and missing ideological coherence.

based on the Islamists' vision of prelapsarian Islam which promises the overcoming of the economic, political and moral malaise of Islamic states and communities. Thus, resorting to terrorism to curtail women's rights is an attractive option for Islamist militants, yielding a variety of spiritual rewards (e.g., redemption, salvation, heavenly luxuries, liberation etc.). According to the strategic model of terrorism, confronted with Islamist terrorism, governments may weaken women's rights when the costs of (future) terrorism are larger than the costs of compliance.

Examining data for 168 countries between 1970 and 2016, we indeed find that increased activity by Islamist terrorist groups is linked to weaker women's rights and lower levels of gender equality. Results from various instrumental-variable regressions suggest that this effect is causal. Interestingly, we consistently find that a country's Muslim population share does not matter to women's rights. Thus, we can also add to the discussion concerning the perceived illiberalism of Islam (e.g., Donno and Russet, 2004; Gutmann and Voigt, 2015; Gouda and Potrafke, 2016). Here, our findings strongly suggests that this illiberalism is a function of violent Islamist fundamentalism (indicated by the presence of Islamist terrorist groups) rather than the prevalence of Islam per se (indicated by the Muslim population share). Finally, we show that left-wing and nationalist-separatist do not affect female empowerment and rights, 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.

Our empirical analysis indicates that Islamist terrorism "works" in achieving its political objective of marginalizing women's role in society. This finding is in line with the main predictions of the strategic model of terrorism. We hope that our study inspires future research on the effectiveness of terrorism that could focus on other policy outcomes while taking into account the ideological inclinations and political objectives of attacking terrorist organizations. For instance, future research may study whether left-wing terrorism induces more redistributive economic policies and whether there are potential differences in the effectiveness of left-wing and other types of ideology terrorism.

At the same time, we acknowledge that our analysis only indicates that terrorism "works" with regard to a limited political objective (weaker women's rights) for which bargaining and government concessions are indeed plausible; we make no claims that terrorism can be similarly effective in achieving maximalist/final terrorist goals. Moreover, we do not evaluate whether these

limited policy concessions also "work" for the government in terms of ensuring the government's political survival or reducing future Islamist terrorist activity. In fact, we are rather skeptical in this regard. For instance, recent studies by Saiya et al. (2017) and Hudson and Hodgson (2020) suggest that female disempowerment and the subordination of women encourage terrorist activity in their 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 political expediency of reducing women's rights when confronted by Islamist terrorism.

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**Tables**

| Variable | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|
| Index of Women Empowerment and Rights (WEI) | 0.05 | 2.34 | -7.35 | 4.90 |
| Women Freedom of Domestic Movement | 0.70 | 1.29 | -4.72 | 2.52 |
| Women Freedom of Discussion | 0.50 | 1.49 | -3.46 | 3.32 |
| Women Property Rights | 0.85 | 1.27 | -3.82 | 2.86 |
| Women Access to Justice | 0.56 | 1.40 | -4.06 | 3.47 |
| Power Distributed by Gender | 0.51 | 1.20 | -2.84 | 3.52 |
| Women Access to Public Services | 0.30 | 1.32 | -2.52 | 2.90 |
| Women Access to State Jobs | 0.83 | 1.21 | -2.67 | 3.26 |
| Gender Equality in Respect for Civil Liberties | 0.75 | 1.24 | -2.87 | 3.26 |
| No. of Islamist Terrorist Groups | 0.45 | 1.70 | 0 | 27 |
| No. of All Terrorist Groups | 1.67 | 4.34 | 0 | 67 |
| No. of Nationalist-Separatist Terrorist Groups | 0.76 | 2.59 | 0 | 42 |
| No. of Left-Wing Terrorist Groups | 0.36 | 0.91 | 0 | 10 |
| Child Mortality Rate | 72.90 | 72.18 | 2.20 | 372.40 |
| Democracy | 1.36 | 1.09 | 0 | 3 |
| Traditionalist Government | 49.71 | 34.74 | 0 | 150 |
| Globalization Index | 50.29 | 17.35 | 14.26 | 91.31 |
| Muslim Population Share | 27.01 | 37.09 | 0 | 99.79 |
| Total Population Size (in millions) | 34.81 | 125.24 | 0.6 | 1,371.22 |
| Oil Rents (% of GDP) | 4.34 | 10.72 | 0 | 88.87 |
| Equal Access to Basic Education | 0.36 | 1.46 | -3.21 | 3.58 |
| Net Foreign Development Assistance (% of GNI) | 4.50 | 8.22 | -0.68 | 94.95 |
| State Failure Index | 0.57 | 1.59 | 0 | 13.5 |

Note: The number of observations (N*T) is 6,852 for all variables, with the exception of "Oil Rents" (N*T=6,145).

**Table 1: Summary Statistics**

| | (1a) | (1b) | (2a) | (2b) | (3a) | (3b) | (4a) | (4b) |
|---|---|---|---|---|---|---|---|---|
| Islamist Terrorist Group $_{t-1}$ | -0.065 | -0.188 | -0.059 | -0.279 | -0.059 | -0.177 | -0.052 | -0.270 |
| | $(0.016)^{***}$ | $(0.073)^{**}$ | $(0.015)^{***}$ | $(0.091)^{***}$ | $(0.015)^{***}$ | $(0.072)^{**}$ | $(0.016)^{***}$ | $(0.107)^{**}$ |
| Child Mortality $_{t-1}$ | -0.001 | -0.001 | -0.002 | -0.002 | -0.001 | -0.001 | -0.001 | -0.002 |
| | $(0.001)^{*}$ | $(0.001)^{**}$ | $(0.001)^{***}$ | $(0.000)^{***}$ | $(0.001)$ | $(0.001)^{*}$ | $(0.001)^{**}$ | $(0.001)^{***}$ |
| Democracy $_{t-1}$ | 0.629 | 0.627 | 0.563 | 0.574 | 0.614 | 0.613 | 0.638 | 0.652 |
| | $(0.035)^{***}$ | $(0.035)^{***}$ | $(0.043)^{***}$ | $(0.046)^{***}$ | $(0.037)^{***}$ | $(0.037)^{***}$ | $(0.044)^{***}$ | $(0.046)^{***}$ |
| Traditionalist Government $_{t-1}$ | -0.004 | -0.004 | -0.004 | -0.004 | -0.004 | -0.004 | -0.004 | -0.005 |
| | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ |
| Globalization Index $_{t-1}$ | 0.025 | 0.022 | 0.019 | 0.014 | 0.022 | 0.020 | 0.022 | 0.016 |
| | $(0.006)^{***}$ | $(0.006)^{***}$ | $(0.006)^{***}$ | $(0.005)^{***}$ | $(0.006)^{***}$ | $(0.006)^{***}$ | $(0.005)^{***}$ | $(0.005)^{***}$ |
| Muslim Population Share $_{t-1}$ | 0.001 | 0.002 | 0.008 | 0.004 | 0.001 | 0.001 | 0.008 | 0.004 |
| | $(0.004)$ | $(0.004)$ | $(0.005)$ | $(0.006)$ | $(0.005)$ | $(0.004)$ | $(0.006)$ | $(0.006)$ |
| Population Size $_{t-1}$ | -0.000 | 0.001 | -0.000 | 0.003 | -0.000 | 0.001 | -0.000 | 0.003 |
| | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)^{**}$ | $(0.001)$ | $(0.001)$ | $(0.001)$ | $(0.001)^{*}$ |
| Oil Rents $_{t-1}$ | | | -0.006 | -0.002 | | | | |
| | | | $(0.002)^{***}$ | $(0.002)$ | | | | |
| Education Equality $_{t-1}$ | | | 0.301 | 0.273 | | | | |
| | | | $(0.024)^{***}$ | $(0.021)^{***}$ | | | | |
| Development Aid $_{t-1}$ | | | | | 0.012 | 0.013 | | |
| | | | | | $(0.002)^{***}$ | $(0.002)^{***}$ | | |
| State Failure $_{t-1}$ | | | | | -0.058 | -0.049 | | |
| | | | | | $(0.011)^{***}$ | $(0.011)^{***}$ | | |
| Mean Regional Trade Share $_{t-1}$ | | | | | | | -0.002 | 0.002 |
| | | | | | | | $(0.004)$ | $(0.005)$ |
| Mean Regional Economic Growth $_{t-1}$ | | | | | | | -0.014 | -0.017 |
| | | | | | | | $(0.011)$ | $(0.011)$ |
| Number of Observations | 6,853 | 6,853 | 6,145 | 6,145 | 6,853 | 6,853 | 5,873 | 5,873 |
| First-Stage F-Statistic | | 194.18 | | 242.13 | | 224.56 | | 494.69 |
| Anderson-Rubin F-Test (Pr.>F) | | $(0.01)^{**}$ | | $(0.00)^{***}$ | | $(0.02)^{**}$ | | $(0.02)^{**}$ |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates 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 always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

**Table 2: Baseline Regression Results**

|  | (1a) | (1b) | (2a) | (2b) | (3a) | (3b) | (4a) | (4b) |
|---|---|---|---|---|---|---|---|---|
| Islamist Terrorist Group $_{t-1}$ [Binary] | -0.153 (0.047)$^{***}$ | -1.757 (0.605)$^{***}$ | | | | | | |
| Islamist Terrorist Group $_{t-1}$ [Per Capita] | | | -0.711 (0.121)$^{***}$ | -3.464 (1.268)$^{***}$ | | | | |
| Islamist Terrorist Group $_{t-1}$ [IHS Transformation] | | | | | -0.265 (0.054)$^{***}$ | -0.581 (0.198)$^{***}$ | | |
| Islamist Terrorist Group $_{t-1}$ [No Multiple Bases] | | | | | | | -0.067 (0.018)$^{***}$ | -0.237 (0.099)$^{**}$ |
| Child Mortality $_{t-1}$ | -0.001 (0.001)$^{*}$ | -0.002 (0.001)$^{***}$ | -0.001 (0.001) | -0.001 (0.001) | -0.002 (0.001)$^{**}$ | -0.002 (0.001)$^{***}$ | -0.001 (0.001)$^{*}$ | -0.002 (0.001)$^{**}$ |
| Democracy $_{t-1}$ | 0.627 (0.035)$^{***}$ | 0.589 (0.031)$^{***}$ | 0.628 (0.035)$^{***}$ | 0.615 (0.031)$^{***}$ | 0.624 (0.034)$^{***}$ | 0.615 (0.032)$^{***}$ | 0.631 (0.035)$^{***}$ | 0.632 (0.036)$^{***}$ |
| Traditionalist Government $_{t-1}$ | -0.004 (0.001)$^{***}$ | -0.004 (0.001)$^{***}$ | -0.004 (0.001)$^{***}$ | -0.004 (0.001)$^{***}$ | -0.004 (0.001)$^{***}$ | -0.004 (0.001)$^{***}$ | -0.004 (0.001)$^{***}$ | -0.004 (0.001)$^{***}$ |
| Globalization Index $_{t-1}$ | 0.027 (0.006)$^{***}$ | 0.031 (0.006)$^{***}$ | 0.026 (0.006)$^{***}$ | 0.025 (0.006)$^{***}$ | 0.026 (0.006)$^{***}$ | 0.026 (0.006)$^{***}$ | 0.024 (0.006)$^{***}$ | 0.020 (0.006)$^{***}$ |
| Muslim Population Share $_{t-1}$ | 0.000 (0.005) | 0.002 (0.004) | 0.002 (0.004) | 0.009 (0.006)$^{*}$ | 0.001 (0.004) | 0.003 (0.004) | 0.000 (0.005) | 0.000 (0.004) |
| Population Size $_{t-1}$ | -0.001 (0.001)$^{**}$ | -0.000 (0.001) | -0.001 (0.001)$^{**}$ | -0.001 (0.000)$^{***}$ | -0.000 (0.001) | 0.001 (0.001) | -0.000 (0.001) | 0.001 (0.001) |
| Number of Observations | 6,853 | 6,853 | 6,853 | 6,853 | 6,853 | 6,853 | 6,853 | 6,853 |
| First-Stage F-Statistic | | 80.87 | | 49.30 | | 205.27 | | 95.91 |
| Anderson-Rubin F-Test (Pr.>F) | | (0.01)** | | (0.01)** | | (0.01)** | | (0.01)** |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates 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 always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

**Table 3: Alternative Operationalizations of Islamist Terrorist Group Activity**

| | (1a) | (2a) | (3a) | (4a) | (1b) | (2b) | (3b) | (4b) |
|---|---|---|---|---|---|---|---|---|
| Islamist Terrorist Group $_{t-1}$ | -0.188 | -0.181 | -0.181 | -0.176 | -0.049 | -0.051 | -0.049 | -0.051 |
| | $(0.073)^{**}$ | $(0.070)^{***}$ | $(0.062)^{***}$ | $(0.061)^{***}$ | $(0.018)^{***}$ | $(0.020)^{**}$ | $(0.018)^{***}$ | $(0.020)^{***}$ |
| Child Mortality $_{t-1}$ | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 | -0.001 |
| | $(0.001)^{**}$ | $(0.001)^{**}$ | $(0.001)^{**}$ | $(0.001)^{**}$ | $(0.001)^{*}$ | $(0.001)^{*}$ | $(0.001)^{*}$ | $(0.001)^{*}$ |
| Democracy $_{t-1}$ | 0.627 | 0.627 | 0.624 | 0.624 | 0.628 | 0.628 | 0.625 | 0.625 |
| | $(0.035)^{***}$ | $(0.035)^{***}$ | $(0.035)^{***}$ | $(0.035)^{***}$ | $(0.035)^{***}$ | $(0.035)^{***}$ | $(0.035)^{***}$ | $(0.035)^{***}$ |
| Traditionalist Government $_{t-1}$ | -0.004 | -0.004 | -0.004 | -0.004 | -0.004 | -0.004 | -0.005 | -0.005 |
| | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ |
| Globalization Index $_{t-1}$ | 0.022 | 0.022 | 0.023 | 0.023 | 0.024 | 0.024 | 0.025 | 0.025 |
| | $(0.006)^{***}$ | $(0.006)^{***}$ | $(0.006)^{***}$ | $(0.006)^{***}$ | $(0.007)^{***}$ | $(0.007)^{***}$ | $(0.007)^{***}$ | $(0.007)^{***}$ |
| Muslim Population Share $_{t-1}$ | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 | 0.002 |
| | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) |
| Population Size $_{t-1}$ | 0.001 | 0.001 | 0.001 | 0.001 | -0.001 | -0.001 | -0.001 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Instrument Set | MIG | MIG, MYB | MIG, WI | MIG, MYB, WI | MIG + Lewbel | MIG, MYB + Lewbel | MIG, WI + Lewbel | MIG, MYB, WI + Lewbel |
| Number of Observations | 6,853 | 6,853 | 6,786 | 6,786 | 6,853 | 6,853 | 6,786 | 6,786 |
| First-Stage F-Statistic | 194.18 | 267.28 | 82.85 | 119.83 | 140.42 | 653.30 | 124.07 | 586.15 |
| Anderson-Rubin F-Test (Pr.>F) | (0.01)** | (0.04)** | (0.00)*** | (0.00)*** | (0.08)* | (0.09)* | (0.00)*** | (0.00)*** |
| Hansen-Test (Pr.>$\chi^2$) | | (0.56) | (0.51) | (0.77) | (0.21) | (0.30) | (0.26) | (0.35) |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. $*p<0.1$, $**p<0.05$, $***p<0.01$.

Instrument Set: MIG=Mean number of Islamist terrorist groups in world region; MYB=Male youth burden; WI=Major weapons imports; Lewbel=internal instruments generated as in Lewbel (2012).

**Table 4: Alternative Instrumental Variables**

|  | (1a) | (1b) | (2a) | (2b) |
|---|---|---|---|---|
| Dependent Variable → | WBLIS | | CIRI | |
| Islamist Terrorist Group $_{t-1}$ | -0.901 | -5.185 | -0.031 | -0.050 |
|  | (0.069)*** | (0.896)*** | (0.006)*** | (0.019)*** |
| Child Mortality $_{t-1}$ | 0.044 | 0.041 | 0.001 | 0.001 |
|  | (0.007)*** | (0.007)*** | (0.000)*** | (0.000)*** |
| Democracy $_{t-1}$ | 1.614 | 1.523 | 0.021 | 0.021 |
|  | (0.230)*** | (0.286)*** | (0.013) | (0.013) |
| Traditionalist Government $_{t-1}$ | -0.015 | -0.014 | -0.003 | -0.003 |
|  | (0.005)*** | (0.011) | (0.000)*** | (0.000)*** |
| Globalization Index $_{t-1}$ | 0.318 | 0.212 | 0.001 | 0.000 |
|  | (0.027)*** | (0.034)*** | (0.001) | (0.002) |
| Muslim Population Share $_{t-1}$ | 0.197 | 0.234 | -0.010 | -0.010 |
|  | (0.035)*** | (0.040)*** | (0.001)*** | (0.001)*** |
| Population Size $_{t-1}$ | -0.007 | 0.053 | -0.000 | 0.000 |
|  | (0.001)*** | (0.011)*** | (0.000) | (0.000) |
| Number of Observations | 6,861 | 6,861 | 5,263 | 5,263 |
| First-Stage F-Statistic |  | 197.03 |  | 318.64 |
| Anderson-Rubin F-Test (Pr.>F) |  | (0.00)*** |  | (0.02)** |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. Instrumental variable for various Islamist terrorist group variables is the mean number of Islamist terrorist groups in world region. WBLIS= Women Business and the Law Index Score. CIRI=Women's Economic and Political Rights from the Cingranelli-Richards Human Rights Data Project. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

**Table 5: Alternative Measures of Women Empowerment**

| | (1a) | (1b) | (3a) | (3b) | (5a) | (5b) | (7a) | (7b) |
|---|---|---|---|---|---|---|---|---|
| Dependent Variable → | Women Freedom of Domestic Movement | | Women Property Rights | | Power Distributed by Gender | | Women Access to State Jobs | |
| Islamist Terrorist Group $_{t-1}$ | -0.014 $(0.007)^{**}$ | -0.060 $(0.031)^{*}$ | -0.038 $(0.009)^{***}$ | -0.147 $(0.028)^{***}$ | -0.019 $(0.008)^{**}$ | -0.084 $(0.038)^{**}$ | -0.037 $(0.007)^{***}$ | -0.123 $(0.039)^{***}$ |
| Number of Observations | 6,932 | 6,932 | 6,932 | 6,932 | 6,932 | 6,932 | 6,857 | 6,857 |
| Baseline Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| First-Stage F-Statistic | | 197.86 | | 197.86 | | 197.86 | | 194.57 |
| Anderson-Rubin F-Test (Pr.>F) | | (0.07)* | | (0.00)*** | | (0.03)** | | (0.00)*** |
| | (2a) | (2b) | (4a) | (4b) | (6a) | (6b) | (8a) | (8b) |
| Dependent Variable → | Women Freedom of Discussion | | Access to Justice for Women | | Women Access to Public Services | | Gender Equality Civil Liberties | |
| Islamist Terrorist Group $_{t-1}$ | -0.010 $(0.013)$ | -0.118 $(0.064)^{*}$ | -0.049 $(0.012)^{***}$ | -0.129 $(0.047)^{***}$ | -0.034 $(0.004)^{***}$ | -0.030 $(0.011)^{***}$ | -0.039 $(0.006)^{***}$ | -0.068 $(0.040)^{*}$ |
| Number of Observations | 6,932 | 6,932 | 6,932 | 6,932 | 6,932 | 6,932 | 6,857 | 6,857 |
| Baseline Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| First-Stage F-Statistic | | 197.86 | | 197.86 | | 194.57 | | 194.88 |
| Anderson-Rubin F-Test (Pr.>F) | | (0.07)* | | (0.00)*** | | (0.00)*** | | (0.10)* |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. Instrumental variable for various Islamist terrorist group variables is the mean number of Islamist terrorist groups in world region. Baseline controls (all lagged by one year): child mortality rate, democracy, traditionalist government, globalization, Muslim population share and population size. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

**Table 6: Effect of Islamist Terrorist Activity on Individual Components of Women Empowerment and Rights Index**

|  | (1a) | (1b) | (2a) | (2b) |
|---|---|---|---|---|
| Islamist Terrorist Group $_{t-1}$ |  |  | -0.061 | -0.053 |
|  |  |  | $(0.014)^{***}$ | $(0.017)^{***}$ |
| Child Mortality $_{t-1}$ | -0.001 | -0.002 | -0.001 | -0.001 |
|  | $(0.001)^{**}$ | $(0.001)^{**}$ | $(0.001)^{**}$ | $(0.001)^{**}$ |
| Democracy $_{t-1}$ | 0.632 | 0.631 | 0.630 | 0.629 |
|  | $(0.035)^{***}$ | $(0.036)^{***}$ | $(0.035)^{***}$ | $(0.035)^{***}$ |
| Traditionalist Government $_{t-1}$ | -0.004 | -0.004 | -0.004 | -0.004 |
|  | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ | $(0.001)^{***}$ |
| Globalization Index $_{t-1}$ | 0.024 | 0.022 | 0.024 | 0.024 |
|  | $(0.006)^{***}$ | $(0.007)^{***}$ | $(0.006)^{***}$ | $(0.007)^{***}$ |
| Muslim Population Share $_{t-1}$ | 0.000 | 0.002 | 0.001 | 0.002 |
|  | (0.005) | (0.004) | (0.004) | (0.004) |
| Population Size $_{t-1}$ | 0.001 | 0.002 | 0.001 | -0.000 |
|  | (0.001) | (0.002) | (0.001) | (0.002) |
| All Terrorist Groups $_{t-1}$ | -0.032 | -0.055 |  |  |
|  | $(0.008)^{***}$ | $(0.024)^{**}$ |  |  |
| Nationalist Terrorist Groups $_{t-1}$ |  |  | -0.021 | 0.060 |
|  |  |  | (0.014) | (0.059) |
| Left-Wing Terrorist Groups $_{t-1}$ |  |  | -0.008 | -0.015 |
|  |  |  | (0.020) | (0.036) |
| Number of Observations | 6,853 | 6,853 | 6,853 | 6,853 |
| First-Stage F-Statistic |  | 78.53 |  | 347.18 |
| Anderson-Rubin F-Test (Pr.>F) |  | (0.00)*** |  | (0.00)*** |
| Hansen-Test (Pr.>$\chi^2$) |  | (0.26) |  | (0.69) |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. Instrumental variable for various Islamist terrorist group variables is the mean number of Islamist terrorist groups (or mean number of groups with other ideologies when appropriate) in world region plus a set of Lewbel-type internal instruments. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

**Table 7: Effect of Other Types of Ideology Terrorism on Women Empowerment and Rights**

**Appendix A. Additional Results and Estimates**

| Variable | First Component (=Women's Empowerment Index) Factor Loadings |
|---|---|
| Women Freedom of Domestic Movement | 0.34 |
| Women Freedom of Discussion | 0.37 |
| Women Property Rights | 0.35 |
| Women Access to Justice | 0.37 |
| Power Distributed by Gender | 0.34 |
| Women Access to Public Services | 0.34 |
| Women Access to State Jobs | 0.36 |
| Gender Equality in Respect for Civil Liberties | 0.36 |
| Eigenvalue of first component | 5.61 |
| Percentage of variance accounted for by first principal component | 70.2% |
| Kaiser-Meyer-Olkin measure of sampling adequacy | 0.90 |

Note: All other extracted components exhibit eigenvalues below 1 and are therefore not presented.

**Supplementary Table 1: Principal Component Analysis**

|  | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Mean Number of Islamist Terrorist Groups in Region | 0.767 (0.032)*** | 0.763 (0.053)*** | 0.638 (0.040)*** | 0.759 (0.049)*** |
| Child Mortality |  | 0.001 (0.000)** | -0.001 (0.001) | 0.001 (0.001) |
| Democracy |  | 0.096 (0.037)*** | 0.139 (0.045)*** | 0.104 (0.035)*** |
| Traditionalist Government |  | 0.000 (0.002) | -0.001 (0.002) | 0.000 (0.002) |
| Globalization Index |  | -0.038 (0.009)*** | -0.031 (0.008)*** | -0.035 (0.008)*** |
| Muslim Population Share |  | 0.029 (0.005)*** | 0.003 (0.004) | 0.029 (0.005)*** |
| Population Size |  | 0.013 (0.001)*** | 0.013 (0.001)*** | 0.012 (0.001)*** |
| Oil Rents |  |  | 0.019 (0.004)*** |  |
| Education Equality |  |  | -0.188 (0.030)*** |  |
| Development Aid |  |  |  | 0.003 (0.003) |
| State Failure |  |  |  | 0.075 (0.028)*** |
| Number of Observations | 6,853 | 6,853 | 6,145 | 6,853 |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. First-stage regression results for models (1b) to (4b) of Table 2. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

**Supplementary Table 2: First-Stage Regression Results for Table 2**

|                                | (2) | (3) | (4) |
|--------------------------------|-----|-----|-----|
| Islamist Terrorist Group $_{t-1}$ | -0.231 | -0.190 | -0.189 |
|                                | (0.069)*** | (0.083)** | (0.061)*** |
| Child Mortality $_{t-1}$       | -0.001 | -0.001 | -0.001 |
|                                | (0.001)** | (0.001)** | (0.001)** |
| Democracy $_{t-1}$             | 0.626 | 0.627 | 0.627 |
|                                | (0.034)*** | (0.035)*** | (0.035)*** |
| Traditionalist Government $_{t-1}$ | -0.004 | -0.004 | -0.004 |
|                                | (0.001)*** | (0.001)*** | (0.001)*** |
| Globalization Index $_{t-1}$   | 0.021 | 0.022 | 0.022 |
|                                | (0.006)*** | (0.006)*** | (0.005)*** |
| Muslim Population Share $_{t-1}$ | 0.002 | 0.002 | 0.002 |
|                                | (0.004) | (0.004) | (0.004) |
| Population Size $_{t-1}$        | 0.002 | 0.001 | 0.001 |
|                                | (0.001)* | (0.001) | (0.001) |
| Instrument Set                 | MIG_1 | MIG_2 | MIG_3 |
| Number of Observations         | 6,830 | 6,853 | 6,853 |
| First-Stage F-Statistic        | 218.87 | 196.28 | 44.19 |
| Anderson-Rubin F-Test (Pr.>F)  | (0.00)*** | (0.03)** | (0.00)*** |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Instrument Set: MIG_1=Mean number of Islamist terrorist groups in world region (alternative world regions: detailed WDI regions set of 20 rather than six world regions); MIG_2=Mean number of Islamist terrorist groups in world region (alternative set of Islamist groups: only counts their activity when the group is active in its operational, ideological or organizational centers; see Section 4.2.3); MIG_3=Mean number of all kinds of terrorism groups in world region (includes left-wing, nationalist etc. terrorist groups).

**Supplementary Table 3: Additional Instrumental-Variable Estimates**

| | (1a) | (2a) | (3a) | (4a) | (5a) | (6a) | (7a) | (8a) |
|---|---|---|---|---|---|---|---|---|
| Islamist Terrorist Group $_{t-1}$ | -0.080 (0.012)*** | -0.058 (0.013)*** | -0.064 (0.016)*** | -0.063 (0.016)*** | -0.053 (0.016)*** | -0.037 (0.013)*** | -0.063 (0.015)*** | -0.057 (0.012)*** |
| Per Capita Income $_{t-1}$ | | -0.011 (0.003)*** | | | | | | |
| Polity Score $_{t-1}$ | 0.093 (0.004)*** | | | | | | | |
| Christian Population Share $_{t-1}$ | | | 0.004 (0.003) | | | | | |
| Hindu Population Share $_{t-1}$ | | | 0.058 (0.006)*** | | | | | |
| Buddhist Population Share $_{t-1}$ | | | 0.019 (0.005)*** | | | | | |
| Urbanization $_{t-1}$ | | | | 0.004 (0.002)** | | | | |
| Economic Growth $_{t-1}$ | | | | | -0.002 (0.001) | | | |
| Quality of Bureaucracy $_{t-1}$ | | | | | | 0.468 (0.018)*** | | |
| Political Corruption $_{t-1}$ | | | | | | | -0.479 (0.156)*** | |
| Women Empowerment and Rights in Neighboring Countries $_{t-1}$ | | | | | | | | 0.315 (0.051)*** |
| | (1b) | (2b) | (3b) | (4b) | (5b) | (6b) | (7b) | (8b) |
| Islamist Terrorist Group $_{t-1}$ | -0.237 (0.085)*** | -0.219 (0.075)*** | -0.179 (0.068)*** | -0.190 (0.072)*** | -0.230 (0.091)** | -0.124 (0.061)** | -0.184 (0.072)** | -0.115 (0.054)** |
| Per Capita Income $_{t-1}$ | | -0.014 (0.003)*** | | | | | | |
| Polity Score $_{t-1}$ | 0.094 (0.004)*** | | | | | | | |
| Christian Population Share $_{t-1}$ | | | 0.003 (0.003) | | | | | |

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| Hindu Population Share $_{t-1}$ | | | 0.059 $(0.007)^{***}$ | | | | | |
| Buddhist Population Share $_{t-1}$ | | | 0.017 $(0.005)^{***}$ | | | | | |
| Urbanization $_{t-1}$ | | | | 0.002 $(0.002)$ | | | | |
| Economic Growth $_{t-1}$ | | | | | -0.002 $(0.002)$ | | | |
| Quality of Bureaucracy $_{t-1}$ | | | | | | 0.446 $(0.017)^{***}$ | | |
| Political Corruption $_{t-1}$ | | | | | | | -0.417 $(0.172)^{**}$ | |
| Women Empowerment and Rights in Neighboring Countries $_{t-1}$ | | | | | | | | 0.299 $(0.050)^{***}$ |
| Number of Observations (Both Panels) | 6,497 | 6,407 | 6,805 | 6,853 | 6,270 | 6,853 | 6,819 | 6,829 |
| Baseline Controls (Both Panels) | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| First-Stage F-Statistic | 95.91 | 262.83 | 224.72 | 181.67 | 270.95 | 207.58 | 194.15 | 162.17 |
| Anderson-Rubin F-Test (Pr.>F) | (0.00)*** | (0.00)*** | (0.01)** | (0.01)** | (0.03)** | (0.04)** | (0.01)** | (0.03)** |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. Instrumental variable for Islamist terrorist group presence is the regional mean number of Islamist terrorist groups. Baseline controls (all lagged by one year): child mortality rate (replaced in 2a and 2b), democracy (replaced in 1a and 1b), traditionalist government, globalization, Muslim population share and population size. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. $*p<0.1, **p<0.05, ***p<0.01$.

Additional Controls:
1) Per capita income: Real (inflation-adjusted) per capita income – Source: WDI.
2) Polity score: From -10 (strongly autocratic) to +10 (fully democratic). – Source: Polity5 (https://www.systemicpeace.org/polityproject.html).
3) Religion population shares: Percentage of Christian, Buddhist or Hindu population. – Source: World Religion Dataset.
4) Urbanization: Percentage of total population living in urban areas. – Source: WDI.
5) Economic Growth: Growth rate of real GDP p.c. – Source: WDI.
6) Quality of Bureaucracy: Index measuring the rigor and impartiality of the public administration. – Source: VDEM.
7) Corruption: Index measuring the extent of public corruption. – Source: VDEM.
8) Neighboring Women Empowerment and Rights: Mean level of women empowerment and rights index in neighboring countries.

**Supplementary Table 4: Additional Control Variables**

| | (1a) | (2a) | (3a) | (4a) | (5a) | (6a) |
|---|---|---|---|---|---|---|
| Islamist Terrorist Group $_{t-1}$ | -0.065 | -0.059 | -0.075 | -0.066 | -0.055 | -0.060 |
| | $(0.016)^{***}$ | $(0.014)^{***}$ | $(0.019)^{***}$ | $(0.016)^{***}$ | $(0.010)^{***}$ | $(0.011)^{***}$ |
| | (1b) | (2b) | (3b) | (4b) | (5b) | (6b) |
| Islamist Terrorist Group $_{t-1}$ | -0.217 | -0.131 | -0.599 | -0.199 | -0.134 | -0.219 |
| | $(0.087)^{**}$ | $(0.063)^{**}$ | $(0.105)^{***}$ | $(0.085)^{**}$ | $(0.036)^{***}$ | $(0.084)^{***}$ |
| First-Stage F-Statistic | 194.43 | 135.39 | 108.05 | 119.99 | 176.27 | 182.42 |
| Anderson-Rubin F-Test (Pr.>F) | (0.02)** | (0.04)** | (0.00)*** | (0.03)** | (0.00)*** | (0.02)** |
| Sub Sample | No WENA | No Latin America | No MENA | No Sub-Saharan Africa | Only Countries with Any Islamist Activity | Only Countries with >5% Muslims |
| Number of Observations | 5,815 | 5,808 | 6,017 | 4,821 | 2,118 | 3,245 |
| Baseline Controls | Yes | Yes | Yes | Yes | Yes | Yes |

Notes: Fixed-effects effects estimates (models (1a) to (6a)) and instrumental-variable fixed-effects estimates (models (1b) to (6b)) reported. Instrumental variable for various Islamist terrorist group variables is the mean number of Islamist terrorist groups in world region. Baseline controls (all lagged by one year): child mortality rate, democracy, traditionalist government, globalization, Muslim population share and population size. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. $*p<0.1$, $**p<0.05$, $***p<0.01$.

Sub-Sample: WENA=Western Europe and Northern America; MENA=Middle East and Northern Africa.

**Supplementary Table 5: Sub-Sample Analysis**

|  | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Mean Number of Islamist Terrorist Groups in Region | 0.763 (0.053)*** | 0.819 (0.068)*** | 0.756 (0.057)*** | 0.829 (0.066)*** |
| Male Youth Burden |  | 0.040 (0.011)*** |  | 0.038 (0.011)*** |
| Arms Imports |  |  | -0.030 (0.000)** | -0.030 (0.000)** |
| Child Mortality | 0.001 (0.000)** | 0.003 (0.001)*** | 0.001 (0.000)* | 0.003 (0.001)*** |
| Democracy | 0.096 (0.037)*** | 0.093 (0.036)** | 0.097 (0.038)*** | 0.096 (0.037)*** |
| Traditionalist Government | 0.000 (0.002) | 0.000 (0.002) | 0.000 (0.002) | 0.000 (0.002) |
| Globalization Index | -0.038 (0.009)*** | -0.033 (0.007)*** | -0.037 (0.009)*** | -0.034 (0.007)*** |
| Muslim Population Share | 0.029 (0.005)*** | 0.023 (0.004)*** | 0.028 (0.005)*** | 0.023 (0.004)*** |
| Population Size | 0.013 (0.001)*** | 0.013 (0.001)*** | 0.014 (0.001)*** | 0.014 (0.001)*** |
| Number of Observations | 6,853 | 6,853 | 6,786 | 6,786 |

Notes: Fixed-effects effects and instrumental-variable fixed-effects estimates reported. First-stage regression results for models (1b) to (4b) of Table 4. Country-fixed effects and year-fixed effects always included. Driscoll-Kraay standard errors in parentheses. *p<0.1, **p<0.05, ***p<0.01.

**Supplementary Table 6: First-Stage Regression Results for Table 4**

## Appendix B. List of Countries

| | | | | |
|---|---|---|---|---|
| Afghanistan | Costa Rica | Iran | Mozambique | South Africa |
| Albania | Croatia | Iraq | Namibia | South Korea |
| Algeria | Cuba | Ireland | Nepal | Spain |
| Angola | Cyprus | Israel | Netherlands | Sri Lanka |
| Argentina | Czech Republic | Italy | New Zealand | Sudan |
| Armenia | DR of the Congo | Ivory Coast | Nicaragua | Suriname |
| Australia | Denmark | Jamaica | Niger | Sweden |
| Austria | Djibouti | Japan | Nigeria | Switzerland |
| Azerbaijan | Dominican Republic | Jordan | North Macedonia | Syria |
| Bahrain | Ecuador | Kazakhstan | Norway | Tajikistan |
| Bangladesh | Egypt | Kenya | Oman | Tanzania |
| Barbados | El Salvador | Kuwait | Pakistan | Thailand |
| Belarus | Equatorial Guinea | Kyrgyzstan | Panama | The Gambia |
| Belgium | Eritrea | Laos | Papua New Guinea | Timor-Leste |
| Benin | Estonia | Latvia | Paraguay | Togo |
| Bhutan | Eswatini | Lebanon | Philippines | Trinidad/Tobago |
| Bolivia | Ethiopia | Lesotho | Poland | Tunisia |
| Bosnia/Herzegovina | Fiji | Liberia | Portugal | Turkey |
| Botswana | Finland | Libya | Qatar | Turkmenistan |
| Brazil | France | Lithuania | Rep. of the Congo | Uganda |
| Bulgaria | Gabon | Luxembourg | Romania | Ukraine |
| Burkina Faso | Georgia | Madagascar | Russia | U.A. Emirates |
| Burma/Myanmar | Germany | Malawi | Rwanda | United Kingdom |
| Burundi | Ghana | Malaysia | Sao Tome/Principe | USA |
| Cambodia | Greece | Maldives | Saudi Arabia | Uruguay |
| Cameroon | Guatemala | Mali | Senegal | Uzbekistan |
| Canada | Guinea | Malta | Serbia | Vanuatu |
| Cape Verde | Guinea-Bissau | Mauritania | Seychelles | Venezuela |
| Cent. Afr. Republic | Guyana | Mauritius | Sierra Leone | Vietnam |
| Chad | Honduras | Mexico | Singapore | Yemen |
| Chile | Hungary | Moldova | Slovakia | Zambia |
| China | Iceland | Mongolia | Slovenia | Zimbabwe |
| Colombia | India | Montenegro | Solomon Islands | |
| Comoros | Indonesia | Morocco | Somalia | |

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